Cross-Cutting Activities

Guiding Principles for Quality Assurance

- Focus on the needs of the users
- Focus on processes to increase the productivity of work
- Use data to improve services
- Use teams to improve quality
- Improve communication

Guiding Principles for Quality Assurance

- Focus on the needs of the users
- **Focus on processes to increase the productivity of work**
- Use data to improve services
- Use teams to improve quality
- Improve communication

A very useful tool!

ACTIVITY: MAPPING THE PROCESS

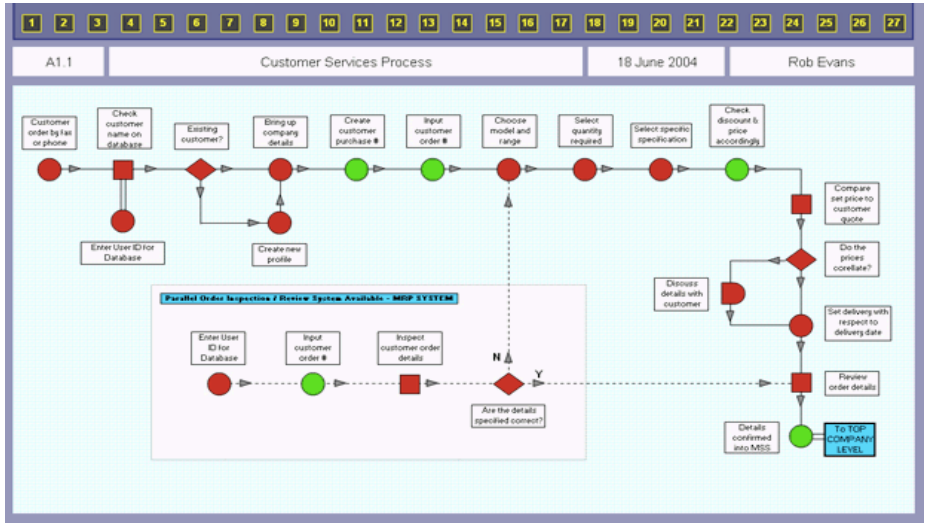
“A series of actions or steps taken in order to achieve a particular end”

PROCESS

“Visual depiction of a sequence of events to build a product or produce an outcome”.

MAPPING THE PROCESS

Mapping the Process



Activity: Process Mapping – Part I

Order the Steps

Purpose

- To map the 'specimen flow through the laboratory' process.
- To use this mapping tool to increase the productivity and efficiency of the laboratory.

What will you need?

- Testing Phase Cards (one set per group)
- Process Step Cards (one set per group)
- Tape
- Job Aid: Tips

What will you do?

- Form groups of 6 or less persons
- Arrange the phases of testing ('phase' cards) and the process steps ('step' cards), from beginning to end, in the order that they occur in the lab
- Attach both sets of cards to the wall with tape
  - Place Testing Phase Cards above the 'step' cards
  - Place Process Step Cards in order, from **left to right horizontally** across the wall
- Refer to Job Aid

15 minutes

Tips for Using the Mapping Process to Improve Your Lab

Activity: Process Mapping – Part II

Complete the Table

Purpose

To complete the process table by identifying, for each step in the process (4 categories):

- What happens
- Who's responsible
- What procedures are needed
- Pitfalls

What will you need?

One category (see above) of process table cards for each group;

Tape

What will you do?

