What's Your Cost of Poor Quality? Calculating an ROI for Your Lab's Quality Program

Presented by Jennifer Dawson
MHA, LSSBB, CPHQ, DLM(ASCP)SLS, QLC, QIHC, Senior Director, Quality for Human Longevity, Inc.

June 21, 2017
Learning Objectives

- Discuss the concept of Cost of Quality and its components.
- Differentiate between hard and soft costs.
- Review methodologies to capture and track Cost of Poor Quality (CoPQ).
- Analyze how labs can use CoPQ data to demonstrate a return on investment for their quality efforts.
Challenge: Quality is Nebulous

Everyone agrees that quality is important but…

• How do you define quality?
• How do you measure quality?
• What is the return on investment?
• How do you justify additional investment in quality?
Non-Conforming Events

- Failure to meet a requirement
- Something doesn’t go as planned in the lab
- Also called: Accident, adverse event, error, event, incident, non-conformity, and occurrence
- Regulatory requirement to track (CLIA § 493.1239, general laboratory systems quality assessment)
Non-Conforming Event Management

Purpose: Identify and characterize problems so investigations can be carried out, root causes identified, and improvement projects initiated, thus eliminating reoccurrence.

- Risk Management
- Can be done: manually or electronically
The struggle is real

Many labs struggle with:

✓ Reporting
✓ Keeping up with events
✓ Justifying expending resources for FTEs and software
Cost of Quality
Cost of Quality = Cost of Good Quality + Cost of Poor Quality
Cost of Good Quality

Cost of Good Quality

Prevention Costs

Appraisal Costs
Cost of Good Quality

PREVENTION COSTS
• Quality Planning
• Training
• Product or service requirements
• Preventive maintenance
• Quality Management System
• Quality Improvement activities

APPRaisal COSTS
• Competency Assessments
• Calibration/Quality Control
• Proficiency Testing
• Alternative Assessment
• Internal Audits
• Inspections (CLIA, CAP, TJC, etc.)
Cost of Poor Quality

Internal Failure Costs

External Failure Costs
Cost of Poor Quality

INTERNAL FAILURE COSTS

• Downtime
• Inefficiencies
• Data entry errors
• Missing specimens
• Retesting
• Repair
• Recollected samples (if internal)
• Failure Analysis

EXTERNAL FAILURE COSTS

• Customer complaints
• Attrition
• Misdiagnoses
• Harm to patients
• Corrected reports
• Lawsuits
CoPQ: Not Always Obvious
Cost of Poor Quality – Soft vs Hard Costs

- Cost of Poor Quality
  - Internal Failure
    - Hard – Start here
      - Rework
        - Reagents/Supplies
        - Labor
      - Investigations
      - Management Time
    - Soft
      - Low Morale
      - Delays

Cost of Poor Quality

Internal Failure Costs

External Failure Costs
Cost of Poor Quality

- External Failure
  - Soft or Hard
  - Complaints
  - Reputational Damage
  - Patient Harm
  - Litigation
  - Client Attrition
Calculating “Soft” Failure Costs

- Much harder to do but something can be done
  - Example:
  - 10 incorrect INR results in last year due to analytical error
  - 1 resulting lawsuit
  - Law suit cost the organization $100,000

\[
\frac{100,000}{10} = 10,000 = \text{Failure cost per instance}
\]
### Tracking CoPQ

#### Internal Failures – Hard Costs

<table>
<thead>
<tr>
<th>Considerations</th>
<th>#</th>
<th>Units</th>
<th>Cost/Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasted Tech Time</td>
<td>2</td>
<td>Hours</td>
<td>$15.00</td>
<td>$30.00</td>
</tr>
<tr>
<td>Wasted Reagents</td>
<td>10</td>
<td>mL</td>
<td>$20.00</td>
<td>$200.00</td>
</tr>
<tr>
<td>Process Redesign</td>
<td>3</td>
<td>Hours</td>
<td>$70.00</td>
<td>$210.00</td>
</tr>
<tr>
<td>Occupational Health Visit</td>
<td>1</td>
<td>Visit</td>
<td>$1500</td>
<td>$1500.00</td>
</tr>
<tr>
<td>Management Time</td>
<td>2</td>
<td>Hours</td>
<td>$80.00</td>
<td>$160.00</td>
</tr>
<tr>
<td>Investigation</td>
<td>2</td>
<td>Hours</td>
<td>$50.00</td>
<td>$100.00</td>
</tr>
<tr>
<td>Overtime</td>
<td>3</td>
<td>Hours</td>
<td>$15.00</td>
<td>$45.00</td>
</tr>
<tr>
<td>Client Education</td>
<td>2</td>
<td>Hours</td>
<td>$15.00</td>
<td>$30.00</td>
</tr>
<tr>
<td>Rework -Failed Run</td>
<td>2</td>
<td>Runs</td>
<td>$100.00</td>
<td>$200.00</td>
</tr>
<tr>
<td>Complaint Handling</td>
<td>.25</td>
<td>Hours</td>
<td>$15.00</td>
<td>$3.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$2478.75</strong></td>
</tr>
</tbody>
</table>
# Tracking CoPQ - Soft Costs

