



InstyMeds

Prescription Medication Dispenser

CASE STUDY

Iowa City ASC: InstyMeds Improves Patient Satisfaction, Compliance

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— Sarah Johnson, RN, BSN,
Perianesthesia Nurse Manager
Iowa City ASC

Founded in 2008, the Iowa City Ambulatory Surgical Center (ASC) is an award-winning multi-specialty surgical facility offering quality outpatient services in anesthesiology; general surgery; obstetrics and gynecology; ophthalmology; oral and maxillofacial surgery; orthopedics; otolaryngology; pain management; plastic surgery; podiatry; spinal; and urology. Approximately 6,000 surgical procedures are performed each year at the state-of-the-art facility, which features five fully equipped operating rooms, highly skilled surgeons and anesthesiologists and a staff comprised primarily of RNs averaging 15 years of experience.

Holding three-year accreditation by the Accreditation Association for Ambulatory Health Care, Iowa City ASC has a proven track record of providing new and innovative procedures. In particular, it is a recognized leader in spine and balloon sinuplasty outpatient procedures and a four-time recipient of the APEX Quality Award.

Iowa City ASC has deployed processes and quality measures designed to ensure that the center functions in the most efficient, high quality manner to offer every patient the best results. These include independently benchmarking and monitoring patient outcomes such as infection rates, antibiotic prophylaxis, hospital admissions/transfers and other quality criteria. As a result, Iowa City ASC consistently exceeds national benchmarks in all areas of patient care.

Challenge: Moving the Needle on Patient Satisfaction

Its continuous evaluation of internal processes and quality benchmarking led Iowa City ASC to the realization that having to go to a pharmacy to fill post-operative prescriptions was a significant inconvenience for patients—one that could potentially impact medication compliance and, subsequently, care outcomes.

“It was an additional stop before they could get home. With our [otolaryngology] specialty, we work with a lot of children, and our orthopedic services involves a lot of shoulder and [anterior cruciate ligament] ACL procedures, which make it

very difficult for patients to get around,” said Sarah Johnson, RN, BSN, Iowa City ASC’s Perianesthesia Nurse Manager.

She adds, “While we never directly saw compliance as a challenge, there are studies that show” patients tend not to fill their prescriptions.

Research in the [Annals of Internal Medicine](#) found that one-third of patients fail to fill first-time prescriptions. While patients’ rationale for not filling their prescriptions could not be ascertained, researchers did find that age impacted compliance; older patients were more likely to fill prescriptions than younger individuals.



Non-compliance also increased the number of calls the facility’s staff would field from patients who were not recuperating as expected or who suffered from increased pain levels because they did not have their prescribed medications. This had the potential to impact patient satisfaction with both the facility and the surgeon who performed the patient’s procedure.¹

“A non-compliant patient is not getting better as planned, and is most likely not a satisfied patient,” said Johnson.

Solution: InstyMeds Delivers Immediate, Accurate Access

The Iowa City ASC turned to InstyMeds, an automated system similar to an ATM that dispenses prescription medications directly to patients via a dispenser located at the facility.

By delivering outpatient medications in a convenient manner, InstyMeds improves prescription fill rates and reduces downstream costs associated with patient non-compliance.

InstyMeds also reduces the risk of dispensing errors. In a cross-sectional study of more than 1,000 medications dispensed at 41 randomly selected sites in 12 states, the InstyMeds system achieved a 100% accuracy rate. Conducted by an award-winning researcher specializing in dispensing accuracy, the study found no errors among medications dispensed by InstyMeds compared to a 1.7% error rate (the equivalent of 5 million errors annually) among prescriptions filled at retail pharmacies.



To ensure its InstyMeds dispenser contained the medications most often prescribed by Iowa City ASC physicians, Johnson queried surgeons about their prescribing practices and reviewed a year's worth of patient charts to identify home-going prescriptions, dosages and instructions.

"We wanted to be sure we had as many of our physicians' preferred medications as possible, including prescription and over-the-counter medications," said Johnson.

Bar-coded medications are packaged in a bar-coded magazine that tracks drug identity by manufacturer, lot number and expiration date. Inventory levels are monitored and automatically replenished by InstyMeds. Interfaces for real-time patient demographics are used for insurance adjudication and InstyMeds also manages controlled substance reporting, including state Prescription Drug Monitoring Programs.

Care was taken to ensure InstyMeds integrated as seamlessly as possible into Iowa City ASC's clinicians' workflows, including creation of a

"MyMeds" short cut to enable one-click access to each physician's preferred medications. Prescriptions are transmitted to the dispenser using the web-based InstyMeds Prescription Writer. InstyMeds can also interface directly with EMR systems, automatically populating and transmitting prescriptions directly to the dispenser from the patient's electronic chart.

The patient is given a voucher and code, which they enter into the InstyMeds dispenser after identification verification. Any required insurance co-payment or fee is collected by the dispenser on behalf of Iowa City ASC and the prescribed medication is released. Patients with questions can access directly from the dispenser the 24-hour InstyMeds Patient Service Center, which is staffed by pharmacy technicians and pharmacists.

"For our nursing and physician staff members, InstyMeds has become the new normal," said Johnson. "They are accustomed to and engaged with the process. In fact, several have had surgery here themselves and know it's a real convenience and something very unique to our facility."

Benefits: Patient Satisfaction and Market Differentiation

For Iowa City ASC, the primary benefit of InstyMeds "revolves around patient satisfaction," said Johnson. Having the dispenser on-site reduces the number of stops a patient—who is likely already in significant discomfort from surgery—must make before reaching home.

It also benefits the facility's staff. Not only does InstyMeds provide them peace of mind knowing that prescriptions have been filled, but it also improves productivity by reducing the number of calls from patients who are suffering the effects of medication non-compliance and from pharmacies with questions on prescriptions.

Johnson notes that InstyMeds is not a source of direct revenue for Iowa City ASC—nor was it intended to be. However, the bottom line is helped through the positive word of mouth that comes from satisfied patients, as well as the distinction it enjoys as one of the only healthcare facilities in the Iowa City area with InstyMeds.

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[1 Tambllyn R, Equale T, Huang A, Winslade N, Doran P. The Incidence and Determinants of Primary Nonadherence With Prescribed Medication in Primary Care: A Cohort Study. *Ann Intern Med.* 2014;160:441-450. doi:10.7326/M13-1705](#)