

Prescription Drug Monitoring Program Center of Excellence at Brandeis

## Notes from the Field

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NF 5.1      Electronic Alerts for Prescribers: Massachusetts  
Prescription Monitoring Program Experience  
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### Notes from the Field

#### Electronic Alerts for Prescribers: Massachusetts Prescription Monitoring Program Experience

##### Overview

The Massachusetts Online Prescription Monitoring Program (MA Online PMP) system, housed in the Massachusetts Department of Health (MA DPH), is a tool utilized by authorized providers that supports safe prescribing and dispensing of Schedules II – V controlled substances. By viewing a patient's prescription history in the system, a provider can avoid duplication of drug therapy and coordinate care by communicating with other providers to improve clinical outcomes and overall patient health. Utilization of the MA Online PMP system can also enable early identification of potential prescription drug misuse, abuse or diversion and trigger early intervention.

Most prescribers who have utilized the MA Online PMP system reported it to be a valuable clinical tool. However, the most common negative feedback, as gathered from surveys and help desk calls, was the length of time required to log into the secure web portal, enter the required patient information, and then interpret the results. This is a significant barrier to wider utilization. One way to encourage system use is to alert prescribers when they have a patient who might be engaging in questionable behavior, such as obtaining prescriptions from multiple prescribers and/or pharmacies in a specified time period, called “multiple provider episodes” or MPEs.<sup>1</sup> Although at least 31 states are authorized to engage in unsolicited reporting<sup>2</sup> to prescribers, there are relatively few states that currently send unsolicited “electronic” alerts via email. The MA PMP initiated electronic alerts to prescribers in 2013. A description of this project as well as some findings are presented below.

Evidence suggests that unsolicited reports can be valuable in informing prescribers and pharmacists that patients may be abusing or diverting controlled substances; helping prescribers make better clinical decisions, thus improving patient care; and informing potential end-users about the PMP and its value (PDMP COE, 2011). A study of Massachusetts prescribers who received unsolicited “hard copy” reports on their patients found that more than half (57%) were unaware of the other prescribers listed on the reports and most (81%) judged that the controlled substance prescriptions listed were not medically necessary (Thomas et al., 2014).

##### Alert Notification Planning and Development

The capability to send electronic alerts was a priority during the development phase of the MA Online PMP. The system was designed to include a number of important parameters. For

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<sup>1</sup> Multiple provider episodes are also frequently referred to as potential doctor/pharmacy shopping.

<sup>2</sup> For examples of unsolicited reporting by PDMPs, see Options for Unsolicited Reporting, [http://pdmpefficiency.org/sites/all/pdfs/Brandeis\\_COE\\_Guidance\\_on\\_Unsolicited\\_Reporting\\_final.pdf](http://pdmpefficiency.org/sites/all/pdfs/Brandeis_COE_Guidance_on_Unsolicited_Reporting_final.pdf).

## Electronic Alerts for Prescribers: MA PMP Experience

example, in addition to being able to set an agreed-upon MPE threshold for an alert (based on number of different prescribers, number of different pharmacies, and time interval), there is also the ability to set threshold criteria on minimum number of prescriptions, minimum days supply, and controlled drug class (e.g., opioids, stimulants, etc.). Additionally, there is a “no repeat” functionality built in to the system. The no repeat interval flags prescribers who have received an alert for a specific patient and excludes these prescribers on future alerts for that same patient for a specified time period. This reduces the potential for “alert fatigue,” which can reduce utilization of the system.

When an alert is triggered, an email notification is sent to those prescribers whose patient(s) have triggered the alert and who have an active account and valid email address with the MA Online PMP. The email contains no patient identifying information; instead, it includes a record ID that the prescriber uses to look up the patient in the MA Online PMP. Since no patient identifying information is transmitted, there is no need to use a secure email system for alerts. Those prescribers who do not have an active MA Online PMP account will not receive an alert notification even if the patient exceeds the specified MPE threshold. The alert email template is provided in Appendix A. In order for MA DPH to learn more about the utility and efficacy of the alerts, the alert email includes a link to an online prescriber survey that all recipients are encouraged to complete.

### Alert Testing

The alert functionality was tested on a sample of mock data that was uploaded to the system development site. The tests demonstrated that the alerts were correctly identifying patients who met the specified criteria and notifying those prescribers who had prescribed for the corresponding patients. The PMP also identified some bugs in the no repeat interval functionality that required a fix from the vendor.