- Divide in to 4 groups - not more than 6 persons per group
- Each group to sort and order their process table cards (single category) to correspond to the process steps
- Tape the cards to the wall to complete the table, aligning the category cards with the corresponding step

10 minutes

ACTIVITY:
USING THE IMPROVEMENT MODEL

Improvement

IMPROVEMENT IS…

- Cyclic
- Continuous
- A scientific model to approach problems
- A way of thinking
- A way of doing
- A culture

PRINCIPLES OF QUALITY ASSURANCE

- Focus on the needs of the users
- Focus on processes to increase the productivity of work
- Use data to improve services
- Use teams to improve quality
- Improve communication

Improvement is Cyclic

The PDCA Cycle

Debrief the Management Story

What did you like

- Took the issue seriously
- Addressed the issue immediately
- Made a plan
- Took action
- Communicated to the staff

What would you change

- Implement the improvement model
- Improvement team
- Solutions generated from front-line staff
- Have all staff involved in the process & the learning

Activity: Using the Improvement Model

Purpose

To apply the improvement model to management scenarios

What will you need?

Handout: Management Scenarios

Worksheet: Quality Improvement Project Plan

What will you do?

- Divide into 4 groups
- Apply the improvement model to the given scenario from the Handout
- Complete Plan section of the Worksheet
- Be prepared to present a brief summary to the large group

20 minutes

Tasks

- 1.11 - Implement measures to motivate staff to improve quality of work and productivity (e.g., training, job rotation, employee of the month, thank-you letter, etc.)
- 1.12 - Develop and implement lab improvement plans based on best practices and feedback from staff, patients, customers, quality indicators, and external assessment

Using the Improvement Model- Key Messages

- The improvement model / PDCA cycle is a very powerful trial-and-learn tool
- The model addresses three fundamental questions
- This model creates a learning organization where improvement is a way of life
- Improvement is continuous and cyclic

A performance management tool!

ACTIVITY: MANAGING PERFORMANCE – THE BALANCED SCORECARD

Guiding Principles of Quality Assurance

- Focus on the needs of the users
- Focus on processes to increase the productivity of work
- **Use data to improve services**
- Use teams to improve quality
- Improve communication

WHAT GETS MEASURED, GETS FIXED!

Quality Indicators

Monitoring Performance in the Laboratory

Quality Indicators

Equipment Down Time
Stock Outs
Test Statistics
Turn Around Time
External Quality Assessment Results
Specimens Rejected
Customer Satisfaction
Service Interruptions due to Staffing Issues
Technologist Productivity

Activity: Managing Performance- The Balanced Scorecard (Phase I)

Introducing Quality Indicators

Purpose

- To monitor the performance of the laboratory using quality indicators
- To define the chosen quality indicators

What will you do?

- Answer the questions in Worksheet 1
- Participate in classroom discussion regarding Worksheet 1

What will you need?

- Worksheet 1: Quality Indicator Quiz

10 minutes

Quiz Answers

Quality Indicators – How do you measure?

		Key Quality Indicators		How Do You Measure?
_D__	1.	Service Interruption due to Staff issues	A.	*Quantify number of days per month that any specific piece of equipment is not functioning*
_H_	2.	Turn Around Time (TAT)	B.	*Quantify or qualify number of complaints, or change in points on a survey (Dependent on tool used for assessment)*
_G_	3.	Testing Statistics	C.	*Quantify number of a specific test performed per technologist per hour or day*
_E__	4.	Stock Outs	D.	*Quantify number of days that staff is out for Meetings (M), Leave (L), or Illness (I). Analyze daily/weekly/ monthly test statistics to determine impact on service provision*
_A__	5.	Equipment Down Time	E.	*Quantify number of days per month that any specific reagent or supply is stocked out*
_I__	6.	External Quality Assessment (EQA) Results	F.	*Quantify number of specimens rejected per month and qualify reason for rejection*
_B__	7.	Customer Satisfaction	G.	*Quantify number of each test performed per month, i.e. Number of FBCs per month*
_F__	8.	Specimen Rejection	I.	*Indicate either Pass or Fail for each EQA program in which the laboratory is engaged*
_C__	9.	Technologist productivity	H.	*Measure time from specimen receipt/log in to release of results*

Quality Indicators

Equipment Down Time
Stock Outs
Test Statistics
Turn Around Time
External Quality Assessment Results
Specimens Rejected
Customer Satisfaction
Service Interruptions due to Staffing Issues
Technologist Productivity

Activity: Managing Performance – The Balanced Scorecard (Phase II)

Assessing what Quality Indicators monitor

Purpose

- To monitor the performance of the laboratory using quality indicators
- To assess at what point in the testing process each QI monitors:

What will you need?

