

1 Problem

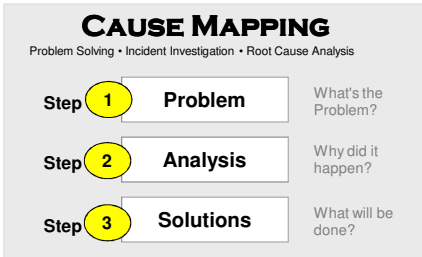
What	Problem(s)	Gas leak, explosion
When	Date	January 29, 2015
	Time	7:15 AM
Where	Different, unusual, unique	Hose burst on truck supplying gas
	Facility, site	Mexico City, Mexico
	Unit, area, equipment	Maternity hospital
	Task being performed	Gas tanker delivering liquefied petroleum gas (LPG) to stationary tank in hospital

Impact to the Goals

Patient Safety	2 infants killed; dozens injured
Hospital Employee Safety	2 nurses killed; many injured
Delivery Employee Safety	3 delivery workers injured
Environmental	Gas leak
Compliance	3 workers arrested
Patient Services	Evacuation from hospital
Schedule/ Operations	
Property/ Equipment	Serious damage to hospital
Labor/ Time	Rescue efforts

Frequency: Explosions occur "frequently" in Mexico

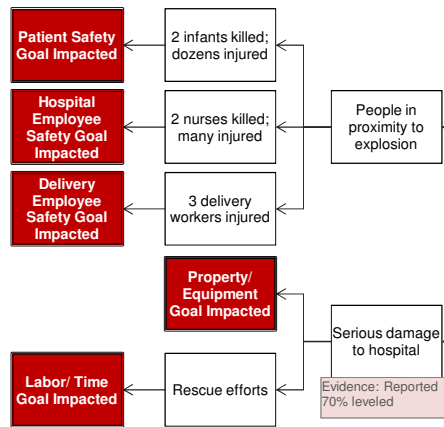
Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.



Any time deaths or injuries result from an explosion, it is important not only to determine what caused the explosion, but whether the response could have been improved. Further analysis into the evacuation will help determine whether improvements could have saved lives.

In the case of the explosion, the fuel was provided by the leaked gas. The gas leaked due to a faulty gas delivery hose. When a faulty part contributes to a tragedy such as this one, it's important to determine not only how the damage occurred (if possible), but whether inspections or maintenance could have reduced the risk of an incident.

A broader issue for the entire country is the question of why gas leaks and explosions are fairly common. Part of this is because there is no infrastructure to pipe gas underground and it instead has to be delivered by truck. Clearly more effort needs to go into making sure that the impact on



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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GAS EXPLOSION AT MATERNITY HOSPITAL

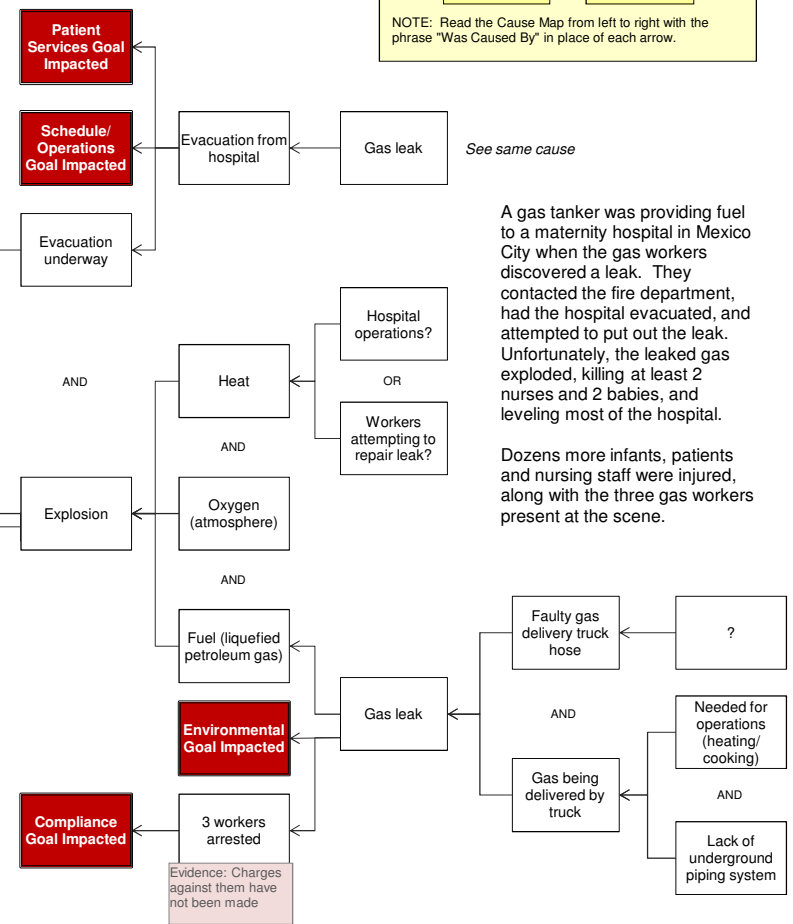
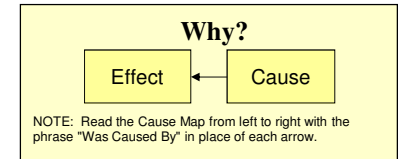
Cause Map

"Workers had noticed a leak in the hose connecting the tanker to the hospital, and immediately notified firemen. The explosion occurred before the leak could be contained, as firefighters evacuated people from the hospital."

- Mexico City Mayor Miguel Mancera

2 Analysis

Cause Map - Add detail as information becomes available.



A gas tanker was providing fuel to a maternity hospital in Mexico City when the gas workers discovered a leak. They contacted the fire department, had the hospital evacuated, and attempted to put out the leak. Unfortunately, the leaked gas exploded, killing at least 2 nurses and 2 babies, and leveling most of the hospital.

Dozens more infants, patients and nursing staff were injured, along with the three gas workers present at the scene.