### Establishing PMP Alert Criteria

Prior to sending the initial alert notifications, PMP staff consulted with the program’s Medical Review Group (MRG), comprised of experienced clinicians and pharmacists, to review PMP data and recommend the initial thresholds for triggering alerts. It was also agreed that the alert notifications would be sent out monthly and that alert criteria would be reviewed periodically to determine whether adjustments to the thresholds might be necessary. Thresholds may be adjusted if there is a significant decline in the numbers of individuals who meet the current thresholds; this would allow prescribers to be notified about patients who may not be currently exhibiting highly questionable behavior, but perhaps are at risk of progressing to this type of activity.

## Electronic Alerts for Prescribers: MA PMP Experience

### Alert Notification Findings

The Massachusetts Drug Control Program (DCP), which operates the MA Online PMP, sent out pilot electronic alert notifications in July 2013. On the basis of an evaluation of the pilot, a few operational problems were identified and some modifications were made to the system in September 2013. Additional testing was performed to ensure that the alert notifications worked properly. The alert notifications were subsequently sent out in December 2013 and are currently on a monthly schedule. A summary of the findings are presented in Table 1 for alerts sent from December 2013 through June 2014. Key observations and findings for the alert notifications are presented below.

- **MA Online PMP Utilization.** After the initial alerts were sent out on December 3, 2013, DCP observed the following patterns of utilization:
  - An increase (approximately 10%) in the number of end-user patient searches immediately following the alert notifications.
  - A notable increase in the number of first time users of the Online PMP: 21% of the prescribers who received an alert notification logged into the system for the first time on the first day the alerts were sent.
  - Nearly 80% of the patients identified in the December alerts were searched by at least one prescriber enrolled in the MA Online PMP system from December 3-5.
- **Patients Meeting Thresholds in 6 Successive Months**
  - 59% of patients (165 of 279) for whom an alert was sent in December 2013 did not meet the alert threshold again for the next six months (i.e., January - June 2014).
  - 41% of patients (105 of 255) for whom an alert was sent for the first time in January 2014 did not meet the alert threshold again for the next five months (i.e., February - June 2014).
  - Just 1.8% of patients (5 of 279) who received an initial alert in December met the alert threshold in each of the six subsequent months (i.e., January - June 2014).

## Electronic Alerts for Prescribers: MA PMP Experience

- **Key Findings from Prescriber Alert Surveys<sup>3</sup>**
  - 82% said based on current knowledge, including the PMP data viewed, the patient did not appear to have a medically appropriate reason for the prescriptions from multiple prescribers.
  - Just a quarter of respondents (24%) reported that they were aware of all the other prescribers prescribing controlled substances to their patients.
  - 85% indicated that viewing PMP data increased their confidence in how or whether to prescribe controlled substances for the patient.
  - 73% indicated that the electronic alerts were “somewhat useful” or “very useful.”
- **Impact on Multiple Provider Episodes (MPEs).** The findings below are based on the number of individuals who met two MPE thresholds<sup>4</sup> in the four 6-month time periods between July 2012 and June 2014 (see Figure 1 below):
  - During the pre- “electronic alert” intervention periods, slight or no declines were observed in the number of individuals who met the two MPE thresholds.
  - Notable declines in the number of individuals meeting the two MPE thresholds were observed during the 6-month period following initiation of alerts.

### Challenges/Limitations

The current system of notifying prescribers of individuals who meet a specified MPE threshold is limited to alerting only those enrolled in the MA Online PMP who have valid email addresses. As Table 1 shows, only 45% of prescribers who prescribed to patients meeting the threshold were notified about their patient in December 2013, when regular electronic alerts were first initiated. The remaining 55% were not enrolled in the PMP and/or did not have valid email addresses, thus did not receive alerts. However, by June 2014, the percentage of prescribers notified improved to 60%. This improvement is largely attributable to automatic enrollment of practitioners (physicians, dentists, and podiatrists) into the MA Online PMP; enrollment of practitioners is now required in the Commonwealth. By the end of 2015, most practitioners with an active Massachusetts Controlled Substance Registration (MCSR) will be enrolled, which will greatly improve the percentage of prescribers notified via alerts. However, a significant portion of the mid- level prescribers (i.e., physician assistants and advanced practice nurses) may not

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<sup>3</sup> At least 87 prescribers responded to each of the survey questions below; the number of respondents used in calculating percents varies slightly because some prescribers chose not to answer all the survey questions.

