



Risk Management Integration Process

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Message from the chairman

It is vividly evident that the world witnessed the worst public health and economic crisis due to COVID-19 pandemic. This inevitably mobilized the international community to act seriously and swiftly. However, the mortalities and morbidities induced by healthcare-acquired infections (HAI) are equally fatal, but the international community did not act similarly. Consequently, we are continuously and chronically suffering from HAI.

The current intervention for HAI is merely based on passively-set standards and enforcing these standards via regulatory agencies such as the centre for disease control and prevention (CDC), joint commission international (JCI), ministries of health, and other regulatory agencies. To efficiently address HAI, we inevitably need to mobilize the international community because HAI traverses a multitude of epistemological dimensions, requiring multidisciplinary tacit knowledge, and mandates active international collaboration. Besides, we believe that we can efficiently traverse deeply into the root-causes and solution landscapes by automating the entire healthcare environmental services and infection control within healthcare institutions using the latest advancements in computational epistemology, computational infection control models, computational epidemiological models, artificial intelligence, machine learning, distributed ledger technology, collective intelligence, cognitive technologies, internet of things, ubiquitous technologies, intelligent micro-measurement frameworks, artificial life, evidence-based program implementation, patient-centric care, strategy anchored execution, and symbiotic healthcare ecosystem services. Consequently, we developed these open standards that were tailored from diverse international standards to promote the automation of healthcare environmental services and infection control processes and best practices.

The Healthcare Environmental Services Operational Map (HESOM) and other standards were developed to efficiently leverage multidisciplinary experts and practitioners to contribute towards the eradication of HAI-induced mortalities and morbidities. Using ReXcels research and innovation environment, we cultivate collective intelligence by bringing together these multidisciplinary experts to iteratively develop these standards and adaptively support the innovation of computational technology that automates the execution and enforcement of these standards. As such, we cordially invite you to use these documents and participate actively in the further development of these standards to significantly reduce HAI-induced mortalities, morbidities, and their enormous negative economic externalities.

Hamid Adem

Interim Chairman, and Chief R&D Officer

Change Control

Change Control

Version:	Date:	Changes:

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Risk Management Integration Process

Purpose



1 Purpose

1. PURPOSE

The purpose of this document is to establish an integration process that integrates environmental service risk management process with the existing organizational Risk Management process.

The main purpose of this document is to enable environmental services risk management process:

- Aligning with organization's risk appetite and strategy
- Enhancing overall risk response decisions
- Reducing operational surprises and losses
- Identifying and managing multiple and cross-enterprise risks
- Optimizing integration with lesser errors.

This process is based on international well acclaimed standards like:

- NHS- National Health Services Standard
- OSHA- Occupational Safety and Health Administration standard
- CDC- Centers for Disease Control and Prevention standard
- Lean six sigma- Quality Standard
- JCI- Journal of Clinical Investigation standard
- JCAHO- Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
- EPA- US Environmental Protection Agency
- HCAHPS - Hospital Consumer Assessment of Healthcare Providers and Systems
- HIPA- Health Information Privacy Act standard.
- Activity based Accounting.
- AS-NZ Risk 4360- Risk Management.
- SEI –Risk management framework.

*P.S: This process is a derivation from **ESM (Environmental Service Map)**, which is a holistic and a comprehensive model for Environmental Services Management.*

Structure of the Document



2. STRUCTURE OF THE DOCUMENT

The Environmental services Risk Management Integration process document comprises the following chapters:

Chapter–3: Scope: This chapter describes the scope of the document and the Cleaning process.

Chapter–4: General Assumptions: This chapter describes the underlined assumptions made for both the document and Risk Management Integration process.

Chapter–5: Risk Management Integration Framework: This chapter exhibits the interaction of Risk Management Integration process with other related processes and also describes the process sequence for Risk Management Integration process.

Chapter–6: Risk Management Integration Process: In this chapter Risk Management Integration process and sub processes (if any) will be depicted and specified using rigorous BPMN and process specification templates.

Chapter–7: References: This chapter serves as a prime reference to Risk Management Integration process and presents the details supporting it in tabular formats. The chapter describes relevant Business Rules, Risks, quality Attributes, Data Quality Dimensions, Operation Policies, KPIs, CTQs, Abstract Time-scales and SLAs terms specific to cleaning process.

This process is supposed to be a living document and consists of various variable values which would frequently evolve or change as organization's Risk Management Integration process matures or changes

Scope



3 Scope

3. SCOPE

This process is applicable to all operational processes of the environmental services.

General Assumptions



4. GENERAL ASSUMPTIONS

Following are general assumption made for the Risk Management Integration process.

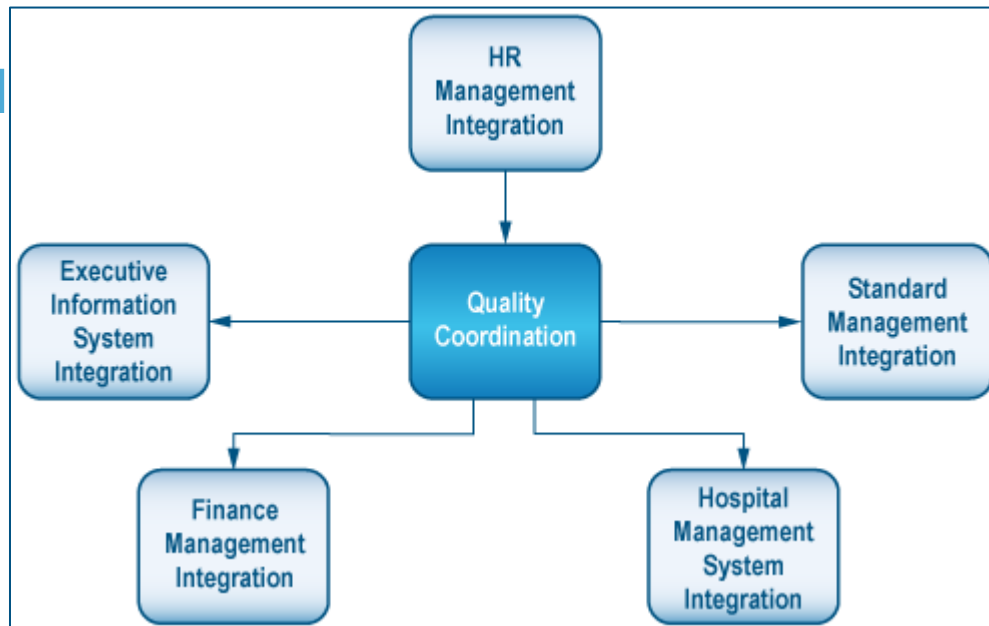
- Senior Management Support is available throughout for integration with the current risk management process.
- This process uses automated tools to ensure smooth and efficient integration with the current process.
- Current risk management process is matured.
- This process uses automated tools to ensure smooth and efficient integration with the current process.
- Any activity related assumptions are explicitly identified in related Process Specification table in Chapter 6.

Risk Management Framework



5.1 Risk Management Interactions

The following depiction shows the points of interaction of organization's Risk Management Integration process with other related enterprise processes. All the processes depicted below are defined in their own respective dedicated documents.



5.2 Risk Management Process

The Risk Management Integration process comprises of following sequence of activities:

1. Identification of Risk Management Integration Goals
2. Enterprise Risk Management Framework Integration
3. Risk Management Process re-Engineering
4. Data and Records Integration
5. Risk Management Process Integration
6. Integrate with organization Risk treatment Plan
7. Monitoring and review

8. Integrated Reporting

Section 5.2.1 -5.2.7 describes the flow of high level process sequence for organization risk Management. Section 6.1 Process Model sheds more light on the entire flow of this process.

5.2.1 Identification of Risk Management Integration Goals

This comprises of identification of following goals:

- **ES Risk Management Performance Optimization.** This focuses on streamlining and improving existing risk management processes to align with the organizational risk management to ensure better, comprehensive and greater operational efficiency.
- **Efficient ES Risk Management decision making.** This ensures the smooth and seamless information flow between organizational and environmental services risk management processes, for effective decision.
- **Better Risk Management Coordination.** This ensures better coordination between the two processes, to enable comprehensive and easy retrieval of information and data when required, which would facilitate the harmonization between environmental services risk management process and organizational risk management process.

5.2.2 Enterprise Risk Management Framework Integration

- **Risk Management standard Integration**

The purpose of this process is to ensure that the organization risk management process is comprehensive and also covers risks arising out of environmental services. This sub process comprises of integrating the environmental services risk management framework with the defined and documented Risk Management framework. This comprises of integrating at following levels:

- **Risk Management Policies integration.** This involves Integration of ES risk management policies with the current established policies of risk management.
 - **Risk Management Procedure integration.** This involves Integration of ES risk management procedure with the current established procedure of risk management.
 - **Risk Management Guidelines integration.** This involves Integration of ES risk management guidelines with the current established policies of risk management.
- **Ensure Compliance with Organizational Risk Management.**
This addresses the following:
 - **Removing discrepancies.** This step involves removing of any discrepancies arising out of integration of risk management framework.

- **Harmonization activities.** The integrated documents will serve as guidance to environmental service risk management and identifies where roles and responsibilities clearly, thus removing any room for inconsistency.
- **ES Risk Budget**

This integration ensures that the organizational risk management budget for the entire year's requirement also includes the expenses with regards to Environmental service risk management requirement.

 - **Establishing Responsibility and authority**

This comprises of establishing environmental services roles and responsibility for risk management that would coordinate and facilitate overall risk management process.
 - **Risk Implementation plan Integration**

This comprise of aligning the ES risk management implementation plan with organization Risk Management implementation plan.

5.2.3 Risk Management Process Re-Engineering

This comprises of re-engineering the existing risk management process of organization as well as environment services to streamline and optimize information flow between the two processes.

This comprises of following steps:

- **Identify Integration goals.** This comprises of identification of strategic and informative goals between the processes.
- **Analyze “as is” Processes.** This comprises of analyzing the current processes, to identify points of failure, disconnections, and current values of the processes.
- **Design “to be” process.** The objective of this phase is to produce one or more alternatives to the current situation, which satisfy the strategic goals of the integration. This comprises of using innovative methods and practices and identifying the desired state of processes.
- **Implement Change.** This comprise of planning a transition from “As is” to the desired process. This plan must align the organizational structure, information systems, and the business policies and procedures with the redesigned processes

5.2.4 Data and Records Integration

This process ensures that the risk record and data pertaining to the environmental services record are well integrated with the organizational risk management. This integration ensures that the integrated data remains true and pure with the following attributes:

- Authenticity
- Integrity
- Accuracy
- Reliability
- Free from error.

5.2.5 Risk Management Process Integration

Information gathering Integration

ES Risk management integrates with the information gathering process activity of organizational risk management. The aim of this activity is to identify various vulnerabilities with regards to environmental service. This activity consists of information gathering via interviews, Audits and fact finding, Security risks, previous audits etc.

