LogicStream HEALTH

CASE STUDY

Managing High-Cost Medications to Improve the Bottom Line

with Clinical Process Measurement

Summary

A large LogicStream client set out to reduce unnecessary use of high-cost medications. Often there are equally effective and less-expensive alternative medications clinicians can use without negatively impacting patient care. Our client struggled with multiple issues that could help alleviate this problem, including the following; identifying ordering patterns, determining which clinicians consistently ignored best practices, and identifying when and where orders for high-cost medications are taking place in their electronic health record. The size and structure of the organization added additional layers of complexity to the CEO-led initiative. They used Clinical Process Measurement from LogicStream to understand the issue, measure compliance and tie it back to outcomes. Ultimately this reduced costs while maintaining care delivery at a high level. With LogicStream's solution, the system easily identified unnecessary care variation and targeted clinical interventions for improvement. The ability to understand the effect clinical process has on outcomes helped drive a reduction in variability and consequently they are now realizing significant savings for the organization.

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Clinical Process Measurement Background

High-cost medications are a major contributing factor to rising healthcare costs. Pharmacy cost

containment is an enormous challenge for health systems of all sizes. Aligning clinician ordering of medications with established best practices is a key method of pharmacy cost control and making an organization highly reliable. Medications such as nitroprusside, intravenous (IV) acetaminophen, vitamin K tablets and proton-pump inhibitors are a few examples where, in many clinical situations, lower cost options have become the standard of care. Due to the relative expense of these medications, targeting unnecessary ordering is a major focus for many organizations. Developing standard processes and clinical processes that guide clinicians in determining necessity and choosing best ordering practices is a crucial first step in cost containment. Beyond implementing standardized process, clinical leaders must be able to measure clinician adoption of those best practices and understand how the care delivery is impacting patient outcomes. Historically, none of these steps have been accomplished easily by health organizations. LogicStream's solution gives systems, large or small, the ability to easily manage high cost medication ordering for impactful cost savings without having a negative effect on outcomes.

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With the proper IT solutions in place, all clinical process related to medication ordering and administration can be understood, measured and managed. While developing content and processes aimed at the ordering of high cost medications, it is important to be mindful to avoid unnecessary interruptive alerts and hard stops, which leads to alert fatigue and clinician dissatisfaction with the system. Standardizing this process ensures the right information is presented to the right person in the right intervention format, through the right channel at the right time in workflow.[i] With Clinical Process Measurement capabilities, organizations find they have multiple order sets and orderables in place for a given initiative, which leads to unnecessary variation in care. Additionally, clinician custom orders, custom modifications of order sets and a desire to follow historical patterns of care causes additional variation. To drive standardization and remove variance, particularly in the case of high cost medications, it is crucial to limit the places within the EHR these medications can be found and ordered within a system's order sets and orderables. Information technology teams need the ability to monitor and manage this content. But the work doesn't end simply after the content is implemented and managed.

Beyond implementation of a standardized care process, it is vital to understand how clinicians are interacting with the process. The next step is to determine adoption rates by measuring the clinical process around prescribing habits for high-cost medications. Through the measurement and monitoring of your best practices and clinical processes, clinicians who are following the standards can be easily identified and more importantly, those who are not using the accepted best practice can also be identified. Once identified, data-driven discussions can happen to standardize care delivery, ordering processes and medication administration, leading to less clinical variability and the desired cost reduction.

While deploying the best practices for ordering and administration is a good first step, if no one is following those best practices, cost containment won't happen.

The key to managing high-cost medications is identifying which prescriptions to target and the clinicians who are most often prescribing the targeted drugs. While deploying the best practices for ordering and administration is a good first step, if no one is following those best practices, cost containment won't happen. The only way to ensure best practices are followed are to track, monitor and measure clinician ordering habits and their interaction with the EHR content over time. Today, this is nearly impossible to accomplish with the electronic health record (EHR) alone. The current path for most healthcare organizations to address this is an ineffective, long and laborious process between clinical teams and analytics teams to develop reporting as issues arise and then hope the reports will give the clinical leaders the information they need. This process is simply too difficult and long to drive effective, targeted interventions in a timely fashion. More importantly, even if organizations are successful, without Clinical Process Measurement, it is not scalable across the many simultaneous initiatives most healthcare organizations are working on at any given time. Clinical leaders at all levels; unit manager, quality, informatics & analytics, department heads, all the way up to the CMO, need this self-service access allowing management across many initiatives rather than addressing them one or two at a time. The electronic health record alone cannot deliver what healthcare leaders need.

