



Understanding and Managing Cost of Quality in the Laboratory

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Disclosures

Relevant Financial Relationship(s):

Nothing to Disclose

Off Label Usage:

Nothing to Disclose



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Learning Objectives

- Explain the concept of Cost of Quality
- Components of Cost of Quality
- Calculate Cost of Poor Quality

Cost of Quality

- *Why it matters?*

Because ...it impacts

- Patient care
- Bottom line (finances)
- Employee burnout/morale
- Delivery of services

What is Quality

- The degree to which something meets or exceeds the expectations of its consumers.
 - Quality may be subjective
 - How good something is
 - Measured against a standard
 - As defined by the customer
 - Quality is also objective
 - In the **laboratory**, quality is defined as a process that ensures customers receive products free from defects and meet their needs

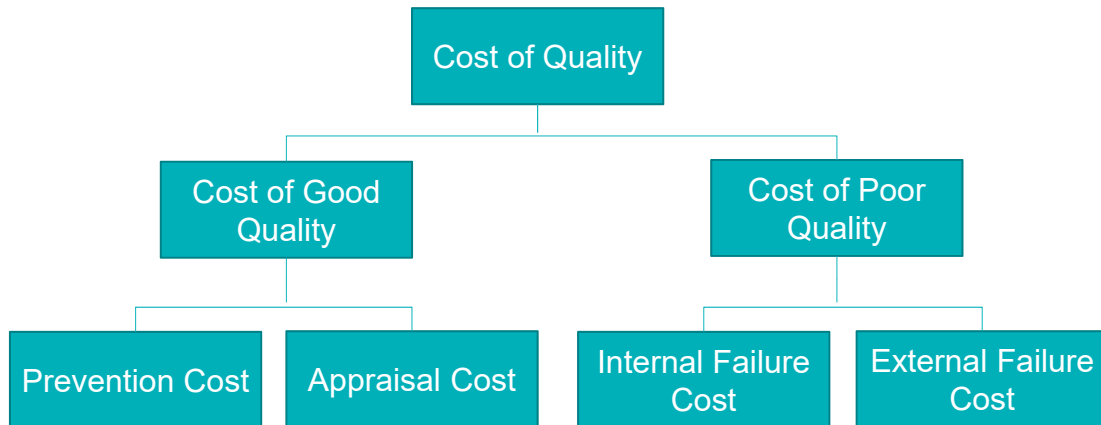
What is Cost of Quality

$$\text{Cost of Quality} = \text{Cost of Good Quality} + \text{Cost of Poor Quality}$$

Cost of Good Quality: money spent to achieve quality service

Cost of Poor Quality: money spent to fix poor quality

Components of Cost of Quality



Cost of Good Quality

Prevention Cost

- Money spent proactively on preventing quality problems and maintaining high quality levels
 - Quality program
 - Quality management systems
 - Continuous improvement activities
 - Quality education and training programs
 - Engineering-Design of error proof processes
 - Preventative maintenance

Cost of Good Quality

Appraisal Cost

- Money spent in assessing the quality of products or services
 - Inspections
 - Audits
 - Peer reviews
 - Competency assessment
 - Quality controls

Cost of Poor Quality

Internal Failure Cost

- Money spent to fix errors inside the lab
 - Ordering errors
 - Wrong test
 - Collection errors
 - Mis IDs, Redraws
 - Processing errors
 - Aliquot errors
 - Testing errors
 - Failed QC