This serves as a major input for the organizational risk management process, and provides information with regards to the environmental service.

Table below identifies various methods that can be employed for information gathering for environmental services in accordance with the organizational risk management process.

Technique	Benefits
Desk-top review of documentation	<ul style="list-style-type: none"> • Limited resources required • Quick • Good background information
Questionnaire	<ul style="list-style-type: none"> • Wide coverage • No facilitation skills required • Should conform to the organizational information gathering questionnaire.

One-to-one interviews	<ul style="list-style-type: none"> • Confidentiality • Facilitation skills not essential
Group interview	<ul style="list-style-type: none"> • Broader coverage • Stimulation of ideas
Workshop, focus group or round table discussion	<ul style="list-style-type: none"> • Good coverage

- **Integration with current risk Analysis approach**

This comprise for integrating with following types of approaches:

- **Qualitative Analysis Approach**

Qualitative analysis uses word form or descriptive scales to describe the magnitude of potential consequences and the likelihood that those consequences will occur. These scales can be adapted or adjusted to suit the circumstances, and different descriptions may be used for different risks. For example high, low medium.

Appendix C shows Qualitative chart.

- **Quantitative Analysis Approach**

Quantitative analysis uses numerical values (rather than the descriptive scales) for both consequences and likelihood using data from a variety of sources. The quality of the analysis depends on the accuracy and completeness of the numerical values used.

- **Risk and Update of Environmental service Risk Profile.**

- **Identify ES Assets**

This comprises of following:

- Categorize the Environmental services asset into relevant categories (software, hardware, people, service, etc.)
- Determine the owner and value of the asset.

- **Identification of ES threats**

The goal of this step is to identify and examine threats to environmental services assets. Threat can be classified generally into natural threats and man-made threats.

- **Identification of ES vulnerabilities**

The goal of this step is to identify applicable environmental services vulnerabilities (flaws or weaknesses) that could be exploited by the potential threat (identified earlier).

- **Determine Likelihood**

The goal of this step is to derive an overall likelihood rating which indicates the probability of a potential vulnerability to be exercised within the construct of the associated threat environment.

The likelihood rating can be done as per the organizational risk management guidelines.

- **Determine Impact**

The next task is to determine the adverse impact resulting from a successful threat exercise of vulnerability.

The table below should relationship between level of likelihood and level of impact.

Level of Likelihood	Level of Impact				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	Medium	High	High	High	High
Likely	Low	Medium	High	High	High
Moderate	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Low	Medium

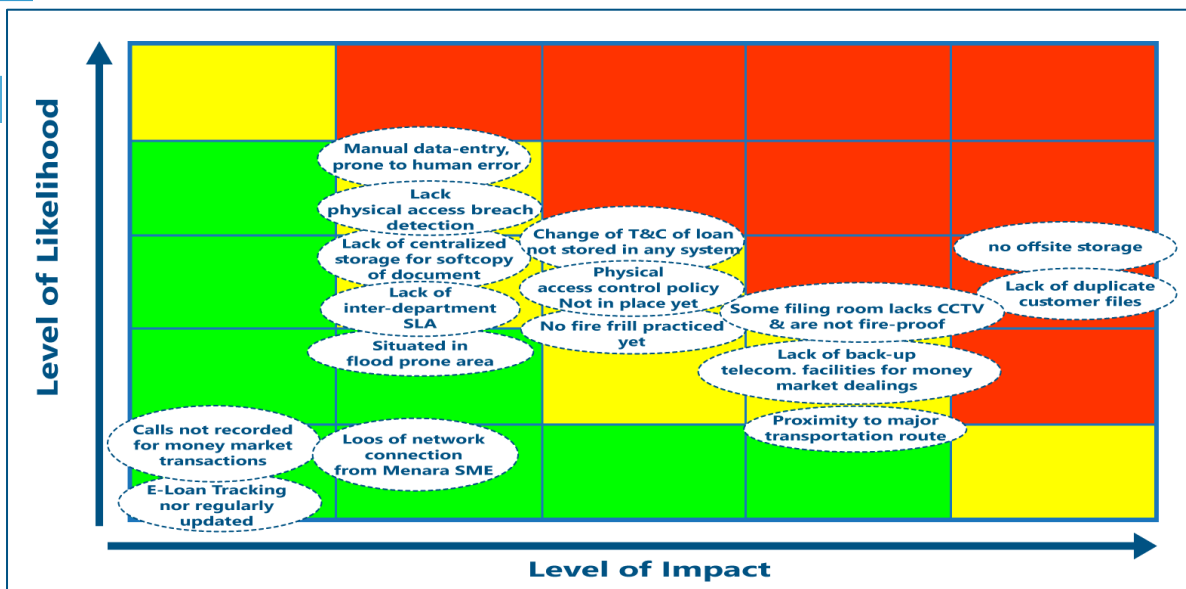
- **Calculate Risk**

The next step is to calculate or identify the risk (based on the approached used). The risk calculation would be done as per the principles and policies of organizational risk management.

Typically risk is calculated based on the following formula.

$$\text{Risk} = \text{Impact} \times \text{Likelihood}$$

Once the risk has been calculated or identified it should be updated into the organizational risk profile for future references. The following depiction shows a sample of risk profile.



- **Treat Risk.**

The last step to this process is to identify means and methods to mitigate or eradicate the identified risks. Usually it is difficult to mitigate or eradicate the risk totally but it can be brought down to acceptable level. Various options are as:

- **Avoid risk**

Risk avoidance comprises of avoiding the entire risk all together. That is not proceeding with the activity likely to generate risk.

- **Transfer the risk**

This involves another party bearing or sharing some part of the risk. Mechanisms include the use of contracts, insurance arrangements and organizational structures such as partnership and joint ventures.

- **Reduce Risk occurrence**

This comprises of reducing the impact or likelihood of occurrence of the risk e.g., enforcing preventive maintenance

- **Retain the risk**

There is a part of risk which cannot be eliminated or reduced. Management needs to decide what level of risk can be accepted as a residual risk.

The risk management treatment should be done in accordance to the current risk management framework, and all the decisions on the environmental services risk management should involve organization's senior management.

5.2.6 Integrate with Organization Risk Treatment Plan

This step involves providing inputs and integrating with the organization's risk treatment plan. The risk treatment plan should document how the chosen options for environmental services risk management shall be implemented. The treatment plan should identify:

- Responsibilities
- Schedules
- Expected outcome of treatments
- Budgeting
- Performance measures
- Controls and the review process to be set in place.

5.2.7 Monitoring and review

This process integrates with the organizational method for monitoring risks, the effectiveness of the risk treatment plan. Risks and the effectiveness of control measures need to be monitored in accordance with the organizational risk management process, to ensure changing circumstances do not alter risk priorities. Ongoing review is essential to ensure that the management plan remains relevant.

5.2.8 Integrated Reporting

This process is responsible for provision of various comprehensive reports which takes into account ES risk management results for example

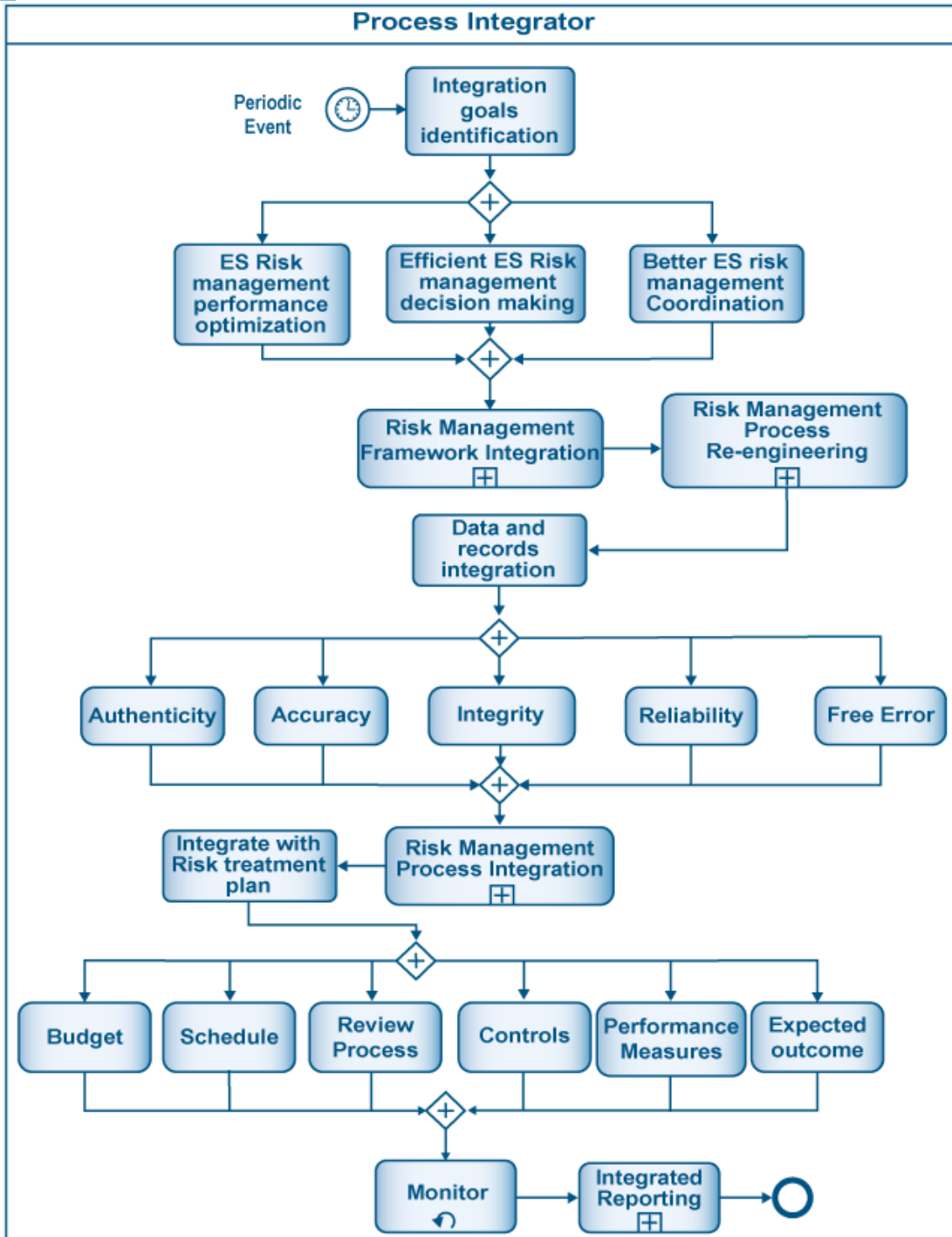
- Risk management deviations Reports
- Risk treatment performance reports
- Operational Risks compliance Reports

