

Risk Management in Practice

Lecture 8 : Risk Monitoring, Evaluation, and Review

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**Undergraduate Diploma in
Occupational Health and Safety**

Lecture Overview

- **Importance of monitoring workplace risks**
Monitoring workplace risks helps identify hazards early, prevent accidents, ensure compliance, and protect employee health.
- **Difference between leading and lagging indicators**
Leading indicators predict and prevent incidents, while lagging indicators measure outcomes after accidents occur happen.
- **Auditing, inspections, and review cycles**
Auditing, inspections, and regular review cycles verify controls, identify gaps, and drive continuous safety improvement.
- **Developing practical monitoring procedures**
Practical monitoring procedures should be clear, consistent, risk-based, and integrated into daily workplace activities routines.
- **Learning from incidents and near-misses**
Learning from incidents and near-misses helps organizations improve systems, behaviors, and prevent future harm effectively.



Why Monitor Workplace Risks?

1. Identifies hazards early, preventing accidents and reducing workplace injuries significantly.
2. Ensures compliance with health and safety laws and organisational standards.
3. Protects employee wellbeing, morale, productivity, and long-term workforce sustainability overall.
4. Reduces financial losses from incidents, downtime, compensation, and legal claims.
5. Improves risk controls by identifying weaknesses in existing safety measures.
6. Supports proactive decision-making using data rather than reactive responses only.
7. Enhances safety culture by encouraging awareness, accountability, and continuous improvement.
8. Builds organisational resilience and preparedness for emergencies and unexpected events.



Leading vs Lagging Indicators

1. Leading Indicators (Proactive)

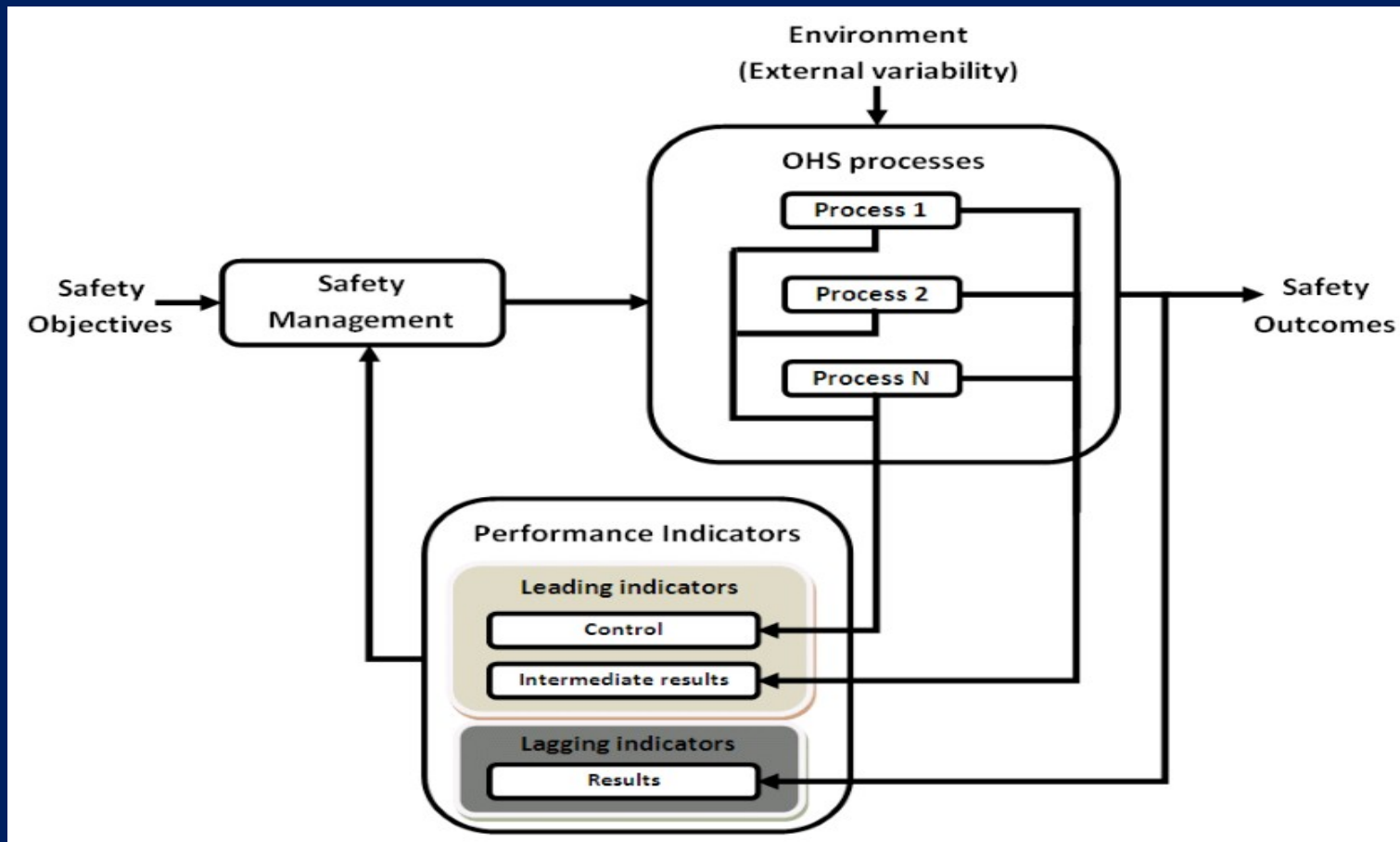
Leading indicators predict and prevent incidents by focusing on proactive safety activities before harm occurs. In occupational health and safety (OHS), examples include safety training completion rates, hazard reports submitted, toolbox talks conducted, and preventive maintenance checks. Monitoring unsafe conditions, near-miss reports, and worker participation helps identify risks early. For example, increasing manual handling training after observing poor lifting techniques can prevent musculoskeletal injuries and reduce future incident rates.

