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Notes from the Field

NF 3.1 Real Time Reporting: Oklahoma's Pioneering PMP

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Notes from the Field

Real Time Reporting: Oklahoma's Pioneering PMP

Overview

Since the timeliness and completeness of prescription monitoring program (PMP) data increase their value for end-users such as prescribers and drug investigators, "real time" reporting of data would be a major enhancement to PMPs. Oklahoma has succeeded in implementing the initial phase of real time reporting, a first for any PMP. Based on presentations by Don Vogt, administrator of the Oklahoma PMP, this report describes the development and roll out of the new system. The technical and logistical obstacles to such reporting are formidable, but can be overcome by means of careful planning and open communications with stakeholders. Oklahoma's experience can serve as a guide for PMPs wishing to pursue their own real time reporting initiative.

The need for real time reporting

Data on a patient's prescription history provided by prescription monitoring programs (PMPs) are a very useful adjunct to clinical practice, helping prescribers and dispensers decide whether or not an individual has a legitimate medical reason for using controlled substances. They are also used in drug diversion investigations as a first indicator of possible doctor shopping, prescription fraud or diversionary prescribing. State PMPs receive new prescription dispensing data from pharmacies at varying intervals, ranging from monthly to daily, with most pharmacies reporting every one or two weeks (see Figure 1 on page 9). This means that even those PMPs that supply end-users with immediately available online reports are delivering data that omits patients' most recent prescription purchases, whether it be within the last 24 hours, the last one or two weeks, or even the previous month.

These omissions compromise the utility of prescription history data for clinical practice and drug investigations. For instance, a doctor shopper can visit several emergency rooms in a single day, filling prescriptions as he goes. Health care providers with even day-old data on this individual's prescribing history will be unaware that he has made earlier stops that day, and so may act as unwitting abettors of drug abuse or diversion. The same point applies to drug investigations, since any delay in learning of possible diversion is a window of opportunity for those engaged in prescription fraud.[1] As the delay increases, the window widens. Conversely, the more up-to-date the data, the more clinicians and investigators will know about recent questionable behavior, and such knowledge helps to inform decisions made under time constraints. Should an emergency department physician prescribe an opioid analgesic to a patient presenting with acute

[1] See the PMP Center of Excellence report "Perspective from Kentucky: Using PMP Data in Drug Diversion Investigations" at http://www.pmpexcellence.org/sites/all/pdfs/NFF_kentucky_5_17_11_c.pdf.

pain?[2] Which pharmacy or prescriber should be contacted next when investigating a suspected doctor shopper or pill mill operator?

From this perspective, prescription data should be available online as soon as possible after controlled substances have been dispensed, ideally in "real time" at the point of sale. Real time reporting has been a long-term goal of some PMPs, but the technical and organizational barriers to implementing such a system are formidable. Nevertheless, recent efforts on the part of the Oklahoma PMP have made real time reporting a reality. This report documents the process by which this milestone was achieved, a process which can serve as a guide for other states seeking to improve their PMPs.

Motivating the project

The primary objective for the Oklahoma PMP to embark on real time reporting was to help emergency department and urgent care physicians, as well as other medical providers, make better decisions when prescribing. Better prescribing decisions reduce the risks of addiction, overdose and death from misuse of controlled substances. As noted above, any gaps in prescription history data mean that prescribers aren't fully informed when seeing patients, especially emergency department patients, many of whom may be unknown to them. Oklahoma emergency department physicians voiced strong support for real time data reporting.

In a webinar presentation on the real time reporting project, Don Vogt, administrator of the Oklahoma PMP and project leader writes:

> Real time data collection will help the Oklahoma Bureau of Narcotics achieve its objective of providing medical professionals with an instant snapshot of a patient's drug use. As a result, those professionals will be able to make informed clinical decisions about patient treatment while reducing fraud and diversion activities.[3]

Secondary objectives of the project were to improve data quality and achieve cost savings in PMP operations. Real time reporting provides immediate feedback to those responsible for managing and entering information, speeding up the detection and correction of data errors. After amortizing the costs of implementation and once fully operational, a real time system integrated into point of sale locations might be more cost effective than less integrated and automated systems.