The Challenge

- Increasing use and cost of medications is driving the urgency for stewardship programs
- Clinical teams have no tangible insight into current clinical processes or the clinical content influencing the ordering and administration of high-cost medications
- Clinical leadership has no knowledge of who is and who is not following the desired best practices and clinical protocols, resulting in misguided efforts to address an initiative
- Difficulty modifying provider workflows to drive adherence towards standardization and avoiding hard stops or alert fatigue for clinicians
- Measurement and management of clinical process is resource intensive and impossible for organizations to deliver at scale
- It is arduous to tie the clinical process to the outcomes associated with pharmacy stewardship initiatives (or any initiatives for that matter)
- Most healthcare organizations find they have:
    - Minimal ongoing evaluation of the effectiveness of clinical alerts beyond initial deployment
    - Short-term vs. long-term and ongoing evaluation of the effectiveness of clinical processes
    - Inability to measure adoption of a given standardized care process for systems, hospitals, departments, units or clinicians
    - No self-service tools to drive adoption of lower-cost alternatives
    - Difficulty identifying fractious clinicians using personal preferences versus best practices
    - Powerlessness to have targeted conversations versus broadcasting mass communications

CASE STUDY

This same health system recently implemented LogicStream for a system-wide pharmacy stewardship program. Their goal is to standardize their ordering and administering processes to understand their impact on clinical outcomes and best methods for managing the budget for high-cost medications. The early findings are included below:

Problem: Need to identify ordering patterns for top 10 high-cost medications that have less expensive but equally effective alternatives.

Solution: Use LogicStream to identify all orders and order sets containing the target medications and measure how often, by whom and where in the workflow they are being ordered.

Problem: Multiple versions of orders and personal preferences are included in order sets. Clinicians often order high-cost medications ad hoc rather than through order sets.

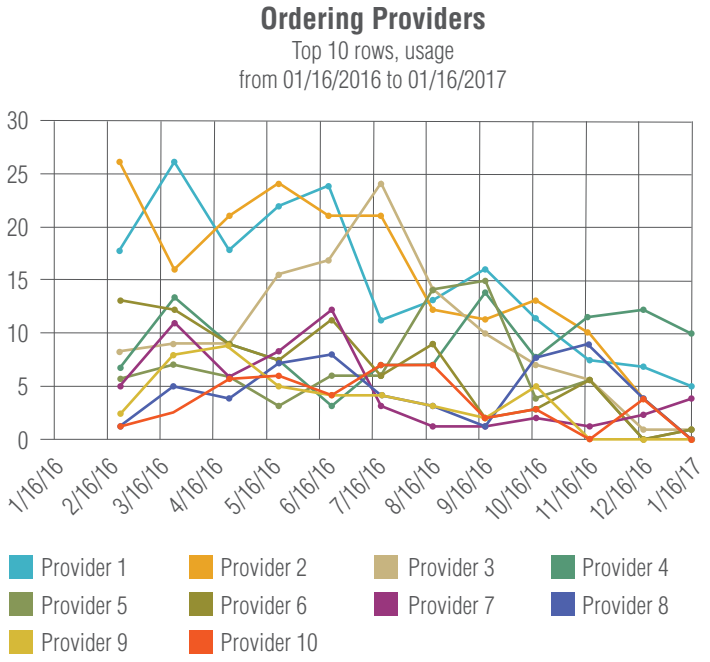
Solution: Use LogicStream to standardize order sets and limit locations of high-cost medications in the EHR. Identify clinicians who most frequently order these medications ad hoc or through personal preferences and deliver targeted communication about best ordering practices. LogicStream is also used to further develop effective clinical processes targeting the right user at the right time in the clinical workflow.

Problem: Extreme variation between clinicians and departments in ordering practices which lead to unnecessary and high usage of expensive medications versus the lower-cost alternative.

