Presentation Category: Original - Research in Progress
Abstract Title
Evaluating Sterile Pharmacy Cleanroom Workflows to Establish Safe Staffing Models

Learning Objective
Identify the required time to compound sterile medications to create a tool for workforce planning.

Abstract
Purpose
There is an abundance of literature available in regard to pharmacy workflows in the sterile suite. There are many studies that have documented the optimization of cleanroom workflows with the use of automation and workflow software. Workflow software and the use of automation (such as compounding machines) have been shown to improve safety and accuracy; while reducing costs and labor hours. However, only one study has been published which aims to determine the optimal utilization of labor within the sterile suite. Chaker and colleagues published a study in 2022 that timed compounders while they complete their preparations. Using those time requirements, they established minimum staffing models. Key characteristics of their practice area that preclude it's applicability to practice now include that it was conducted in a clean room that utilizes a barcode only workflow software and was maintained to outdated USP standards. The sterile suite at the University of Chicago utilizes an image based workflow software and has undergone updates to align with the most recent USP standards, which limit the applicability of the Chaker study. The aim of this quality improvement project was to analyze preparation times for various compounds at the University of Chicago, to gain a better understanding of staffing needs with the goal of optimizing the staffing model.

Methods
The goal of this quality improvement project is to analyze 1600 sterile preparations, which includes pediatric and adult compounds. This analysis will also include various types of compounds, including those of hazardous drugs, non-hazardous drugs, multi-step dilutions, and controlled substances. Technicians who are compounding will be followed to determine the time required to complete each compound and data will be collected in RedCap. Pharmacist data will also be collected to determine the time required to verify each compound type. Data will be analyzed using descriptive statistics, such as median and standard deviation. An analysis of current workload will also be conducted to determine how many preparations of each type are compounded on average on a daily basis. Utilizing the average number of compounds daily and time required for each compound type, a staffing model will be created to determine how many technicians and pharmacists are required to safely and efficiently staff the sterile suite.

Results
Research in progress.

Conclusions
Research in progress.

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