CHILDREN SERVED BLEACH

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

CAUSE MAPPING
Problem Solving • Incident Investigation • Root Cause Analysis

Step 1 **Problem** — What's the Problem?
Step 2 **Analysis** — Why did it happen?
Step 3 **Solutions** — What will be done?

1 Problem

What	Problem(s)	Students drank bleach; treated at hospital
When	Date	September 11, 2014
	Time	Morning snack time
	Different, unusual, unique	Staff member's first day on the job
Where	Facility, site	Jersey City, NJ
	Unit, area, equipment	Day care center
	Task being performed	Pouring water for snack

Impact to the Goals

Safety	Potential for injury of 28 children & 2 adults
Environmental	Bleach solution stored in food container
Customer Service	Children, teachers served bleach solution
Regulatory	Day care worker fired
	Investigation by licensing agency
Production/ Schedule	?
Property/ Equipment	?
Labor/ Time	Treatment of 28 children, 2 adults

Frequency	?

For morning snack on September 11, 2014, a substitute teacher's aide was getting ready to pour water for snack on her first day on the job. Unfortunately, what she poured from a reused plastic milk container was actually a beach solution used for cleaning. The mistake was realized quickly, but not before 28 children and 2 adults ingested some of the bleach. Luckily the concentration was low enough that there were no injuries, although all who ingested the solution were seen at a local hospital.

The substitute teacher's aide was fired and the school reopened the next day, though the New Jersey Department of Children and Families will be investigating. Clearly serving cleaning solution to children under your care is undesirable. However, firing the person most directly involved without fixing any of the issues that contributed to the mistake may leave an unacceptable risk for the issue to happen again. Although this appeared to be the first time anything like this happened on such a scale in a day care facility, the misuse of cleaning fluid due to confusing containers has happened before. Just this July a woman was given an epidural of cleaning fluid after the containers were accidentally switched.

Identifying the impacted goals and all the causes that led to those impacted goals allows for more solutions than just firing the person found to be most immediately responsible. The use of a Cause Map, a visual form of root cause analysis, diagrams all the cause-and-effect relationships in order to develop as many solutions as possible so the most effective among them can be implemented.

First the impacts to the goals are identified. The safety goal is impacted because of the potential for injury to the 28 children and 2 adults who drank the bleach solution. The bleach solution was stored in a food container, which can be considered an impact to the environmental goal. The customer service goal is impacted because the children and adults were served bleach solution. The day care worker being fired, and the ongoing investigation by the licensing agency, can both be considered impacts to the regulatory goal. Additionally, the treatment of all 30 who ingested the

Cause Map

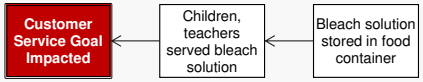
Employee fired after pouring "water" from re-used milk jug containing cleaning solution

"We had an incident where one of the staff in the kitchen used the cleaning solution bottle to pour water for some of the children. It was a repurposed plastic milk jug with a bleach water solution we use to wipe down surfaces. The label we had on the bottle wasn't large enough to guard against it."

- Keith Kearney, executive director of United Cerebral Palsy of Hudson County, which runs the day care center

2 Analysis

Basic Level Cause Map - Start with simple Why questions.

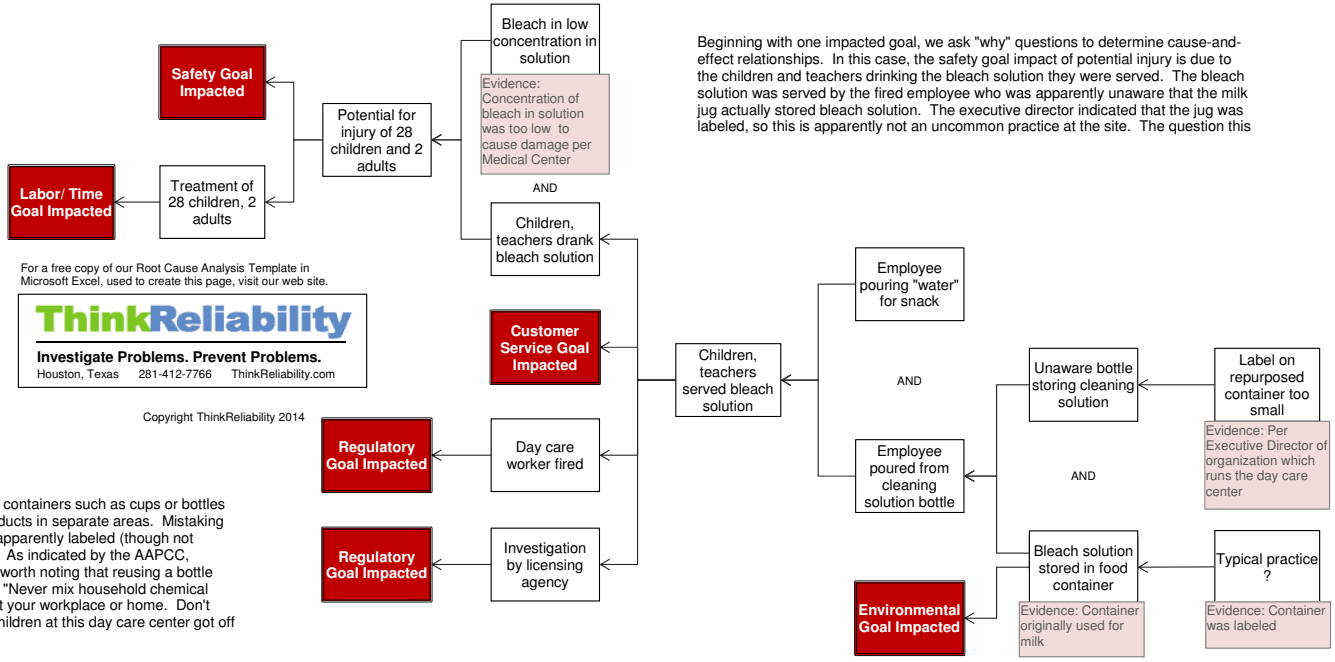


Why?

Effect ← Cause

NOTE: Read the Cause Map from left to right with the phrase "Was Caused By" in place of each arrow.

More Detailed Cause Map - Add detail as information becomes available.



Beginning with one impacted goal, we ask "why" questions to determine cause-and-effect relationships. In this case, the safety goal impact of potential injury is due to the children and teachers drinking the bleach solution they were served. The bleach solution was served by the fired employee who was apparently unaware that the milk jug actually stored bleach solution. The executive director indicated that the jug was labeled, so this is apparently not an uncommon practice at the site. The question this

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3 Solutions

The American Association of Poison Control Centers (AAPCC) says: "DO NOT use food containers such as cups or bottles to store household and chemical products" and "Store food and household chemical products in separate areas. Mistaking one for the other could cause a serious poisoning." Although the reused container was apparently labeled (though not clearly enough to avoid the mistake), it should never have been reused in the first place. As indicated by the AAPCC, reusing containers between food and cleaning supplies is just too big of a risk. It is also worth noting that reusing a bottle that contained household chemicals for a different household chemical is another no-no: "Never mix household chemical products together. Mixing chemicals could cause a poisonous gas." Don't run the risk at your workplace or home. Don't reuse food containers for cleaning products or mix cleaning products. Fortunately the children at this day care center got off without lasting damage in this case.