- Quality Indicator Arrows
- Handout 1: Process Map with Quality Indicators

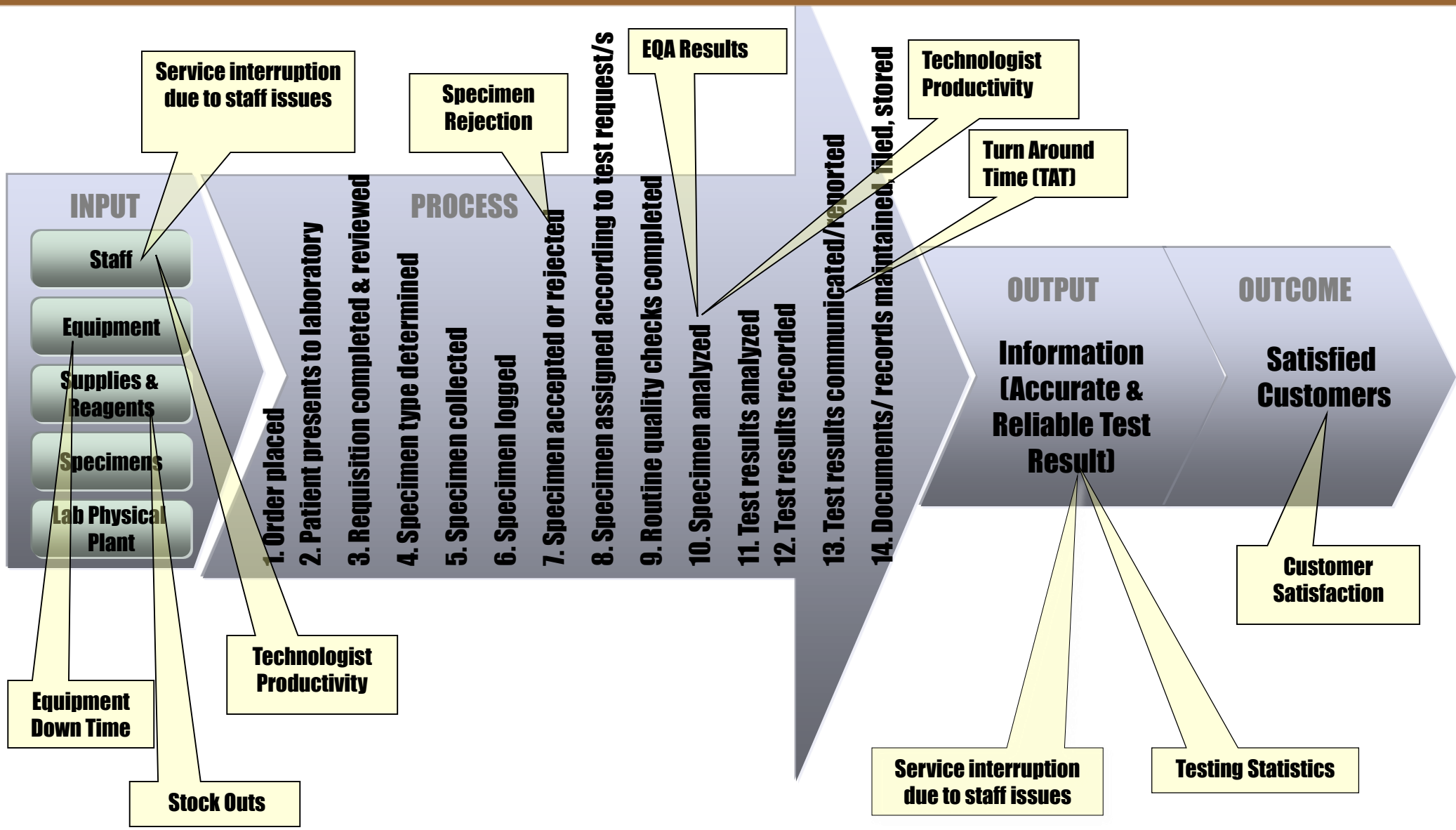
What will you do?

