Predetermined policies prevent high-cost drug utilization

Proactive processes anticipate need to contain usage of IV acetaminophen

Children's hospitals are struggling with the increasing cost burden of intravenous (IV) acetaminophen, which is used as an alternative to opioids. Valley Children's Hospital took early steps to prevent excessive utilization of this expensive and overprescribed drug. Setting controls and protocols prevented the hospital from spending millions of dollars and eliminated potential medical safety errors.

Anticipating the coming storm

Enteral acetaminophen use is universal in children's hospitals, with thousands of doses administered. But when IV acetaminophen was first approved by the FDA, pharmacy leaders at Valley Children's realized that even a small change in administration prescribing patterns could have a major fiscal impact. The IV form's cost was 676 times greater than the enteral route.¹ Previous experience indicated human factors play a significant role in driving a change like this, from prescribing changes that weren't evidence-based to the belief IV medications are better than enteral medications. If such a medication was on the hospital's formulary, the system would have difficulty regulating the onslaught of IV acetaminophen prescriptions or maintaining restricted use criteria.

Keys to Valley Children's progress

Medication Utilization Committee. A

multidisciplinary team meets twice monthly for focused, evidence-based medication reviews that makes well-informed recommendations to a larger group, such as a Pharmacy and Therapeutics (P&T) Committee. This can help guide organizational decision making.

Evidenced-based usage. Identifying the drug's specific and evidence-based uses for your patient population will inform criteria-based restriction development. Clinically relevant outcomes are assessed, not just statistically significant outcomes from published studies where the magnitude of benefit might be guite small.

Create personal accountability checkpoints.

At Valley Children's, each time IV acetaminophen is requested, physicians are required to submit a short, non-formulary request to the pharmacy clinical manager who reviews the case using the pre-defined criteria for use. If the patient does not meet criteria, the prescriber may immediately appeal to either the chair of medication utilization or P&T Committee to review their request for use of IV acetaminophen. This creates a physicianto-physician conversation to better assess the patient's specific circumstance and clarify appropriateness of the request without delaying patient care.



OSPITAL

Data shows low usage

Intravenous acetaminophen has never been on the hospital formulary, and it cannot be ordered by provider computer order entry. The hospital maintains a small supply of the drug but has strict criteria for use, the reason Valley Children's has one of the lowest rates of IV acetaminophen use among CHA's Pediatric Health Information System (PHIS) hospitals.

Sticking to the process

Maintaining medication utilization protocols can be difficult in the busy daily routine of a large children's hospital. Pharmaceutical reps tout IV acetaminophen as a tool to reduce opioid usage for pain management and other uses. In most clinical circumstances, multiple studies have shown the IV version offers no additional clinically relevant outcome benefit when compared head-to-head to other forms of the drug, but there is still internal pressure to utilize the IV version.^{3,4}

Find safe prescribing partners

Valley Children's has established relationships with key clinicians who champion evidence-based prescribing. The hospital's administration and medical staff leaders strongly support the clinical leaders focused on maintaining consistent standards of care. The work to maintain safe prescribing practices wouldn't be possible without these stakeholders.

3 steps to improve medication utilization

- 1. Recruit key clinical stakeholders committed to evidenced-based medication utilization practices that protect patients and budgets.
- 2. Insert decision makers into the prescribing process. They can review appropriateness of medication utilization at the point of medication ordering, and provide the resources to achieve a high quality and consistency standard.
- 3. Create opportunities for interpersonal physician contact between physician stakeholders and prescribers to build relationships, avoid conflicts, and educate on evidence-based practice.



The highest monthly rate of IV acetaminophen usage at Valley Children's from 2016 to 2017; three cases per month was the average.



Establish safe practices

Standardizing prescribing practices requires input from multidisciplinary teams, evidence-based criteria, and systems that emphasize communication, collaboration and accountability. Tie to priority projects

Expand your reach by joining other hospital intiatives where patient safety and proven outcomes are the most important considerations.

 Bourgeois F, Graham D, Kesselheim A, Randolph G. Cost Implications of Escalating Intravenous Acetaminophen Use in Children. JAMA Pediatrics. Published 2019 Mar 11. doi:10.1001/jamapediatrics.2019.0101.
Zhu A, Benzon HA, Anderson TA. Evidence for the efficacy of systemic opioid-sparing analgesics in pediatric surgical populations: a systematic review. Anesth Analg. 2017;125(5):1569-1587. doi:10.1213/ ANE.00000000002434.

3. Jibril F, Sharaby S, Mohamed A, Wilby KJ. Intravenous versus Oral Acetaminophen for Pain: Systematic Review of Current Evidence to Support Clinical Decision-Making. *Can J Hosp Pharm.* 2015; 68(3):238-47. 4. Yung A, Thung A, Tobias JD. Acetaminophen for analgesia following pyloromyotomy: does the route of administration make a difference? *J Pain Res.* 2016;9:123-7. Published 2016 Mar 8. doi:10.2147/JPR.S100607.