Risk Management Process



6 Risk Management Process

6.1 Risk Management – Process



6.2 Risk Management – Specification

Specification	Description
Summary/Purpose	To integrate with organization's Risk Management Integration process.
Scope	This is a Level 1 Process Specification.
Primary Reference	<ul style="list-style-type: none"> AS-NZ Risk 4360- Risk Management. Lean six sigma- Quality Standard JCI- Journal of Clinical Investigation standard SEI –Risk Management Integration framework.
Related ESM Practices	Enterprise Information system integration, Hospital Management System integration, HR Management integration, Standard Management integration, Finance Management Integration.
Related Business Driver	1. Integration with the risk management
Related Operational Policies	OP-001, OP-002, OP-003, OP-004, OP-005 (Ref 7.5)
Assumptions	Senior Management support is available throughout this process.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None

Equipment & Accessories	Automated System for risk management.						
MSD Management	Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)						
EBC Procedures	None						
Timing Dimensions	<table border="1"> <thead> <tr> <th>Type</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Average</td> <td>30 min</td> </tr> <tr> <td>Std</td> <td>12 min</td> </tr> </tbody> </table>	Type	Normal	Average	30 min	Std	12 min
Type	Normal						
Average	30 min						
Std	12 min						
Trigger	1. Periodic review						
Basic Course of Event	<p>Risk Management Process</p> <ol style="list-style-type: none"> 1. Process integrator identifies integration goals (ES risk management performance optimization, efficient ES risk management decision making, better ES risk management coordination) 2. Process Integrator performs risk management framework integration 3. Process integrator performs risk management process re-engineering 4. Process integrator performs data and records integration (authenticity, accuracy, integrity, reliability, free error) 5. Process integrator performs Risk Management process integration. 6. Process integrator integrate with risk treatment plan (budget, schedule, review process, controls, performance measures, expected outcome) 7. Process Integrator monitors the risk 8. Process integrator provides integrator reporting. 9. End 						
Alternative Path	None						
Exception Path	<p>System Down</p> <ol style="list-style-type: none"> 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End. 						

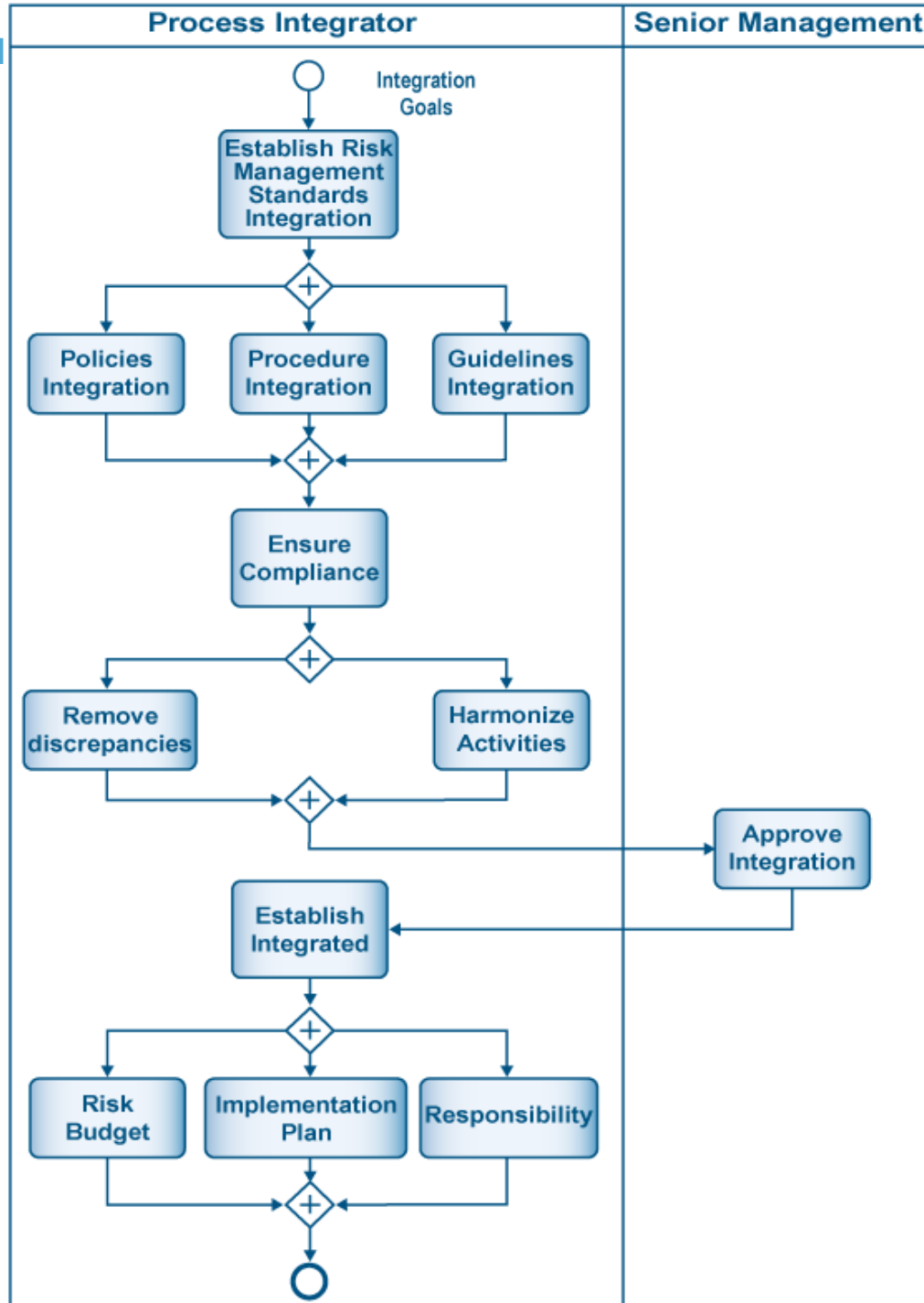
Extension points	Enterprise Information system integration, Hospital Management System integration, HR Management integration, Standard Management integration, Finance Management Integration.
Preconditions	This process utilizes automation wherever necessary.
Post -conditions	Organization risk integration process gets established.
Related Business Rules	BR-001, BR-002, BR-003, BR-004, BR-005, BR-006 (Ref 7.1)
Related Risks	RR-001, RR-002, RR-003, RR-004, RR-005 (Ref 7.2)
Related Quality Attributes	Reliability, Usability, Confidentiality, Authenticity, Data Integrity, Availability, Non-repudiation, Accountability, Security Integration, Performance, Scalability, Extensibility, Adaptability, Testability, Auditability, Operability and Deployability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Believability, Reputation, Objectivity, Free-of-Error, Value Added, Relevance, Completeness, Timeliness, Appropriate Amount, Understandability, Interpretability, Concise Representation (Ref 7.4)
Related Primary SLA Terms	(Ref 7.9)
Related KPIs	IDR, RTPRR, RRR, RIR, RPR, RCR (Ref 7.6)
Related CTQs	IDRV, RTPRRV, RRRV, RIRV, RPRV, RCRV, MOM, PWOM, CTQ, IOM, TOM, WRM, DRM (Ref 7.7)
Actors/Agents	Process integrator,
Delegation	<u>Delegation Rule -1: Agent Not Available</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same role 2. Update the task 3. Log the delegation <u>Delegation Rule -2: Agent Overloaded</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same Role 2. Update the task

	3. Log the delegation
Escalation	<u>Rule 1: Performance, operational legal Issues</u> 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.1
Other References	Appendix A: Business Process Modeling Notation Reference Appendix B: Chain Of Infection Appendix C Qualitative Risk Approach Sample Appendix D Risk Profile Sample

6.3 Risk Management - Roles and Responsibilities

Roles	Responsibilities
Process integrator	<ul style="list-style-type: none"> • Process integrator identifies integration goals (ES risk management performance optimization, efficient ES risk management decision making, better ES risk management coordination) • Process Integrator performs risk management framework integration • Process integrator performs risk management process re-engineering • Process integrator performs data and records integration (authenticity, accuracy, integrity, reliability, free error) • Process integrator performs Risk Management process integration. • Process integrator integrate with risk treatment plan (budget, schedule, review process, controls, performance measures, expected outcome) • Process Integrator monitors the risk • Process integrator provides integrator reporting.

6.4 Sub Process – Risk Management framework Integration



6.5 Sub Process – Risk Management framework Integration Specification

Specification	Description
Summary/Purpose	To integrate environmental service risk management process with the organization's Risk Management framework process.
Scope	This is a Level 1 Process Specification.
Primary Reference	<ul style="list-style-type: none"> AS-NZ Risk 4360- Risk Management. Lean six sigma- Quality Standard JCI- Journal of Clinical Investigation standard SEI –Risk Management Integration framework.
Related ESM Practices	Enterprise Information system integration, Hospital Management System integration, HR Management integration, Standard Management integration, Finance Management Integration.
Related Business Driver	<ul style="list-style-type: none"> Comprehensive risk management
Related Operational Policies	OP-004, OP-006 (Ref 7.5)
Assumptions	Senior Management support is available throughout this process.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None

Equipment & Accessories	Automated System for risk management.						
MSD Management	Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)						
EBC Procedures	None						
Timing Dimension	<table border="1"> <thead> <tr> <th>Type</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Average</td> <td>30 min</td> </tr> <tr> <td>Std</td> <td>12 min</td> </tr> </tbody> </table>	Type	Normal	Average	30 min	Std	12 min
Type	Normal						
Average	30 min						
Std	12 min						
Trigger	<ul style="list-style-type: none"> Periodic review 						
Basic Course of Event	<p>Risk Management Framework Integration Process</p> <ol style="list-style-type: none"> Process integrator establishes risk management standard integration (policies, procedures and guidelines integration) Process integrator ensures compliance (removes discrepancies, harmonizes activities) Senior Management approves integration Process integrator establishes integrated (risk budget, implementation plan, responsibility) End 						
Alternative Path	None						
Exception Path	<p>System Down</p> <ol style="list-style-type: none"> Keep paper track until system is up and running Update the System and clear all logs. End. 						
Extension points	Risk management process re-engineering						
Preconditions	This process utilizes automation wherever necessary.						
Post -conditions	Organization risk framework integration happens.						