- Relate quality indicators to the Process Map by placing the arrows at appropriate places on the process map
- Participate in classroom discussion regarding QIs
- Refer to Handout 1

10 minutes

ACTIVITY: MONITORING PERFORMANCE IN THE LABORATORY

Handout: Process Map with Quality Indicators



Driving my car

What is going on with the car?

Data is needed!

Where can one get data on a car's status?

My Dashboard

What about the Laboratory?

Where can one get data about what is going on in the laboratory?

A "Dashboard" or Balanced Scorecard

Terms defined

- Dashboard = a management information system designed to be easy to read
- Balanced Scorecard = Performance management tool; looks at measures or indicators from various categories of the organization

http://en.wikipedia.org/wiki/Balanced_scorecard

- Key Indicators = "metrics used to help an organization define and measure progress toward organizational goals"

http://en.wikipedia.org/wiki/Key_performance_indicator

Managing Performance – The Balanced Scorecard Phase III

INVESTIGATION OF QUALITY INDICATORS

The Balanced Scorecard

A performance management tool!

Balanced Scorecard

Laboratory ___ABC_____

Report for Month Ending __Oct 20xx_____

Indicator	Goal	Prev. Month SEPT 20XX	Cur. Month OCT 20XX	YTD
Service Interruptions	No Interruptions	▼	■	▼
Turn Around Time	90% meet goal	●	■	●
Test Stastics	Report complete	■	■	▼
Stock Outs	None	▼	■	●
Equipment Down Time	< 1 day/month	■	■	■
External Quality Assessment (EQA) Results	90% Pass	●	■	■
Customer Satisfaction (Survey - 40 pt. max)	Score ≥ 32	▼	■	●
Specimens Rejected	< 1% specimens	■	■	▼
Technologist Productivity	75% meet goal	●	■	▼

Key:

● Significant positive change (> 3%)

▼ No significant change (< 3%)

■ Significant negative change (> 3%)

YTD Overall change Year to Date

Quality Indicator Monthly Summary

A Case Study

QUALITY INDICATOR MONTHLY SUMMARY

Tick if condition present or supply data for each day indicator is monitored.

Month *October* Year *20XX*

Day	**Equipment Down** Indicate Analyzer affected	**Stock out** Indicate Item affected	**Test Statistics** See monthly Lab report	**TAT** Specify test monitored	**EQA** Pass or Fail	**Specimens Rejected**	**Customer Satisfaction** Note complaint	**Service Interruption** Note type	**Tech Productivity** Note test monitored
1	√ Heme Analyzer					4			
2									
3									
4	√ Heme Analyzer			CD4 – 28.9 hrs		0			
5	√ Heme Analyzer					0	Lab tech rude		
6						10			TB Smears 8 / 8 day
7						3			
8						5			
9									
10									
11		√ Chem Reagents		CD4 – 34.7 hrs		2	Specimen lost	Lab Tech #3 at training	
12		√				3	No attention	↓	
13		√				13	Unable to do test	↓	5 / 7 day
14		√				0		↓	
15		√				1	Long wait	↓	
16									
17									
18		√ Chem Reagents		CD4 – 30.1 hrs	F - Heme	3			
19						0			
20						14			9 / 9 day
21						0			
22						2			
23									
24									
25				CD4 – 29.3 hrs		0			
26						2			
27						17			8 / 8 day
28						0	Poor service		
29						1			

Investigating Quality Indicators

1. Identify the issue
2. Get the data
3. Find the underlying cause

AND

4. Fix or improve the problem!

Activity: Managing Performance – The Balanced Scorecard (Phase III)

Investigating Quality Indicators

Purpose

To monitor the performance, investigate the data & improve the laboratory

What will you need?

