

# Quality and Safety Series

## Action Hierarchy

# OBJECTIVES



- Describe an action hierarchy.
- Discuss the use of an action hierarchy.
- Explore how to complete an action hierarchy.

# Where to Begin—Identify the Problem

- Start with other tools to identify the problem.

- Root cause analysis
- Fishbone diagram
- Five whys



Templates available at:  
[hsag.com/hqic/quality-series](https://hsag.com/hqic/quality-series)

- Use correlative data and information as the foundation to build your problem statement.
- Identify interventions or corrective actions.

# What's Next?



## Quality Improvement = **Action**

- Goes beyond identifying a problem
  - Use tools to identify appropriate actions and interventions
- 
- Critical to Quality Tree
  - Driver diagrams
  - Future-state mapping

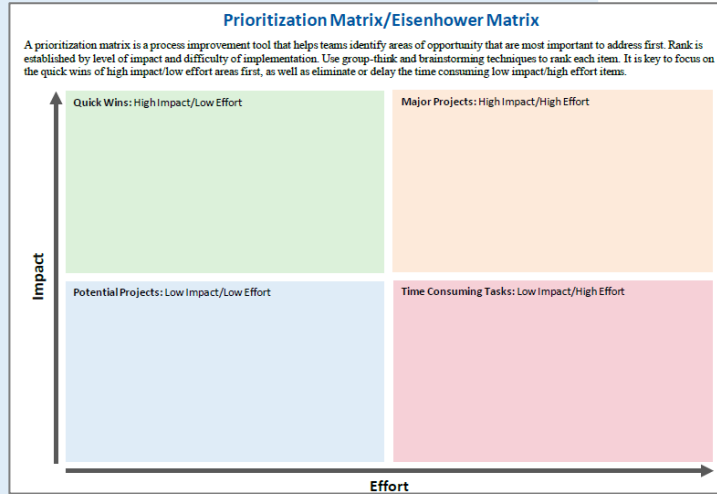


Templates available at:  
[hsag.com/hqic/quality-series](https://hsag.com/hqic/quality-series)

# Tools to Prioritize Actions and Interventions



Prioritization Matrix



FMEA\*



Failure Modes Effect Analysis Worksheet										Responsibility and Target Completion Date	Actions Taken	New Sev	New OCC	New Det	New RPN
Process Step	Potential Failure Mode	Potential Failure Effect	Severity (SEV)	Potential Causes	Occurrence (OCC)	Current Process Controls	Detection (DET)	Risk Priority Number (RPN)	Action Recommended						
What is the step?	In what ways can the step go wrong?	What is the impact on the customer if the failure mode is not prevented or corrected?	How severe is the effect on the customer?	What causes the step to go wrong (i.e., how could the failure mode occur)?	How frequently is the cause likely to occur?	What are the existing controls that either prevent the failure mode from occurring or detect it should it occur?	How probable is detection of the failure mode or its cause?	Risk priority number calculated as SEV x OCC x DET	What are the actions for reducing the occurrence of the cause or for improving its detection? Provide actions on all High RPNs and on severity ratings of 9 or 10.						