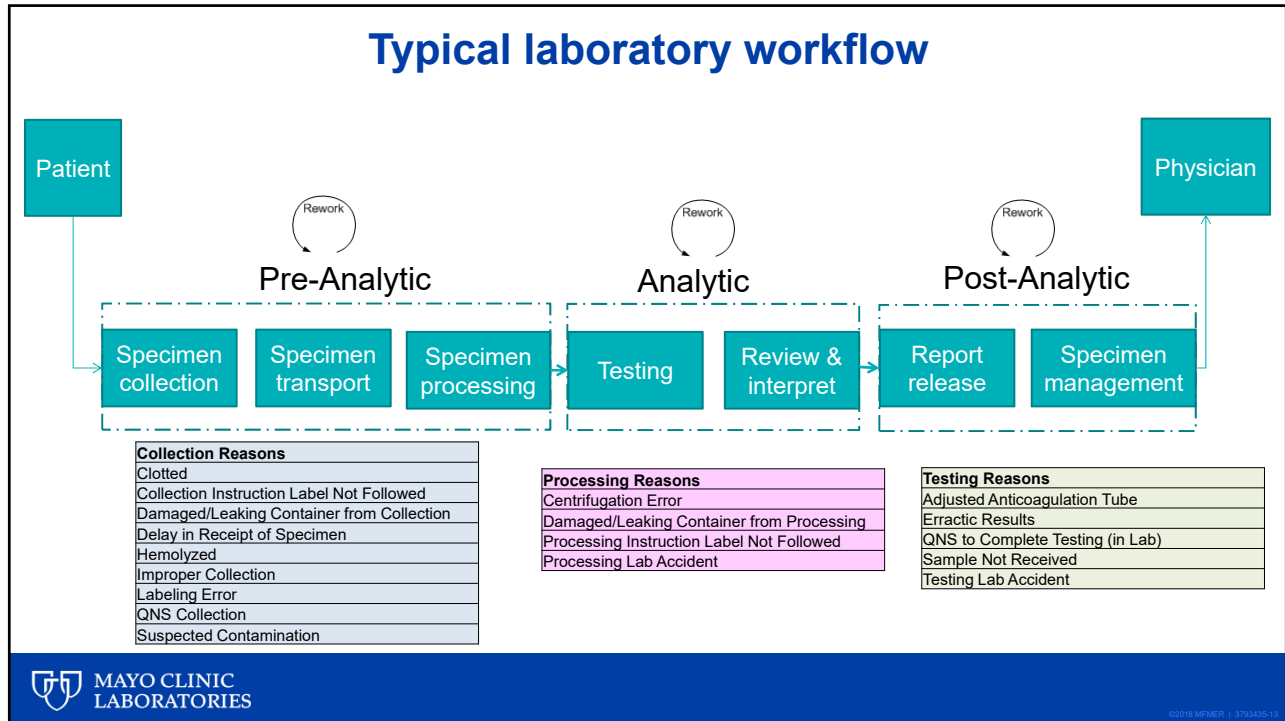
Cost of Poor Quality

External Failure Cost

- Money spent to fix errors that reach external customers
 - Complaints
 - Incorrect billing
 - Revised reports
 - Lost or erroneous results

Calculating Cost of Poor Quality (COPQ)

- Understand path of workflow
 - Process map
 - Value stream map
 - Process times
 - Quality metrics (data collection and trending)
- Know your production cost
 - Labor
 - Materials and supplies
 - Equipment
 - Overhead



Example of COPQ for recollected blood specimen

Process step	Job title	Labor Cost			Non-Labor Cost				COPQ per unit
		Labor (\$/hr)	Time (hr)	Total	Supply List	Cost	Qty used	Total	
Pre-Analytic	Phlebotomist	17	0.25	4.25	Materials and supplies	2	1	2	6.25
Analytic	Lab. Assistant	14	0.1	1.4	Materials and supplies	3	1	3	4.4
Post-Analytic	Technologist	20	0.2	4	Materials and supplies	4	1	4	8
									\$ 18.65
Assuming 100 redraws per month									
COPQ/month		\$ 1,865.00							

MAYO CLINIC LABORATORIES

QUESTIONS & DISCUSSION

Save the Date - Registration Now Open!

Phlebotomy 2019: People + Performance = Patient Care

May 2-3, 2019

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mayocliniclabs.com/2019phlebotomy