- Handout 3: Quality Indicator Monthly Summary – A Case Study
- Worksheet 2: Quality Indicator Investigation

What will you do?

- Divide into 4 groups
- Each group to investigate two (2) quality indicators
- Determine the underlying issues resulting in the QI data
- Consider how to resolve any issues
- Consider an Improvement Project

30 minutes

Improvement Using the PDCA Cycle

Bonus Question

- Name one Framework Task that prescribes a key use for quality indicators?

- Tasks
  - 1.12
  - Plus 1.10, 6.11, and 9.4

Another Bonus Question

- Name one Checklist Item that requires monitoring quality indicators?

- Checklist Items
  - 11.4
  - Plus 2.2, 2.3, 4.5, 5.16, 7.12, and 8.14

ACTIVITY:
PLANNING IMPROVEMENT PROJECTS – MASTER CLASS

Activity: Improving a Poor IP Plan

Purpose

By critiquing and improving a poor IP plan, you will learn to develop a robust plan for your own IP.

What will you need?

- Worksheet: Quality Improvement Project Plan
- Handout 2 - IP Plan [Turn Around Time]
- Handout 3 - IP Plan [Stock Outs]
- Handout 4 - IP Plan [Equipment Maintenance]
- Handout 5 - IP Plan [Customer Complaints]

What will you do?

- Divide into 4 groups
- Each group receives a sample IP Plan
- Discuss within your group to improve the IP plan provided
- Complete the PLAN section of Worksheet for your improved IP plan
- Be ready to present the improved plan to the large group

IP - 42

30 minutes

Activity: Planning Improvement Projects – Master Class

Purpose

To develop an individualized implementable improvement project plan through small-group, one-on-one coaching

What will you need?

- IP assignment handouts
- Completed IP plans for your IP assignments

What will you do?

- Discuss your IP Plans with the facilitator for 10-15 minutes.
- Ask any questions. Clarify what you will do when you return to your lab.
- Listen & learn from you colleagues' projects
- Revise and complete your IP plans

43 60 minutes

Let’s improve our laboratories!

LABS ARE VITAL FOR PATIENT CARE

ACTIVITY:
REPORTING IMPROVEMENT PROJECTS

Activity:
Reporting Improvement Projects (IPs)

Purpose

- To reflect on accomplishments made, lessons learned, and challenges faced
- To synthesize, summarize, and share your IP with your colleagues

What will you need?

- Worksheet 1: Quality Improvement Project Plan (completed)
- Worksheet 2: Peer Grading Sheet

What will you do?

- Use completed Worksheet 1 to guide your IP presentation
- Succinctly synthesize and summarize your IP for the group. Observe allotted time.
- Complete Worksheet 2 for each of your peers as he/she presents his/her IP.

5 minutes per Lab

ACTIVITY:
USING THE CHECKLIST FOR LABORATORY IMPROVEMENT

Key Messages

- The Laboratory Accreditation Preparedness Checklist provides a standardized tool for objective evaluation of the laboratory. This tool can be utilized in various ways.
- Familiarization with the Checklist is necessary in order to use this tool in an actual laboratory assessment.
- Following the specimen is one recommended assessment technique.
- Assessment relies on reading policies and procedures, observing lab practices, and asking questions.
- Assessment reveals the gaps that must be surmounted to improve the laboratory and move toward accreditation.

Using the Checklist

- Uses of the Laboratory Accreditation Preparedness Checklist
- Checklist Orientation
- Activity: Map the Checklist Items
- Debrief
- Laboratory Assessment Techniques
- Orientation to the Laboratory Assessment Visit

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features?

