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Pharm & Tech

A pharmacist working outside the chemotherapy preparation room verifies the procedures taken by the technician inside the room.

Telepharmacy Increases the Safety of Chemotherapy Preparation

Telepharmacy, which enables pharmacists to provide pharmaceutical services from a remote location, now helps improve safety in the chemotherapy preparation room. ScriptPro's Telepharmacy system was recently implemented at the University of Kansas Hospital, the first chemotherapy preparation room supported by this technology.

In hospital pharmacies, chemotherapy preparation is a high-risk process. Critical components of this practice include selecting the correct drug, using the exact medication volume, and injecting the medication into the IV bag for the correct patient. Pharmacist supervision is vital for the safe preparation of chemotherapy medications. However, limited pharmacist resources and complications of clean room operations hinder the step-by-step verification procedure of the chemotherapy preparation process.

"We really wanted to make the most efficient use of the pharmacists that we do have," said Brian O'Neal, MS, PharmD, and Assistant Pharmacy Director at University of Kansas Hospital.

Chemotherapy preparations were usually verified using the "syringe pullback method" at the University of Kansas Hospital. A technician fills the syringe with medication and injects it into the IV bag. The pharmacist then verifies how much drug was injected after the technician pulls back the empty syringe. "There had to be a lot of trust between the pharmacist and technician that the syringe was pulled back accurately," O'Neal said. "There just shouldn't be assumptions in chemotherapy preparation."

The hospital was in need of a system to optimize the use of clinical pharmacists by enabling verification of prescription dispensing from an outside location. Since O'Neal was familiar with ScriptPro's Telepharmacy, he contacted the company to see if the technology would enable pharmacists to verify remote preparation of chemotherapy medications. The goal of the program was to improve safety by increasing the presence of the pharmacist at critical risk points of chemotherapy preparation. O'Neal noted, We have had a relationship with [ScriptPro] for a number of years … We have their automation in our retail pharmacy, and we had the idea in the inpatient pharmacy that we could use some of their outpatient automation on the inpatient side. So we approached them with the idea."

Using the Telepharmacy system, a technician scans the barcode on the drug vial to ensure that the correct medication has been selected. The technician captures electronic images of the vial label and the filled syringe in the preparation room before injecting the drug into the IV bag. Prior to completing the preparation process, the technician presses a button on the Telepharmacy screen to receive verification by a pharmacist. From outside the preparation room, a pharmacist reviews the images of the vial, the pullback on the syringe, the IV bag, and the patient's medication order. The images and confirmation of these steps are documented and available for future reference.

According to O'Neal, the preparation process at the hospital is safer with Telepharmacy. "We have caught things since we went with this system … Now you can see exactly what was drawn up and what was injected into the bag." The risk of potential medication errors is significantly reduced, since positive matching to the patient's medication order prevents using the wrong drug. In addition, small vial labels can be enlarged on the screen for easy visibility, pharmacists are not exposed to powerful drugs when verifying chemotherapy preparation, and the time-consuming process of scrubbing up to enter and exit the isolated area is eliminated.

O'Neal noted, "We wanted to minimize assumptions when verifying chemotherapy medications. We selected Telepharmacy, and our program is providing the assurances we want."