Related Business Rules	BR-005 (Ref 7.1)
Related Risks	RR-004 (Ref 7.2)
Related Quality Attributes	Reliability, Usability, Confidentiality, Authenticity, Data Integrity, Availability, Non-repudiation, Accountability, Security Integration, Performance, Scalability, Extensibility, Adaptability, Testability, Auditability, Operability and Deployability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Believability, Reputation, Objectivity, Free-of-Error, Value Added, Relevance, Completeness, Timeliness, Appropriate Amount, Understandability, Interpretability, Concise Representation (Ref 7.4)
Related Primary SLA Terms	(Ref 7.9)
Related KPIs	IDR(Ref 7.6)
Related CTQs	IDRV(Ref 7.7)
Actors/Agents	Process integrator
Delegation	<u>Delegation Rule -1: Agent Not Available</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same role 2. Update the task 3. Log the delegation <u>Delegation Rule -2: Agent Overloaded</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same Role 2. Update the task 3. Log the delegation
Escalation	<u>Rule 1: Performance, operational legal Issues</u> <ol style="list-style-type: none"> 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.1

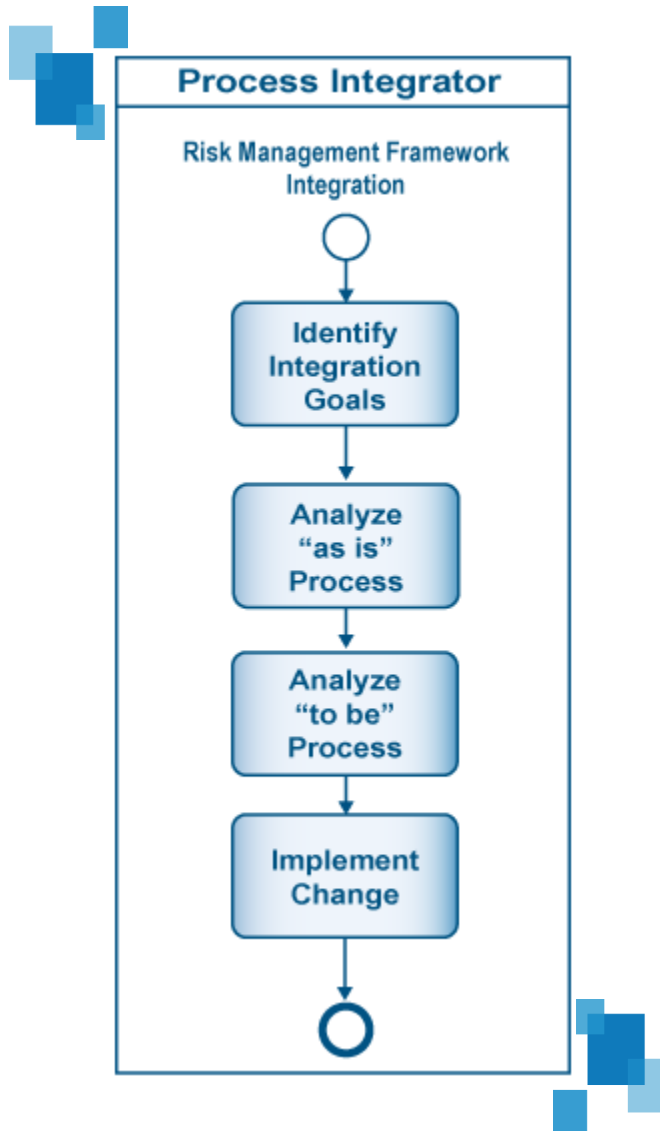
Other References

Appendix A: Business Process Modeling Notation Reference
 Appendix B: Chain Of Infection
 Appendix C Qualitative Risk Approach Sample
 Appendix D Risk Profile Sample

6.6 Sub Process – Risk Management framework Integration Roles and Responsibilities

Roles	Responsibilities
Process integrator	<ul style="list-style-type: none"> • Process integrator establishes risk management standard integration (policies, procedures and guidelines integration) • Process integrator ensures compliance (removes discrepancies, harmonizes activities) • Senior Management approves integration • Process integrator establishes integrated (risk budget, implementation plan, responsibility)

6.7 Sub Process – Business Process Re-engineering



6.8 Sub Process – Business Process Re-engineering Specification

Specification	Description
Summary/Purpose	To establish the process of business process re-engineering.
Scope	This is a Level 2 Process Specification.
Primary Reference	<ul style="list-style-type: none"> • NHS- National Health Services Standard • OSHA- Occupational Safety and Health Administration standard • CDC- Centers for Disease Control and Prevention standard • Lean six sigma- Quality Standard • JCI- Journal of Clinical Investigation standard
Related ESM Practices	Enterprise Information system integration, Finance Management integration, HR Management integration, Standard Management integration, Risk Management integration.
Related Business Driver	Streamline coordination between processes.
Related Operational Policies	OP-004 (Ref 7.5)
Assumptions	Senior Management support is available throughout this process.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None

Equipment & Accessories	Automated System for risk management.						
MSD Management	Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)						
EBC Procedures	None						
Timing Dimension	<table border="1"> <thead> <tr> <th>Type</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Average</td> <td>30 min</td> </tr> <tr> <td>Std</td> <td>12 min</td> </tr> </tbody> </table>	Type	Normal	Average	30 min	Std	12 min
Type	Normal						
Average	30 min						
Std	12 min						
Trigger	Risk management framework integration						
Basic Course of Event	<p>Risk Management Business Process Re-engineering</p> <ol style="list-style-type: none"> 1. Process integrator identify integration goals 2. Process integrator analyze “as in” process 3. Process integrator analyze “to be” process 4. Process integrator implements change. 5. End 						
Alternative Path	None						
Exception Path	<p>System Down</p> <ol style="list-style-type: none"> 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End. 						
Extension points	Data and record integration						
Preconditions	The management is supportive of changes in the processes.						
Post -conditions	Business process –re-engineering process is established.						
Related Business Rules	BR-005 (Ref 7.1)						

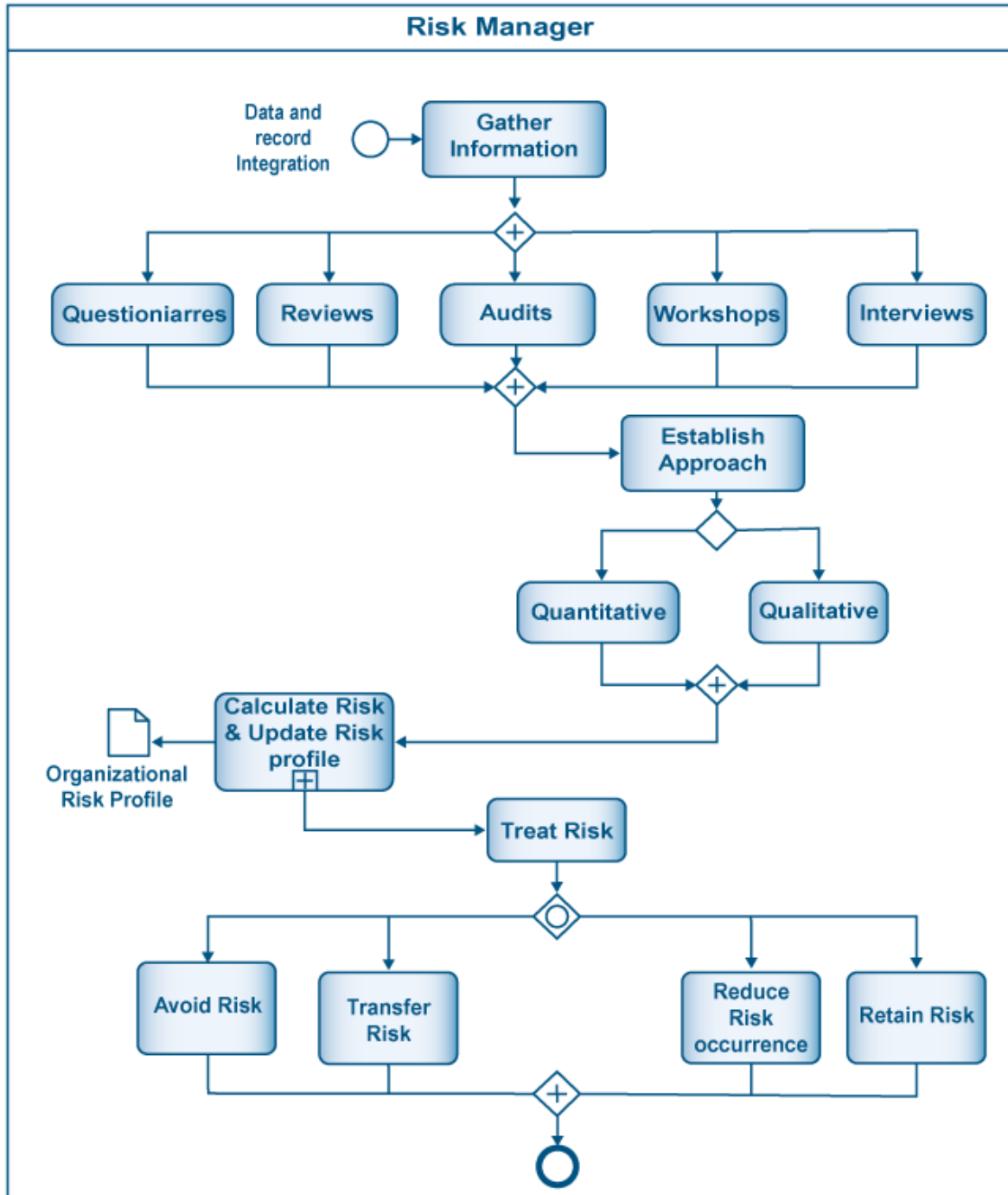
Related Risks	RR-004 (Ref 7.2)
Related Quality Attributes	Reliability, Confidentiality, Authenticity, Data Integrity, Availability, Non-repudiation, Accountability, Security Integration, Performance, Scalability, Extensibility, Adaptability, Testability, Auditability, Operability and Deployability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Reputation, Objectivity, Free-of-Error, Relevance, Completeness, Timeliness, Appropriate Amount, Understandability, Interpretability, Concise Representation (Ref 7.4)
Related Primary SLA Terms	(Ref 7.9)
Related KPIs	RPR (Ref 7.6)
Related CTQs	RPRV (Ref 7.7)
Actors/Agents	Process integrator
Delegation	<p><u>Delegation Rule -1: Agent Not Available</u></p> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same role 2. Update the task 3. Log the delegation <p><u>Delegation Rule -2: Agent Overloaded</u></p> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same Role 2. Update the task 3. Log the delegation
Escalation	<p><u>Rule 1: Performance, operational legal Issues</u></p> <ol style="list-style-type: none"> 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.4
Other References	Appendix A: Business Process Notation Reference

6.9 Sub Process – Business Process Re-engineering Roles and Responsibilities

Roles	Responsibilities
Process integrator	<ul style="list-style-type: none">• Process integrator identify integration goals, analyze “as in” process, analyze “to be” process and implements change.

6 Risk Management Process

6.10 Sub Process – Risk Management Integration



6.11 Sub Process – Risk Management Integration Specification

Specification	Description
Summary/Purpose	To establish the process of risk management integration.
Scope	This is a Level 2 Process Specification.
Primary Reference	<ul style="list-style-type: none"> AS-NZ Risk 4360- Risk Management. SEI –Risk Management Integration framework.
Related ESM Practices	Enterprise Information system integration, Hospital Management System integration, HR Management integration, Standard Management integration, Finance Management Integration.
Related Business Driver	Better Risk Management and control.
Related Operational Policies	OP-002 (Ref 7.5)
Assumptions	Senior Management support is available throughout this process.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None
Equipment & Accessories	Automated System for risk management.