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[2] An emergency room physician writes: "When I am unsure about a patient's history and whether they are simply "doctor shopping," for pills, I am faced with the following dilemma: Do I prescribe pain medications and risk contributing to an addiction, or even a potential overdose? Or do I deny the medications and risk leaving a patient suffering in pain? In the short time I have to make this decision, I try to play detective and sort out whether the patient is being truthful with me. To say that this strains the doctor/patient relationship is a gross understatement." From http://www.yourerdoc.com/corey-haim-and-doctor-shopping/.

[3] The slides of the webinar, presented on July 14, 2011, are available at http://www.pmpexcellence.org/sites/all/pdfs/pmp_real_time_national.pdf.

Project planning

Vogt and his team developed a comprehensive project plan that tried to anticipate the technical, logistical and political barriers to achieving a very ambitious objective involving many players. This required making the project objectives as specific as possible, so that likely obstacles could be anticipated in advance. The team carried out a cost-benefit and risk analysis and developed contingency plans for possible delays and loss of funding. The plan helped the project stay on track, stay within its budget, and allocate resources efficiently.

The overall approach to the project was open and collaborative, taking into account the need to build consensus among PMP stakeholders on the benefits and parameters of real time data collection. Project goals, timelines, milestones and estimated costs were made explicit, but with the understanding they might change to accommodate concerns coming to light as consensus took shape. The project team invited criticism and feedback at all stages. The transparency and responsiveness of the development process paid off as the project unfolded; all major and most minor potential pitfalls were avoided.

Building consensus

The team took care to recruit all interested parties for the project Advisory Committee (AC), including representatives from chain pharmacies and independent pharmacies, medical providers of different categories (e.g., emergency physicians, primary care providers, veterinarians), software and data collection vendors, members of regulatory agencies (e.g., pharmacy and medical boards), law enforcement agencies, and any other groups likely to impact, or be impacted by, PMP operations. The initial meetings of the AC helped to diffuse skepticism and correct misunderstandings about the goals of the project, especially on the part of pharmacies. Once pharmacy representatives realized that the Oklahoma PMP was interested in improving medical practice and saving lives, not in adding to their regulatory burdens, they were happy to support the project.

Consensus on the development plan and timeline was achieved by taking into account the concerns and expertise of all participants, and by the project team's flexibility and openness to criticism. In the process, the PMP team learned a great deal about internal pharmacy policies, data handling and work flow, all essential in the design of a viable system. The tagline of Vogt's webinar captures the team's collaborative approach: "Leaders don't force people to follow, they invite them on a journey." However, some disagreements had to be resolved by reminding pharmacies of the force of Oklahoma's legislative requirements for prescription information reporting, for instance, to collect customer identification when dispensing controlled substances.

Legislative action

The move to real time reporting involved changes in the Oklahoma's PMP enabling legislation to define the reporting requirements for the new system: who reports the data, and how and when data are to be reported. To secure support for these changes, the team built relationships with key players among legislators, lobbyists and interest groups by communicating the goals and expected outcomes of the process as clearly as possible. They also identified the key committees that were likely to bring the bill to the floor. Legislators, concerned about limited budgets and serving the best interests of their communities, had to be convinced that real time reporting would be cost effective, have measureable public benefits, and enjoyed significant pre-existing support among their constituents. Given the strong support coming from emergency department physicians, the team was able to make the case that real time reporting was endorsed by the health care community, and that health care and law enforcement costs would likely decrease through reduced rates of diversion, overdose and addiction.

Reporting standards and data systems

In his webinar, Vogt emphasized the importance of adopting data standards, reporting requirements and data collection methods early in the project since these define the concrete goals of implementing a real time system.

