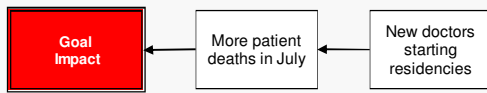


1 Problem

| Step 1. Define the Problem | | |
|----------------------------|----------------------------|--------------------------------------|
| What | Problem(s) | Great chance of patient injury/death |
| When | Date | July each year |
| | Different, unusual, unique | New interns starting rotations |
| Where | Location | Teaching hospitals across the U.S. |
| Impact to the Goals | | |
| | Patient Safety | More patient fatalities in July |
| | Frequency | 10% greater than average |

2 Analysis

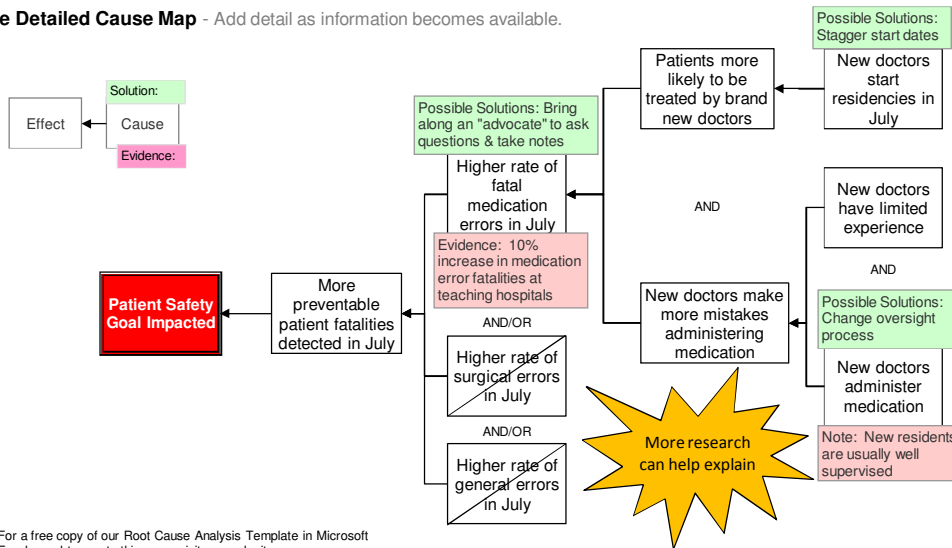
Basic Level Cause Map - Start with simple Why questions.



Basic Cause-and-Effect

Those in the medical profession long speculated about problems particularly in the month of July. They attributed the anecdotal rise in problems, to the annual influx of recently minted doctors. But without any sound research to back up the hunch, there was little initiative to do anything more about the suspected problem.

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



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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THE JULY EFFECT

Fatal Medication Errors

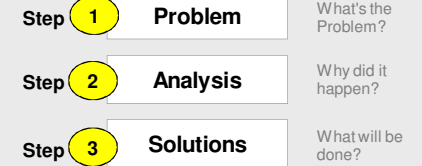
Cause Map

No one ever looks forward to a trip to the hospital, and a new study suggests that you might be particularly wary during the summer. A new study shows a 10% spike in patient fatalities during the month of July. Many in the medical profession have been aware of "the July Effect" anecdotally for years, but researchers in the University of California at San Diego study combed through over 62 million death certificates dating back to 1976 to prove its existence.

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



More Detailed Cause-and-Effect

Why the spike? Sociologist Dr. David Phillips, who conducted the study, believes it is because new doctors begin their residencies in July each year. The phenomenon is limited to fatal medical errors, and is not evident in surgical or "general" error rates. Consistent with the study's "New Resident Hypothesis", fatalities are even higher in counties with higher concentrations of teaching hospitals, in which there would be more resident doctors. It is clear there is a link between higher rates of medication errors and the presence of brand new doctors.

The study is one of the first to demonstrate the linkage though. Multiple smaller studies have failed to show any correlation between time of year and death rates. Researchers point out that the new study focused on a much longer time range and broader geographic area than any previous study however.

Although the study raises some interesting questions, it stops short of providing solutions. Doctors already face a rigorous course of study to prepare for their residencies, which of course are designed to provide the experience needed. New doctors are also generally well supervised. And to some extent there will always be risk associated with inexperience when it comes to teaching hospitals.

A Cause Map can illuminate areas that might benefit from further research. The study narrowed down one of the contributing factors to medication administration. Why just in that area though? Are new residents better supervised in the OR? Do new doctors have the capability of prescribing and administering medication during their first month? What types of errors do they make when doing this? Do they prescribe the wrong medication completely? The wrong dosage? Or do they overlook adverse interactions with other medications?

More research is needed to accurately determine why the July Effect occurs, but patients can be prepared. Experts agree that patients should ask plenty of questions and bring along an advocate for support

3 Solutions

| No. | Action Item | Cause |
|-----|---|--|
| 1 | Bring along an "advocate" to ask questions & take notes | Higher rate of fatal medication errors in July |
| 2 | Stagger start dates | New doctors start residencies in July |
| 3 | Change oversight process | New doctors administer medication |