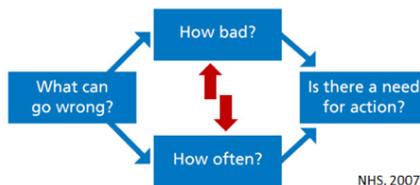


## Risk Assessment

### OVERVIEW OF ISSUE

As challenging as risk identification can be, risk assessment (the determination of how bad or how often a risk may occur) is even more so, and is essential to the process of prioritizing risks. The following diagram outlines the steps in risk identification, risk assessment, and risk management. The red arrows indicate the focus of this Risk Note.



### KEY POINTS

- Risk assessment is essential to the process of prioritizing risks.
- Risk assessment consists of examining how bad the risk is and the likelihood of the risk occurring.

### Refer to related Risk Notes for details:

- Risk – Concepts and Misconceptions, Risk Assessment, Risk Management and IRM/ERM.

### THINGS TO CONSIDER

#### Assess risk consequence (how bad?)

- Understanding a risk entails assessment of losses, or consequences that could result if that risk were to be realized. In healthcare, losses include: physical or psychological harm (to patients, staff, visitors, research subjects); disengaged staff/physicians; financial loss; reputational loss; service/business interruption; statutory non-compliance; or failed strategic initiatives.
- It is important to adopt a domain-specific, calibrated consequence scale; e.g. ‘catastrophic’ (i.e. death) physical harm equated to ‘catastrophic’ (i.e. truly significant) financial loss.
- The image at right shows the HIROC evidence-based standardized [scoring matrix](#) for impact and likelihood.

#### Assess risk likelihood (how often?)

- The likelihood of the risk can be assessed by considering the frequency of occurrence (e.g. once per month or once per year). Frequency, however, is not a useful way of scoring certain risks, especially those associated with the completion of time-limited or one-off initiatives such as a strategic project. Instead, it must be based on the probability that an initiative might fail in a given time period (NHS, 2008). As with the consequence scale, an organization should articulate specific definitions for the likelihood scale (clear descriptions of how often the adverse consequence will be realized), rather than using general descriptions.

Potential Impact Scale		Very Low	Low	Medium	High	Very High
Physical/psychological harm	<ul style="list-style-type: none"> <li>Minimal harm, no/minimal intervention or treatment</li> <li>No time off work</li> </ul>	<ul style="list-style-type: none"> <li>Minor harm or illness, minor intervention</li> <li>Time off work for &lt;3 days</li> <li>Increase in LOS by 1-3 days</li> </ul>	<ul style="list-style-type: none"> <li>Moderate harm, professional intervention</li> <li>Time off work for 4-14 days</li> <li>Increase in LOS by 4-15 days</li> <li>Small number of patients</li> </ul>	<ul style="list-style-type: none"> <li>Major harm leading to long-term incapacity/disability</li> <li>Time off work for &gt;14 days</li> <li>Increase in LOS by &gt;15 days</li> <li>Mismanagement of patient care with long-term effects</li> </ul>	<ul style="list-style-type: none"> <li>Incident may lead to death</li> <li>Multiple permanent instances of harm, irreversible health effects</li> <li>Large number of patients</li> </ul>	
Disengaged staff/physicians	<ul style="list-style-type: none"> <li>Low level of internal grievances</li> </ul>	<ul style="list-style-type: none"> <li>Grievances occurring but not in large numbers</li> </ul>	<ul style="list-style-type: none"> <li>Grievances show an increasing pattern</li> <li>Low staff morale</li> </ul>	<ul style="list-style-type: none"> <li>Grievances are increasing and more pervasive</li> <li>Very low staff morale</li> </ul>	<ul style="list-style-type: none"> <li>Grievances preoccupy the organization, arbitration and external review</li> <li>Loss of several key staff</li> </ul>	
Financial loss	<ul style="list-style-type: none"> <li>Small loss</li> </ul>	<ul style="list-style-type: none"> <li>1% of budget</li> </ul>	<ul style="list-style-type: none"> <li>1-2% of budget</li> </ul>	<ul style="list-style-type: none"> <li>2-5% of budget</li> </ul>	<ul style="list-style-type: none"> <li>&gt;5% of budget</li> </ul>	
Reputation with stakeholders (including: community, donor, media, gov't, public, partners)	<ul style="list-style-type: none"> <li>Rumours</li> <li>Potential stakeholder concern</li> </ul>	<ul style="list-style-type: none"> <li>Local media coverage (short term)</li> <li>Elements of stakeholder expectation not being met</li> </ul>	<ul style="list-style-type: none"> <li>Local media coverage (sustained)</li> <li>Short-term reduction in stakeholder confidence</li> </ul>	<ul style="list-style-type: none"> <li>National media coverage (short-term)</li> <li>Potential for political involvement</li> <li>Long-term reduction in stakeholder confidence</li> </ul>	<ul style="list-style-type: none"> <li>National media coverage (sustained)</li> <li>Political intervention</li> <li>St. leader termination</li> <li>Long-term reduction in stakeholder confidence</li> </ul>	
Service/business interruption	<ul style="list-style-type: none"> <li>Interruption of &gt;1 hour</li> </ul>	<ul style="list-style-type: none"> <li>Interruption of &gt;8 hours</li> </ul>	<ul style="list-style-type: none"> <li>Interruption of &gt;1 day</li> </ul>	<ul style="list-style-type: none"> <li>Interruption of &gt;1 week</li> </ul>	<ul style="list-style-type: none"> <li>Permanent loss of service or facility</li> </ul>	
Compliance	<ul style="list-style-type: none"> <li>Minor non-compliance statutory duty</li> </ul>	<ul style="list-style-type: none"> <li>Single failure to meet external standards or follow protocol</li> <li>Recommendations to comply with external agency</li> </ul>	<ul style="list-style-type: none"> <li>Repeated failures to meet external standards</li> <li>Orders issued, report required by external agency</li> </ul>	<ul style="list-style-type: none"> <li>Multiple statutory breaches /non-compliance with external standards</li> <li>Prolonged inspection, significant findings</li> <li>Prosecution initiated for non-compliance</li> </ul>	<ul style="list-style-type: none"> <li>Gross failure to meet standards</li> <li>Maximum fines</li> <li>Criminal code violation</li> <li>Impact on affiliation agreements</li> </ul>	
Business objectives/projects	<ul style="list-style-type: none"> <li>Insignificant schedule delay</li> </ul>	<ul style="list-style-type: none"> <li>Minor schedule delay</li> <li>Small number of objectives not met</li> </ul>	<ul style="list-style-type: none"> <li>Moderate schedule delay</li> <li>Some objectives not met</li> </ul>	<ul style="list-style-type: none"> <li>Significant schedule delay</li> <li>Key objectives not met</li> </ul>	<ul style="list-style-type: none"> <li>Initiative not implemented</li> <li>Key objectives not met</li> </ul>	