The Oklahoma PMP and the state's pharmacies faced significant technical challenges in setting up the reporting system. Among them were revising the prescription history data fields to meet more recent reporting standards for PMPs set by the Association for Automation in Pharmacy (ASAP), and designing software and administrative systems for capturing data within 5 minutes of prescriptions being dispensed. The team updated Oklahoma's existing format, ASAP 95, to meet the ASAP 2007 4.1 standard, which required extensive coding revisions given its additional fields and capabilities. Among other advantages, ASAP 4.1 allows pharmacists to correct errors within records without having to consult PMP personnel; it also enables them to report compounded prescription substances more efficiently. The team ruled out using the National Council for Prescription Drug Programs (NCPDP) format, used by pharmacists to transmit insurance and billing claims, since it is not yet available in a version that transmits real time data. Nor did they pursue hybrid or XML formats since the former are challenging to maintain and support, and the latter aren't feasible since pharmacy data systems are still run largely on mainframe computers.

In configuring software and the data collection infrastructure, the team had to collaborate closely with pharmacy personnel and programming staff in order to understand existing procedures, minimize disruptions, and integrate the system into pharmacy work flow. Concerned with profitability as well as patient safety, pharmacies did not want to significantly increase transaction times. The project also had to manage logistical constraints, such as the pharmacy chains' annual two month programming code lock down in November and December of 2010.

Costs and challenges

Most of the costs related to developing the real time reporting system were born by Oklahoma's PMP itself, although pharmacies incurred the costs of instituting new administrative procedures, hardware and software conversions, and ASAP 4.1 updates. The majority of the costs to the Oklahoma PMP were for software coding, followed by the configuration and testing of servers, applications, communications protocols and help desk systems. Since Oklahoma's PMP manages its programming processes internally, its expenses related to system design were relatively low, and overall PMP costs for the project were originally estimated at just $21,000. PMPs using external software vendors in the design of real time reporting systems will likely incur higher costs in the short term. In the long term, however, given the efficiencies of real time reporting, PMPs may lower their annual operating costs in moving to such a system. If so, this is a strong selling point for PMPs wanting to convince their states to replicate Oklahoma's program.

As reported by Vogt in his webinar and presentation at the 2011 national meeting of the Alliance of States with Prescription Monitoring Programs,[4] instituting real time data collection puts considerable initial pressure on IT systems and their associated help desks. PMPs and software vendors should be prepared to handle many calls as users get up to speed and data errors are discovered. Another challenge is to make sure that pharmacies are given adequate lead time to adopt new systems, and are incentivized to make changes well in advance of the deadline for reporting live data. Vogt also suggested that since it took Oklahoma two years to move from monthly to real time reporting, PMPs should probably allow at least a year to implement such a change. Moving directly from monthly or bi-weekly reporting to real time may not be feasible, so a staged approach may be necessary.

Data quality and analysis

Since the usefulness of PMP data is not only a matter of timeliness but of its quality, the Oklahoma PMP made error correction systems integral to real time reporting, streamlining the record correction process. A significant advantage of real time reporting is quicker feedback on the completeness and accuracy of prescription data received from pharmacies. This information can then be transmitted to pharmacies to help improve their data collection procedures. Similarly, any software or hardware problems will come to light that much sooner, such that system performance improves more rapidly. Although achieving higher data quality wasn't the primary objective of Oklahoma's real time reporting project, it's an important positive result that, along with

[4] Vogt's June 7, 2011 presentation is available at http://www.pmpalliance.org/pdf/PPTs/National2011/StatePanelInitiativesOK.pdf.

long term cost savings, can incentivize other PMPs to follow suit in modernizing their operations.

Vogt and his team implemented business intelligence software that assists them in finding data entry errors and unassigned or missing data in the PMP database. It also provides quick and intuitive display of PMP data for purposes of tracking prescription sales, prescribing trends, doctor shopping rates, PMP reports requested and downloaded, and numbers of end-users and their categories. All these can play a role in exploratory analyses of PMP data and in generating reports for PMP stakeholders. In both his webinar and his Alliance presentation, Vogt stressed the value of business intelligence software in getting the most out of PMP data.