\*Failure Mode and Effects Analysis

# New Tool: Action Hierarchy

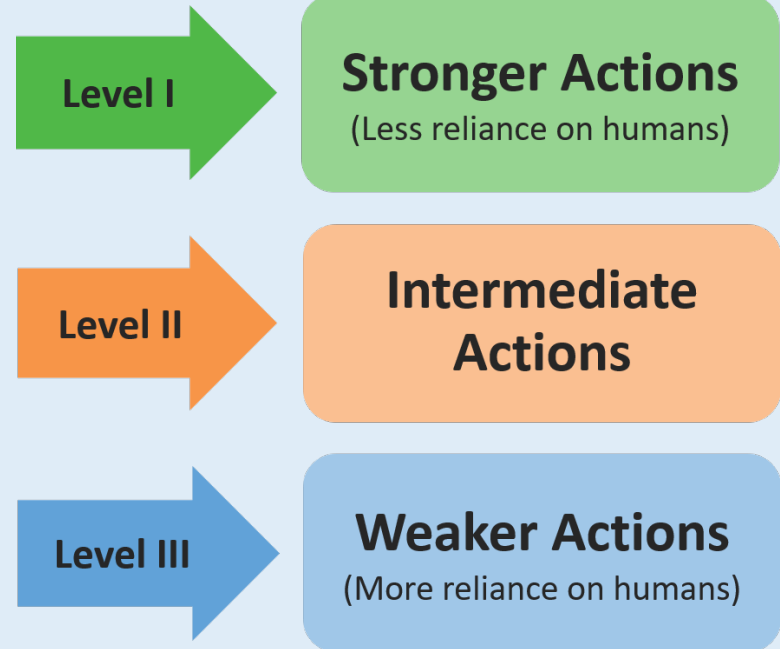


## Action Hierarchy

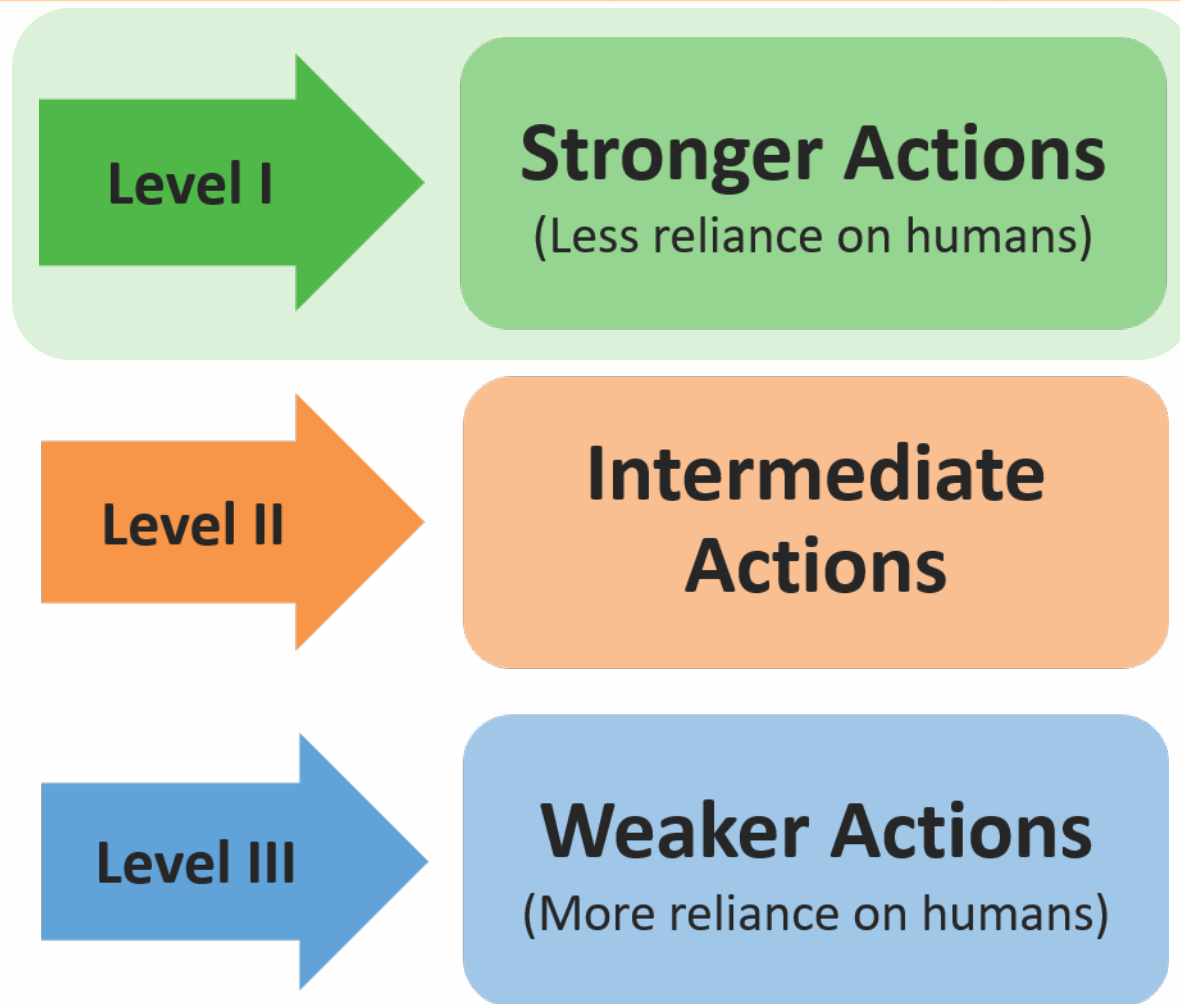
- Designed by the Institute for Healthcare Improvement (IHI)
- Part of the RCA<sup>2</sup> approach
  - Root cause analysis and **actions**

