

# REUSE OF INSULIN PENS

Cause Map

## Possibility for spread of communicable disease exists

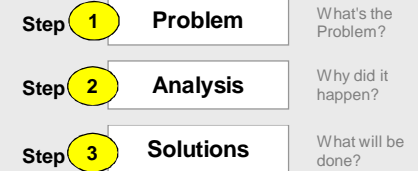
After a similar incident at a Veterans hospital, a hospital in New York reviewed its insulin injection procedures and discovered that insulin pens may have been used for more than one patient, resulting in a risk of exposure to communicable disease.

"We are very aware that while the risk of infection from insulin pen re-use is extremely small, cross contamination from an insulin pen is possible." - Health system President & CEO

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



## 1 Problem

What  
When

Problem(s)	Patients infected with hepatitis
Date	November 2009 - January 2013
Different, unusual, unique	Reuse of syringes
Where	New York
State, city	Hospital
Facility, site	Insulin pens
Unit, area, equipment	Insulin injections
Task being performed	

Impact to the Goals

Patient Safety	Possibility for contraction of communicable disease
Compliance	Re-use of insulin pens against FDA/CDC recommendation
Organization	Lawsuit against hospital
Patient Services	1,915 patients received insulin through improper sharing of pens
Environmental	Potential spreading of communicable disease
Property, Equip, Mtls	Patient testing, followup, potential treatment
Labor, Time	

Frequency	30 outbreaks from syringe or needle re-use from 2001 to 2011
This incident ?	
Annualized Cost ?	

### More Detailed Cause-and-Effect

Insulin pens are designed for multiple injections, meaning that there is stored insulin within the cartridge after a single injection is given. Backflow of blood into the pen can result in the remaining insulin being contaminated. This can result in the spread of communicable disease if the pen is then used on a different patient for subsequent injections.

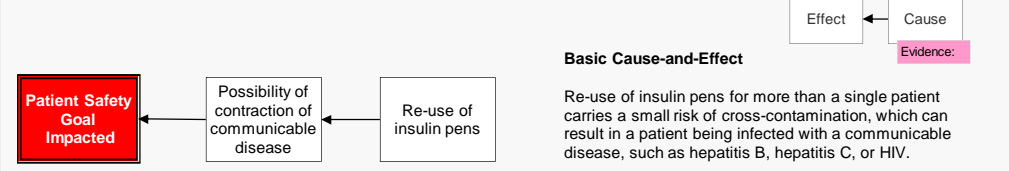
The use of insulin pens resulted in 30 outbreaks from syringe or needle reuse over ten years, from 2001-2010. So, although the possibility for cross-contamination is considered low, the risk for the spreading of communicable diseases is unacceptably high.

The FDA and CDC have published warnings against the re-use of insulin pens. However, robust procedures and policies must be in place to ensure that these pens are not improperly re-used. It is unclear what the specific issues with the policies and procedures were at the New York hospital, but the policies and procedures regarding insulin injections have been reviewed and reinforced.

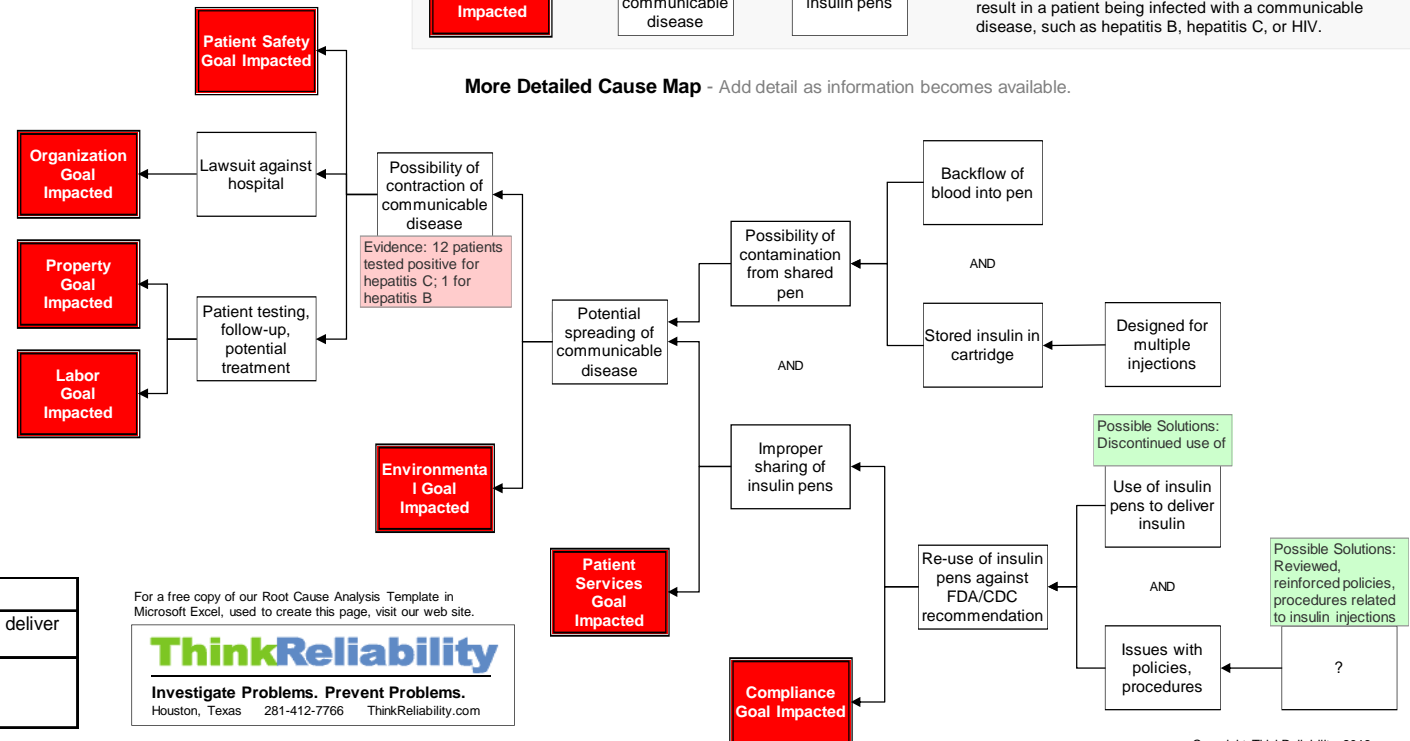
Many facilities, including the hospital discussed here, which discovered the potential for re-use during a review after a similar incident at a Veteran's hospital, have discontinued the use of insulin pens due to the potential for cross-contamination.

## 2 Analysis

Basic Level Cause Map - Start with simple Why questions.



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



## 3 Solutions

No.	Action Item	Cause
1	Discontinued use of insulin pens	Use of insulin pens to deliver insulin
2	Reviewed, reinforced policies, procedures related to insulin injections	Issues with policies, procedures

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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