

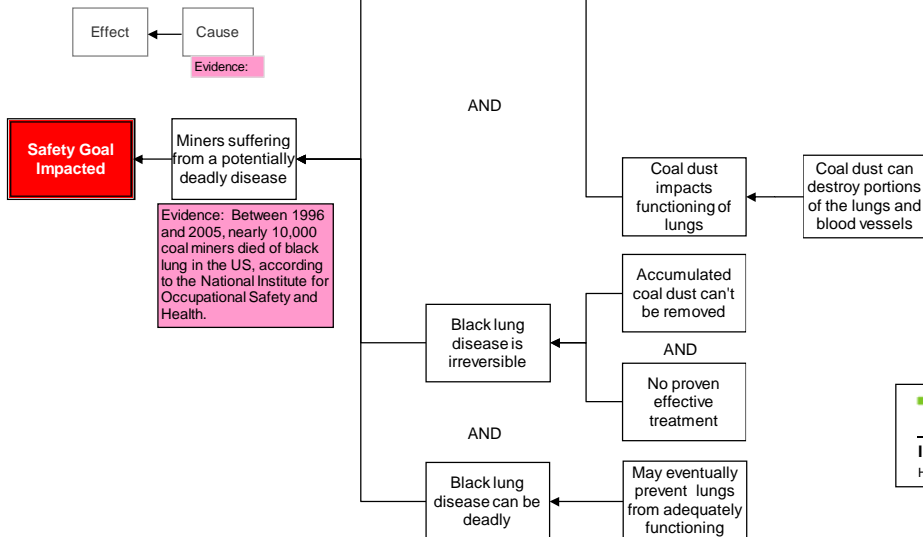
New Federal Rule Limits Level of Coal Dust Allowed

1 Problem

What	Problem(s)	~1,500 miners die from black lung each year
When	Date	Ongoing
	Different, unusual, unique	Increase in number of black lung cases in recent years
Where	Facility, site	Coal mines through out US, especially in parts of the Appalachian Mountains
	Task being performed	Mining coal
Impact to the Goals		
	Safety	Miners suffering from a potentially deadly disease

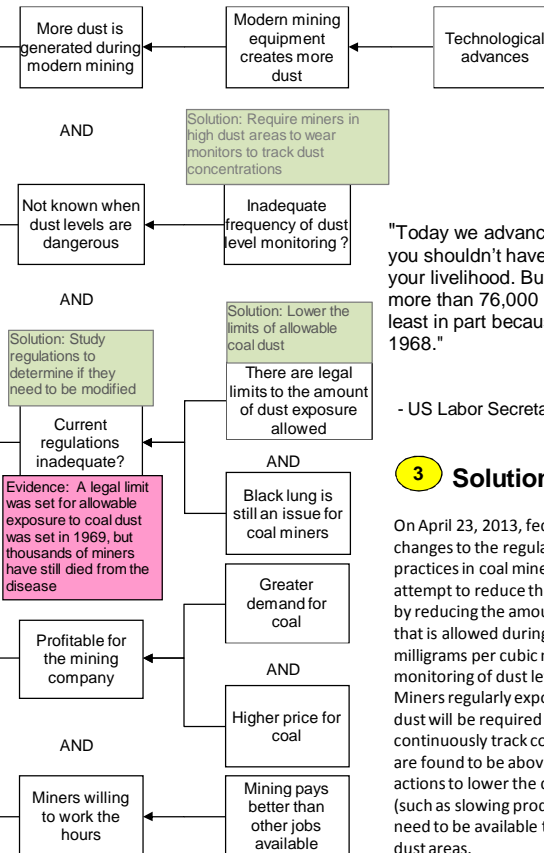
Black lung is a potentially deadly disease that occurs when coal dust accumulates in a person's lungs. The coal dust slowly destroys parts of the lungs and blood vessels resulting in breathing problems, coughing and even death if the lungs are unable to adequately function. Many believe that changes to the mining industry, such as modern high-speed mining equipment that produces high levels of dust and longer shifts, are increasing the risks to miners, in at least some mines.

2 Analysis



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"Today we advance a very basic principle: you shouldn't have to sacrifice your life for your livelihood. But that's been the fate of more than 76,000 miners who have died at least in part because of black lung since 1968."

- US Labor Secretary Thomas E. Perez

3 Solutions

On April 23, 2013, federal officials announced changes to the regulations governing dust-control practices in coal mines. The new regulations attempt to reduce the number of black lung cases by reducing the amount of coal dust exposure that is allowed during a shift by 25% (1.5 milligrams per cubic meter from 2.0). Better monitoring of dust levels will also be required. Miners regularly exposed to high levels of coal dust will be required to wear monitors that continuously track coal dust levels. If dust levels are found to be above the limit, immediate actions to lower the dust limits will be required (such as slowing production) and respirators will need to be available to miners working in the high dust areas.

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

- Step 1 **Problem** What's the
- Step 2 **Analysis** Why did it happen?
- Step 3 **Solutions** What will