



A3 Problem Solving Report

Leslie M. Beitsch¹, John W. Moran², and Annie Vosel³

November 2016

Description:

The A3 Problem Solving Report (A3) is a problem solving and continuous improvement approach. Its name refers to a metric paper size designation that is roughly equivalent to an 11-inch by 17-inch sized paper, which is the largest size that will fit through a fax machine, and is the paper size that should be used for this tool. A3 helps an improvement team concisely describe and document its problem solving process. It is somewhat similar to Storyboard, Patient History and Physical, or SOAP (Subjective, Objective, Assessment and Plan) methods of thinking⁴ and supports the Plan-Do-Check-Act (PDCA) approach to quality improvement (QI) by providing a documentation process. A3 can be archived electronically so team members and others can view QI activities regarding a condition or problem under investigation. This version of the A3 Problem Solving Report is an adaptation for public health, which was originally developed by Toyota and adapted for use in healthcare.⁵

When to Use:

A3 can be used when a team needs a concise approach to problem solving and documentation for a condition that needs improvement, such as reducing instances of foodborne illness. A3 helps team members document what is known and then guides them through the improvement process. Using A3 on a regular basis helps an organization have a standardized improvement process that helps instill an organization-wide culture of quality.

¹ Leslie M. Beitsch, MD, JD, is Professor of Health Policy, Director of the Center for Medicine and Public Health, and Chair of the Department of Behavioral Sciences and Social Medicine at the Florida State University College of Medicine. He also is the former Chair of the Public Health Accreditation Board (PHAB).

² John W. Moran, PhD, is Senior Quality Advisor to the Public Health Foundation and Senior Fellow in the Division of Health Policy and Management at the University of Minnesota, School of Public Health. He is a previous member of PHAB's Evaluation and Quality Improvement Committee and Adjunct Professor at the Arizona State University College of Health Solutions' School for the Science of Health.

³ Annie Vosel, BSN, RN, is a consultant for the Public Health Foundation. She has over 30 years of experience working as a nurse primarily in Maternal and Child Health programs. For the past 15 years she was Director of the Division of Women's and Children's Health and the Title X Family Planning Program for the Alabama Department of Public Health. She also developed a statewide clinical efficiency initiative for the Family Planning program.

⁴ [Make Your Clinics Flow with Synchrony](#), D. Han, MD and A. Suneja, MBS, ASQ Quality Press, 2016, p. xxi.

⁵ [A3 Problem Solving for Healthcare: A Practical Method for Eliminating Waste](#), C. Jimmerson, Taylor & Francis, 2007

Construction Steps:

Begin A3 by filling out the top of the template with the project's start and end dates, the name of the team leader, and the document revision number (which should be numbered in sequence). Then complete the following eight sections:

1. **Identify the Condition/Problem:** Create a title that describes the project in a few words.
2. **Describe the Current State of the Condition/Problem:** Provide basic information about the background and current state of the issue.
3. **Define Improvement Objectives (Goals & Targets):** List key objectives to improve the current condition or problem. Be sure to state the desired characteristics of the improved or future state.
4. **List Out Data Describing the Current Condition/Problem:** Indicate data points that are known about the issue (e.g., frequency, duration, quantity).
5. **Conduct a Problem/Root Causes Analysis:** Use a Cause and Effect Diagram⁶ to determine what is causing the issue.
6. **List Out Potential Solutions:** Brainstorm⁷ ideas that will address the root causes of the problem.
7. **Prioritize Solutions and Decide Which Ones to Implement:** Use a Prioritization Matrix⁸ to determine which of the potential solution(s) are most likely to best resolve the root causes of the problem, and will meet the objectives of the project.
8. **Develop an Implementation Plan and Status:** List out the activities (What) to be accomplished, the person responsible for each activity (Who), and the timeframe for completing each activity (Due Date). This is similar to a Gantt Chart⁹.

Once these steps are completed, regularly update the status and percentage complete for the implementation activities on the A3 using the color code shown in the example on the next page (green = activity on track, yellow = activity is experiencing problems, red = activity is late or behind schedule). If implementation activities get behind schedule, the improvement team should develop and implement countermeasures to get them back on track.

This tool was made possible through funding from the Centers for Disease Control and Prevention under Cooperative Agreement NU38OT000211. The contents of this document are solely the responsibility of the authors and do not necessarily represent the official views of the sponsor.

⁶ [Public Health Quality Improvement Encyclopedia](#), Public Health Foundation, ©2012, pp. 11-12.

⁷ [Public Health Quality Improvement Encyclopedia](#), Public Health Foundation, ©2012, pp. 9-10.

⁸ [Public Health Quality Improvement Encyclopedia](#), Public Health Foundation, ©2012, pp. 93-94.

⁹ [Public Health Quality Improvement Encyclopedia](#), Public Health Foundation, ©2012, pp. 47-48.