**Template: Action Hierarchy Tool**

	Action Category	Example	Action
<b>Stronger Actions</b> (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 adapters 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 process; purchase needed equipment; ensure staffing and workload are balanced.	
<b>Intermediate Actions</b>	Redundancy	Use two RNs to independently calculate high-risk medication dosages.	
	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.		
<b>Weaker Actions</b> (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: Level I



# Level I: Strong Actions

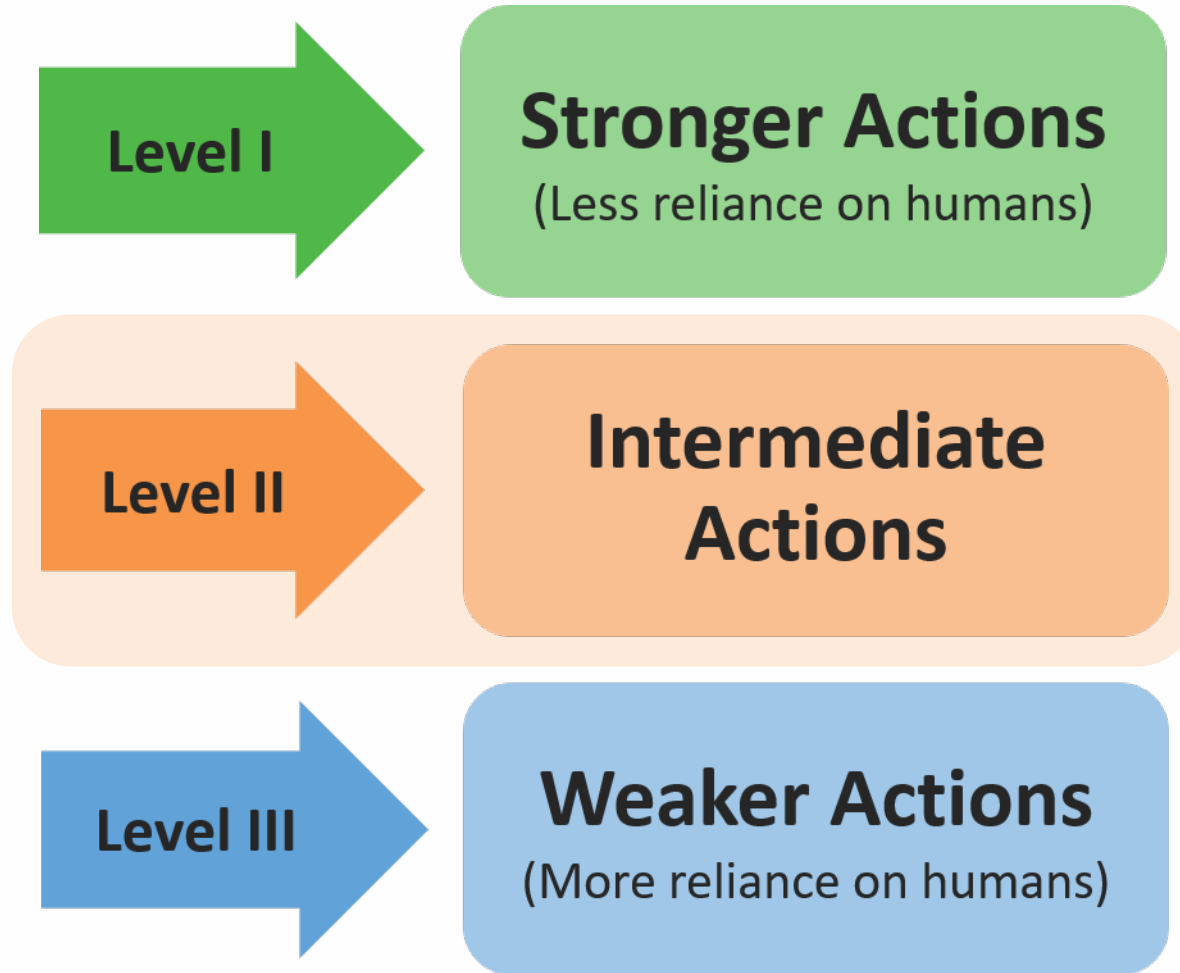
	ACTION CATEGORY	EXAMPLE
<b>Stronger actions</b> (these tasks require less reliance on humans to remember to perform the task correctly)	Architectural/physical plant changes	Replace revolving doors at the main patient entrance into the building with powered or swinging doors to reduce patient falls.
	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 use of universal adaptors and peripheral devices for medical equipment and use tubings/fitting that can only be connected the correct way (eg. 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 <sup>2</sup> process; purchase needed equipment; ensure staffing and workload are balanced.



