

Learn From Defects Tool for Process / System Issues

Problem statement: Health care organizations can increase the extent to which they learn from defects. We define this learning as reducing the probability that a process or system will cause harm. Most often individuals in healthcare recover from mistakes by reducing risks in a process or system when harm has already occurred.

What is a defect? A defect is any clinical or operational event or situation that you would not want to have happen again. This could include incidents that you believe caused patient harm or interfered with optimal delivery of care.

Purpose of tool: The purpose of this tool is to provide a structured approach to help staff and administrators identify the types of systems that contributed to the defect and to follow-up to ensure safety improvements are achieved.

Who should use this tool? Health care providers.

All staff involved in the delivery of care related to a defect should be present when this defect is evaluated. At a minimum, this should include the physician, nurse, administrator, and other selected professionals and / or ancillary personnel as appropriate (e.g., for a medication defect, include pharmacy staff; for an equipment defect, include clinical engineering staff).

How to use this tool: Complete the form below for at least one defect per month. Investigate all of the following sources of information: Liability claims, sentinel events, incident reports, events for which risk management is notified, cases presented at morbidity and mortality rounds, and healthcare-acquired infections.

- I. Provide a clear, thorough, and objective explanation of what happened.
- II. Review the list of factors that contributed to the incident and check off those that contributed to the outcome of the incident. Rate the most important contributing factors that relate to the incident.
- III. Describe how you will reduce the likelihood of this defect from happening again by completing the tables. Develop interventions for each important contributing factor, and rate each intervention for its ability to mitigate the defect and to be carried out. Identify two to five interventions that you will use. List what you will do, who will lead the intervention, and when you will follow-up to note the intervention's progress.
- IV. Describe how you know you have reduced the risk. Survey frontline staff involved in the incident to determine whether the intervention has been used effectively and whether risk has been reduced.

Investigation process

- I. **What happened?** Reconstruct the timeline and explain what happened. For this investigation, put yourself in the place of those involved and in the middle of the event as it was unfolding to understand what they were thinking and the reasoning behind their actions or decisions. Try to view the world as they did when the event occurred.

- II. **Why did it happen? Below is a framework to help you review and evaluate your case.** Please read each contributing factor and evaluate whether it was involved. If it was involved, did it contribute to the incident? Rate the factors that contributed to this event.

Contributing Factors	Yes	NO	N/A	Contributed to Event
Patient				
Was there any patient harm identified to a lapse in the Process / Event Describe:				
Process / Event (P/E)				
Was there a protocol or policy available pertaining to the P/E?				
Did the protocol or policy have the most current information re: P/E? Date last reviewed:				
Was the protocol or policy readily available to staff?				
Was the protocol or policy in all appropriate languages for end users?				
Was there an identified lapse in following the protocol or policy instructions?				
Team Member / Team				
Were participants in the P/E fatigued?				
Were participants in the P/E distracted?				
Were participants familiar with normal operational steps for the P/E?				
Was the participant's outlook or perception of his or her own professional role affect this P/E?				
Was the participant's physical or mental health a factor?				
Was verbal or written communication during the P/E clear, accurate and relevant?				

Contributing Factors	Yes	NO	N/A	Contributed to Event
Training and Education				
Was the participant knowledgeable, skilled, and competent in the P/E?				
Did participant follow the established protocol?				
Did the participant seek supervision or help?				
Is annual training or competency needed for this P/E?				
Information Technology or Computerization				
Did this P/E depend on computer technology or software program to ensure safe operation.				
Did the computer or software program malfunction?				
Did the participant have adequate computer / software skills to be successful.				
Local Environment				
Was there adequate equipment available				
Was the equipment working properly maintained?				
Was there adequate operational (administrative and managerial) support?				
Was the physical environment conducive to safety				
Was there sufficient staff to ensure safe operations.				
Did workload affect smooth operation for participant				
Institutional Environment				
Were adequate financial resources available?				
Were staff from outside the unit needed to contribute operational expertise?				
Were content expert staff available?				
Does hospital administration work with the units regarding what and how to support their needs?				

Review the list of contributing factors above and identify the most important ones related to this event. Rate each contributing factor on its importance to this and future events.

Contributing Factors	Importance to Current Event, 1 (Low) to 5 (High)	Importance to Future Events, 1 (Low) to 5 (High)

III. **How will you reduce the likelihood of this defect happening again?** Develop an intervention for each important contributing factor identified. Develop interventions to defend against the two to five most important contributing factors. Refer to the ***Strength of Interventions*** chart below for examples of strong and weak interventions and then rate each intervention on its ability to mitigate the contributing factor and on the team's belief that the intervention will be carried out. Make an action plan for two to five of the highest scoring interventions.

Interventions To Reduce the Risk of the Defect	Ability To Mitigate the Contributing Factor, 1 (Low to 5 (High)	Team's Belief That the Intervention Will Be Implemented and Executed, 1 (Low) to 5 (High)

Select two to five of the highest scoring interventions and develop an action plan to put them in place.

Specific Interventions To Reduce the Risk of the Defect	Who Will Lead This Effort?	Followup Date

***Strength of Interventions**

Weaker Actions	Intermediate Actions	Stronger Actions
Double check	Checklists or cognitive aid	Architectural or physical plant changes
Warnings and labels	Increased staffing or reduced workload	Tangible involvement and action by leadership in support of patient safety
New procedure, memorandum, or policy	Redundancy	Simplify the process or remove unnecessary steps
Training and education	Enhance communication (e.g., check-back, SBAR)	Standardize equipment and process of care map
Additional study or analysis	Software enhancement or modifications	New device usability testing before purchasing
	Eliminate look-alike and sound-alike drugs	Engineering control of interlock (forcing functions)
	Eliminate or reduce distractions	

IV. **How will you know the risk is reduced?** Ask frontline staff involved in the defect whether the interventions reduced the likelihood of recurrence of the defect. After the interventions have been put in place, complete the “Describe Defect” and “Interventions” sections and have staff rate the interventions.

Describe Defect:		
Interventions	Intervention Was Effectively Carried Out, 1 (Low) to 5 (High)	Intervention Reduced the Likelihood of Recurrence, 1 (Low) to 5 (High)