

Practice Spotlight

University of Iowa Hospitals and Clinics

Iowa City

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IN YOUR VIEW, HOW WOULD YOU DEFINE THE IDEAL PRACTICE ADVANCEMENT INITIATIVE?

The ideal pharmacy practice advancement initiative provides a safe, efficient, and effective medication-use system to all members of the organization. To provide an optimal work environment, this advancement initiative incorporates technology into both clinical and operational aspects of the pharmacist's workflow. Technology has played a large role in facilitating the advancement of pharmacy practice and has automated a majority of the distributive functions. This has allowed for the expansion of clinical pharmacy services and has provided the opportunity for pharmacists to deliver a higher level of patient care. The practice initiative would continue to support the role of technology and the advancement of the pharmacist as an essential component of the interdisciplinary healthcare team.

HOW DO PHARMACISTS IN YOUR RE-DESIGNED PHARMACY PRACTICE ADVANCEMENT INITIATIVE PROVIDE CARE TO PATIENTS AND ENSURE SAFE AND EFFECTIVE MEDICATION THERAPY?

Our pharmacy practice advancement initiative allows us to provide remote, after-hours pharmacy services to Keokuk Area Hospital (KAH), a rural, community-based hospital located in southeastern Iowa. These services include medication order verification, pharmacist-to-dose pharmacokinetic (e.g., vancomycin and aminoglycoside) and drug information consultation, and telephonic product verification. To ensure safety in the provision of remote pharmacy services, our pharmacists evaluate all medication orders, review all "patient-own" medications, and verify the proper sterile compounding of IV medications. A daily hand-off report is sent to KAH each morning to communicate the previous day's interventions and monitoring information. All pharmacist interventions are documented daily in a detailed spreadsheet and reviewed on a

monthly basis to ensure the effective delivery of services. Any negative trends or medication errors identified through voluntary reporting are then further reviewed with the on-site pharmacist to allow for the continuous improvement of services.

To help facilitate and coordinate communication, we designated a second-year administrative pharmacy resident to serve as the liaison between the two sites. The resident organizes all monthly business review meetings and works directly with directors of pharmacy at both sites to address any clinical or operational issues. They also work closely with the pharmacy leadership team at UI Hospitals and Clinics to collaborate on the development of outreach-related policies and procedures.

In an effort to continually improve the safety and efficiency of our services, we will be implementing video technology to allow our pharmacists to visually verify medication products and communicate with the KAH nursing staff. This technology will give our pharmacists a tool to help ensure accurate medication preparation and efficient processing of “patient-own” medication orders.

WHAT SERVICES HAVE YOU DETERMINED TO BE ESSENTIAL TO SUPPORT YOUR PHARMACY PRACTICE ADVANCEMENT INITIATIVE?

The clinical services that our pharmacists provide to KAH are a critical component of our pharmacy practice advancement initiative and align with the organization’s strategic plan to foster relationships with local community hospitals. Through the provision of remote pharmacy services, we are able to deliver a clinical standard of care that is consistent with the services of an academic medical center to a rural, community-based practice site. Our pharmacists are also able to reference best practices and utilize the expertise of clinical pharmacy specialists throughout our organization to provide resources in a setting that would otherwise lack this level of service.

WHAT TECHNOLOGIES HAVE YOU IMPLEMENTED WITHIN YOUR PRACTICE SITE TO FACILITATE YOUR PRACTICE ADVANCEMENT INITIATIVE?

Initially in 2014, we established a virtual private network (VPN), which gave us remote access to KAH’s electronic medical record (EMR) so that we could provide order verification services. This gave the off-site pharmacist the ability to review and verify medication orders as needed and allowed KAH to have 24-hour pharmacy coverage. Following the initial go-live, the telephonic, read-back verification process was identified as a potential concern. It created a process that was vulnerable to compounding errors and provided an inefficient and inconvenient means for communicating with the off-site nursing staff. To improve the safety and efficiency of our medication verification process, we will be implementing video technology aspects of telepharmacy at KAH in the future. The video technology will be implemented through a phased approach. The first phase will consist of a live video feed, along with image capture and storage. The second phase will consist of barcode verification and an interface that will

communicate with KAH's EMR. This new technology will provide an innovative solution for secure video verification of compounded IV products and "patient-own" medications as well as an efficient means for communication with the KAH nursing staff. It will also create a standardized platform that will allow us to connect with other rural and Critical Access Hospitals across the state of Iowa.