- Each root cause should have **at least 1** strong action.
- Is **not** human dependent.
- Think physical and engineered changes.

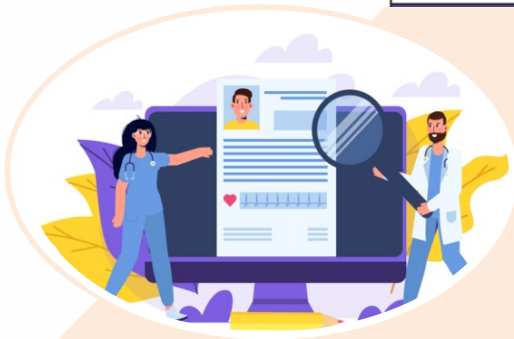


# Action Hierarchy: Level II



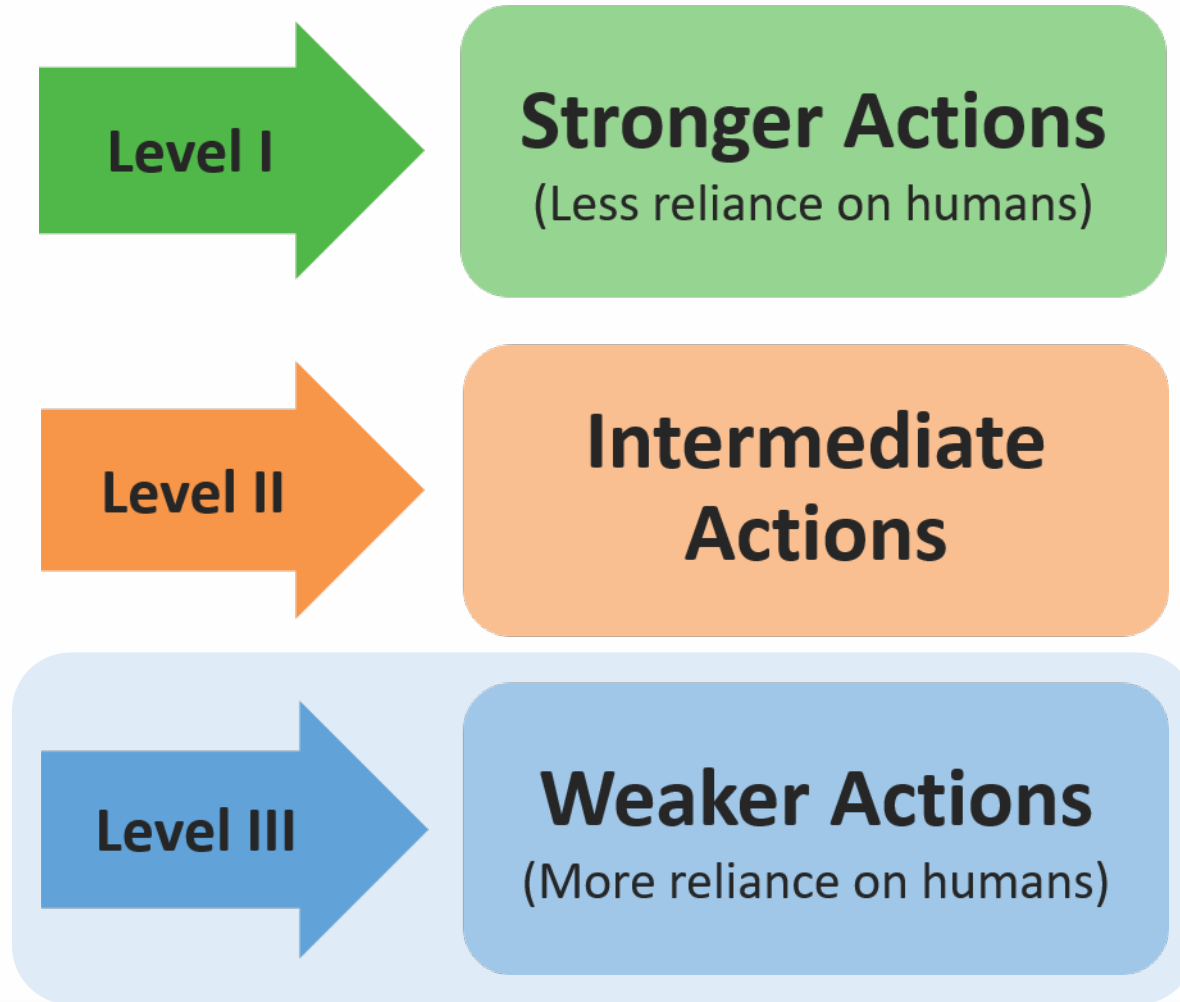
# Level II: Intermediate Actions

<b>Intermediate actions</b>	Redundancy	Use two RNs to independently calculate high-risk medication dosages
	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 hand-offs in a simulation lab/ environment, with after action critiques and debriefing.
	Checklist/cognitive aids	Use pre-induction and pre-incision checklists in operation 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 red-back or repeat-back for all verbal medication orders. Use a standardized patient hand-off format.
	Enhanced documentation, communication	Highlight medication name and doses on IV bags.



- Each root cause should have **at least 1** intermediate action.
- Is **partially** human dependent.
- Think electronic health record (EHR) alerts and checklists.

# Action Hierarchy: Level III



# Level III: Weaker Actions

<b>Weaker actions</b> (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.



- Is **reliant** on humans and human memory.
- Weaker actions may have to precede intermediate and strong actions—education and training.
- Think training, education, policies.

# Common but Weak Actions

- Education
- E-learning