MSD Management	Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)						
EBC Procedures	None						
Timing Dimension	<table border="1"> <thead> <tr> <th>Type</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Average</td> <td>30 min</td> </tr> <tr> <td>Std</td> <td>12 min</td> </tr> </tbody> </table>	Type	Normal	Average	30 min	Std	12 min
Type	Normal						
Average	30 min						
Std	12 min						
Trigger	Data and record integration						
Basic Course of Event	<p>Risk Management Integration</p> <ul style="list-style-type: none"> • Process integrator gathers information from questionnaires, review audits, workshops and interviews. • Process integrator establishes approach (quantitative or qualitative) as per organization risk management process. • Process integrator calculates risk and updates organizational risk profile • Process integrator treats risk (avoid or transfers or reduce risk occurrence or retain risk) • End 						
Alternative Path	None						
Exception Path	<p>System Down</p> <ol style="list-style-type: none"> 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End. 						
Extension points	Establish risk treatment plan.						
Preconditions	The process utilizes automated tool to ensure that process is smoother and accurate.						
Post -conditions	Risk is managed comprehensively.						

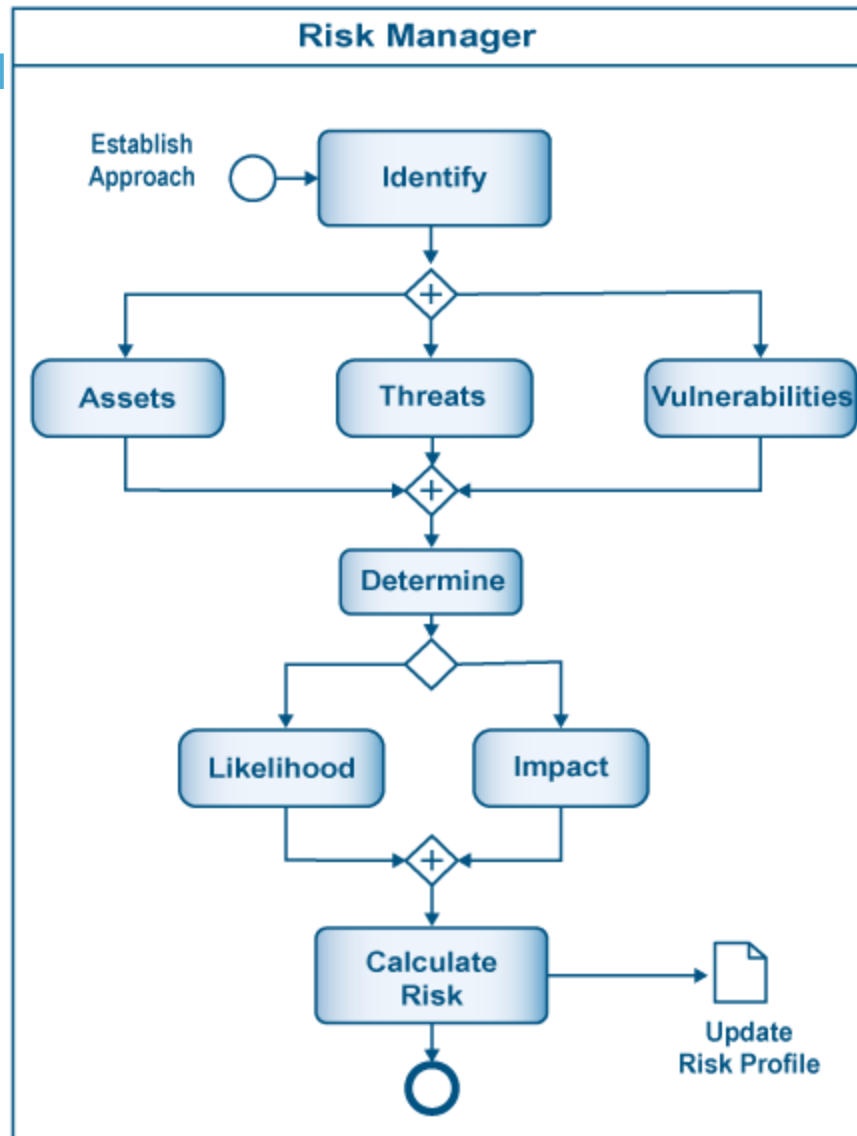
Related Business Rules	BR-003 (Ref 7.1)
Related Risks	RR-002 (Ref 7.2)
Related Quality Attributes	Reliability, Usability, Confidentiality, Authenticity, Data Integrity, Availability, Non-repudiation, Accountability, Security Integration, Performance, Scalability, Extensibility, Adaptability, Testability, Auditability, Operability and Deployability (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Believability, Objectivity, Free-of-Error, Value Added, Relevance, Completeness, Timeliness, Understandability, Interpretability, Concise Representation (Ref 7.4)
Related Primary SLA Terms	(Ref 7.9)
Related KPIs	RRR, RTPRR (Ref 7.6)
Related CTQs	RRRV , RTPRR (Ref 7.7)
Actors/Agents	Process integrator.
Delegation	<u>Delegation Rule -1: Agent Not Available</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same role 2. Update the task 3. Log the delegation <u>Delegation Rule -2: Agent Overloaded</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same Role 2. Update the task 3. Log the delegation
Escalation	<u>Rule 1: Performance, operational legal Issues</u> <ol style="list-style-type: none"> 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1

Process Model	Section 6.4
Other References	<p>Appendix A: Business Process Modeling Notation Reference</p> <p>Appendix B: Chain Of Infection</p> <p>Appendix C Qualitative Risk Approach Sample</p> <p>Appendix D Risk Profile Sample</p>

6.12 Sub Process – Risk Management Integration Roles and Responsibilities

Roles	Responsibilities
Process integrator	<ul style="list-style-type: none"> • Process integrator gathers information from questionnaires, review audits, workshops and interviews. • Process integrator establishes approach (quantitative or qualitative) as per organization risk management process. • Process integrator calculates risk and updates organizational risk profile • Process integrator treats risk (avoid or transfers or reduce risk occurrence or retain risk)

6.13 Sub Process – Calculate Risk and Update Profile



6.14 Sub Process – Calculate Risk and Update Profile Specification

Specification	Description
Summary/Purpose	To establish the process of risk calculation
Scope	This is a Level 2 Process Specification.
Primary Reference	<ul style="list-style-type: none"> AS-NZ Risk 4360- Risk Management. SEI –Risk Management Integration framework.
Related ESM Practices	Enterprise Information system integration, Hospital Management System integration, HR Management integration, Standard Management integration, Finance Management Integration.
Related Business Driver	Better Risk Management and control.
Related Operational Policies	OP-003(Ref 7.5)
Assumptions	Senior Management support is available throughout this process.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None
Equipment & Accessories	Automated System for risk management.

MSD Management	Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)						
EBC Procedures	None						
Timing Dimension	<table border="1"> <thead> <tr> <th>Type</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Average</td> <td>30 min</td> </tr> <tr> <td>Std</td> <td>12 min</td> </tr> </tbody> </table>	Type	Normal	Average	30 min	Std	12 min
Type	Normal						
Average	30 min						
Std	12 min						
Trigger	Establish Approach						
Basic Course of Event	Calculate Risk & update profile <ol style="list-style-type: none"> 1. Process integrator identifies assets, threats and vulnerabilities 2. Process integrator determines likelihood, and risk impact 3. Process integrator calculates risk and updates risk profile. 4. End 						
Alternative Path	None						
Exception Path	System Down <ol style="list-style-type: none"> 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End. 						
Extension points	Treat risk.						
Preconditions	The process utilizes automated tool to ensure that process is smoother and accurate.						
Post -conditions	The risk is calculated and organizational risk profile is updated.						
Related Business Rules	BR-004(Ref 7.1)						
Related Risks	RR-003 (Ref 7.2)						
Related Quality Attributes	Reliability, Usability, Confidentiality, Authenticity, Data Integrity, Availability, Non-repudiation, Accountability, Security Integration, Performance, Adaptability, Testability, Auditability, Operability and Deployability						

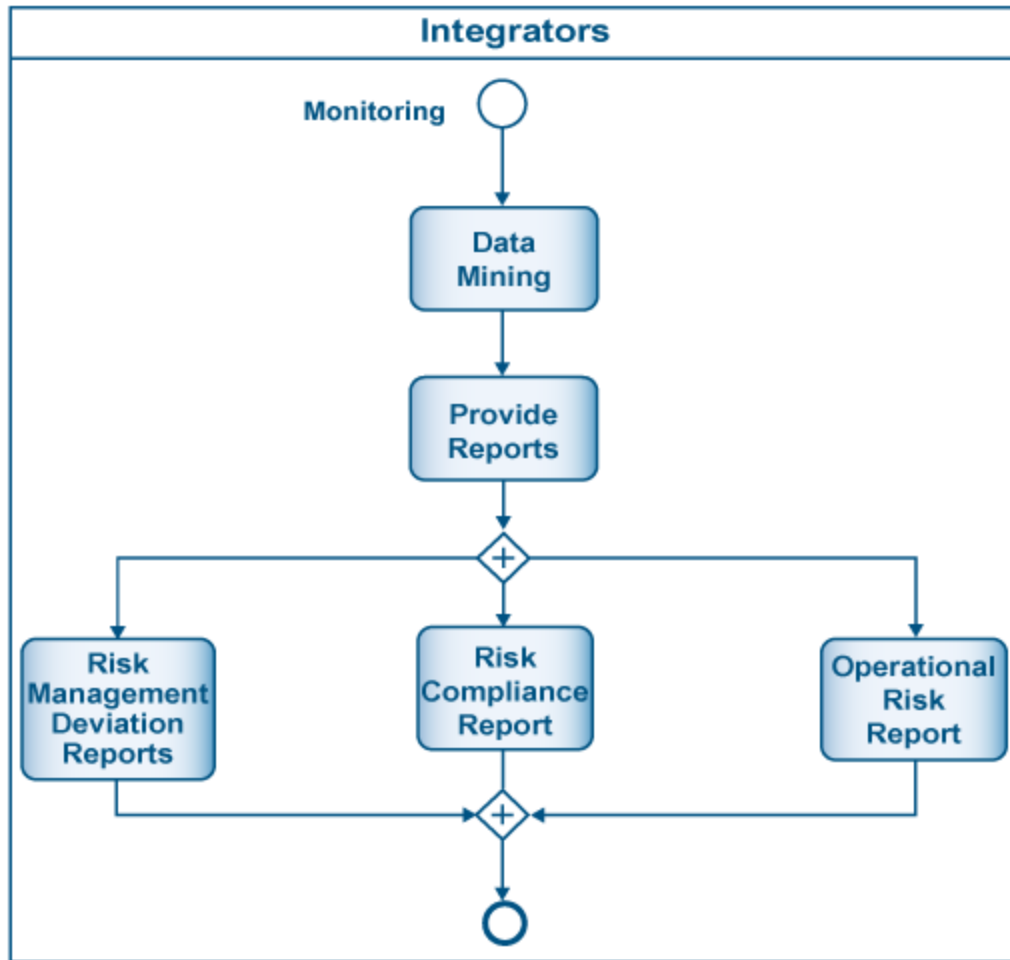
	(Ref 7.3)
Related Data Quality Dimensions	Accuracy, Believability, Reputation, Objectivity, Free-of-Error, Value Added, Relevance, Completeness, , Understandability, Interpretability, Concise Representation (Ref 7.4)
Related Primary SLA Terms	(Ref 7.9)
Related KPIs	RIR (Ref 7.6)
Related CTQs	RIRV (Ref 7.7)
Actors/Agents	Process integrator.
Delegation	<u>Delegation Rule -1: Agent Not Available</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same role 2. Update the task 3. Log the delegation <u>Delegation Rule -2: Agent Overloaded</u> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same Role 2. Update the task 3. Log the delegation
Escalation	<u>Rule 1: Performance, operational legal Issues</u> <ol style="list-style-type: none"> 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.7
Other References	Appendix A: Business Process Modeling Notation Reference Appendix B: Chain Of Infection Appendix C Qualitative Risk Approach Sample Appendix D Risk Profile Sample

6.15 Sub Process – Calculate Risk and Update Profile Roles and Responsibilities

Roles	Responsibilities
Process integrator	<ul style="list-style-type: none">• Process integrator identifies assets, threats and vulnerabilities• Process integrator determines likelihood, and risk impact• Process integrator calculates risk and updates risk profile.