1. Lagging Indicators (Reactive)

Lagging indicators measure incidents that have already occurred and show the outcomes of safety performance. In OHS, these include injury frequency rates, lost time injuries, workers' compensation claims, and accident investigation reports. For example, a rise in slips and falls recorded over a quarter highlights existing control failures. While lagging indicators cannot prevent incidents directly, they help organizations analyze trends, evaluate controls, and improve safety systems.



Leading vs Lagging Indicators



Leading vs Lagging Indicators

LEADING VS LAGGING INDICATORS

Health & Safety Lagging & Leading Indicators

Lagging Indicators

- ☐ Total lost work days
- ☐ Restricted work days
- ☐ Number of fatalities
- ☐ Injuries/ illness rate
- ☐ Asset/ property damage
- ☐ Vehicle mishaps
- ☐ Near-miss incidents
- ☐ Chemical releases
- ☐ WC trends and amount
- ☐ Experience modification

Leading Indicators

- ☐ Safety/ health meetings
- ☐ Supervisor training
- ☐ Employee training
- ☐ Number of inspections
- ☐ No. of audits/ surveys
- ☐ No. of self-inspections
- ☐ Reward/ recognition
- ☐ Employee turnover rate
- ☐ Observations/ accidents
- ☐ Risk/ hazard assessment

Example Scenario - Leading Indicators

An example of a leading indicator in occupational health and safety is monitoring near-miss reports in a warehouse. Workers regularly report situations where forklifts operate too close to pedestrian walkways. Safety officers analyse these reports and identify high-risk areas. As a proactive measure, management introduces improved traffic management plans, installs barriers, and provides refresher forklift training. By tracking near-miss reporting rates and corrective actions completed, the organisation prevents potential collisions and serious injuries before an actual accident occurs, demonstrating effective use of leading indicators in OHS.



Example Scenario – Lagging Indicators

A lagging indicator scenario in occupational health and safety involves reviewing injury records after incidents occur at a construction site. Over six months, reports show an increase in hand injuries requiring medical treatment and lost workdays. Safety managers analyse accident investigation reports and workers' compensation claims to identify trends. Findings reveal inconsistent use of gloves and inadequate tool maintenance. Although the injuries have already happened, this data highlights control failures. Management responds by updating procedures, improving supervision, and supplying appropriate PPE, using lagging indicators to drive future safety improvements.



Structured Inspections

- **Equipment Safety Inspections**

Regularly inspect machinery, tools, and guards to detect defects, wear, or failures before accidents occur.

- **Workplace Environment Inspections**

Assess floors, lighting, ventilation, noise, and housekeeping to reduce physical, chemical, and ergonomic hazards.

- **Process and Task Inspections**

Review work methods and job tasks to ensure procedures are followed and risks controlled effectively.

- **Behavioral Safety Observations**

Observe worker behaviors to identify unsafe practices and reinforce safe work habits through feedback.

- **Compliance and Documentation Inspections**

Check permits, licenses, training records, and procedures to ensure legal and organizational compliance.

- **Emergency Preparedness Inspections**

Inspect alarms, exits, fire equipment, and emergency plans to confirm readiness for incidents and evacuations.



