Lance Kennedy

Using A Cost Benefit Analysis To Support The Development Of A Comprehensive Business Model For A Pre-Filled, Pre-Labeled, Pre-Diluted, Sterilely Packaged, Ready-To-Use, Syringe-Based Anesthesia Delivery System.

Abstract
The foundation of Certified Registered Nurse Anesthetists’ (CRNAs) entire profession is built on the ability to provide anesthetic services using a variety of medications in the safest, most efficient, cost-effective way possible. The purpose of this capstone is to address, via a comprehensive cost benefit analysis, whether pre-filled syringe drug trays are a more cost-effective way to address problems as compared to vial-filled drug trays and to implement the necessary transitions in order to improve outcomes. There are a number of identifiable problems related to anesthesia medication delivery via vial-filled medication, including increased cost of healthcare, decreased patient safety to provider inconvenience, increased medication errors, and increased contamination. The method of medication delivery has gained the attention of significant governing bodies such as the Joint Commission of Healthcare Organizations (JCAHO), Centers for Disease Control (CDC), and American Association of Nurse Anesthetists (AANA), just to name a few. The best methods for change were evaluated in order to facilitate the most optimal quality improvement. According to the AANA, “the available information is sufficient to promote the implementation of pre-filled or premixed syringes in anesthesia departments to reduce the number of adverse drug events (ADEs) and become compliant with the Joint Commission, and Institute of Medicine” (Brown, 2014, pp. 465-469).

The future change in anesthesia drug delivery is undeniable, and the data provide clearly defined recommendations and guidelines supporting the use of pre-filed syringes. Providing medications in pre-filled syringes would reduce medication errors and treatment delays, improve patient safety, and effectively meet the expectations, recommendations, and guidelines of governing entities (Fahimi et al., 2008). “When you look at the impact of the initiative on quality and safety for the patients, it’s [just] what’s right to do” (Blum, 2013, p. 3).