

Quality and Safety Series

A3 Thinking

OBJECTIVES

A close-up photograph of a person's hand, wearing a dark suit jacket and a white shirt cuff, pointing towards the word 'OBJECTIVES' in the title. The hand is positioned on the right side of the slide, with the index finger pointing towards the 'V' in 'OBJECTIVES'.

- Define and describe A3 thinking.
- Outline the steps to complete an A3 report.
- Explore how to use an A3 report to improve a healthcare-related problem.

What Is A3?

- A comprehensive, problem-solving, continuous improvement tool which comprises:
 - Problem identification.
 - Clarification.
 - Analysis.
 - Resolutions steps.
- Appears on a single sheet of paper.
- The technical name for an 11x17-inch, tabloid-size sheet of paper.



A problem should be seen as an opportunity to improve a situation.

Why and When You Should Consider A3

- To better communicate pertinent information with a greater visual impact.
- To develop a problem-solving/continuous improvement mindset with the project team and within the organization.
- Useful for presenting a:
 - Proposal.
 - Status and/or update.
 - Quality improvement project.



A3 Thinking: A Step-by-Step Approach

1. Describe the current situation and problem.
2. Analyze the data and the potential causes.
3. Refine the goal statement and the target state.
4. Develop an action/corrective plan.
5. Check the results and sustain the gains.



A3 incorporates the basics of PDCA.

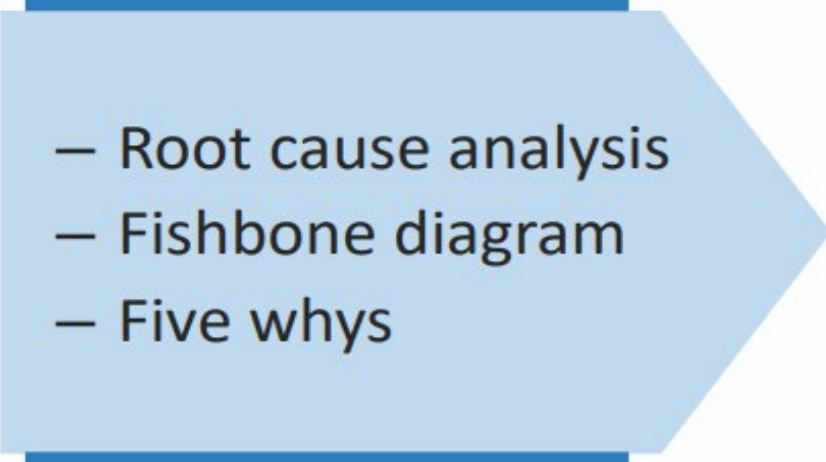
1. Describe the Current Situation and Problem

- Determine the reason for action.
 - Identify deficits (points of failure) to correct.
 - Enlist a multidisciplinary team.
 - Include those directly involved in the process.
 - Brainstorm ideas.
- Define the target state.
 - Describe the ideal/desired condition and goals.



2. Analyze the Data and the Potential Causes

- Break down and analyze the problem.

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- Root cause analysis
 - Fishbone diagram
 - Five whys



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Templates available at:
hsag.com/hqic/quality-series

