1.  Patient Safety is a health care professionals’ duty. A surgical team’s duty is the “…functioning of the unit and provide safety and well-being to the person who will submit to a surgical procedure” (Ventin Amorim Oliveira, Nunes Oliveira, Guedes Fontoura, et al, 2017). Surgical and treatment errors occur due to underlying causes. For instance, the failure to properly sterilize medical instruments following surgeries. Porter Adventist Hospital in Denver have notified some patients whom have been exposed to HIV, hepatitis B or hepatitis C in breaches that occurred during the time frame of July 21, 2016 and February 20th (CNN Wire, 2018).

2. Due to this error, stakeholders that were affected were the possible affected patients. The article from CNN Wire stated that the surgeries were “…found to be inadequate, which may have compromised the sterilization of the instruments” (CNN Wire, 2018). Highest risk is in hospital surgical rooms at which, “In patients who went through surgical interventions, 14-17% all hospital-acquired infections are comprised of “Surgical Area Infections”” (Ay & Gencturk, 2018).  Due to the complex environments of hospitals and operating rooms, preventative factors must be to follow protocols and assure patients that they are in a safe environment to undergo the surgical procedures.

**3. What information is needed to perform a root cause analysis?**

          Quality improvement involves numerous perspectives to detect root causes and develop optimum solutions for triumph. “A root cause analysis is used to find out what happened, why it happened, and determine what changes need to be made to improve performance” (U.S. Department of Veterans Affairs, 2018). Several pieces of information are required to perform a root cause analysis. Some of the information that might be helpful consists of “incident reports, risk management referrals, patient or family complaints, and health department citations” (Centers for Medicare & Medicaid Services, 2011). Collecting data helps prove there is a problem and helps determine how long the problem has existed, as well as how it has impacted the organization.

**4. Which tool would you use to create a root cause analysis? Why?**

     “Root cause analysis is increasingly being used in health and social services to improve safety and quality and minimize adverse events” (Pearson, 2005). The tool that would best work to create a root cause analysis would be a cause and effect chart such as a fishbone analysis. “This process elicits root causes rather than just symptoms and results in a detailed visual diagram of all the possible causes of a particular problem” (Phillips & Simmonds, 2013). The reason a fishbone analysis would be used to create a root cause analysis is because it helps explore the issue in detail, which often will demonstrate possible solutions that might have been previously excluded. “Fishbone analysis provides a template to separate and categorize possible causes of a problem by allowing teams to focus on the content of the problem, rather than the history” (Phillips & Simmonds, 2013)

Root Cause Analysis (Fishbone Analysis)

Our team performed a root cause analysis that includes a surgery error at Porter Adventist Hospital in Denver, Colorado. The error was a sterilization breach that “put patients at risk for infection of HIV, hepatitis B or hepatitis C, according to a release from the Colorado state health department. The hospital is notifying people who had orthopedic or spine surgery between July 21, 2016, and February 20, the release said," (CNN WIRE, 2018). Each category below is from a fishbone suggested category. This category set is called The 6 Ms (Simon, 2018). The information stated in this diagram are possible reasons why this incident occurred.

# Materials

# Methods

# Machines

Cause: The sterilization machinemay have not been working appropriately.

Cause: The materials needed to sterilization the instruments appropriately may have not been on hand at the time of incident

Cause: The sterilizationprocesses may have not been completed

Why: The settings might have not been set appropriately

Why: The employee on shift might have not been trained appropriately

Why: The package of the materials may have been on back order

Effect:

Why were the instruments not sterilized appropriately for surgery?

Cause: There may have been employees working in the sterilization area that did not properly prepare the instruments for sterilization

Cause: The data generated from these sterilization incidences may have stated that the instruments were sterile, and they were not

Cause: The instruments that went through the sterilization may have not reached sterilization temperatures within the machine

References:

Simon, K. (2018). *The Cause and Effect (a.k.a. Fishbone) Diagram.* Retrieved from: <https://www.isixsigma.com/tools-templates/cause-effect/cause-and-effect-aka-fishbone-diagram/>

cause

Why: There may be a malfunction within the sterilization machine

Why: The sterilization machine may be outdated or too hold to maintain the necessary temperatures

Why: Either because they did not know how or because they purposely skipped steps that were necessary

# Mother Nature (environment

# Manpower (People)

# Measurements