<sup>4</sup> These MPE thresholds (4 prescribers and 4 pharmacies, 5 prescribers and 5 pharmacies) were not the alert thresholds used in identifying patients who have received Schedule II-V prescriptions from multiple prescribers.

## Electronic Alerts for Prescribers: MA PMP Experience

be enrolled as their enrollment is currently voluntary. This will reduce the percentage of mid-level prescribers who will be able to receive alerts, should their patients meet the alert threshold.

### Conclusion

The information compiled after the first electronic alert notification was triggered in December 2013 indicates that MA Online PMP use increased considerably after the alert was sent and that many enrolled prescribers logged on to the system for the first time. This suggests that the alerts can serve as a catalyst to increase utilization of the PMP by prescribers. Many of the patients reported on in the initial alerts did not meet the alert threshold in succeeding months, suggesting that viewing PMP data may have influenced the prescribing behavior of their prescribers. In general, the feedback from prescribers regarding the electronic alerts was very positive. Among the most significant findings is that most prescribers (85%) felt more confident about prescribing controlled substances after viewing the MA Online PMP. There has also been a modest increase in the number of patients prescribed buprenorphine (approximately 4%) since the initiation of electronic prescriber alerts (comparison of data from July-December, 2013 to data from January-June, 2014). This suggests that prescribers may be referring patients with signs of substance abuse to specialists who can further evaluate and provide treatment options, including buprenorphine therapy.

The prescriber alert survey results mirror the results of survey responses received from hard copy unsolicited reports sent out during 2010-2012 (Thomas et al., 2014). In particular, a low percentage of prescribers reported being aware of the other prescribers to their patients or judged the multiple prescriptions as medically warranted; this suggests that alerts can play an important informational role. It is also noteworthy that following initiation of alerts, MPEs set at two thresholds declined. Continued analyses are needed to determine the long term impact of alerts on MPE rates.

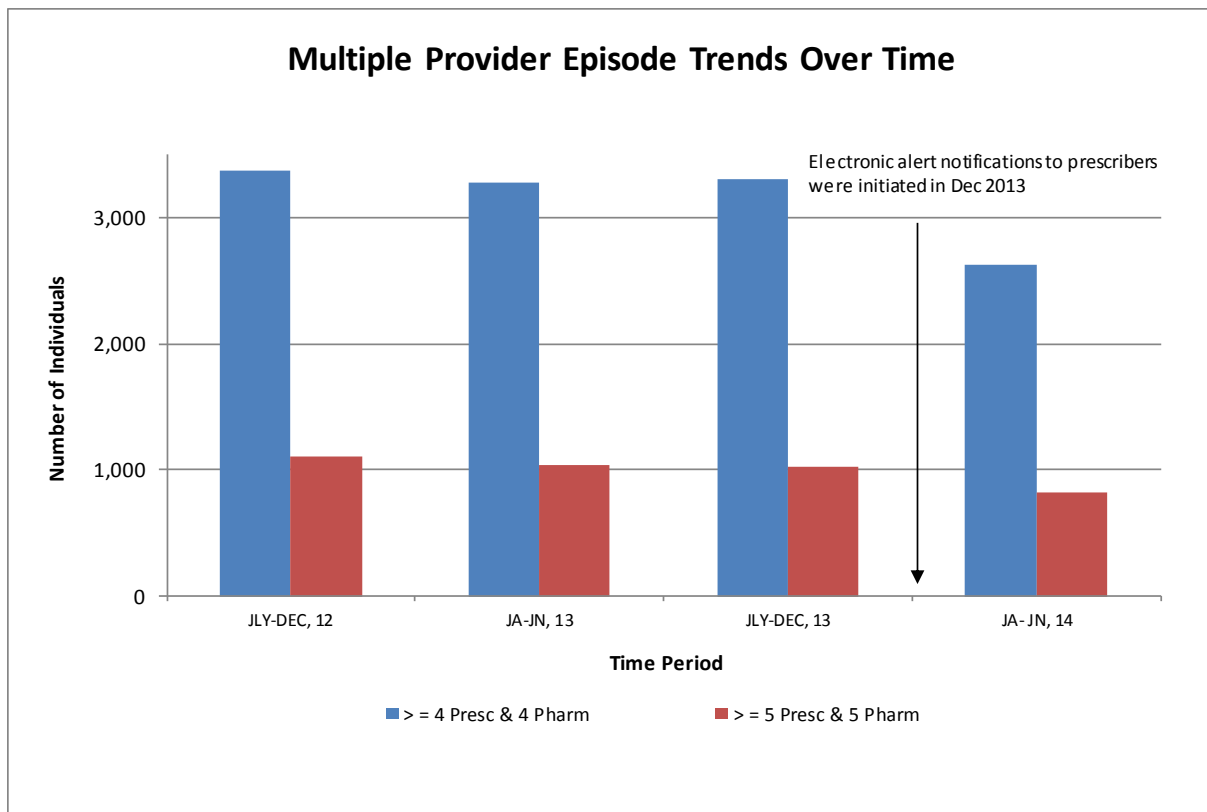
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## Electronic Alerts for Prescribers: MA PMP Experience