Likelihood Scale		Very low	Low	Medium	High	Very high
Broad descriptors	Will probably never occur/recur	Do not expect it to happen/recur but it is possible	Might happen or recur occasionally	Will probably happen/recur	Will undoubtedly happen/recur, possibly frequently	Will undoubtedly happen/recur, possibly frequently
Time-frame	Not expected to occur for years	Expected to occur at least annually	Expected to occur at least monthly	Expected to occur at least weekly	Expected to occur at least daily	Expected to occur at least daily
Probability	<0.1%	0.1-1%	1-10%	10-50%	>50%	>50%

## Risk Assessment

### Focus on residual risks

- Risks are sometimes described as *inherent* – risk before taking into account existing controls or mitigation strategies (e.g. the risk of an adverse medication event without unit dose systems or double-checks) or *residual* – risk that remains with mitigation strategies in place (NHS, 2007).
- Sometimes significant effort is expended in assessing inherent risks. This is a theoretical exercise with limited utility, as it is residual risk that largely drives risk management activities (Audit Commission, 2009).

### Don't worry about mapping risks

- A common step in IRM implementation is the creation of a risk or heat map. This is the process whereby numbered risks are mapped on two dimensional matrix.
- An appropriately formatted risk register or list may be easier to execute, more informative, and able to provide similar visual cues related to the most important risks.

Consequence	V. Hi	Yellow	Orange	Red	Red	Red
	H	Yellow	Yellow	Orange	Orange	Red
	M	Green	Yellow	Yellow	Orange	Orange
	L	Green	Green	Yellow	Yellow	Orange
	V. Low	Green	Green	Green	Yellow	Yellow
		V. Low	L	M	H	V. Hi
		Likelihood				

### Go with the highest combined consequence-likelihood score

- Sometimes risks can be assigned different combinations of scores. For example, less serious patient falls may occur frequently, while serious falls may occur infrequently. The most conservative approach would be to use the score with the highest net rating.

### Beware of cognitive biases and limitations

- Human beings are prone to making errors in judgment when assessing risks. There are important psychological biases at play when people identify risks and their relative probability and importance.
- Recognition of limitations, thoughtful reflection, and an agreement among team members to challenge each other's assumptions is required for effective risk assessment.

### Beware of "groupthink" and defer to experts

- A common approach to risk assessment is to assemble a group of leaders in a room to solicit their opinions on the identity, consequence, and likelihood of risks. There is a tendency in such large settings for individuals to gravitate towards a common view of the world without appropriate push-back or demand for evidence to support the identified risks (Graham, 2008). Treated, however, as a significant but non-definitive input into the process, this could be beneficial.

### Recognize data limitations

- While every effort should be made to use the best data possible for risk assessment, "the number of incidents within an organization is usually too low to provide a basis for quantification of risk" (Pickering, 2010).



## REFERENCES

- Audit Commission. (2009). [Taking it on trust: A review of how boards of NHS trusts and foundation trusts get their assurance.](#)
- Graham A. (2008). Integrated risk management implementation guide. Queens University School of Policy Studies.
- NHS - National Patient Safety Agency. (2007). [Healthcare risks assessment made easy.](#)
- NHS - National Patient Safety Agency. (2008). [A risk matrix for risk managers.](#)
- Pickering A, Cowley S, (2010). Risk Matrices: Implied accuracy and false assumptions. *J Health and Safety Research and Practice.* 2(1):9-16.