CASE STUDY

Indiana University Health Bloomington Hospital

Technology and Data Science

Sub-Domain: Organization-Focused

Remote Order Verification and Clinical Staffing Changes in Response to COVID-19

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CASE OVERVIEW

During the early phase of the COVID-19 pandemic, ancillary departments were challenged to redesign patient care models to limit direct patient contact. This resulted in the majority of pharmacy staff being centralized to the inpatient pharmacy, increasing the number of staff in the space.

Departments were asked to move staff to remote work, if possible. In response to this request to decrease the number of staff on-site and improve social distancing, the mid-day order verification pharmacist, Infectious Diseases Specialist, and two or three General Clinical Pharmacists were moved to remote work.

KEY ELEMENTS

Pharmacists verified they had home access to critical applications required for completing clinical responsibilities, including electronic health records, secure messaging, IV room workflow, and drug information resources. Hospital-owned laptops were lent out as needed. Start dates of March 23, 2020, and March 24, 2020, were set for the order verification pharmacist and clinical pharmacists, respectively.

Pharmacists created a shared group in the secure message system each day for those working remotely and on-site. Information about a specific unit or patient assignments was shared, along with requests for clarification and other information that would normally be shared verbally in a physical space.

The on-site Critical Care Clinical Specialist remained focused on all clinical tasks related to critical care patients. One daytime General Clinical Pharmacist and the evening shift Clinical Pharmacist on-site were responsible for tasks that had to be completed in person, such as patient education and response to emergencies.

This process was continued through July 19, 2020. At that time, hospital leadership determined staff should begin to transition back to on-site work.

IMPACT ON PATIENT OUTCOMES

Clinical services and timely order verification were maintained while social distancing was improved. While the total number of orders was lower during the studied timeframe, the time from the start of a shift to the first order verification was similar whether the order verification pharmacist worked on-site (13 minutes) or remotely (15 minutes). There was no noticeable difference in the type of orders verified by on-site vs. remote pharmacists. The remote pharmacist did verify a slightly lower percentage of total orders (28% on-site vs. 20% remote).

Percentage of renal dosing, IV to PO, antimicrobial stewardship, and admission medication reconciliation tasks completed by each clinical assignment did not change during remote processes. However, remote clinical pharmacists handled an increased percentage of dosing consults, primarily antimicrobials (62%). The on-site day shift clinical pharmacist completed TPN consults (100%), while the on-site evening shift clinical pharmacist completed the majority of education tasks (73%).

On-site staff may have actually been slightly more productive than remote pharmacists. In addition to responsibilities shared with remote staff, they also responded to emergencies, answered phone calls, verified unit dose medications, and processed dose requests. Based on a survey conducted, pharmacists did not perceive a change in the percentage of work completed by individual staff regardless of assignment.

Total errors reported decreased from 63 when all pharmacists worked on-site to 35 when remote work was utilized. Lower patient census likely contributed to this decrease. In addition, pandemic-related frequent changes in workflows, processes, and clinical guidelines may have shifted focus away from reporting errors. Errors involving continuous infusions restricted to higher acuity patient care areas (e.g., anticoagulants, cardiovascular, and paralytic infusions) were similar between time frames, 11 (17.4%) vs. 7 (20%). All of these involved storage or administration errors, and none were attributed to pharmacy.

PHARMACY AND PHARMACIST ROLES

Instructions were provided to remotely access applications required to complete patient care responsibilities. Clinical tasks were assigned to remote and on-site clinical pharmacists according to the patient care unit. Pharmacists were able to access clinical task lists assigned to other pharmacists, allowing them to complete tasks for any patient.

Pharmacists used the secure message system to communicate with each other in order to avoid duplicating efforts. On-site clinical pharmacists covered the majority of TPN consults and education tasks, as well as all emergencies such as Code Blue. Remote and on-site order verification pharmacists viewed the same order verification and IV workflow queues, which alerts the pharmacist if the patient's profile is locked by another pharmacist.

In addition, order verification pharmacists used the secure message system to communicate regarding problem orders or pending clarifications. On-site order verification pharmacists also answered phone calls, verified sterile compounding and unit dose medications prepared in the pharmacy, and processed dose requests.

LESSONS LEARNED

Informing staff about the possibility of remote staffing as early in the process as possible increased buy-in. It also encouraged staff to log in to our various systems from home ahead of time and prevented any connection issues on the days we initiated the process. In the early days of the pandemic, there was a great deal of stress and uncertainty for staff. Allowing staff to work from home up to a few days per week improved morale and improved social distancing. We were also able to keep pharmacists on their usual scheduled hours with no lay-offs or forced time off. One of the biggest wins was continuing to provide order verification and clinical services in a time of crisis.

A few of the problems encountered were the necessity for certain tasks to be completed on-site, such as answering phones, visually verifying products and cart fills, and responding to emergencies. These tasks fell to those pharmacists who were on-site alone, shifting work to a few people that would otherwise be shared. Certain shifts could not work remotely, including our evening and night shift staff pharmacists and our critical care and emergency medicine clinical specialists.

BUDGET & RESOURCE ALLOCATION

This project required no additional or special budget considerations. Pharmacists continued to work their regularly scheduled hours throughout the project timeframe. Instructional materials were prepared and compiled by the pharmacy department educator, and the process was introduced and rolled out by the inpatient pharmacy manager approximately one week before go-live. This allowed pharmacists time to trial remote access and verify they had all they needed to work from home. Two pharmacists were unable to access our systems on their home computers, and pharmacy-owned laptops were loaned to them for their remote shifts. These laptops were already in use in the pharmacy, and no other additional resources were required.

FUTURE GOALS

This information has previously been shared as a poster at the 2020 ASHP Midyear Clinical Meeting. While we do not anticipate further mandated or voluntary remote work for our pharmacists, we are pleased that this experiment was successful. It could be used again with short notice if the need to respond to pandemic surges or other emergencies arose.