Structured Inspections - Checklist

OFFICE SAFETY CHECKLIST		
Office area Inspected:		Date:
Carried out by:		
1.0	HOUSEKEEPING	Y/N
1.1	Is the overall condition of room / area tidy with surplus items stored away safely?	
1.2	Are passageways, especially emergency exits, kept free of obstruction?	
1.3	Are floor coverings damaged or worn so as to be a tripping hazard?	
1.4	Are there trailing cables, which are likely to be a tripping hazard?	
1.5	Are filing cabinets anchored and interlocked (only 1 drawer opens at a time)?	
1.6	Are sufficient bins provided for rubbish?	
1.7	Are there any hazardous substances present? If any have an orange hazard label please contact the Corporate Health and Safety Team for advice on 64 0748 .	
1.8	Is shelving adequate? Are they overloaded? Deep enough? Can occupants reach without a kick stool? Do they have supports at each end?	
1.9	ANY OTHER HOUSEKEEPING OBSERVATIONS	

Office safety inspection form May 14

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OSHA Construction Safety Checklists



Location / Asset(s):	_____	Date:	_____
Assigned To:	_____	Checklist Score:	_____
Signed By:	_____		

✓	✗	N/A	
			Eye and Face Protection
			Safety glasses or face shields are worn anytime work operations can cause foreign objects getting into the eye such as during welding, cutting, grinding, nailing (or when working with concrete and/or harmful chemicals or when exposed to flying particles).
			Eye and face protectors are selected based on anticipated hazards.
			Safety glasses or face shields are worn when exposed to any electrical hazards including work on energized electrical systems.
			Foot and Hand Protection
			Construction workers should wear work shoes or boots with slip-resistant and puncture-resistant soles.
			Safety-toed footwear is worn to prevent crushed toes when working around heavy equipment or falling objects.
			Gloves should fit snugly.
			Workers wear the right gloves for the job (for example, heavy-duty rubber gloves for concrete work, welding gloves for welding, insulated gloves and sleeves when exposed to electrical hazards).
			Head Protection
			Workers shall wear hard hats where there is a potential for objects falling from above, bumps to their heads from fixed objects, or of accidental head contact with electrical hazards.
			Hard hats are routinely inspected for dents, cracks or deterioration.
			Hard hats are replaced after a heavy blow or electrical shock.
			Hard hats are maintained in good condition.

Auditing Process

The auditing process in occupational health and safety (OHS) risk monitoring involves a systematic examination of policies, procedures, and workplace practices to verify their effectiveness and compliance. Audits which may be both internal or external, assess whether risk controls are implemented as planned and align with legal requirements and organisational standards. This process includes reviewing documentation, interviewing workers, and observing activities. By identifying gaps, non-conformances, and improvement opportunities, audits support proactive risk management. Regular auditing ensures hazards are controlled, responsibilities are understood, and safety systems remain effective as workplace conditions, equipment, and processes change over time.

OHS auditing also plays a critical role in evaluation and review by measuring performance and driving continuous improvement. Audit findings are analysed to determine trends, recurring issues, and system weaknesses. Corrective and preventive actions are then developed, assigned, and tracked to completion. Management reviews audit outcomes to evaluate overall safety performance and allocate resources effectively. This structured review process strengthens accountability, enhances safety culture, and ensures the OHS management system remains relevant, effective, and capable of preventing incidents and occupational illnesses.



Review Cycles

Review cycles involve the regular evaluation of risk management effectiveness to ensure workplace safety systems remain robust. This process examines whether hazards are being properly controlled, procedures are followed, and safety objectives are met. Regular reviews help identify emerging risks, gaps in controls, and areas needing improvement. By systematically assessing performance, organisations can prevent incidents, reduce injuries, and maintain compliance with legal and organisational standards, fostering a safer and more proactive work environment.

Management reviews and feedback loops are essential components of review cycles. Feedback from employees, incident reports, audits, and inspections informs decisions about safety improvements. Based on these insights, control measures are adjusted, updated, or replaced to address evolving risks. Regular management involvement ensures accountability and demonstrates commitment to OHS. Continuous monitoring, evaluation, and adjustment of safety practices strengthen the organisation's risk management system, improve overall performance, and encourage a culture of ongoing learning and proactive hazard prevention.



