Prescription Monitoring Program Integration Project

Year One Evaluation

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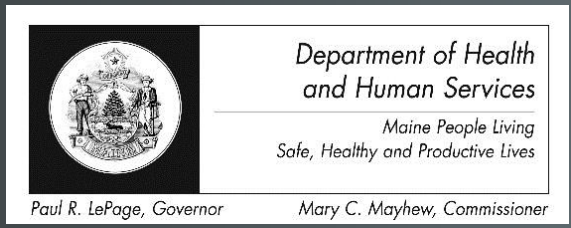
for
The Maine Office of Substance Abuse and Mental Health Services



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CONTENTS

EXECUTIVE SUMMARY 1
INTRODUCTION 3
Purpose of this Report 5
METHODOLOGY 7
DESCRIPTION OF THE PROGRAM 9
Interoperability 9
Integration 10
Enhancements 10
Use of PMP 11
YEAR ONE RESULTS 12
Interoperability 12
Integration 13
Enhancements 13
Use of PMP 13
SURVEILLANCE 19
SUMMARY AND RECOMMENDATIONS 23

EXECUTIVE SUMMARY

In 2012, the Maine Office of Substance Abuse and Mental Health Services (SAMHS) received funding from the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration to implement the Prescription Drug Monitoring Program (PMP) Electronic Health Record Integration and Interoperability Expansion program in Maine. The purpose of the federal program is to improve real-time access to PMP data by integrating PMP databases into existing technologies (such as electronic health records) and to strengthen State PMPs by providing resources to increase interoperability of State PMPs.

SAMHS contracted with Hornby Zeller Associates, Inc. (HZA) to conduct a process evaluation of the implementation of grant strategies and to administer a survey to individuals registered to use PMP.

SAMHS has met some of the objectives of the grant and is making solid progress toward completing all grant requirements. Progress includes data sharing with one state, signed MOUs for interoperability with two states, progress toward signing MOUs in 21 states, software upgrades, an increase the number and percentage of prescribers registered for PMP, and an increase in the number of providers requesting patient reports.

> This PMP Integration Project will allow SAMHS to improve Maine's PMP in three key areas: interoperability with other states, integration with electronic health records through the Maine HealthInfoNet, and system upgrades and enhancements that will improve prescriber access to quality data and thereby improve patient care.

For the most part, project staff should "stay the course" on current activities, with an increased focus on improving communication among the various stakeholders for this grant. The recommendations below are steps SAMHS may wish to consider to maximize the effectiveness of grant funds in the second and final year of the grant.

Recommendation 1: Continue to offer training opportunities

SAMHS offers trainings to health care providers on how to use PMP and also works with Maine Medical Association, Healthy Maine Partnerships and other organizations to educate health care providers and others about the importance of registering for and using PMP. As the percent of prescribers registered and the number of subaccounts increase, it is important to maintain this level of training. It may be useful to offer a brief "refresher course" for long-time users to inform them of new features. SAMHS should also consider emphasizing in its trainings the importance of incorporating PMP into standard office procedures or protocol for practices that prescribe large amounts of controlled substances. When integration with Maine HealthInfoNet is complete, trainings should include the importance of using shared clinical information for patient care.

The data in the Treatment Data System indicating a low number of primary referrals as a result of prescribers consulting PMP may be due to the way substance abuse treatment providers enter referral source data into the system. SAMHS should include this aspect of data entry in the training they provide staff at substance abuse treatment agencies. SAMHS should also reinforce with prescribers that they may wish to refer a patient to treatment based on the patient information they find in PMP.

Recommendation 2: Improve password retrieval process

Survey respondents (prescribers and non-prescribers alike) noted that the PMP password retrieval process was slow and cumbersome. SAMHS should continue to simplify and improve the password retrieval process, which will address many of these concerns.

Recommendation 3: Collect real-time data

Pharmacists and prescriber respondents to the survey stressed the importance of having access to real-time data for optimal use of PMP as a clinical tool. SAMHS should work with its software vendor, policy-makers, and pharmacies to initiate real-time data collection as soon as feasible

Recommendation 4: Develop sustainability plan

SAMHS should consider using the second year of this grant as an opportunity to develop a long-term sustainability plan for Maine's PMP. The PDMP Training and Technical Assistance Center at Brandeis University has developed a guide on funding options and their rationales for state officials.[1] The guide presents options ranging from fees charged to prescribers and dispensers for using PMP or for prescribing and dispensing controlled substances, to using funds from Medicaid fraud settlement funds, to assessing drug manufacturers based on the sale of their controlled substance in the state.

