

1 Problem

What When	Problem(s)	Overdose, death from caffeine powder
	Date	May 27, 2014
	Different, unusual, unique	1/16th of a teaspoon of powder contains the caffeine of 2 large cups of coffee; not subject to same regulations as caffeinated food
Where	Geographic location	LaGrange, Ohio
	Unit, area, equipment	Caffeine powder
	Task being performed	Sold as dietary supplement

Impact to the Goals

Patient Safety	Student death
Employee Safety	N/A
Environmental	N/A
Compliance	Less regulation than caffeinated foods
Patient Services	Easy to overdose
Schedule/ Operations	?
Property/ Equipment	?
Labor/ Time	?

Frequency: Poison control center in Ohio received 3 calls about caffeine powder overdoses that resulted in hospitalization in a week

CAFFEINE POWDER CAUSES DEATH

Caffeine in 1 teaspoon equivalent to 25 cups of coffee

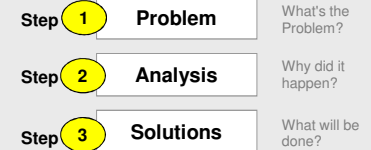
A high school wrestler died at his home from caffeine overdose, drawing attention to the dangers of caffeine powder. The young man was found to have about 23 times the concentration of caffeine in his blood as a typical coffee drinker. Just prior to his death, the school had an assembly on heroin and painkiller overdoses, but the school was unaware of the risks of caffeine powder.

"The difference between a safe amount and a lethal dose of caffeine in these powdered products is very small."
- Jennifer Dooren, FDA spokesperson

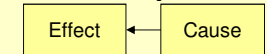
Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

CAUSE MAPPING

Problem Solving • Incident Investigation • Root Cause Analysis



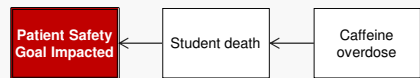
Why?



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

2 Analysis

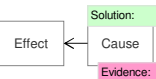
Basic Level Cause Map - Start with simple Why questions.



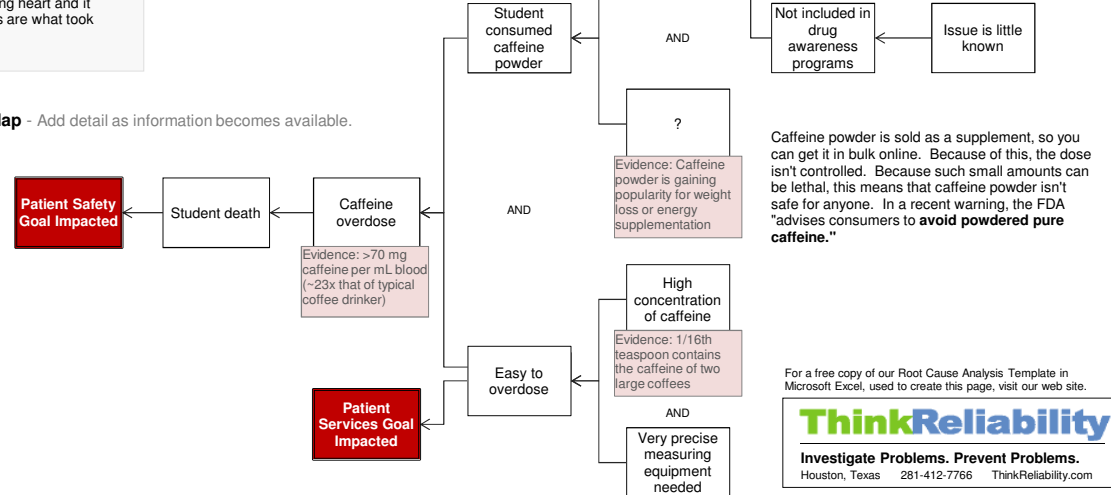
Basic Cause-and-Effect

A teenager died of a caffeine overdose in LaGrange, Ohio on May 27, 2014 after taking caffeine powder. Regarding caffeine powder, Loraine County Coroner Dr. Stephen Evans says, "What it does is it leads into cardiac arrhythmias, which is speeding heart and it leads into seizures. Those two things are what took his life."

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



Caffeine powder is increasing in popularity for weight loss and energy supplementation. Dr. Henry Spiller, the director of a poison control center at Nationwide Children's Hospital in Columbus, Ohio says there have been multiple calls in a week that resulted in hospitalization due to caffeine powder use. He says, "I can't believe you can buy this," Spiller said. "Honestly, I mean, it's frightening. It makes no sense to me."



Caffeine powder is sold as a supplement, so you can get it in bulk online. Because of this, the dose isn't controlled. Because such small amounts can be lethal, this means that caffeine powder isn't safe for anyone. In a recent warning, the FDA "advises consumers to avoid powdered pure caffeine."

3 Solutions

Three weeks before the young man's death, his school held an assembly on heroin and painkiller abuse. Caffeine powder wasn't covered. "I don't think any of us really knew that this stuff was out there," said Jay Arbaugh, the Keystone Local Schools superintendent. This isn't surprising. Caffeine has long been considered the drug with the least potential of abuse. Cautions Dr. Bob Hoffman, a medical toxicologist at the New York University, "The thing about caffeine is just because you see it every day, just because it's naturally occurring ... doesn't mean that it's safe." The school will be adding caffeine powder to its drug and alcohol awareness programs. The FDA is considering regulatory action against these powders.

The FDA recommends seeking medical care immediately and reporting to the FDA adverse events associated with caffeine powder.

For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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