- **Versatility**
  - **Educational Tool**
    - (used in training alongside framework tasks & activities)
  - **Training Monitoring Tool**
    - (used to determine what training is being absorbed/applied)
  - **Guidance Tool**
    - (used as a starting point to learn the necessary elements of a well-functioning laboratory)
  - **Laboratory Assessment Tool**
    - (used to objectively measure laboratory operations)

Using the Checklist

- Uses of the Laboratory Accreditation Preparedness Checklist
- Checklist Orientation
- Activity: Map the Checklist Items
- Debrief
- Laboratory Assessment Techniques
- Orientation to the Laboratory Assessment Visit

Laboratory Accreditation Preparedness Checklist

- **Section 1:** Documents & Records
- **Section 2:** Management Reviews
- **Section 3:** Organization & Personnel
- **Section 4:** Client Management & Customer Service
- **Section 5:** Equipment
- **Section 6:** Internal Audit
- **Section 7:** Purchasing & Inventory
- **Section 8:** Process Control and Internal & External Quality Assessment
- **Section 9:** Information Management
- **Section 10:** Corrective Action
- **Section 11:** Occurrence/Incident Management & Process Improvement
- **Section 12:** Facilities & Safety

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features?

ISO 4.1.2.5	Checklist 3.2
Laboratory management shall ensure that responsibilities, authorities, and interrelationships are defined, documented, and communicated within the laboratory organization.	**Organizational Chart and External/Internal Reporting Systems** Is an organizational chart available that indicates the relationship between the laboratory and its parent organization?

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features?

1.11 Archived Results Accessibility Is there an archiving system that allows for easy and timely retrieval of archived records and results?	Y	P	N	Comments	2
ISO 15189:2012 Clause 4.13					
Note: Records can be in any form or type of medium providing they are readily accessible and protected from unauthorized alterations. Archived patient results must be easily, readily and completely retrievable within a timeframe consistent with patient care needs.					

# of pts for this checkjlist item

References to common standards

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features?

- **Scored Checklist Responses:** Yes / Partial / No
  - A "Yes" response requires full presence of the item
  - A "Partial" response recognizes some progress toward achieving the standard
  - A "No" response indicates no significant progress toward the standard

- **Points are awarded** for "Yes" and "Partial" responses
  - "Yes" = 2, 3, or 5 points, based on complexity and importance
  - "Partial" = 1 point
  - "**No**" = 0 points

- **Total Points: 275**
  - 116 checklist items, each with a value of either 2, 3, or 5 points

Laboratory Accreditation Preparedness Checklist

What are the checklist's key features? (Scoring example)

1.11 Archived Results Accessibility Is there an archiving system that allows for easy and timely retrieval of archived records and results?	**Y**	**P**	**N**	Comments	2
ISO 15189:2012 Clause 4.13 **Note:** Records can be in any form or type of medium providing they are readily accessible and protected from unauthorized alterations. Archived patient results must be easily, readily and completely retrievable within a timeframe consistent with patient care needs.					

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features? (Scoring Example) (2)

1.11 Archived Results Accessibility Is there an archiving system that allows for easy and timely retrieval of archived records and results?	Y	P	N	Comments	2 2

ISO 15189:2012 Clause 4.13

Note: Records can be in any form or type of medium providing they are readily accessible and protected from unauthorized alterations. Archived patient results must be easily, readily and completely retrievable within a timeframe consistent with patient care needs.

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features? (Scoring Example) (3)

1.11 Archived Results Accessibility Is there an archiving system that allows for easy and timely retrieval of archived records and results?	Y	P	N	Comments Archived records kept on site and well organized. However, key is kept by a single staff member who was on errands during the assessment, resulting in delayed access.	2 1

ISO 15189:2012 Clause 4.13

Note: Records can be in any form or type of medium providing they are readily accessible and protected from unauthorized alterations. Archived patient results must be easily, readily and completely retrievable within a timeframe consistent with patient care needs.

