



## Case Study

# Ephraim McDowell Regional Medical Center Completes Pharmacy Project to Increase Efficiency and Meet USP 797

Enhancing workflows and ensuring compliance

## Background

### Ephraim McDowell Pharmacy

Ephraim McDowell Regional Medical Center, a 222 bed, non-profit hospital located in Danville, Kentucky, recently completed a major central pharmacy improvement project. This project was designed to increase pharmacy efficiency and enhance workflows related to moving products prepared in their IV preparation USP 797 cleanroom.

### Conducting a Workflow Analysis

The workflow analysis at Ephraim McDowell Regional Medical Center revealed high technician traffic moving inside and outside of the cleanroom environment. “Our process was very time consuming for technicians. Technicians were required to garb PPE every time they needed to pick up product from inside of the cleanroom,” stated Joan Haltom, Director of Pharmacy. “Not only was this time consuming, but it was also very expensive for the pharmacy due to the intense use of PPE. We had to rethink the overall process.”

## Engagement

### Understanding pharmacy workflows

The use of wall mounted pass-thru cabinets were adequate when technicians were transferring single doses outside of the cleanroom. However, these small cabinets presented a challenge when trying to transfer out full 24-hour batches. These larger batches needed to be stored temporarily in the pharmacy before making their way to the floors. Technicians were forced to enter the clean room with carts in order to transfer out the batches. A new process was required that would allow large batches to be transferred out of the cleanroom without requiring additional technicians or carts to enter the cleanroom environment.

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## Challenges

### Overcoming challenges for compliance

Challenges had to be overcome as the pharmacy reconfigured their clean rooms. The Ephraim McDowell Pharmacy had to ensure air exchanges remained in compliance with USP 797, which can be particularly difficult in older buildings. The pharmacy also had to analyze and determine which items once located in the cleanroom could be stored outside of the cleanroom to help minimize traffic. In addition, with the new pharmacy layout, frequent service or replacement of the pass-thru refrigerators would not be tolerated as it would result in temporarily shutting down clean room processes. For this reason, selecting pass-thru refrigerators designed for long-term quality and reliability was critical.

## Solutions

### Minimizing traffic with pass-through refrigerators

In order to address the challenges related to transferring 24-hour supply batches out of the cleanroom, Ephraim McDowell Regional Medical Center installed a series of pass thru cabinets and Helmer Scientific pass-thru refrigerators from Midwest Medical and Carter Health. After products are prepared and checked-in from the cleanroom, large batches are placed in bins and stored in the pass-thru Helmer Scientific units where technicians can retrieve and load large batches onto carts without garbing PPE or entering the clean room environment. The pass-thru modules have made a major impact on the central pharmacy by allowing for safer and more efficient transfer of large batches from the clean room environment to the outside area.



## Successes

### Keeping technicians out of the clean room

Increase ability to keep particles outside of the cleanroom due to a reduction in foot traffic

Ability to transfer large batches out of the cleanroom without having to enter the clean room

Reduced the amount of garbing required per day resulting in lower disposable costs