6 Risk Management Process

6.16 Sub Process – Integrated Reporting



6.17 Sub Process – Integrated Reporting Specification

Specification	Description
Summary/Purpose	To establish risk management integrated reports
Scope	This is a Level 2 Process Specification.
Primary Reference	<ul style="list-style-type: none"> • NHS- National Health Services Standard • OSHA- Occupational Safety and Health Administration standard • CDC- Centers for Disease Control and Prevention standard • Lean six sigma- Quality Standard • JCI- Journal of Clinical Investigation standard
Related ESM Practices	Enterprise Information system integration, Finance Management integration, HR Management integration, Standard Management integration, Risk Management integration.
Related Business Driver	<ul style="list-style-type: none"> • Better and comprehensive reporting
Related Operational Policies	OP-005 (Ref 7.5)
Assumptions	Senior Management support is available throughout this process.
Voice of Customer	Hygiene, High and Consistent Quality of standards, Free of Infections, Timely Services, High Coordinating, Remove Waste, Excellent Ergonomic, Safety, Appearance, Excellent Worker Attitude. (Ref 7.10)
Customer Satisfaction Measure	Customer satisfaction index
COI Correlation	None
Raw Materials	None

Equipment & Accessories	Automated System for Hospital management.						
MSD Management	Lifting/carrying, Disability, Force, Loaded motion, Physical ergonomics, Posture change, Excessive force, Scarceness, Noise, Concentration, Floor hazards, Clothing, Psychosocial factors. (Ref 7.12)						
EBC Procedures	None						
Timing Dimension	<table border="1"> <thead> <tr> <th>Type</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Average</td> <td>30 min</td> </tr> <tr> <td>Std</td> <td>12 min</td> </tr> </tbody> </table>	Type	Normal	Average	30 min	Std	12 min
Type	Normal						
Average	30 min						
Std	12 min						
Trigger	Monitoring						
Basic Course of Event	Integrated report Reporting Process <ol style="list-style-type: none"> 1. System integrator performs data mining 2. System integrator provides risk management deviation reports, Risk Compliance report, operational risk report, 3. End 						
Alternative Path	None						
Exception Path	System Down <ol style="list-style-type: none"> 1. Keep paper track until system is up and running 2. Update the System and clear all logs. 3. End. 						
Extension points	Enterprise Information system integration, Finance Management integration, HR Management integration, Standard Management integration, Risk Management integration.						
Preconditions	The data stored in system is accurate and free from error.						
Post -conditions	Reports are established.						
Related Business Rules	BR-006 (Ref 7.1)						

Related Risks	RR-005(Ref 7.2)
Related Quality Attributes	Reliability, Confidentiality, Authenticity, Data Integrity, Availability, Non-repudiation, Accountability, , Performance, Scalability, Extensibility, Adaptability, Testability, Auditability, (Ref 7.3)
Related Data Quality Dimensions	Accuracy, Reputation, Objectivity, Free-of-Error, Relevance, Completeness, Timeliness, Appropriate Amount, Understandability, Interpretability, Concise Representation (Ref 7.4)
Related Primary SLA Terms	(Ref 7.5)
Related KPIs	RCR(Ref 7.6)
Related CTQs	RCRV (Ref 7.7)
Actors/Agents	System integrator
Delegation	<p><u>Delegation Rule -1: Agent Not Available</u></p> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same role 2. Update the task 3. Log the delegation <p><u>Delegation Rule -2: Agent Overloaded</u></p> <ol style="list-style-type: none"> 1. Delegate the task to the agent with same Role 2. Update the task 3. Log the delegation
Escalation	<p><u>Rule 1: Performance, operational legal Issues</u></p> <ol style="list-style-type: none"> 1. Escalate to environmental services department head. 2. Log Escalation
Process Map	Section 5.1
Process Model	Section 6.14
Other References	Appendix A: Business Process Notation Reference

6.18 Sub Process – Integrated Reporting Roles and Responsibilities

Roles	Responsibilities
System integrator	<ul style="list-style-type: none">• System integrator performs data mining• System integrator provides risk management deviation reports, Risk Compliance report, and operational risk report.

Reference



This chapter serves as a prime reference to Chapter 6 and presents the details supporting Chapter 6 in tabular formats. This chapter consists of various variable values which would frequently evolve or change as organization's risk process matures or changes.

At minimal this document should be updated biannually. However, if need arises this document may be updated earlier than its prescribed revision period

7.1 Business Rules

BR ID	Description	Context	Rule	Source
BR-001	All environmental services core processes would undergo the Risk Management Integration process.	NA	NA	NA
BR-002	Risk treatment plan would be reviewed annually.	NA	NA	NA
BR-003	All risks which cannot be treated should be highlighted to top management.	NA	NA	NA
BR-004	Risk calculation would be done in accordance with organizational risk management.	NA	NA	NA
BR-005	All changes done to business processes of risk management would be thoroughly considered.	NA	NA	NA
BR-006	All the critical reports would be escalated to the senior management of the organization	NA	NA	NA

7.2 Risk

Risk ID	Description	Source	Severity Level	Status	Resolution
RR-001	The risk forecasting is not accurate	TBD	High	TBD	Use of automated tools to forecast trends.
RR-002	Information gathering results might has errors	TBD	High	TBD	Use of automated tools and multiple reviews would reduce errors
RR-003	Risk identification is not accurate	TBD	High	TBD	Use of automated tools and multiple reviews would reduce errors
RR-004	Strong resistance from staff for changes	TBD	High	TBD	Have a plan for organizational culture change which would start before re-engineering process
RR-005	The reports are not comprehensive and focused	TBD	High	TBD	The reports should be customized to meet the intended audience.

7.3 Quality Attribute

QA ID	Description	Threshold
QA-001	Interoperability	TBD
QA-002	Reliability	TBD
QA-003	Service Reliability	TBD
QA-004	Availability	TBD

QA-005	Usability	TBD
QA-006	Normal Usability Operations	TBD
QA-007	Confidentiality	TBD
QA-008	Authenticity	TBD
QA-009	Data Integrity	TBD
QA-010	Availability	TBD
QA-011	Non-repudiation	TBD
QA-012	Accountability	TBD
QA-013	Security Integration	TBD
QA-014	Performance	TBD
QA-015	Scalability	TBD
QA-016	Extensibility	TBD
QA-017	Adaptability	TBD
QA-018	Testability	TBD
QA-019	Auditability	TBD
QA-020	Operability and Deployability	TBD

7.4 Data Quality Dimension

DQ ID	Description	Threshold
DQ-001	Accuracy	TBD
DQ-002	Believability	TBD
DQ-003	Reputation	TBD

DQ-004	Objectivity	TBD
DQ-005	Free-of-Error	TBD
DQ-006	Value Added	TBD
DQ-007	Relevance	TBD
DQ-008	Completeness	TBD
DQ-009	Timeliness	TBD
DQ-010	Appropriate Amount	TBD
DQ-011	Understandability	TBD
DQ-012	Interpretability	TBD
DQ-013	Concise Representation	TBD

7.5 Operation Policy

Policy ID	Description	Context	Importance (1-5)
OP-001	Risk treatment plan would be reviewed at least twice before approval.	TBD	TBD
OP-002	Qualitative or quantitative approach would be based on the case to case basis.	TBD	TBD
OP-003	Risk Management Integration results would be approved by senior management only.	TBD	TBD

OP-004	All changes to the business processes would be approved by senior management	TBD	TBD
OP-005	The reports should compliance of the process as compared to overall organization.	TBD	TBD
OP-006	In case of discrepancies organizational risk management process would always be followed.	TBD	TBD

7.6 KPI

Name	Acronym	Description	Context	Importance	Soft Threshold	Hard Threshold
Integration discrepancies rate	IDR	Number of integration discrepancies per process	NA	TBD	TBD	TBD
Risk treatment Plan review rate	RTPRR	risk Plans review per year	NA	TBD	TBD	TBD
Risk reduction rate	RRR	Percentage of risk reduced	NA	TBD	TBD	TBD
Risk increase rate	RIR	Percentage increase in risk	NA	TBD	TBD	TBD

Re-engineering performance rate	RPR	The time consumed for re-engineering the process	NA	TBD	TBD	TBD
Risk compliance rate	RCR	The percentage of risk complaint to per month	NA	TBD	TBD	TBD

7.7 CTQ

Name	Acronym	Description	Context	Importance	Soft Threshold	Hard Threshold
Integration discrepancies rate	IDRV	Standard deviation of IDR	NA	TBD	TBD	TBD
Risk treatment Plan review rate	RTPRRV	Standard deviation of RTPRR	NA	TBD	TBD	TBD
Risk reduction rate	RRRV	Standard deviation of RRR	NA	TBD	TBD	TBD
Risk increase rate	RIRV	Standard deviation of RIR	NA	TBD	TBD	TBD
Re-engineering performance rate	RPRV	Standard deviation of RPR	NA	TBD	TBD	TBD

Risk compliance rate	RCR	Standard deviation of RCR	NA	TBD	TBD	TBD
Motion Optimization Measure	MOM	Management of motion optimization measure	NA	TBD	TBD	TBD
Paper work Optimization Measure	PWOM	Management of Paper work Optimization Measure	NA	TBD	TBD	TBD
Correction reduction measure	CRM	Management of Correction reduction measure	NA	TBD	TBD	TBD
Inventory Optimization Measure	IOM	Management of Inventory Optimization Measure	NA	TBD	TBD	TBD
Transportation Optimization Measure	TOM	Management of Transportation Optimization Measure	NA	TBD	TBD	TBD
Waiting Reduction Measure	WRM	Management of Waiting reduction Measure	NA	TBD	TBD	TBD