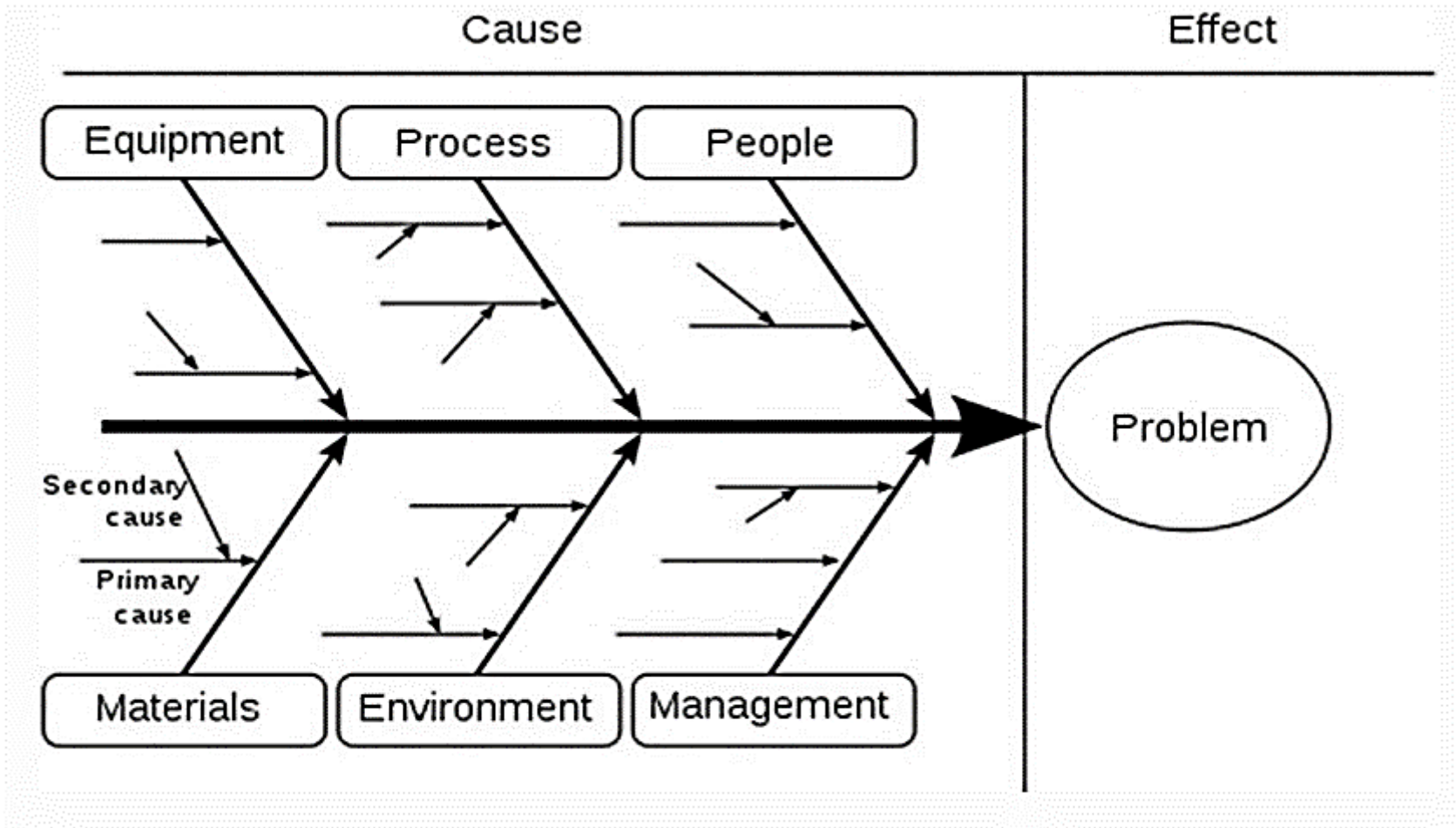
- Use correlative data and information as the foundation to build your problem statement.

Cause-and-Effect (Fishbone) Diagram



- Use to uncover common causes.
Known as:
 - Cause-and-effect diagram
 - Fishbone diagram
 - Ishikawa diagram
- Useful as a visualization tool.
- Aids in organizing potential reasons or causes for a real or potential adverse event.
- Encourages broad thinking.
- Best used once you have defined the problem.
- May be used to prevent future problems.

Fishbone Diagram Template








Identify Priorities and Most Impactful Actions/Interventions

Methods to help prioritize actions/interventions:

- Dot voting
- Eisenhower matrix (urgency/importance)
- Prioritization matrix (impact/effort)
- Decision matrix



3. Refine the Goal Statement and Target State

 S	Specific
 M	Measurable
 A	Attainable
 R	Relevant
 T	Time-Bound

The SMART goal serves as your team's vision.

- Indicates where your team/organization is going.
- Sets direction and purpose.
- Gives context to the goal.
- Helps the team see the bigger picture.
- Should be articulated frequently.

4. Develop an Action/Corrective Plan

- Step-by-step approach to achieve your SMART goal(s).
- Provides a team/project leader with a tool to design, assign, and track the implementation of a quality improvement initiative.

Action Plan for PROJECT Initiated DATE–Updated DATE							
Goal Statement:		<p>Clearly state the aim/goal that you are trying to accomplish. The aim should be SMART:</p> <ul style="list-style-type: none"> • Specific • Measurable • Attainable • Relevant • Time-Bound 					
ITEM	ROOT CAUSE	PLAN	RESPONSIBILITY	DATE DUE/COMPLETED	MEASUREMENT PLAN	STATUS	RESULTS/LESSONS LEARNED
Identify key areas for improvement.	Identify the root cause of the problem (findings of the root cause analysis [RCA]). The root cause is the factor that when fixed prevents the problem from re-occurring.	Identify plan for accomplishing the improvement in each area identified for change.	Identify project leader and/or team. Make sure to include individuals that directly work in the area that is under improvement. Assign clear responsibilities to each team member.	Set deadlines. Identify when completed. Due (D) Completed (C) D—xx/xx/xx C—xx/xx/xx	Describe the plan to collect information to evaluate the results and to monitor progress.	Describe the status of progress over time	Plan-do-study-act (PDSA) <ul style="list-style-type: none"> • Record what you have learned. • What has worked/not worked? • Identify changes you would make to your project plan and plans you have moving forward. • Identify potentials to spread good practices across your organization.