Example: Tri City Health Department Foodborne Illness

This example shows a completed A3. Based on the steps above, the template was filled in to show the problem solving process for a foodborne illness outbreak.

A3 Report Template		Start Date: March XXXX	End Date: April XXXX	Team Leader and Contact Information: Les, Epi Dept	Revision: 01																																																																																																																																																																																																																																																																																																																
1. Title: Identify the Condition/Problem: Foodborne Illness Outbreak 2. Describe the Current State of the Condition/Problem - Background and Current State Local Hospital ER calls the health department and asks if they have any recent cases of foodborne illness (FBI). They have a case in the ER now from a person that has just eaten at the local county fair		6. List Out Potential Solutions: Food handling training course Hot and cold food handling techniques training Ordinance requiring hand washing Mobile vendor hygiene documentation Develop and give visual reminders for posting in mobile vending van Better staff training for enforcement Running hot water in all mobile vendor vans Better public education about mobile vending - tips Improved waste disposal where mobile vendors are located																																																																																																																																																																																																																																																																																																																			
3. Define Improvement Objectives (Goals & Targets) List key objectives to Improve the Current Condition or Problem: State improved / future state desired conditions. <ol style="list-style-type: none"> Understand the current case in the ER Determine what caused the FBI Develop and action plan for the rest of this year's county fair and next year Improve mobile vending inspections and licensing process 		7. Prioritize Solutions and Decide Which Ones To Implement: Improve mobile vendor training on sanitation requirements and temperature control																																																																																																																																																																																																																																																																																																																			
4. List Out Data Describing the Current Condition/Problem: - third case this week associated with the county fair - twice the number of mobile vendors at the fair this year than last - no specific pattern to trace back to one mobile vendor - temperature control studies indicated mobile vendors needed better controls - adequate water supplies for sanitation an issue with mobile vendors		8. Implementation Plan and Status: <table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Legend:</th> <th colspan="20"></th> </tr> <tr> <th colspan="2"></th> <th>On Schedule</th> <th>Problems</th> <th colspan="20"></th> </tr> <tr> <th colspan="2"></th> <th colspan="20">Due Date - Year</th> </tr> <tr> <th colspan="2"></th> <th colspan="4">Month 1</th> <th colspan="4">Month 2</th> <th colspan="4">Month 3</th> <th colspan="4">Month 4</th> <th colspan="4">Month 5</th> </tr> <tr> <th colspan="2"></th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> <tr> <th>WHAT</th> <th>WHO</th> <th colspan="20"></th> </tr> </thead> <tbody> <tr> <td>X</td> <td>1. Develop course materials</td> <td>Vanessa</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>X</td> <td>2. Test materials internally</td> <td>Gwen</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>X</td> <td>3. Develop Pre and Post Test</td> <td>Annie</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>X</td> <td>4. Inform mobile vendors of new requirements</td> <td>Jack</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>X</td> <td>5. Schedule first course</td> <td>Les</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>X</td> <td>6. Course evaluation and improvements</td> <td>Annie</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>X</td> <td>7. Schedule next course</td> <td>Jack</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>						Legend:																								On Schedule	Problems																							Due Date - Year																						Month 1				Month 2				Month 3				Month 4				Month 5						1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	WHAT	WHO																					X	1. Develop course materials	Vanessa																						X	2. Test materials internally	Gwen																						X	3. Develop Pre and Post Test	Annie																						X	4. Inform mobile vendors of new requirements	Jack																						X	5. Schedule first course	Les																						X	6. Course evaluation and improvements	Annie																						X	7. Schedule next course	Jack																					
		Legend:																																																																																																																																																																																																																																																																																																																			
		On Schedule	Problems																																																																																																																																																																																																																																																																																																																		
		Due Date - Year																																																																																																																																																																																																																																																																																																																			
		Month 1				Month 2				Month 3				Month 4				Month 5																																																																																																																																																																																																																																																																																																			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																																																																																																																																																																																																																
WHAT	WHO																																																																																																																																																																																																																																																																																																																				
X	1. Develop course materials	Vanessa																																																																																																																																																																																																																																																																																																																			
X	2. Test materials internally	Gwen																																																																																																																																																																																																																																																																																																																			
X	3. Develop Pre and Post Test	Annie																																																																																																																																																																																																																																																																																																																			
X	4. Inform mobile vendors of new requirements	Jack																																																																																																																																																																																																																																																																																																																			
X	5. Schedule first course	Les																																																																																																																																																																																																																																																																																																																			
X	6. Course evaluation and improvements	Annie																																																																																																																																																																																																																																																																																																																			
X	7. Schedule next course	Jack																																																																																																																																																																																																																																																																																																																			
5. Conduct a Problem/ Root Causes Analysis 																																																																																																																																																																																																																																																																																																																					