<table>
<thead>
<tr>
<th>Considerations</th>
<th>$ Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Morale</td>
<td>$0.00</td>
</tr>
<tr>
<td>Lost Sales</td>
<td>$2500.00</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>$0.00</td>
</tr>
<tr>
<td>Harm to Employees</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2500.00</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Considerations</th>
<th>$ Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputational Damage</td>
<td>$250.00</td>
</tr>
<tr>
<td>Litigation/Malpractice</td>
<td>$2500.00</td>
</tr>
<tr>
<td>Corrected Reports</td>
<td>$0.00</td>
</tr>
<tr>
<td>Harm to Patients</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2750.00</strong></td>
</tr>
</tbody>
</table>
Tracking CoPQ using Software (Omni-Assistant)

- **Risks**
  - **Pre-PRE-ANALYTICAL PHASE**
    - Moderate: 39
    - High: 33
  - **Pre-ANALYTICAL PHASE**
    - Moderate: 33
    - High: 20
  - **Analytical Phase**
    - Moderate: 33
    - High: 20
  - **Proficiency Testing**
    - High: 10
  - **Other**
    - Moderate: 96
    - High: 16

- **Costs**
  - Total cost for the current period: $355K
  - Pre-PRE-ANALYTICAL PHASE: $117K
  - Pre-ANALYTICAL PHASE: $95K
  - Analytical Phase: $51K
  - Post-Analytical Phase: $49K
  - Other: $43K

- **Overexposure Summary**
  - CoPQ® overexposure:
    - Avoidable costs for current period: $355,650
    - TOP 5 potential savings over 12 months: $269,500
    - All potential savings over 12 months: $355,650

- **Risk Overexposure**
  - High: 126
  - Moderate: 158
  - Low: 3

- **Volume**: 192,000 lab requisitions (acrn)
- **Reporting Period**: From 3/1/2016 to 3/1/2017
# Tracking CoPQ Using Software (Omni-Assistant)

<table>
<thead>
<tr>
<th>Event / Category</th>
<th>Nb of events</th>
<th>Ratio*</th>
<th>Trend</th>
<th>Ratio*</th>
<th>Cost per event</th>
<th>Total cost</th>
<th>Avoidable costs</th>
<th>Potential savings over 12 months</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Error - Mislabeled Specimen(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,500</td>
<td>$115,000</td>
<td>$115,000</td>
<td>$115,000</td>
<td></td>
</tr>
<tr>
<td>Pre-Pre-Analytical Phase: From the time the physician orders to the time the lab receives (Outside the organization)</td>
<td>46</td>
<td>0.2396</td>
<td>↑</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification Defect (Internal) - Mislabeled Specimen(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,500</td>
<td>$80,000</td>
<td>$80,000</td>
<td>$80,000</td>
<td></td>
</tr>
<tr>
<td>Pre-Analytical Phase: From the time the lab receives the specimen to the time the testing is performed (Inside the organization)</td>
<td>32</td>
<td>0.1667</td>
<td>↓</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turn Around Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,000</td>
<td>$42,000</td>
<td>$42,000</td>
<td>$42,000</td>
<td></td>
</tr>
<tr>
<td>Post-Analytical Phase: From the completion of testing to transmission of result (Inside the organization)</td>
<td>42</td>
<td>0.2188</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specimen Lost (Internal) - Irreplaceable Specimen(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,500</td>
<td>$17,500</td>
<td>$17,500</td>
<td>$17,500</td>
<td></td>
</tr>
<tr>
<td>Analytical Phase: From the time testing begins to when it ends</td>
<td>7</td>
<td>0.0365</td>
<td>↑</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switched Specimens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$5,000</td>
<td>$15,000</td>
<td>$15,000</td>
<td>$15,000</td>
<td></td>
</tr>
<tr>
<td>Analytical Phase: From the time testing begins to when it ends</td>
<td>3</td>
<td>0.0156</td>
<td>↑</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test Report/Results</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,500</td>
<td>$15,000</td>
<td>$15,000</td>
<td>$15,000</td>
<td></td>
</tr>
<tr>
<td>Post-Post-Analytical Phase: From receipt of results to decisions regarding treatment of patient (Outside the organization)</td>
<td>6</td>
<td>0.0313</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tracking CoPQ Using Software (Omni-Assistant)
Definitions

