Agenda

Risk Management
Risk Management Background, Benefits, Framework
Risk Management Training and Culture Change
Risk Management Tools
Program Key Takeaways
Why Focus on Risk Management?

Regulator’s expectation

Greater ability to provide targeted oversight of clinical studies

Evolving industry standard

Enhanced ability to understand and manage the vulnerabilities of our processes, people, vendors

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Definition of Operational Risk*

Risk of loss resulting from inadequate or failed processes, people and systems, or from external events.

This definition includes impact upon reputational, regulatory, legal, strategic, and day-to-day operations.

*Modified Basel II definition
Benefits of Risk Management

**Helps the Management Team**
- Plan strategically, *allocate resources wisely*
- Enables more *responsible decision-making*
- Helps to *constrain threats* to the organization

**Increases Efficiency**
- Facilitates *decision-making* and *priority-setting*
- Contributes to *achieving the organization's goals* more efficiently
- Potential to *reduce rework*

**Facilitates Innovation**
- To be innovative implies *taking risks*
- Encourages staff to *take risks wisely*
- Supports *innovation* and *prudent decision-making* while maintaining stakeholder trust
Benefits of Risk Management

Fosters a Supportive Work Environment for Self-reliance

- Enables staff to analyze causes and consequences of situations rationally and systematically
- Enables staff to account for risk management decisions (based on evidence) with confidence
- Enables proactive thinking, learning from experience and for improving teamwork
- Leads to improved stewardship and accountability

Increases the Credibility of the Organization

- Improves results and gives assurance to staff and stakeholders that goals will be met
- Enables staff to avoid costly surprises both in terms of spending and credibility of reputation

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Risk Management Baseline

Risk Management is Not New

- We do it informally all the time
- We need to apply it consistently and effectively

Risk Process or Risk Ranking

- Done largely through a subjective and detective nature involving the cataloging of risks after the fact

Challenges

- A weak mechanism for identifying and managing risks
- No dedicated resources to address risk-management issues
- Unclear lines of communication about the risk process
- Ad-hoc nature to the current risk-management practice

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Do we have well-documented and well-controlled processes for managing and mitigating risks that align our appetite/tolerance for risk and advance our strategic goal?

Is our assessment of risk as robust as it needs to be for well-informed decision making?

Are we prepared to communicate the answers to these questions to stakeholders and [regulatory] authorities, if needed?

Is the framework adequate for the evolving business model?
Risk Management Components

Systematic method

- Identify, evaluate, and manage risks associated with our product or process development

Ongoing organizational and operational framework/approach

- Facilitate better and more informed/smarter decisions, and make the most use of available resources

Governance

- Improve risk oversight and integration

Systematic method

- Identify, evaluate, and manage risks associated with our product or process development
Training
Establishing a Risk Management Culture

- Strategic Decisions
- Decisions Transferring Strategy into Action
- Decisions Required For Implementation

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Strategy for Long Term Change

**Tool Specific Training**
- QbD
- Risk Analysis Tool
- Study Quality Plan

**General Risk Management Training**
- What is risk?
- How to recognize
- How to evaluate
- Options for mitigating

**Stakeholder Training**
- General risk training
- Risk Management Expectations during Study management Team Meetings

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Standardization

- Standardized terms, e.g.:
  - Impact, Likelihood, Vulnerability, etc.
  - Risk Tolerance terms

Creation of standard across therapeutic areas as well as within therapeutic area

Incorporated tools into a unified approach managed through a Quality Risk Management Plan

Required all ClinOps study team members to participate in training and workshops

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Typical Risk Training Agenda

• Introduction to Risk Management:
  ➢ Definition of Risk and Risk Management
  ➢ Purpose of Risk Management
  ➢ Overview of Different Types of Risk

• Implementation of Risk Management

• Case Study Review

• Applying Risk Management to Your Study

• Next Steps

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By the end of today, you should be able to:

• Understand Risk Management
• Understand how Risk Management affects decision-making
• Identify risks/uncertainties to achieve a set of objectives and expected results
• Prioritize risks/uncertainties and decide on plan of action
Risk Tools
QbD & Risk Tolerance Table
Development of Risk Tools

2014

- **QbD Launched**
- **Quality & Risk Plan Launched**
- **Risk Management Training Started**
- **Pilot of Risk Tolerance and Analysis Table**

Timeline:

- **QbD Rollout and Initial Training**
- **Quality and Risk Plan Rollout and Training**
- **Risk Management Training ClinOps**
- **DevOps Risk Management Training**
- **Risk Tolerance and Analysis Table Development**
- **Piloting and Rollout of Risk Tolerance and Analysis Table**

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QbD System Design

Risk Questionnaire
- Critical to quality categories defined
- Five or more key risk indicator questions/CTQ category
- Mapped to multiple attributes

System
- Application developed in-house
- Includes a risk mitigation module
- SharePoint front end

Development Steps
- Socializing idea in Q4 2012
- Q1 2013 developed Excel model
- Late Q3 piloting application
QbD Rollout