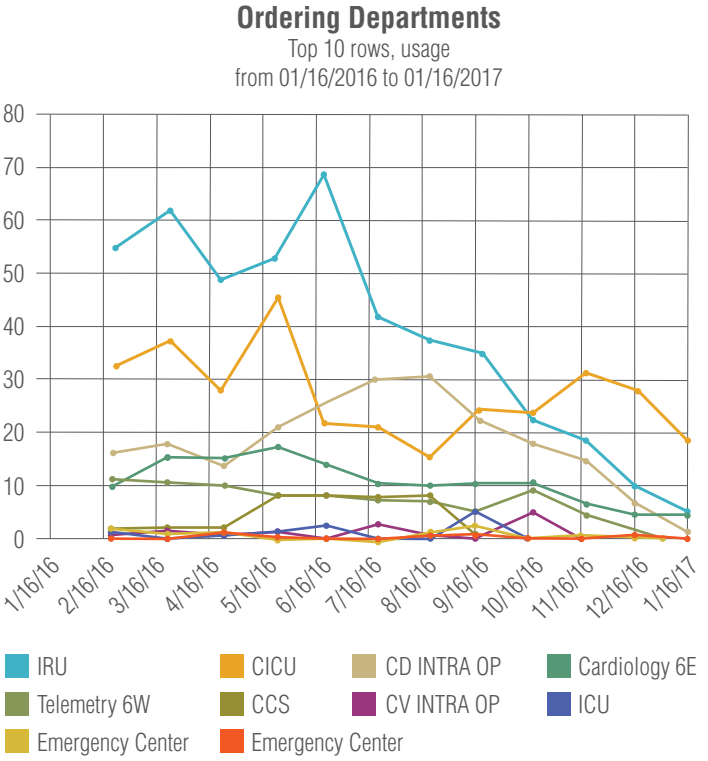
Solution: Use LogicStream to identify hospitals, departments and clinicians within your organization who have high usage of the targeted medications. With self-service access to LogicStream, leadership and operations can drive targeted, data-driven discussions accordingly.

Problem: Clinical leaders lacked any ability to monitor performance long-term, leading to poor sustainability of their initiatives over time.

Solution: LogicStream's solution gives clinical leaders self-service access to measure and monitor clinician adoption of best prescribing practices over time and then ties those to outcomes. Clinical leaders can now intervene in a targeted and timely manner to sustain their pharmacy stewardship program.



The graph above shows clinician ordering of nitroprusside, a high-cost medication targeted by this health system's stewardship program. A program to guide clinicians in best prescribing practices was implemented in April 2016. Using Clinical Process Measurement from LogicStream, clinical leaders are now able to monitor clinician adoption of the best practices over time. Despite implementing the program, we see that provider 3's use of the target medication actually continued to increase. Clinical leaders were then able to have a targeted, data-driven conversation with this clinician to address and reduce the care variation.



In addition to identifying individual clinicians for re-education, entire departments can be evaluated for ordering patterns of high-cost medications. This graph shows the usage and ordering patterns of departments within the health system. Notice the overall downward trend in ordering of nitroprusside, the targeted medication, as Clinical Process Measurement was implemented throughout the health system. Using the LogicStream solution, medical leadership throughout the organization has all the information necessary to build effective pharmacy stewardship programs at their fingertips, backed by near real-time information on the care delivery taking place throughout the health system.

[i] Osheroff, J.A., Teich, J.A., D. Levick et al. Improving Outcomes with Clinical Decision Support: An Implementer's Guide. 2nd Edition. Chicago, IL: HIMSS, 2012: p. 15.

The LogicStream Solution

LogicStream gives health systems the capability to apply Clinical Process Measurement to critical problems they are struggling to solve. The comprehensive solutions set allows health systems of any size to:

- Provide clinical teams with self-service access to the critical workflow and clinical process information responsible for current medication ordering practices
- Facilitate the organization of all clinical content in the EHR, impacting the decisions physicians make in relation to high-cost medications
- Reduce the burden of technical teams to run reports on generic requests from clinical teams
- Understand exactly where in their EHR high-cost medications live and can be ordered from
- Manage end-to-end ordering processes to align with high-cost medication best practices
- Rapidly identify and eliminate unnecessary use
- Measure and monitor ordering patterns and utilization by hospital, department and clinician
- Support high-cost medication best practices that consistently manage drug choices and costs

About LogicStream Health

LogicStream Health software is trusted by high-performing healthcare systems across the United States. Our clinical process improvement and control software platform is the first and only technology capable of helping clinicians gain highly actionable, instant insights into improving vital clinical processes, and automating and achieving better control over the care they deliver to patients. Customers save millions of dollars with our software, for example, by reducing high-cost medications; reducing catheter-associated urinary tract infections (CAUTI); and, reaching nearly 100% compliance with venous thromboembolism (VTE) protocols. Our software is rapidly implemented and easily adopted by clinicians, informaticists, and executives striving to improve, automate and better control vital clinical processes. Our mission is clear—*Helping clinicians improve and better control the care they deliver to every patient, every day.*

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