- Training
- Skills labs
- Policies
- Posters



# Ideate

Problem: Increase in falls

Root Cause: Falls occurred during transfers with one person assisting

Corrective Action: Implement standardized transfer protocol

## Strong Actions

Gait Belt

## Intermediate Actions

Standard falls assessment

Standard falls bracelet

Two-person transfer for high risk

EHR Falls Risk Alerts

## Weaker Actions

New Policy

Education and Training

Bed Alarms

# Key Take-Aways

- **Quality Improvement = Action**
- Problem Statement → Root Cause → Actions
- The Action Hierarchy is a tool to prioritize actions.
- Part of the IHI RCA<sup>2</sup> strategy.
- There are 3 action levels:
  - Strong actions (less reliance on humans)
  - Intermediate actions
  - Weaker actions (more reliance on humans)
- Training and education is a weak action.





# Thank you!

Questions: [hospitalquality@hsag.com](mailto:hospitalquality@hsag.com)

This material was prepared by Health Services Advisory Group (HSAG), a Hospital Quality Improvement Contractor (HQIC) under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services (HHS). Views expressed in this document do not necessarily reflect the official views or policy of CMS or HHS, and any reference to a specific product or entity herein does not constitute endorsement of that product or entity by CMS or HHS. Publication No. XS-HQIC-QI-02162022-01