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features? (Tick List Scoring Example)

12.3 Is each individual workstation maintained free of clutter and set up for efficient operation?	**Y**	**P**	**N**	Comment	2
	Tick for each item as Yes (Y), Partial (P) or No(N)				
	Yes	**No**	**N/A**		
a) Does the equipment placement / layout facilitate optimum workflow?					
b) Are all needed supplies present and easily accessible?					
c) Are the chairs/stools at the workstation appropriate for bench height and the testing operations being performed?					

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features? (Tick List Scoring Example) (3)

12.3 Is each individual workstation maintained free of clutter and set up for efficient operation?	**Y**	**P**	**N**	Comment	2 **2**
	Tick for each item as Yes (Y), Partial (P) or No(N)				
	Yes	**No**	**N/A**		
a) Does the equipment placement / layout facilitate optimum workflow?	X				
b) Are all needed supplies present and easily accessible?	X				
c) Are the chairs/stools at the workstation appropriate for bench height and the testing operations being performed?	X				

Laboratory Accreditation Preparedness Checklist

What are the Checklist's key features? (Tick List Scoring Example) (2)

12.3 Is each individual workstation maintained free of clutter and set up for efficient operation?	Y	P	N	Comment	2 **1**
	Tick for each item as Yes (Y), Partial (P) or No(N)				
	Yes	**No**	**N/A**		
a) Does the equipment placement / layout facilitate optimum workflow?	X				
b) Are all needed supplies present and easily accessible?		X		several critical supplies missing	
c) Are the chairs/stools at the workstation appropriate for bench height and the testing operations being performed?	X				

Using the Checklist

- Uses of the Laboratory Accreditation Preparedness Checklist
- Checklist Orientation
- Activity: Map the Checklist Items
- Debrief
- Laboratory Assessment Techniques
- Orientation to the Laboratory Assessment Visit

Map Checklist to Specimen Flow Process

Purpose

To become familiarized with the Checklist

To think about how to conduct an assessment by following the specimen through the laboratory

What will you need?

Laboratory Accreditation Preparedness Checklist

Worksheet: Using the Checklist

Job Aid: Using the Checklist - Complete

What will you do?

- Divide into groups of 2-3 people
- Review the Checklist
- Complete the section of the Worksheet assigned to your group by placing the Checklist item number in the appropriate column
- Transfer your checklist item numbers to the flipchart when complete
- Participate in the classroom discussion

20 min

Using the Checklist

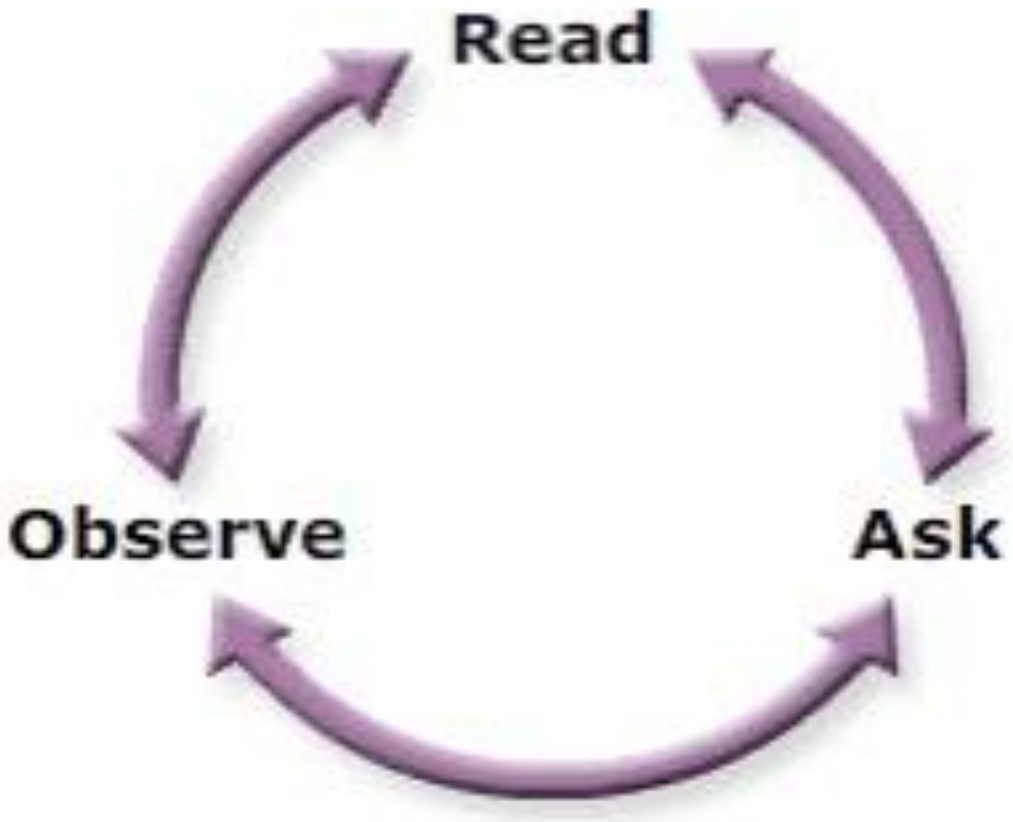
- Uses of the Laboratory Accreditation Preparedness Checklist
- Checklist Orientation
- Activity: Map the Checklist Items
- Debrief
- Laboratory Assessment Techniques
- Orientation to the Laboratory Assessment Visit