HOW WOULD YOU SHARE THE SUCCESSES OF YOUR PRACTICE ADVANCEMENT INITIATIVE WITH OTHER PHARMACY DIRECTORS AND ADMINISTRATORS?

Having the opportunity to bring an academic medical center standard of pharmacy practice to a rural, community-based hospital has been a very rewarding experience for our pharmacy team. We had a great group of pharmacists who were able to embrace the challenge and ensure that KAH's patients are provided with a consistent level of pharmacy services. One of the main reasons why we've had such success with this practice advancement initiative is that we are also continually looking for opportunities to improve our services. Other sites that are looking to expand their pharmacy services may find our initiative beneficial as they look to advance their own practice and support the evolving healthcare delivery system. Having a collaborative relationship with other hospitals within the region provides a great opportunity to improve the quality of healthcare for populations living in those communities.

WHAT ARE SOME KEY CONSIDERATIONS TO GAIN EMPLOYEE ACCEPTANCE AND BUY-IN TO IMPLEMENT A NEW PRACTICE ADVANCEMENT INITIATIVE?

When implementing a new practice advancement initiative, it's important to identify employees who support the change and can help other employees embrace it. Prior to implementation, we identified a highly motivated pharmacist on our team who had rural hospital pharmacy experience and was very interested in assisting with the project. He played an integral role in gaining staff acceptance with the new practice advancement initiative and also became our super-user for the pharmacy component of KAH's EMR.

HOW DID YOU GAIN SUPPORT OF ADMINISTRATORS, PHYSICIANS, AND NURSING TO IMPLEMENT YOUR NEW PRACTICE ADVANCEMENT INITIATIVE?

To help gain initial support, we attended KAH's annual meeting and were able to meet with the organization's physician leaders. This provided us the opportunity to explain the pharmacy services that we provide at UI Hospitals and Clinics and the value that we could provide to their organization. We were also very fortunate to have such great support from KAH's director of pharmacy and chief executive officer from the beginning, and we continue to maintain that support through monthly business review meetings with both leaders. The KAH nursing staff was also very helpful during the implementation and helped guide our pharmacists through the intricacies of their EMR.

WHAT ARE SOME LESSONS LEARNED WHILE IMPLEMENTING YOUR PRACTICE ADVANCEMENT INITIATIVE THAT YOU WOULD LIKE TO SHARE WITH OTHER PHARMACISTS?

The most significant challenge for KAH following implementation was adjusting to the frequency and style of recommendations and interventions made by our pharmacists. It was a difficult adjustment initially, as interventions were communicated to the nursing staff before being relayed to the physicians. In contrast, at UI Hospitals and Clinics, the pharmacists have the benefit of direct access to the full medical team available 24/7, so recommendations can be provided to the resident or attending physician. However, as the pharmacists became more acclimated to the KAH nursing workflow, it became a much more streamlined process.

Our pharmacists also faced a significant hurdle in learning how to navigate and operate an EMR that lacked the advanced functionality that they were accustomed to. Fortunately, the KAH nursing staff and our super-user were able to assist with most of the initial struggles as the pharmacists adjusted to KAH's EMR. Due to the immense contrast between the two EMRs, there was a substantial learning curve. In hindsight, more education and training should have been provided.

Another considerable challenge with this project was that it had to be completed within a short timeframe. Therefore, the majority of resources helped operationalize the new practice advancement initiative and less emphasis was put into training. This created some initial frustration from the pharmacists that could have been avoided with additional time and personnel resources. Having the opportunity to learn from our initial challenges has prepared us well, as we plan to use these experiences to improve on our implementation at future sites.

**A special thanks to Jacqueline Gravert, Pharm.D., M.P.H., for her input and guidance in developing this spotlight. Jackie was the second-year administrative pharmacy resident at UI Hospitals and Clinics during the implementation of the practice advancement initiative and is currently the Assistant Director of Pharmacy Operations at the University of Minnesota Medical Center in Minneapolis, MN.*