Reduction in Intraoperative Use of Single Dose Vials Across Multiple Patients

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Abstract:

Introduction:

• The use of a single dose vial across multiple patients presents a sterility risk. We initiated a quality improvement project to reduce the intraoperative use of single dose vials across multiple patients at Cincinnati Children’s Hospital (CCHMC).

Objectives:

• Our specific aim for this project was to reduce the percentage of patients receiving an IV fentanyl administration, from a vial previously used for another patient, in one operating room (high turnover ENT) at CCHMC from 50% to 25% by January 23rd, 2014.

Methods:

• The number of patients each week receiving an IV dose of fentanyl, from a vial previously used on another patient was tracked in one operating room (figure 2). Plan Do Study Act Cycles (PDSAs) included provider education, increased vials, alternate wasting processes, and single use fentanyl syringes.

Results:

• Baseline data showed an average failure rate of just over 50%. Single use fentanyl syringes were successful in reducing failures while minimizing the burden on providers and pharmacy.

Background:

• The use of a single dose vial across multiple patients presents a sterility risk and has been implicated in disease transmission.

• Current CDC guidelines limit the use of single dose vials, including narcotics, to a single patient.

• These guidelines are particularly difficult in pediatric institutions, where patients receive small doses from a much larger vial, generating excessive waste with each patient.

Objective:

• Our specific aim is to reduce the percentage of patients receiving an IV fentanyl administration, from a vial previously used for another patient, in one operating room (high turnover ENT) at CCHMC from 50% to 25% by January 23rd, 2014.

• Subsequent projects are planned to spread the change to additional narcotics and operating rooms.

• This is part of a larger hospital goal to eliminate sources of infection in the perioperative environment.

Methods:

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Results:

• Baseline data showed an average failure rate of just over 50%. Single use fentanyl syringes were successful in reducing failures while minimizing the burden on providers and pharmacy.

Conclusion:

• Preparation of single use fentanyl syringes, combined with provider education, reduced intraoperative use of single dose vials across multiple patients.

• Optimized quantity and size of syringes may reduce excessive waste and minimize burden on providers and pharmacy.

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