Assessment Techniques

Read –
Documentation

Observe –
Lab Practices

Ask –
Questions



Assessment Implementation

Three elements of compliance or conformity

- Procedures & Policies written and in place
- Laboratory Practices match the written policies & procedures
- Documentation of the practices

Assessment Implementation

Three common inspection approaches

- Follow the Specimen
- Drill Down (Vertical Assessment)
- Teach me

Assessment Implementation

Purpose of Assessment / Accreditation

- Enhance **patient safety** and promote quality improvement
- Promote a **culture of quality** in laboratories through quality control, performance improvement, and proficiency testing

Using the Checklist

- Uses of the Laboratory Accreditation Preparedness Checklist
- Checklist Orientation
- Activity: Map the Checklist Items
- Debrief
- Laboratory Assessment Techniques
- Orientation to the Laboratory Assessment Visit

Improvement Project Planning – Before assessment visit

Purpose

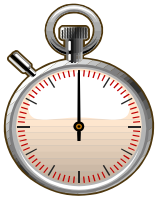
To apply the improvement model to an issue raised in the laboratory assessment visit

What will you need?

Worksheet: Improvement Project Plan

What will you do?

- **Take one deficiency noted and focus on improvement**
- **Using the improvement model, determine:**
  - **What are we trying to accomplish?**
  - **What measure will we use to assess?**
  - **What changes can we make?**
- **Complete the plan section of the Worksheet**
- Participate in the classroom discussion



Homework

Laboratory Assessment Field Trip

Improvement Project Planning – After Assessment Visit

Purpose

To apply the improvement model to an issue raised in the laboratory assessment visit

What will you need?

Worksheet 2: Improvement Project Plan

What will you do?

- Focus on improvement
- Using the improvement model:
  - What are we trying to accomplish?
  - What measure will we use to assess?
  - What changes can we make?
- Complete the plan section of the Worksheet
- **Present your plan to the class**

3 min per person

Key Messages

- The Laboratory Accreditation Preparedness Checklist provides a standardized tool for objective evaluation of the laboratory. This tool can be utilized in various ways.
- Familiarization with the Checklist is necessary in order to use this tool in an actual laboratory assessment.
- Following the specimen is one recommended assessment technique.
- Assessment relies on reading policies and procedures, observing lab practices, and asking questions.
- Assessment reveals the gaps that must be surmounted to improve the laboratory and move toward accreditation.