• **Return on Investment (ROI):** the benefit (or return) of an investment is divided by the cost of the investment, and the result is expressed as a percentage or a ratio (Investopedia)

\[
\text{ROI} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}
\]

• **Cost Savings:** Actions that lower current spending, investment or debt levels. They result in a tangible financial benefit.

• **Cost Avoidance:** Any action that avoids costs in the future. They represent potential increases in costs that are averted through specific preemptive actions.
Why does CoPQ matter?

Non-Conforming Event
- $$$ Lost

Corrective Action
- $$$ Spent

Root Cause Eliminated
- $$$ Saved
- Cost Savings &/or Avoidance
In the Words of Lucia Berte:

• For each failure there is a root cause.

• Causes are preventable.

• Prevention is always cheaper.

SAVE $$$ BY FOCUSING ON PREVENTION!
Reduce CoPQ = Maximize Profits

CoPQ negatively impacts your bottom line and drives down profits!

Adapted from the Cost of Quality. Lucia Berte. 2013
Review - Cost of Poor Quality (CoPQ)

• The cost associated with providing poor quality products or services
• The cost of not doing it right the first time
• Allows us to quantitate financial benefit of our quality program
  • Allows us to speak the language of the “C suite”
• Quality = Cost Savings and Cost Avoidance
• Internal vs. External Failure Costs
• Resources:
  • CLSI. QMS-20-R Understanding the Cost of Quality in the Laboratory. 2014.
  • American Society for Quality, www.asq.org

Summary: Cost of Quality Breakdown

- Cost of Good Quality
  - Prevention Costs
  - Appraisal Costs

- Cost of Poor Quality
  - Internal Failure
  - External Failure
Cost of Good Quality vs Cost of Poor Quality
Finding the “Sweet Spot”

https://www.isixsigma.com/implementation/financial-analysis/cost-quality-not-only-failure-costs
## Sigma Levels & Cost of Poor Quality

<table>
<thead>
<tr>
<th>Sigma</th>
<th>Defect Rate</th>
<th>Cost of Quality</th>
<th>Competitive Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>3.4</td>
<td>&lt;10%</td>
<td>World Class</td>
</tr>
<tr>
<td>5</td>
<td>233</td>
<td>10-15%</td>
<td>Industry Average</td>
</tr>
<tr>
<td>4</td>
<td>6,210</td>
<td>15-20%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>66,807</td>
<td>20-30%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>308,537</td>
<td>30-40%</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>690,000</td>
<td>&gt;40%</td>
<td>Non-competitive</td>
</tr>
</tbody>
</table>


© Copyright 2017, Cardinal Health. All rights reserved. CARDINAL HEALTH, the Cardinal Health LOGO and ESSENTIAL TO CARE are trademarks or registered trademarks of Cardinal Health.
Sigma Levels & Cost of Poor Quality

Sigma Level 2
308,527 Defects ppm

Sigma Level 3
66,807 Defects ppm

Sigma Level 4
6,210 Defects ppm

Sigma Level 5
233 Defects ppm

Sigma Level 6
3.4 Defects ppm

<1% of Revenue

5-15% of Revenue

15-25% of Revenue

25-40% of Revenue

With every additional Sigma Level the Cost of Quality will decrease by approx. 10%

