# Development of Strong Corrective Actions
## December 1, 2016

The most important step in the root cause analysis process is the identification and implementation of actions to eliminate or control system hazards or vulnerabilities that been identified in the root cause types and root cause details statements. Analysis teams should strive to identify actions that prevent the safety event from recurring or, at least, reduce the severity or consequences if it should recur. Using a tool such as the Action Hierarchy will assist teams in identifying stronger actions that provide effective and sustained system improvement.

|  | Action Category | Example |
|---|---|---|
| **Stronger Actions**<br><br>(these tasks require less reliance on humans to remember to perform the task correctly) | Architectural/physical plant changes | Replace revolving doors at the main patient entrance into the building with powered sliding or swinging doors to reduce patient falls. |
|  | New devices with usability testing | Perform heuristic tests of outpatient blood glucose meters and test strips and select the most appropriate for the patient population being served. |
|  | Engineering control (forcing function) | Eliminate the use of universal adaptors and peripheral devices for medical equipment and use tubing/fittings that can only be connected the correct way (e.g., IV tubing and connectors that cannot physically be connected to sequential compression devices or SCDs). |
|  | Simplify process | Remove unnecessary steps in a process. |
|  | Standardize on equipment or process | Standardize on the make and model of medication pumps used throughout the institution. Use bar coding for medication administration. |
|  | Tangible involvement by leadership | Participate in unit patient safety evaluations and interact with staff; support the RCA[2] process; purchase needed equipment; ensure staffing and workload are balanced. |

| Intermediate Actions | Redundancy | Use two RNs to independently calculate high-risk medication dosages. |
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| | Increase in staffing/decrease in workload | Make float staff available to assist when workloads peak during the day. |
| | Software enhancements, modifications | Use computer alerts for drug-drug interactions. |
| | Eliminate/reduce distractions | Provide quiet rooms for programming PCA pumps; remove distractions for nurses when programming medication pumps. |
| | Education using simulation-based training, with periodic refresher sessions and observations | Conduct patient handoffs in a simulation lab/environment, with after action critiques and debriefing. |
| | Checklist/cognitive aids | Use pre-induction and pre-incision checklists in operating rooms. Use a checklist when reprocessing flexible fiber optic endoscopes. |
| | Eliminate look- and sound-alikes | Do not store look-alikes next to one another in the unit medication room. |
| | Standardized communication tools | Use read-back for all critical lab values. Use read-back or repeat-back for all verbal medication orders. Use a standardized patient handoff format. |
| | Enhanced documentation, communication | Highlight medication name and dose on IV bags. |

| Weaker Actions (these tasks require more reliance on humans to remember to perform the task correctly) | Double checks | One person calculates dosage, another person reviews their calculation. |
|---|---|---|
| | Warnings | Add audible alarms or caution labels. |
| | New procedure/ memorandum/policy | Remember to check IV sites every 2 hours. |
| | Training | Demonstrate correct usage of hard-to-use medical equipment. |

Action Hierarchy levels and categories are based on *Root Cause Analysis Tools*, VA National Center for Patient Safety, http://www.patientsafety.va.gov/docs/joe/rca_tools_2_15.pdf. Examples are provided here.

Identify at least one stronger or intermediate strength action for each root cause identified. It may be necessary to recommend weaker actions as temporary measures until stronger actions can be implemented. Weaker actions such as training and policy changes are often necessary to establish proficiency and expectations but when used alone are unlikely to be sufficient to provide sustained patient safety improvements. The goal is to increase safety in the long term and not allow a similar event to occur. Solutions that address remediation, training and implementation or revision of polices are all weaker solutions. System-level interventions such as physical plant or device enhancements and process improvements are much stronger.

Each action identified requires at least a process measure or an outcome measure. Process measures confirm the action has been implemented. An outcome measure determines if the action was effective.

**Reference:** National Patient Safety Foundation. *RCA2 Improving Root Cause Analyses and Actions to Prevent Harm*. 2015. www.npsf.org