**Table 1. Descriptive Statistics for Alert Notifications (Dec. 2013; Jan. through June, 2014)**

Date Alert Sent	# Patients Identified	# of Providers Identified	Notifications Sent	Sent/ Identified (% enrolled in PMP)
Dec 3, 2013	279	3,015	1,920	45 %
Jan 6, 2014	255	1,894	1,116	47 %
Feb 3, 2014	227	1,565	827	45 %
Mar 11, 2014	216	1,868	1,089	47 %
April 8, 2014	240	1,838	1,449	60 %
May 5, 2014	251	1,891	1,407	57 %
June 3, 2014	245	1,772	1,363	60 %

**Figure 1.**



## Electronic Alerts for Prescribers: MA PMP Experience

### References

Prescription Drug Monitoring Program Center of Excellence (PDMP COE). Nevada's proactive PMP: The impact of unsolicited reports. Notes from the Field 2.5. Brandeis University, Waltham, MA, October, 2011.

Thomas, CP., Kim, M., Nikitin, RV., Kreiner, P., Clark, TW., and Carrow, GM. *Prescriber response to unsolicited prescription drug monitoring program reports in Massachusetts*. Pharmacoeconomics and Drug Safety. 2014. Published online in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/pds.3666.



## Electronic Alerts for Prescribers: MA PMP Experience

### Appendix A

Subject line: Patient obtaining multiple Schedule II-V drugs from multiple providers

TO: <Provider\_Name>

FROM: Massachusetts Department of Public Health (DPH), Prescription Monitoring Program (MA PMP)

Notification: PMP Provider Alert Communication for Record ID: <Record\_ID>

The MA PMP is informing you that one of your patients appears to be receiving multiple Schedule II-V prescriptions from multiple pharmacies and multiple prescribers.

You can view the patient prescription history that triggered this message by doing the following:

- Go to - [www.mass.gov/vg](http://www.mass.gov/vg)
- Click "Log in to the Virtual Gateway"
- Enter your Virtual Gateway username and password (If you forgot your login credentials call VG Help line at 800-421-0938)
- Once at the MA Online PMP page click "Single Patient Lookup" and enter the Record ID number listed above.

You are not obligated to take any action in response to this message. It is designed to be an additional tool for you in providing optimal patient care, including effective treatment in addition to assessment of the possibility of drug abuse or diversion.

Please note the Record ID search displays the patient prescription history as it appeared at the time this message was created. The most current prescription history can be retrieved by entering the patient's name and birth date on Single Patient Look-up page and omitting the Record ID.

<Insert Provider Message 1> which is... (The MA PMP requests for you complete a survey regarding this notification by visiting [https://www.surveymonkey.com/s/MAPMPAlert\\_Survey](https://www.surveymonkey.com/s/MAPMPAlert_Survey))

## Electronic Alerts for Prescribers: MA PMP Experience

. To gather further information on how PMP data are used in clinical practice, we will contact you again with a follow-up survey concerning this patient.)

Visit [www.mass.gov/dph/dcp/onlinepmp](http://www.mass.gov/dph/dcp/onlinepmp) for further information on the MA Online PMP and other informational materials, such as The Prescriber Guide to Interpreting Prescription Monitoring Data. You may reply directly to this message with comments or questions.

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