Source: Six Sigma, Mikel Harry, PH.D., and Richard Schroeder

© Copyright 2017, Cardinal Health. All rights reserved. CARDINAL HEALTH, the Cardinal Health LOGO and ESSENTIAL TO CARE are trademarks or registered trademarks of Cardinal Health.
Cost of Poor Quality Calculator

Examples
Example #1: Failing Seals

• In the toxicology laboratory, there are seals that are prematurely failing on instruments. This has led to considerable CoPQ: clean up from solvents spilling on the floor, rerunning testing and significant R&D time as the cause was not known initially. Testing was delayed by a day or longer due to rerunning specimens due to these failures. It was discovered that one of the solvents being utilized was recently changed and is no longer compatible with our seals. Corrective action included an investigation into a new solvent supplier.
## Example #1: Failing Seals

### Internal Failures – Hard Costs

<table>
<thead>
<tr>
<th>Considerations</th>
<th>#</th>
<th>Units</th>
<th>Cost/Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasted Tech Time</td>
<td>20</td>
<td>Hours</td>
<td>$15.00</td>
<td>$300.00</td>
</tr>
<tr>
<td>Wasted Reagents</td>
<td>10</td>
<td>Gallons</td>
<td>$50.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Process Redesign</td>
<td>3</td>
<td>Hours</td>
<td>$80.00</td>
<td>$240.00</td>
</tr>
<tr>
<td>Occupational Health Visit</td>
<td>0</td>
<td>Visit</td>
<td>0</td>
<td>$0.00</td>
</tr>
<tr>
<td>Management Time</td>
<td>12</td>
<td>Hours</td>
<td>$100.00</td>
<td>$1200.00</td>
</tr>
<tr>
<td>Investigation</td>
<td>10</td>
<td>Hours</td>
<td>$50.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Overtime</td>
<td>0</td>
<td>Hours</td>
<td>0</td>
<td>$45.00</td>
</tr>
<tr>
<td>Client Education</td>
<td>0</td>
<td>Hours</td>
<td>0</td>
<td>$0.00</td>
</tr>
<tr>
<td>Rework -Failed Run</td>
<td>9</td>
<td>Runs</td>
<td>$100.00</td>
<td>$900.00</td>
</tr>
<tr>
<td>Complaint Handling</td>
<td>2</td>
<td>Hours</td>
<td>$15.00</td>
<td>$30.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$3,715.00</strong></td>
</tr>
</tbody>
</table>
**Example #1: Failing Seals**

<table>
<thead>
<tr>
<th>Internal Failure – Soft Costs</th>
<th>External Failure – Soft Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Considerations</strong></td>
<td><strong>Considerations</strong></td>
</tr>
<tr>
<td>Low Morale</td>
<td>Reputational Damage</td>
</tr>
<tr>
<td>Lost Sales</td>
<td>Litigation/Malpractice</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>Corrected Reports</td>
</tr>
<tr>
<td>Harm to Employees</td>
<td>Harm to Patients</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>$ Estimate</th>
<th>$ Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Morale</td>
<td>$0.00</td>
<td>$750.00</td>
</tr>
<tr>
<td>Lost Sales</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>$2500.00</td>
<td></td>
</tr>
<tr>
<td>Harm to Employees</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2500.00</strong></td>
<td><strong>$750.00</strong></td>
</tr>
</tbody>
</table>

Total Hard Costs: $3,715.00  
Total Soft Costs: $3,250.00  
Total CoPQ: $6,965.00
Example #2: Lost Specimen

- A specimen arrived in the laboratory, was accessioned and placed in the staging refrigerator for testing department pickup. When the lab tech came to pick up the specimens, the specimen was no longer in the rack. After an extensive investigation, the specimen was not recovered. The client was contacted. The specimen was irreplaceable and the client is very angry stating they will never use our lab again.
## Example #2: Lost Specimen