Phase II & III Studies

Training started with study teams leads

5 Therapeutic Areas

Communication / Change Management Plan

Actively gathered feedback
Lessons Learned

What were we doing right?
• Generally positive reception
• Tool easy to follow
• Helps with discussions at the study management team level
• Focuses on critical risks

What needs improvement?
• Key risk indicators sometimes difficult to apply across all TAs
• Assorted user interface improvements suggested to ease use of tool
• Streamline risk mitigation module and add more free text options
• Continuous improvement needs to be a constant task
Planning for Success

- Establish Risk Working Group
- Revised key risk Indicators
- Strengthened position of QbD in Quality Plan
- Major UI and database upgrades
- Dedicated resources to continuous improvement
Risk Tolerance & Analysis

- Identify Risks
- Establish & Communicate Risk Tolerance
- Calculate and Communicate Risks
- Act

Reactive Decision Making
Human Errors

Regulatory Requirements

Standardization

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Conveying Organizational Risk Tolerance

Leadership determines willingness to take on risk

Communicate Risk Tolerance to Operational Teams

Risk Tolerance*

*Risk Tolerance = Level of risk an organization is willing to accept

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Communicating Study Risk Status

Residual Risk Score

= risk status after controls applied, focus is on risks that need additional controls

Communicate to Stakeholders:
- SMT
- Line Management
- Leadership
- Vendors

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Establishing Risk Tolerances

Step #1 – Consider the overall risk strategy

Protocols that are determined to be high risk from a scientific or strategic perspective may require a more conservative operational risk approach to ensure success, i.e. less risk tolerance.
Establishing Risk Tolerances

Step #2 – Focus on high level questions

- Experience with indication?
- What is the overall risk of the protocol?
- Are there high risk operational activities?
- What is the strength of the safety profile?
- Is time such a driver that we may accept increased risk within some areas?
- What is the competitive landscape?
- What is the marketing plan?
- Level of staff (internal and vendor) experience?
## Step #3 - Reviewing / assigning the level of risk

<table>
<thead>
<tr>
<th><strong>Risk Impact Category</strong> (risk threshold)</th>
<th><strong>Level of Risk Leadership is Able to Accept</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Very Low</td>
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<tr>
<td><strong>Budget Impact</strong> (&gt;X% over budget)</td>
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<tr>
<td><strong>Milestones</strong> (&gt;X% delay)</td>
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<tr>
<td><strong>Safety</strong> (risk of subject or safety profile impact)</td>
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<tr>
<td><strong>Data</strong> (risk of impact to integrity/ collection/ analysis resulting in loss of endpoint data or increase of budget/timeline by &gt;X%)</td>
<td>X</td>
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Capturing and Categorizing Risk

Risk Tolerance and Analysis Tool below focuses on:

- Initial risk scoring
- Control assessment
- Residual Risk Rating
- Dependent on Risk Acceptance Table to achieve meaningful results

**Impact**: indicates the size of the event that has or may occur

**Likelihood**: chances of an event happening

**Vulnerability**: susceptibility to a risk event taking into consideration preparedness (e.g. SOPs, scenario planning, organizational agility)

<table>
<thead>
<tr>
<th>Identified Risks</th>
<th>Risk Impact Category</th>
<th>Date Identified</th>
<th>Risk Impact</th>
<th>Risk Likelihood</th>
<th>Vulnerability</th>
<th>Risk Score</th>
<th>Acceptable Risk Level</th>
<th>Frequency of Controls</th>
<th>Control Effectiveness</th>
<th>Control Documentation Location</th>
<th>Residual Risk Rating</th>
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<tbody>
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<td>Hazard Risk</td>
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<td>High</td>
<td>Very High</td>
<td>Moderate</td>
<td>High</td>
<td>Medium</td>
<td>Annually</td>
<td>Significant</td>
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<td>Regulatory</td>
<td>25-May-14</td>
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<td>Very High</td>
<td>Very High</td>
<td>Critical</td>
<td>Medium</td>
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<td>Daily</td>
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<td>Very High</td>
<td>Critical</td>
<td>Medium</td>
<td>Daily</td>
<td>Daily</td>
<td>Almost Complete</td>
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<td>High</td>
<td>High</td>
<td>Moderate</td>
<td>Very Low</td>
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<td>Financial Risk</td>
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Title: Draft Risk Tolerance and Analysis Tool Flow

TA Leads
- Complete Risk Tolerance Worksheet
- Risks Reviewed and Communication Back as Required

Study Lead
- Start
- Forward Risk Tolerance Worksheet
- Populate Risk Analysis Tool with Tolerances
- Populate Study Risks in Tool and Communicate Risks

SMT (and additional stakeholders as required)
- Identify Study Risks
- Review Risks, Plan Controls and Other Actions

Continuous Loop
Risk management training is at least as important as the development of tools.
- Necessary to change culture.

Map out a comprehensive high level risk management plan.

One tool will not serve all risk management needs.
- Standardize terminology as much as possible.

Expectation should be that any new tool will need improvement.
- Organizations and regulations are always in flux making CI a must.

PUT THE PIECES TOGETHER

Develop a Framework

Tool Development

Continuous improvement
Thank you!
Questions?

Special thanks to our risk management leads:
• Angie Maurer
• Kim Nguyen