5. Check the Results and Sustain the Gains

Components of an action plan:

- **Item:** Strategy or intervention designed to achieve your goal.
- **Root cause:** The driving force or issue that your strategy/intervention is addressing.
- **Plan:** The action steps you are taking.
- **Responsibility:** The team or person accountable for implementing the plan.
- **Date/time completed:** The deadline to complete your plan that coincides with the project timeline.
- **Measurement plan:** Shows how you are going to measure the success of implementation of the plan.
- **Status:** Ongoing updates on the progress of the plan.
- **Results/lessons learned:** Successes and barriers that will enable you to PDSA your plan.

A3 Thinking: A Healthcare-Related Improvement Project

Did you say insulin?



Problem Statement

20% of patients transferred from Neighborhood Hospital to Community Rehab Center experienced an insulin-related adverse drug event (ADE) and had to be readmitted to Neighborhood Hospital.



Current State of the Situation

Neighborhood Hospital, a 400-bed acute licensed facility, developed a **long-standing relationship with post-acute care providers.**

It implemented a standardized communication process to **provide elements of antidiabetic therapy upon discharge and receive regular feedback.**

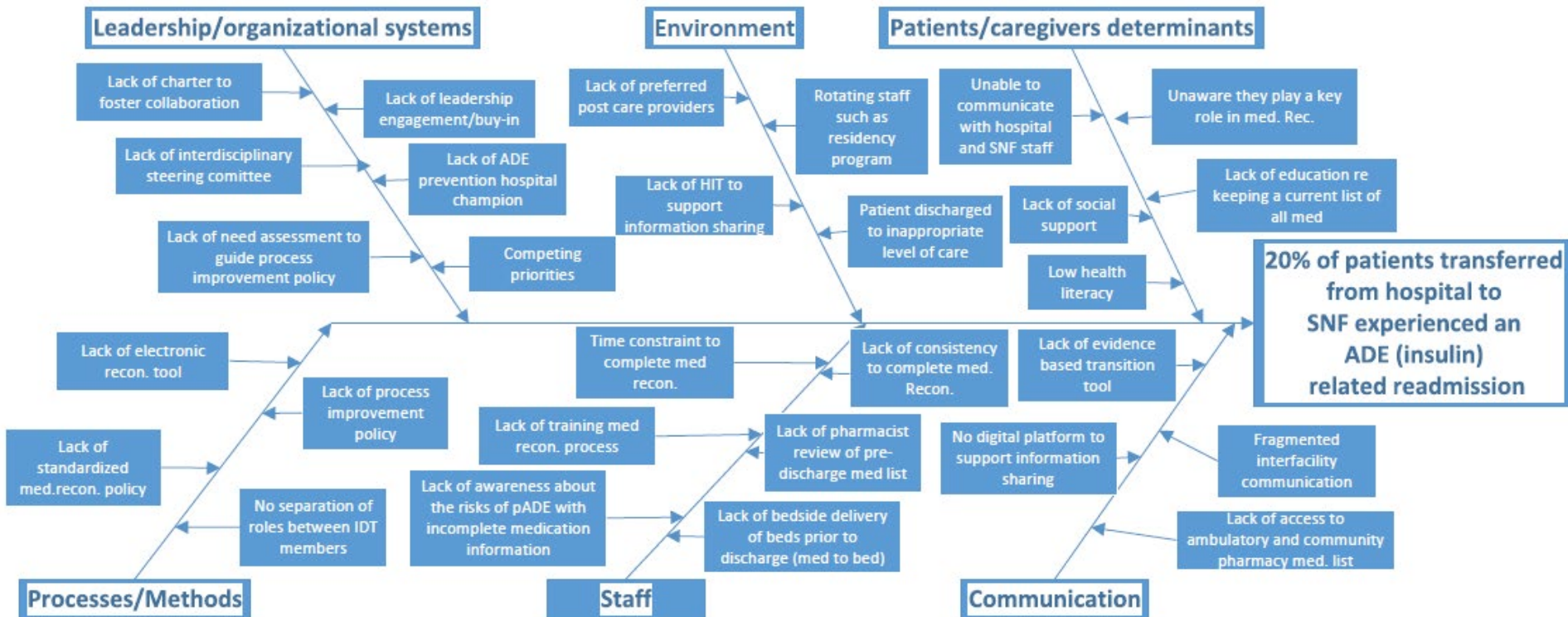
While reviewing the feedback report, the Neighborhood Hospital Quality and Safety Committee observed that the **number of hypoglycemic events post-discharge increased from 1 event in January 2020 to 7 events in March 2020** that led to hypoglycemia-related readmissions to Neighborhood Hospital.

