

1 Problem

What	Problem(s)	Death from tetanus, no immunization, electronic health record (EHR) confusion
When	Date	?
	Different, unusual, unique	Health record selection on immunization status unclear
Where	Facility, site	Illinois hospital
	Unit, area, equipment	Emergency room
	Task being performed	Patient seeking treatment for garden fork puncture

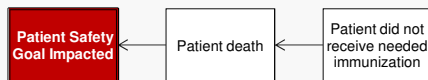
Impact to the Goals

Patient Safety	Patient death
Employee Safety	N/A
Environmental	N/A
Compliance	Malpractice case
Patient Services	Patient did not receive recommended immunization

Frequency	EHR issues involved in 1% of lawsuits from 2007 to 2013, and doubled from 2013 to 2014
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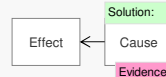
2 Analysis

Basic Level Cause Map - Start with simple Why questions.

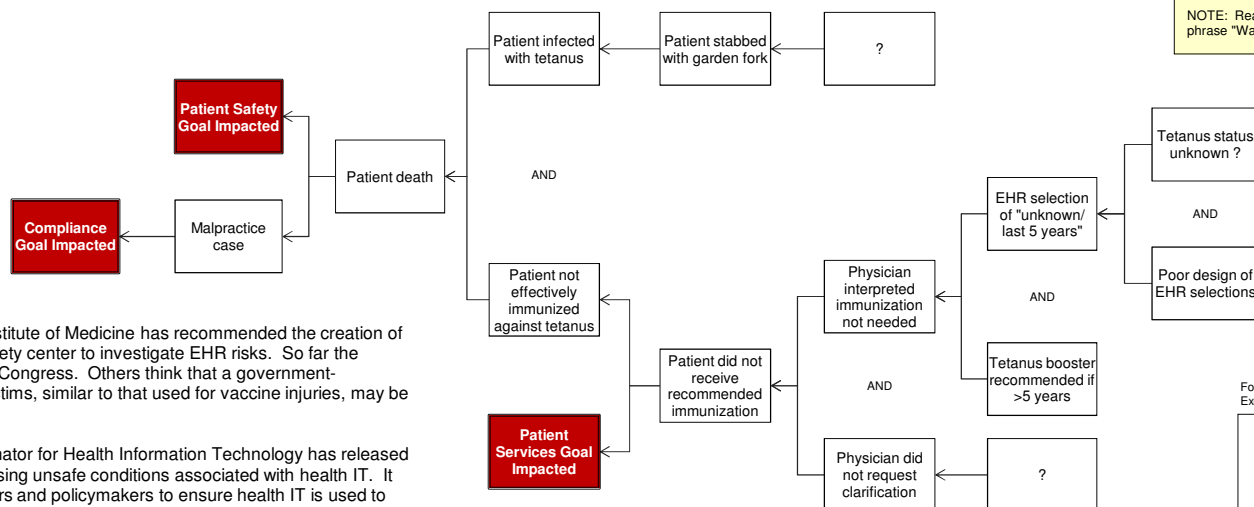


Basic Cause-and-Effect

The patient died from tetanus; she was not given a tetanus shot because her immunization status was selected as "unknown/last 5 years."



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



3 Solutions

Because of their concerns, the Institute of Medicine has recommended the creation of an information technology (IT) safety center to investigate EHR risks. So far the proposal has not been funded by Congress. Others think that a government-supported fund to compensate victims, similar to that used for vaccine injuries, may be necessary.

The Office of the National Coordinator for Health Information Technology has released a guide on identifying and addressing unsafe conditions associated with health IT. It calls for providers, EHR developers and policymakers to ensure health IT is used to improve patient care and protect patient safety.

EHR CONFUSION LEADS TO DEATH

Cause Map

No tetanus shot given because of confusing EHR entry

A woman seen at an Illinois emergency room for a puncture wound from a gardening tool had an unknown tetanus status. Upon receipt of a threatening puncture wound, a tetanus booster should be given if it has been more than five years since an immunization has been given. In this case, the electronic health record (EHR) choice selected was "unknown/ past 5 years". The physician treating the woman appeared to consider that her shots were up-to-date and did not order a booster. The woman died of tetanus.

"Designed and applied inappropriately, health IT can add an additional layer of complexity to the already complex delivery of health care, which can lead to unintended adverse consequences."

- From *Health IT and Patient Safety: Building Safer Systems for Better Care* by the Institute of Medicine

This confusion illustrates the issues being seen during the increased use of electronic health records. In their report *Health IT and Patient Safety: Building Safer Systems for Better Care* by the Institute of Medicine, they state, "designed and applied inappropriately, health IT can add an additional layer of complexity to the already complex delivery of health care, which can lead to unintended adverse consequences." A review by a medical malpractice insurer showed that EHR issues were involved in only 1% of lawsuits concluded from 2007 to 2013 but that percentage had doubled from 2013 to early 2014, and more are expected with the increased adoption of EHRs. This is disappointing news for an incentive program for the use of EHRs, which hoped they would make hospitals safer. Data on whether or not that has occurred is mixed.

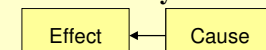
Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

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?

Why?



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

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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