<table>
<thead>
<tr>
<th>Considerations</th>
<th>#</th>
<th>Units</th>
<th>Cost/Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasted Tech Time</td>
<td>4</td>
<td>Hours</td>
<td>$15.00</td>
<td>$60.00</td>
</tr>
<tr>
<td>Wasted Reagents</td>
<td>0</td>
<td>Gallons</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Process Redesign</td>
<td>0</td>
<td>Hours</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Occupational Health Visit</td>
<td>0</td>
<td>Visit</td>
<td>0</td>
<td>$0.00</td>
</tr>
<tr>
<td>Management Time</td>
<td>5</td>
<td>Hours</td>
<td>$75.00</td>
<td>$350.00</td>
</tr>
<tr>
<td>Investigation</td>
<td>10</td>
<td>Hours</td>
<td>$50.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Overtime</td>
<td>2</td>
<td>Hours</td>
<td>22.50</td>
<td>$45.00</td>
</tr>
<tr>
<td>Client Education</td>
<td>0</td>
<td>Hours</td>
<td>0</td>
<td>$0.00</td>
</tr>
<tr>
<td>Rework -Failed Run</td>
<td>0</td>
<td>Runs</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Complaint Handling</td>
<td>.25</td>
<td>Hours</td>
<td>$20.00</td>
<td>$5.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$960.00</strong></td>
</tr>
</tbody>
</table>
### Example #2: Lost Specimen

<table>
<thead>
<tr>
<th>Considerations</th>
<th>$ Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Morale</td>
<td>$0.00</td>
</tr>
<tr>
<td>Lost Sales</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>$0.00</td>
</tr>
<tr>
<td>Harm to Employees</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$10,000.00</strong></td>
</tr>
</tbody>
</table>

**Internal Failure – Soft Costs**

<table>
<thead>
<tr>
<th>Considerations</th>
<th>$ Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputational Damage</td>
<td>$2500.00</td>
</tr>
<tr>
<td>Litigation/Malpractice</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Corrected Reports</td>
<td>$0.00</td>
</tr>
<tr>
<td>Harm to Patients</td>
<td>$20,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$32,500.00</strong></td>
</tr>
</tbody>
</table>

**External Failure – Soft Costs**

<table>
<thead>
<tr>
<th>Considerations</th>
<th>$ Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Morale</td>
<td>$0.00</td>
</tr>
<tr>
<td>Lost Sales</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Equipment Downtime</td>
<td>$0.00</td>
</tr>
<tr>
<td>Harm to Employees</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$10,000.00</strong></td>
</tr>
</tbody>
</table>

**Total Hard Costs** $960.00

**Total Soft Costs** $42,500.00

**Total CoPQ** $43,460.00
Presenting the CoPQ Data

2016 CoPQ Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Hard Costs</strong></td>
<td>$120,000</td>
</tr>
<tr>
<td><strong>Total Soft Costs</strong></td>
<td>$230,000</td>
</tr>
<tr>
<td><strong>Total CoPQ</strong></td>
<td>$350,000</td>
</tr>
</tbody>
</table>
Presenting the CoPQ Data

![Year over Year CoPQ Graph]

- **Hard Costs**
- **Soft Costs**
- **Total CoPQ**

Key:
- **2014**: Red dot
- **2015**: Red dot
- **2016**: Red dot
- **2017**: Red dot

The graph shows the trend of CoPQ over the years, with a decrease in costs across all categories: hard, soft, and total CoPQ.
Presenting the CoPQ Data

CoPQ vs Test Volume

- Hard Costs
- Soft Costs
- Total CoPQ
- Test Volume
Presenting the CoPQ Data

CoPQ vs Revenue

- Hard Costs
- Soft Costs
- Total CoPQ
- Revenue

© Copyright 2017, Cardinal Health. All rights reserved. CARDINAL HEALTH, the Cardinal Health LOGO and ESSENTIAL TO CARE are trademarks or registered trademarks of Cardinal Health.
Demonstrating Return on Investment (ROI)

Cost of Good Quality
Prevention
Quality 2.0 FTEs = $150,000

VS

Cost of Poor Quality
Internal/External Failure Costs
~$350,000 for 2016 (very conservative estimate)

ROI in 5 months for entire year FTE devoted to quality program just considering non-conforming events
It is always cheaper to do the job right the first time.

- Phil Crosby
If you don’t have time to do it right, you must have time to do it over.
- Russian proverb

If you don’t have time to do it right, you must have time to do it again, then do an investigation, root cause analysis, implement a corrective action and follow up with an effectiveness check.
- Quality Manager proverb
Questions?

Presented by: Jennifer Dawson
jdawson@humanlongevity.com

The information in this presentation is provided for educational purposes only and is not legal advice. It is intended to highlight laws you are likely to encounter, but is not a comprehensive review. If you have questions or concerns about a particular instance or whether a law applies, you should consider contacting your attorney.
Thank you