7.8 Abstract Time – Scale

Name	Acronym	Description	Quantification
TBD	TBD	TBD	TBD

7.9 SLA Terms

SLA ID	Description	Context	KPI	CTQ
TBD	TBD	TBD	TBD	TBD

7.10 Voice of Customer

VOC	Customer	Description	Perceived Value
Hygiene	Doctors, Patients, Nurses, Housekeeping Supervisors, Housekeepers, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker.	The environment should be attributing with great hygiene level.	<ul style="list-style-type: none"> • High quality healthcare services • Safe environment • Low infection rate • Low risk
High and Consistent Quality of standards	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Environmental Services Management,	High and Consistent Quality of standards.	<ul style="list-style-type: none"> • Reputation of organization or hospital • Professionalism • Trust

	Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers		<ul style="list-style-type: none"> • Positive psychological bias
Free of Infections	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	Infections free and healthy environment.	<ul style="list-style-type: none"> • Safe environment • Reputation of hospital or organization • Trust • Quick healing • Positive psychological bias • Low risk
Timely Services	Doctors, Patients, Nurses, Housekeeping Supervisors, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	The response time for any request should be very short.	<ul style="list-style-type: none"> • Professionalism • Trust • Positive psychological bias • Reputation of hospital or organization • Safe environment
High Coordinating	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste	There should be high level of coordination between hospital employees and departments.	<ul style="list-style-type: none"> • Professionalism • Trust • Low risk • Excellent Ergonomic

	management worker, Housekeepers		
Remove Waste	Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	Wastes should be either removed or minimized.	<ul style="list-style-type: none"> • Safe environment • Low infection rate • Low risk • Reputation of hospital or organization • Low cost • Timely response • High quality
Excellent Ergonomic	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	The hospital environment and policy should comply with physical, organization and cognitive ergonomics.	<ul style="list-style-type: none"> • Professionalism • Trust • Job accuracy • Excellent communication • Low risk • Reputation of hospital or organization
Safety	Doctors, Patients, Nurses, Housekeeping Supervisors, Clerks, Visitors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	Hospital environment should comply with occupational health and safety procedures.	<ul style="list-style-type: none"> • Safe environment • Professionalism • Low risk

7 Reference

Appearance	Housekeeping Supervisors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	The appearance of the workers, supervisors and manager should induce positive biases.	<ul style="list-style-type: none"> • Professionalism • Reputation of hospital or organization • Trust • Positive psychological bias
Excellent Worker Attitude	Housekeeping Supervisors, Environmental Services Management, Laundry worker, Transportation worker, Maintenance worker, Waste management worker, Housekeepers	The environment service employee should be free from negative attitudes.	<ul style="list-style-type: none"> • Professionalism • Reputation of hospital or organization • Trust • Positive psychological bias • Minimum disputes • Less employee turn over

7.11 Customer Context Matrix

Name of Customer	Acronym	Context of Customer	Coordination Process Area
Doctors	DOC	Direct	HIS Coordination
Patients	PAT	Direct	HIS Coordination
Nurses	NUR	Direct	HIS Coordination, Nurse Coordination
Housekeeping Supervisors	HKS	Direct	Quality Coordination, Nurse Coordination, infection control coordination
Clerks	CLR	Direct	HIS Coordination

Visitors	VIS	Indirect	HIS Coordination
Environmental Services Management	ESM	Direct	Nurse Coordination, infection control coordination
Other hospital workers	OHW	Indirect	Security coordination
Laundry worker	LDW	Direct	Nurse Coordination, HIS Coordination
Transportation worker	TRW	Direct	Quality Coordination, HIS Coordination
Maintenance worker	MAW	Direct	Quality Coordination, HIS Coordination
Waste management worker	WMW	Direct	Quality Coordination, HIS Coordination
Infection control professional	ICP	Indirect	Infection Control Coordination
Housekeepers	HK	Direct	HIS Coordination, Nurse Coordination

7.12 MSD Attributes

MSD Attribute	Description
Lifting/carrying	Large vertical movements, long carry distances.
Disability	Pose a risk to those with a health problem or a physical or learning disability.
Force	High initial forces to get the load moving.
Loaded motion	High forces to keep the load in motion.
Physical ergonomics	Constraints on body posture/positioning, confined spaces/narrow doorways.
Posture change	Strong force and awkward movement/posture. E.g. bent wrists.
Excessive force	Excessive force to grip raw materials, product or tools
Scarceness	Inadequate tools for repetitive use screwdrivers, pliers, hammers.
Noise	Noise which cause stress and muscle tension.
Concentration	Tasks require high levels of attention/concentration especially where the worker has little control over allocation of effort to the task.
Floor hazards	Remove slip and trip hazards through provision of appropriate floor surfaces and good keeping.
Clothing	Clothing/PPE may prevent sufficient movement for the task or reduce capability. E.g. to grip consider handling needs when selecting work wear/gloves.
Psychosocial factors	Adverse psychosocial factors can increase the potential for manual handling injuries. A workers psychosocial response to work and the workplace conditions can affect their health in general and MSDs in particular. The factors include the content, design, organization and management of the work

Glossary / Acronyms



GLOSSARY

Terminology	Description
Abstract Time Scale	Time Scale that will be quantified both during operations and continuous process improvement. These time identifiers are correlated with the soft thresholds that are dynamically specified during life span of the process.
BPMN	Business Process Modelling Notation Business Process Modelling Notation is the practice of documenting an organisation's key business processes in a graphical format.
Business Rules	Business Rules are intended to assert business structure or to control or influence the behaviour of the Business. Business rules describe the operations, definitions and constraints that apply to an organization
CRR	Contract Review Rate
CRRV	Contract Review rate Variation.
CTQ	Critical to Quality Critical To Quality (CTQ) is continuous measuring and monitoring tool agreed between the internal processes to achieve greater customer satisfaction.
Data Quality Dimensions	The totality of features and characteristics of data that bears on their ability to satisfy a given purpose
EBC	Evidence based Cleaning
ESM	Environmental services Map
KPI	Key Performance Indicator A metric that is used to help manage a process, IT service or activity. Many metrics may be measured, but only the most important of these are defined as KPIs and used to actively manage and report on the process, IT service or activity. KPIs should be selected to ensure that efficiency, effectiveness, and cost effectiveness are all managed.
MSD	Macro skeleton Disorder
OLA	Organization level Agreement

	An Agreement between an IT Service Provider and another part of the same Organization
Operational Policy	Rules defined to operate the process.
Quality Attributes	Quality attributes are non-functional requirements used to evaluate the performance of a process.
Risk	A possible event that could cause harm or loss, or affect the ability to achieve Objectives. A risk is measured by the probability of a threat, the vulnerability of the asset to that threat, and the impact it would have if it occurred.
SLA	Service Level Agreement An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer
VOC	Voice of Customer



Appendix A: Business Process Modeling Notation Reference



APPENDIX.
A









INTRODUCTION

Business Process Modelling (“BPM”) is the practice of documenting an organisation’s key business processes in a manner which:




- Is highly graphical
- Focuses on business terminology rather than technical
- Allows all business steps/tasks to be included, not just those which involve a computer system

Mentioned below are the various core concepts of BPMN with the relevant definition and graphic notation.







PROCESS START

All processes have to start somehow, general notation for a process models commence with the START event, is a circle.	
One can use simply the <i>basic unmarked</i> start event as above, or one of the different types of start event, to provide more detail as described below.	
If a process starts when some sort of message arrives, mail, email, text. Following notation can be used	Message start 
If a process starts by virtue of the passage of time – e.g. 1st Jan review or 4 days after the purchase order is sent, following notation can be used	TIMER Start 
If the process starts when a rule/condition is met – e.g. when Incident Impact is more than 100,000.	RULE Start 
If a process starts when another process finishes. Following notation can be used	LINK Start 
If there is more than one ‘trigger’ for a process to start. Following notation can be used	MULTIPLE Start 


TASK AND SUB PROCESS




Task	Task is a lowest level activity in a process map. A task is used when the work is not broken down to a finer level of detail	
Sub Process	A Sub-process is a compound activity which can be broken down into finer details.	
Loops	Loops task or sub process continues to iterate until the loop condition is true.	

INTERMEDIATE EVENTS



Following notation can be used to display the intermediate event, similar to start and end events.						
	BASIC	MESSAGE	TIMER	RULE	LINK	MULTIPLE
						

PROCESS END


All processes have to end somehow, general notation for a process models end will be a circle with a solid line.	
One can use simply use the <i>basic</i> end event as above, or you can use one of the different types of end event, to provide more detail, as described below:	
If a process ends by something being sent via a message of some sort e.g., mail, email, document, following notation can be used.	MESSAGE End

	
If the end of this process causes the start of another, following notation can be used.	LINK End 
If more than one consequence of the process ending, following notation can be used.	MULTIPLE End 

SWIMLANES


Pool	A <i>Pool</i> represents a participant in a Process. It is also acts as a “swimlane” and a graphical container for partitioning a set of activities from other Pools	
Lane	A <i>Lane</i> is a sub-partition within a Pool and will extend the entire length of the Pool, either vertically or horizontally. Lanes are used to organize and categorize activities.	

CONNECTORS

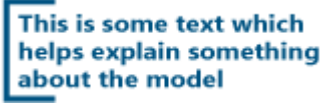


Sequence Flow	A <i>Sequence Flow</i> is represented by a solid line with a solid arrowhead (see the figure to the right) and is used to show the order (the sequence) that activities will be performed in a Process.	
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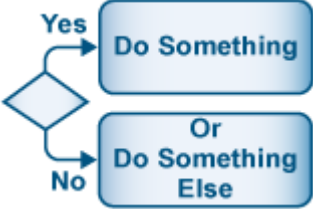
Appendix A: Business Process Modeling Notation Reference

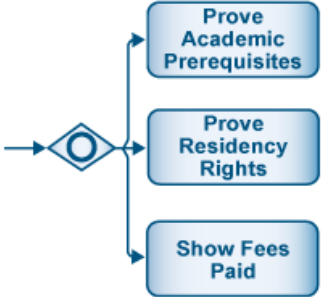
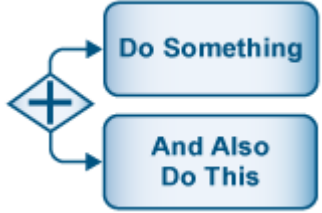
Message Flow	<p>A <i>Message Flow</i> is represented by a dashed line with an open arrowhead (see the figure to the right) and is used to show the flow of messages between two separate Process Participants. In BPMN, two separate Pools in the Diagram will represent the two Participants.</p>	
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ARTIFACTS

Annotation	<p>The ANNOTATION shape is used to add comments to a process model. It consists of text in a square left bracket</p>	
Data Object	<p>A data object represents a piece of data which is required or produced by the process eg. Customer details, output.</p>	
Group	<p>A grouping is purely for documentation or explanatory purposes. It has no impact on the model. It consists of a rectangle with dashed lines and rounded corners, usually enclosing other objects.</p>	

GATEWAYS

Exclusive	<p>The values of the process are examined to determine which path to take</p>	
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Inclusive	Each branch will be evaluated and will not stop when one branch condition becomes true.	 A BPMN Inclusive Gateway symbol (diamond with a circle) is shown on the left. Three arrows branch out from the right side of the gateway to three rounded rectangular task boxes: "Prove Academic Prerequisites", "Prove Residency Rights", and "Show Fees Paid".
Parallel	Provides a mechanism to synchronise parallel flow and to create parallel flow.	 A BPMN Parallel Gateway symbol (diamond with a plus sign) is shown on the left. Two arrows branch out from the right side of the gateway to two rounded rectangular task boxes: "Do Something" and "And Also Do This".