Neighborhood Hospital also noticed half of the events occurred for patients on multiple medications at Community Rehab Center.

The Quality and Safety Committee decided to first look into the events from Community Rehab Center and invited employees from this center to be part of this analysis.

Analysis—Root Cause Analysis

Fishbone Diagram



Identify the Top 5 Potential Causes

1. Inconsistent medication reconciliation from hospital to the post-acute facility.
2. Inadequate physician education on medication reconciliation.
3. Patients discharged to the inappropriate level of care.
4. Patients do not keep a current list of medications with them.
5. No hospital champion/resource person on ADE prevention.

Identify the Top 5 Potential Causes (cont.)

1. Inconsistent medication reconciliation from hospital to the post-acute facility.
2. Inadequate physician education on medication reconciliation.
3. Patients discharged to the inappropriate level of care.
4. Patients do not keep a current list of medications with them.
5. No hospital champion/resource person on ADE prevention.

After review of data collected from assigned action items reflective of Q1 2020, it appears that the 3 causes in blue are the top contributors to the problem.

Refine the Goals and/or Targets

Decrease the number of hypoglycemic events (blood glucose < 40) within Community Rehab Center from 7 events to 2 events by October 31, 2020.



Action Plan, Corrective Actions, and Impact

WHAT will be done	By WHOM	By WHEN	What was the OUTCOME
<p>Action 1: Review medication reconciliation policy to ensure it includes a standardized process for; risk stratification, medication reconciliation, taking best possible medication history at admission, educating patients and communicating with post-discharge providers about risk for ADEs with anti-diabetic agents</p> <p><i>=> Used the Marquis Implementation framework to improve patient safety through medication reconciliation</i></p>	Hospital Patient and Safety Committee	6/15/20	Policy updated started actions 6, 7 and 8
Action 2: Interview current physicians to determine the percentage that further required education on Medication reconciliation	Hospital Chief Medical Officer	6/15/20	10 interviewed showing a need to strengthen education
Action 3: Determine the percentage of discharge to the inappropriate level of care	Hospital Case Management Director	6/15/20	Data analysis showed that is not the root cause of the problem

Monitor, Sustain, and Don't Forget to Celebrate!

- **Monitor and sustain** on an ongoing basis (monthly data review):
 - Number of incomplete medications orders transmitted to post-acute facilities.
 - Number of ADE-related readmissions.
- **Celebrate** successes with staff members!



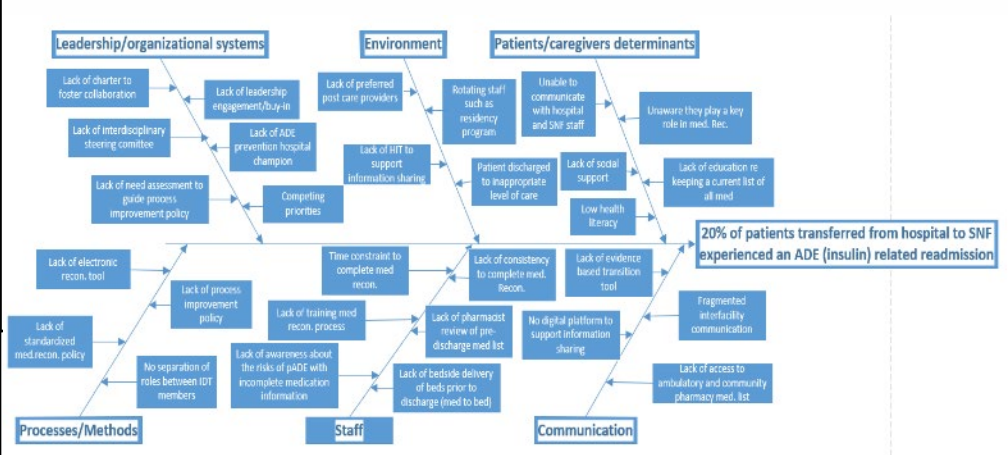
Problem Statement

Twenty percent of patients transferred from Neighborhood Hospital to Community Rehab Center experienced an insulin related ADE readmission.