Developing Monitoring Procedures

- **Defining Objectives of Monitoring**

Developing effective monitoring procedures begins with clearly defining the objectives. In OHS, this means identifying what hazards or risks need oversight, whether it's equipment safety, employee behaviours, or environmental conditions. Clear objectives guide what data to collect, how to measure performance, and what outcomes indicate that safety controls are effective, ensuring monitoring efforts are purposeful and aligned with organizational safety goals.

- **Deciding Frequency and Scope of Checks**

Next, organisations determine the frequency and scope of monitoring activities. High-risk areas, critical equipment, or processes may require daily or weekly checks, while lower-risk areas might be reviewed monthly or quarterly. The scope should cover all relevant hazards, including physical, chemical, and ergonomic risks, ensuring no aspect of workplace safety is overlooked and preventive actions are timely and effective.

- **Assigning Responsibility for Monitoring**

Finally, responsibilities for monitoring activities must be clearly assigned. Designated personnel, such as safety officers, supervisors, or trained employees, should conduct inspections, audits, and observations. Clear accountability ensures consistency, reliability, and follow-up on findings. Assigning roles also promotes ownership of safety practices, improves communication of risks, and enables timely corrective actions, strengthening overall workplace risk management.



Routine Checks

- **Fire Safety Checks** – Inspect fire extinguishers, alarms, emergency exits, and evacuation routes regularly.
- **Electrical Equipment Inspections** – Test wiring, plugs, and machines for faults or damage.
- **Personal Protective Equipment (PPE) Checks** – Ensure helmets, gloves, goggles, and masks are in good condition.
- **Machine Guarding Inspections** – Check that machinery guards are in place and functioning properly.
- **Chemical Storage Reviews** – Verify labels, containment, and proper storage of hazardous substances.
- **Workstation Ergonomics Checks** – Assess seating, posture, and desk setups to prevent musculoskeletal injuries.
- **Slip, Trip, and Fall Hazard Inspections** – Examine floors, walkways, and lighting for hazards.



Data Collection Methods

1. Workplace Inspections

Regularly examining equipment, processes, and environment to identify hazards, unsafe conditions, and ensure compliance with safety policies effectively.

2. Incident and Near-Miss Reports

Recording accidents, injuries, and near-misses to identify trends, root causes, and areas requiring preventive measures for future safety.

3. Employee Surveys and Feedback

Collecting workers' opinions and observations about safety risks, workplace conditions, and training needs to improve OHS programs proactively.

4. Safety Audits

Systematic evaluation of procedures, compliance, and risk controls to verify effectiveness and identify gaps in occupational health management systems.

5. Observation of Work Practices

Directly observing employees performing tasks to detect unsafe behaviors, procedural deviations, or potential hazards requiring corrective action.

6. Health Monitoring and Medical Records

Collecting data on employee health, injuries, or exposures to monitor trends, assess risks, and support preventive interventions



Reporting Process

- **Clear Channels for Reporting Incidents and Observations**
Organisations must provide clear, accessible channels for reporting workplace incidents and safety observations. Employees should know whom to contact, how to submit reports, and feel encouraged to report hazards without fear of retaliation.
- **Standardised Reporting Templates**
Using standardised templates ensures consistency in documenting incidents, near-misses, and unsafe conditions. Templates capture essential details such as location, time, description, and potential risks, making it easier to analyse data and implement corrective actions effectively.
- **Escalation to Management for Action**
Reported incidents should be promptly escalated to management for evaluation and corrective action. Management reviews reports, assigns responsibilities, and ensures timely implementation of safety measures, promoting accountability and continuous improvement in workplace safety systems.



Using Lessons Learned

- **Analyse Incidents and Near-Misses**

In OHS, analysing incidents and near-misses involves reviewing the sequence of events, contributing factors, and outcomes. This helps understand why accidents occurred, identify patterns, and evaluate the effectiveness of existing controls, ensuring informed decisions are made to improve workplace safety.

- **Identify Root Causes and Preventive Actions**

Root cause analysis in OHS identifies underlying reasons for incidents, such as equipment failure, procedural gaps, or human error. Once determined, preventive actions like training, process updates, or engineering controls are implemented to eliminate hazards and reduce the likelihood of future accidents.

- **Share Findings to Prevent Recurrence**

Sharing findings from incidents and near-misses with employees, supervisors, and management promotes awareness and learning. Communicating lessons learned encourages safer practices, reinforces safety culture, and ensures corrective measures are understood and applied, preventing recurrence and improving overall workplace safety performance.



Case Study

A large warehouse company implemented a leading indicator program to reduce workplace accidents. Previously, the facility experienced frequent minor injuries, such as slips, trips, and lifting-related strains, due to inconsistent safety practices and insufficient monitoring. Management decided to focus on proactive safety measures rather than reacting to incidents.