Appendix B: Chain of Infection



APPENDIX.
B



10 Appendix B: Chain of Infection

In order to control or prevent infection it is essential to understand that transmission stages of a pathogen resulting in infection requires the six vital links (Refer to the table below).

Each link mentioned below must be present for infection or colonization to proceed, and breaking any of the links can prevent the infection.

The section below details out the six stages:

Stage	Link	Description
1	Infectious Agent	Any disease-causing microorganism (pathogen)
2	The Reservoir Host	The organism in which the infectious microbes reside
3	The Portal of Exit	Route of escape of the pathogen from the reservoir.
4	The Route of Transmission	Method by which the pathogen gets from the reservoir to the new host
5	The Portal of Entry	Route through which the pathogen enters its new host
6	The Susceptible Host	The organism that accepts the pathogen

Link 1: Infectious Agent

The causative agent for infection is any microorganism capable of producing disease. Microorganisms responsible for infectious diseases include bacteria, viruses, rickettsiae, fungi, and protozoa. Sometimes, microorganisms are part of patient's own body flora and can cause infection in the immunocompromised host. These infections are called endogenous infections. Infections which are acquired from external sources are called exogenous infections.

Link 2: Reservoir Host

The second link in the chain of infection is the reservoir, i.e. the environment or object in or on which a microorganism can survive and, in some cases, multiply. Inanimate objects, human beings, and animals can all serve as reservoirs, providing the essential requirements for a microorganism to survive at specific stages in its life cycle.

10 Appendix B: Chain of Infection

Infectious reservoirs abound in health care settings, and may include everything from patients, visitors, and staff members to furniture, medical equipment, medications, food, water, and blood.

Link 3: Portal of Exit

The portal of exit is the path by which an infectious agent leaves its reservoir. Usually, this portal is the site where the microorganism grows. Common portals of exit associated with human reservoirs include the respiratory, genitourinary, and gastrointestinal tracts, the skin and mucous membranes and the placenta (transmission from mother to fetus)

Link 4: Route of Transmission

The microorganism can be acquired by inhalation (through respiratory tract), ingestion (through gastrointestinal tract), inoculation (through accidental sharp injury or bites), contact (during sexual intercourse) and transplacental transmission (microbes may cross placenta from the mother to fetus). It is important to remember that some microorganisms use more than one transmission route to get from the reservoir to a new host.

Of the six links in the chain of infection, the mode of transmission is the easiest link to break and is key to control of cross-infection in hospitals.

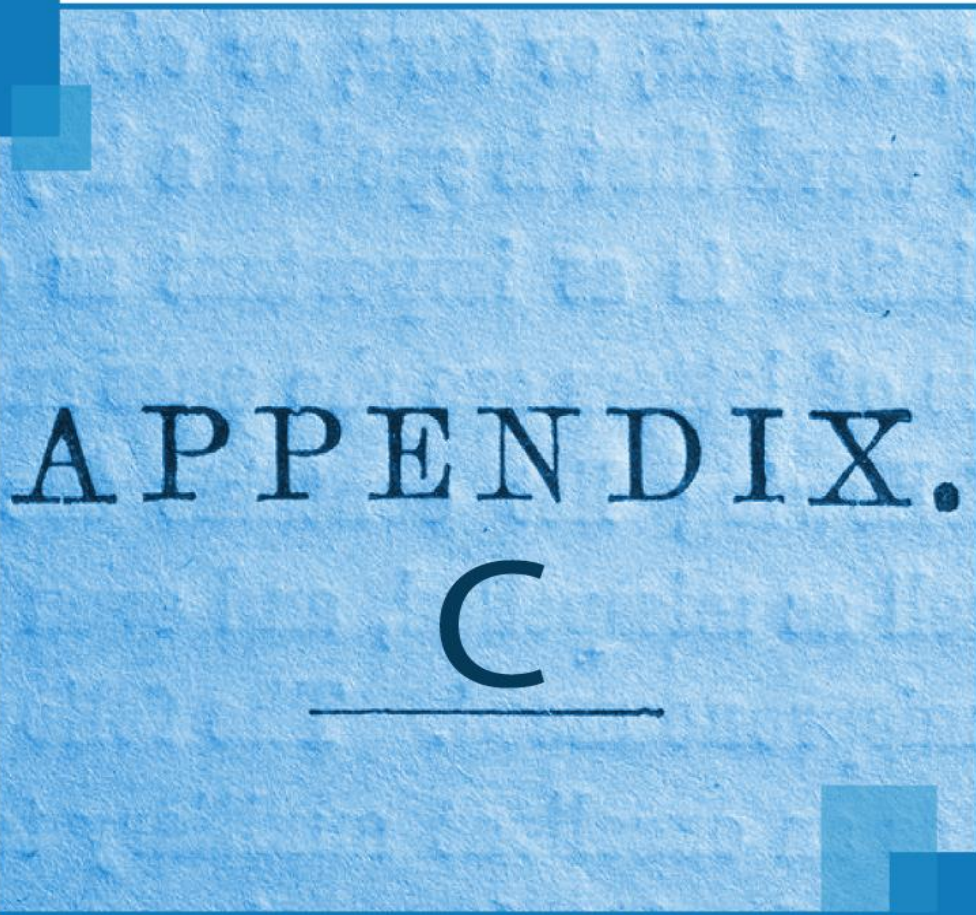
Link 5: The Portal of Entry

The portal of entry is the path by which an infectious agent invades a susceptible host. Usually, this path is the same as the portal of exit. For example, the portal of entry for tuberculosis and diphtheria is through the respiratory tract, hepatitis B and Human Immunodeficiency Virus enter through the bloodstream or body fluids and Salmonella enters through the gastrointestinal tract. In addition, each invasive device, e.g. intravenous line, creates an additional portal of entry into a patient's body thus increasing the chance of developing an infection.

Link 6: The Susceptible host

The final link in the chain of infection is the susceptible host. The human body has many defense mechanisms for resisting the entry and multiplication of pathogens. When these mechanisms function normally, infection does not occur. However, in immunocompromised patients, where the body defenses are weakened, infectious agents are more likely to invade the body and cause an infectious disease. In addition, the very young and the very old are at higher risk for infection because in the very young the immune system does not fully develop until about age 6 months, while old age is associated with declining immune system function as well as with chronic diseases that weaken host defenses.

Appendix C: Qualitative Risk Approach Sample



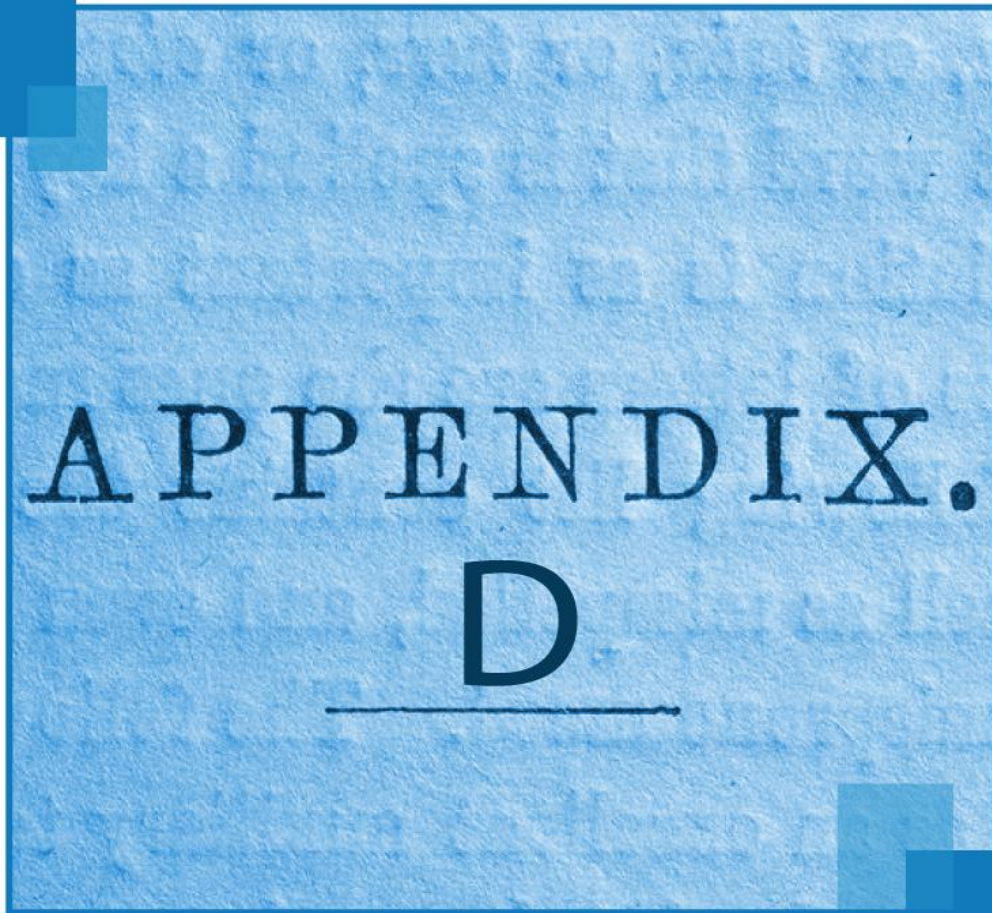
Risk Chart

Level of Likelihood	Level of Impact				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	Medium	High	High	High	High
Likely	Low	Medium	High	High	High
Moderate	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Low	Medium

Level of Likelihood

Level	Descriptions
Rare	Chances of probability are once in every 10 years.
Unlikely	Chances of probability are once in every 5 years.
Moderate	Chances of probability are on a yearly basis.
Likely	Chances of probability are on a monthly basis.
Almost certain	Chances of probability are on a daily basis.

Appendix D: Risk Profile Sample



12 Appendix D: Risk Profile Sample