Current State of the Situation

Neighborhood Hospital, 400-bed acute licensed facility, have developed a **long-standing relationship with post-acute care providers**. They have implemented a standardized communication process with their partners since 2015 which enables them to **provide them elements of antidiabetic therapy upon discharge and receive regular feedback**. While reviewing the feedback report, the Quality and Safety Committee team observed that the **number of hypoglycemic events post discharge increased from 1 event in January 2020 to a total of 7 events** that led to hypoglycemia-related readmissions to Neighborhood Hospital in March 2020. They also noticed half of the events occurred for patients on multiple medications in the Community Rehab Center. The Quality and Safety Committee decided to first look into the events from Community Rehab Center and invited people from this center to be part of this analysis.

Analysis - Root Cause Analysis (RCA) Fishbone Diagram



Top 5 potential causes of the problem are:

- **Inconsistent medication reconciliation from Hospital to SNF**
- **Inadequate physician education on medication reconciliation**
- **Patients discharged to the inappropriate level of care**
- **Patients don't keep a current list of medications with them**
- **No hospital champion/resource person on ADE prevention**

After review of data collected from assigned action items reflective of Q2 2020, it appears that the three causes in blue are the top contributors to the problem.

Target/Goal(s)

To decrease the number of hypoglycemic events (BG<40) within Redwood Rehab Center from 7 events to 2 events by October 2020 report.

Implementation Plan/Countermeasures/Outcome

WHAT will be done	By WHOM	By WHEN	What was the OUTCOME
<i>Action 1:</i> Review medication reconciliation policy to ensure it includes a standardized process for; risk stratification, medication reconciliation, taking best possible medication history at admission, educating patients and communicating with post-discharge providers about risk for ADEs with anti-diabetic agents => Used the Marquis Implementation framework to improve patient safety through medication reconciliation	Hospital Patient and Safety Committee	6/15/20	Policy updated started actions 6, 7 and 8
<i>Action 2:</i> Interview current physicians to determine the percentage that further required education on Medication reconciliation	Hospital Chief Medical Officer	6/15/20	10 interviewed showing a need to strengthen education
<i>Action 3:</i> Determine the percentage of discharge to the inappropriate level of care	Hospital Case Management Director	6/15/20	Data analysis showed that is not the root cause of the problem
<i>Action 4:</i> Identify the percentage of new geriatric admissions (for the last ten days) that do not keep a list of their medications	Hospital Case Management Director	6/15/20	Data analysis showed that is not the root cause of the problem
<i>Action 5:</i> Identify the percentage of units that doesn't have an ADE prevention resource person	Hospital Patient and Safety	6/15/20	70% of unit don't have an ADE prevention resource person – started Action 6
<i>Action 6:</i> Identify and train the best resource person to contribute to quality improvement for ADE prevention/medication reconciliation in each unit based on staff experience, projects knowledge of the current protocol, and willingness to	Hospital Patient and Safety	7/1/20	Each unit has an identified ADE prevention resource person
<i>Action 7:</i> Activate medication fields and a hard stop in the EHR so that signature is not accepted until all medication fields are completed. Inform all staff when this is activated.	HIT Dept.	7/1/20	Done on time
<i>Action 8:</i> Educate staff and discharge physicians at the hospital that they must complete all medication information fields (including indication and diagnosis) and that EHR fields will be put in place	ADE prevention Champion and resource persons	7/31/20	All physicians and staff trained to updated policy

Summary/Wrap-Up/Next Steps

Monitoring and sustaining on an ongoing basis (monthly data review):

- Number of incomplete medications orders transmitted to SNFs
- Number of ADE related readmissions

Celebrate successes with staff members

Key Take-Aways

- A3 is a structured and useful problem-solving template.
- A3 thinking assists in:
 - Identifying and clarifying a problem.
 - Analyzing the root causes.
 - Improving the situation to the target state.
- Complete an A3 report as a team, with members who have a strong knowledge of the process.
- Don't forget to monitor the corrective plan and sustain the gains!



References

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<https://quality-one.com/a3/#Why>
- Reliability Plant. *A3 Problem Solving: What It Is ... and What It Isn't*. <https://www.reliableplant.com/Read/22984/a3-problem-solving-lean#:~:text=A3%20refers%20to%20a%20European,Proposals>



Thank you!

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