Outcomes of real time reporting

The success of Oklahoma's pioneering move to real time reporting can be evaluated by tracking a number of outcomes, including how well and how quickly pharmacies adapt to the new system; how data quality improves under the new reporting requirements; the extent to which real-time reporting encourages potential end-users to enroll in the system and make use of PMP data; how such increased use improves prescribing and dispensing; and ultimately how improved prescribing and dispensing practices made possible by the PMP reduce diversion of and addiction to controlled substances, as well as overdoses and deaths. The Oklahoma PMP is taking steps to measure these outcomes as resources permit, including trends in user registrations, queries of the system, changes in error rates in data submitted by pharmacies, and overdose statistics coming from medical examiners and hospitals. Legislation to be introduced in 2012 will allow the PMP to share data for research purposes, enabling partnerships with universities and other research groups to explore the impact of PMP improvements in greater depth.

As of this report, approximately 300 pharmacies in Oklahoma are now submitting real time data to the PMP; according to the original plan, all 1013 pharmacies will be reporting in real time by January of 2012. Pharmacy managers have been informed this is a hard deadline.

The preliminary phase of real time data collection has been well received. Anecdotal reports from Oklahoma prescribers indicate they are pleasantly surprised to find that PMP data are now literally up to the minute. Since earlier transitions from bi-weekly, to weekly, to daily data collection have been associated with increased prescriber use of the Oklahoma PMP, it is likely that the move to real time reporting will spur even greater utilization.

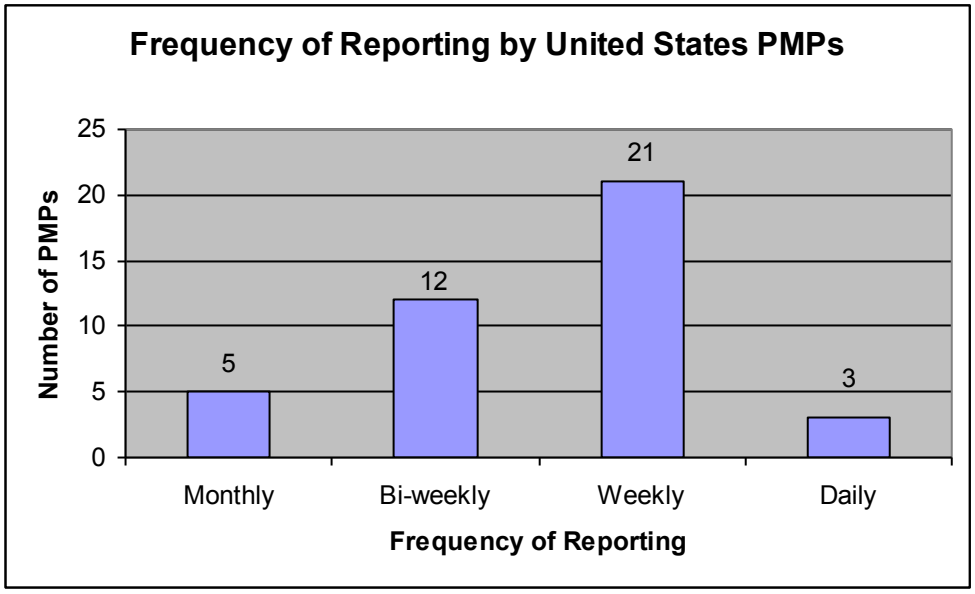
Conclusion

The full story of how Oklahoma succeeded in implementing real time reporting, and the impact of that reporting, must await the completion of the system and data collection on

the outcomes mentioned above. However, indicators thus far seem positive. By implementing real time submission of prescription data, the Oklahoma PMP demonstrated its feasibility for all PMPs and pharmacies. Further, given their experience in Oklahoma, it will be easier for chain pharmacies to implement real time reporting in other states. These are important achievements that will benefit all PMPs and their stakeholders. Overall, the Oklahoma real time reporting initiative constitutes a significant advance in the efficiency of prescription monitoring that other PMPs can emulate in the fight against prescription drug abuse. Ω

Note: For inquiries concerning this report, please contact the PMP Center of Excellence at Brandeis at www.pmpexcellence.org or call 781-736-3909.

Figure 1



Source: Alliance of States with Prescription Monitoring Programs; derived from table at http://www.pmpalliance.org/content/pmp-data-collection-frequency as of December, 2011.