

Step 1. Define the Problem (Outline)

What	Problem(s)	Central line infections
When	Date	2005-2006
	Differences	(pre-2005) Infection rates higher than national average; (2006) Infection rates lower than 90% of hospitals nationwide
Where	Physical Location	Sinai-Grace Hospital, Detroit
	Work/Task Being Done	Insertion of central intravenous lines
Impact to the Goals	Patient Safety	>1500 deaths (projected)
	Compliance	Non-compliance with procedures
	Organization	Increased stay in intensive care
	Patient Services	Additional costs (projected)
	Material, Labor	\$175 million

Reducing Central Line Infections

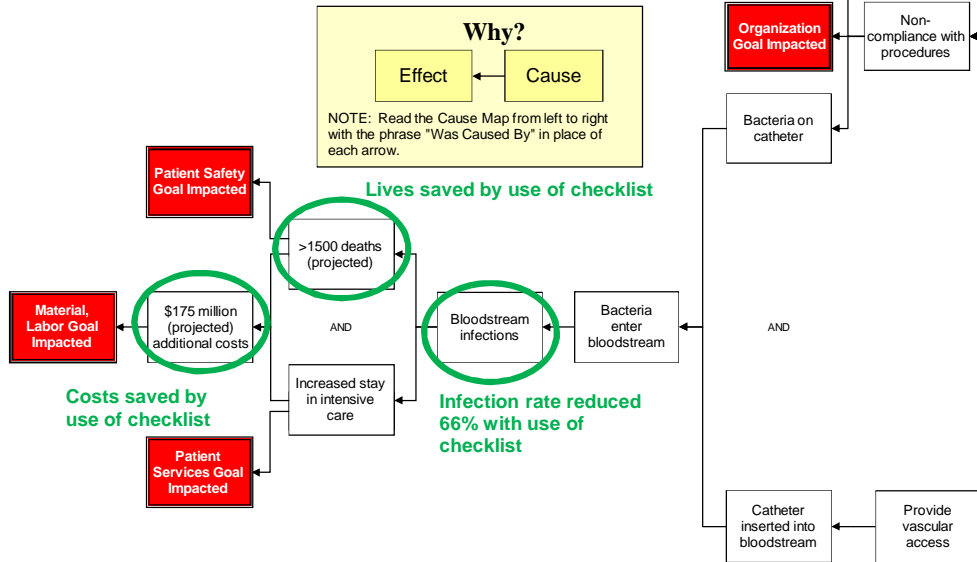
Sinai-Grace Hospital in Detroit has achieved remarkable reductions in bloodstream infections associated with central lines. They've reduced the rate of infections significantly by implementing a simple procedure and checklist. The root cause analysis that shows how these gains were achieved is shown here.



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Hospital Senior Executives, who were assigned to units to help solve problems, were instrumental in ensuring the proper equipment was found in each intensive care unit (ICU) to reduce infections. Once they understood what was necessary, they even convinced a manufacturer to put together a central line kit which contained the necessary antiseptics and drapes.

Step 2. Perform the Analysis (Cause Map)



Process Map (Implement Solutions)



Step 3. Select Solutions (Action Items)

No.	Cause	Action Item
1	Doctors do not wash hands with soap	Add to checklist (step 1)
2	Patients are not washed with antiseptic	Add to checklist (step 2)
3	Chlorhexidine soap not available in most ICUs	Provide soap in every ICU
4	ICUs	Create central line kit with chlorhexidine soap and full-size drape
5	Full-size barrier drapes not available in ICUs	Provide drapes in ICUs
6	Patients are not fully draped	Add to checklist (step 3)
7	Doctors do not don protective wear	Add to checklist (step 4)
8	Insertion site not protected by sterile bandage	Add to checklist (step 6)