They introduced several leading indicators, including routine equipment inspections, daily safety briefings, near-miss reporting, and tracking safety training completion rates. Supervisors monitored adherence to safe lifting techniques and proper use of PPE. Employees were encouraged to report hazards and near-misses without fear of reprisal.

Within six months, the organisation observed measurable improvements. Near-miss reporting increased, revealing hazards before injuries occurred, while incident rates dropped significantly. Lost-time injuries decreased by 40%, and compliance with PPE and safe lifting procedures improved dramatically. These proactive monitoring efforts not only enhanced safety but also boosted employee engagement, awareness, and overall safety culture.

This case demonstrates how using leading indicators—focusing on prevention, monitoring behaviour, and addressing hazards early—can transform OHS performance, reduce accidents, and create a safer, more productive workplace.



Case Study - Table

Metric	Before Leading Indicators	After Leading Indicators
Near-Miss Reports Submitted	5 per month	25 per month
Minor Injuries	12 per month	5 per month
Lost-Time Injuries	5 per month	3 per month
PPE Compliance Rate	70%	95%
Safe Lifting Practices Adherence	65%	90%



Evaluating Risk Performance Indicators

- **Set Measurable Safety Targets**

Evaluating risk performance indicators begins with establishing clear, measurable safety targets. These targets can include reducing lost-time injuries, increasing near-miss reporting, or improving PPE compliance. By defining specific goals, organizations can quantify success, track progress, and align safety initiatives with overall operational objectives. Measurable targets ensure accountability and provide a clear framework for evaluating workplace risk management effectiveness.

- **Monitor Trends Over Time**

Once targets are set, organisations monitor risk performance indicators over time. Tracking trends in incidents, near-misses, training completion, and hazard reports helps identify patterns or emerging risks. Continuous monitoring allows management to adjust control measures proactively, address recurring issues, and ensure interventions are effective, ultimately improving occupational health and safety performance and preventing accidents before they occur.

- **Compare Against Benchmarks or Standards**

Risk performance indicators (RPIs) should be compared against industry benchmarks, regulatory standards, or internal historical data. This comparison highlights areas of strength and weakness, guiding prioritisation of resources and corrective actions. Benchmarking provides context for performance, encourages continuous improvement, and ensures that safety practices meet or exceed legal requirements and organisational expectations.



Designing Effective Monitoring Systems

1. **Define clear objectives** – Establish specific goals for monitoring workplace safety performance effectively.
2. **Identify key risks** – Focus on critical hazards with potential significant impact.
3. **Select relevant indicators** – Choose measurable leading and lagging indicators for tracking progress.
4. **Determine frequency of checks** – Schedule inspections, audits, and observations consistently over time.
5. **Assign responsibilities** – Clearly designate personnel accountable for monitoring activities and reporting.
6. **Standardise data collection** – Use consistent methods, templates, and tools for accurate analysis.
7. **Review and analyse data** – Regularly evaluate trends to identify improvements or emerging risks.
8. **Implement corrective actions** – Take timely action based on findings to prevent incidents



Contributing to Safety Culture

- **Encourage Proactive Reporting and Participation**

Contributing to a strong safety culture begins by encouraging employees to actively report hazards, near-misses, and unsafe behaviours without fear of blame. Organisations should involve workers in **safety committees, risk assessments, and monitoring activities**, promoting ownership and accountability. Proactive participation ensures hazards are identified early, and preventive measures are implemented promptly, fostering engagement, collaboration, and a shared commitment to maintaining a safe and healthy workplace for everyone.

- **Recognise Safe Behaviours and Reinforce Lessons**

Recognising employees who follow safety protocols, use PPE correctly, or contribute to hazard prevention reinforces positive behaviours. Sharing lessons learned from incidents and near-misses highlights improvements, encourages learning, and prevents recurrence. Continuous improvement through feedback, training, and updated procedures strengthens the organization's safety culture. By valuing participation, learning, and recognition, workplaces cultivate an environment where safety becomes a shared responsibility and integral part of daily operations.



Lecture Takeaways

- Monitoring ensures control measures remain effective
- Leading indicators prevent incidents; lagging indicators measure them
- Structured inspections, audits, and reviews support continuous improvement
- Lessons learned drive safer practices



Class Discussion - Questions

- How can your team implement effective monitoring?
- What leading indicators are most relevant to your workplace?
- Examples of improvements from lessons learned





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