Recommendation 5: Plan for other PMP innovations

If SAMHS is successful in implementing the remaining objectives of the grant, SAMHS may wish to lay the groundwork for other PMP innovations beyond grant requirements. For example, SAMHS may explore data sharing through a direct transfer of data with MaineCare to improve efficiencies in detection of possible abuse and diversion. SAMHS may also wish to explore incorporating a calculation of morphine equivalent for prescriptions included in the PMP.

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[1] Prescription Drug Monitoring Program Training and Technical Assistance Center. (2013). *Funding Options for Prescription Drug Monitoring Programs.* Technical Assistance Guide No. 04-13., Brandeis University. Available at http://www.pdmpassist.org/pdf/PDMP_Funding_Options_TAG.pdf

INTRODUCTION

In 2012, the Maine Office of Substance Abuse and Mental Health Services (SAMHS) received funding from the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA) to implement the Prescription Drug Monitoring Program (PMP) Electronic Health Record (EHR) Integration and Interoperability Expansion program in Maine. The purpose of the federal program is to:

1) improve real-time access to PMP data by integrating PMP databases into existing technologies (such as electronic health records) and thereby improve the ability of State PMPs to reduce the nature, scope, and extent of prescription drug abuse; and
2) strengthen State PMPs that are currently operational by providing resources to make the changes necessary to increase interoperability of State PMPs.

PMPs are state-operated electronic databases that contain patient-specific information on controlled substances dispensed within the states. PMPs help State governments identify possible sources of prescription drug diversion such as prescription fraud, doctor shopping, and medically unwarranted prescribing practices. States can also use PMPs to analyze drug use and abuse trends and educate individuals and the public about prescription drug abuse and diversion. Healthcare providers can use PMPs to help identify people who may be addicted to prescription drugs and refer them to treatment. Evidence suggests that PMPs are effective in reducing the time required for drug diversion investigations, reducing doctor shopping, improving clinical decision-making, changing prescribing behavior, and contributing to other efforts to curb prescription drug abuse and drug overdose.[2,3,4,5]

Maine is one of 44 states with an operational PMP; five additional states and the District of Columbia have enacted legislation enabling PMPs, and one state (Missouri) has no PMP or legislation in place.[6] States' use of PMPs varies because the programs are created for different reasons such as law enforcement, legal and regulatory compliance, and patient care and safety. Maine's PMP is intended to be a tool to improve patient care and to prevent and detect prescription drug misuse and diversion.

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[2] PMP Center of Excellence. (2012). *PDMPs: an effective tool in curbing the prescription drug abuse epidemic.* Brandeis University. Available at http://www.pdmpexcellence.org/sites/all/pdfs/pmp_effectiveness_brief_revised_3_29_12.pdf

[3] PMP Center of Excellence. (2012). Prescription drug monitoring programs: an assessment of the evidence for best practices. Brandeis University. Available at http://www.pdmpexcellence.org/sites/all/pdfs/Brandeis_PDMP_Report.pdf

[4] Centers of Disease Control and Prevention. (2012). Prescription Painkiller Overdoses: A growing epidemic, especially among women. *CDC Vitalsigns*. Available at http://www.cdc.gov/vitalsigns/PrescriptionPainkillerOverdoses/

[5] Finklea, K.M., Bagalman, E. & Sacco, L. (2013). Prescription Drug Monitoring Programs. Congressional Research Services. Available at http://www.fas.org/sgp/crs/misc/R42593.pdf

[6] Agency for Healthcare Research and Quality. (2013). System Gives Authorized Users Access to Interstate Information on Controlled Substance Prescriptions, Assisting Them in Identifying Cases of Potential Misuse. Policy Innovation Profile. Available at http://www.innovations.ahrq.gov/content.aspx?id=3826

The Maine legislature established Maine's PMP in 2003, and it became operational in 2004. SAMHS operates the PMP, with data system support from Health Information Design (HID), the software vendor. All pharmacies licensed by the State of Maine are required to report data weekly on all transactions for federally controlled substance schedules II, III and IV.[7] The database is available free online to prescribers and dispensers of controlled substances. In limited circumstances, it is available to law enforcement officers for ongoing investigations. Any health care provider with a Drug Enforcement Agency (DEA) number may register to request reports for new and existing patients. Licensed pharmacists may also access PMP to request patient data. Patients have access to their own information by requesting it from their healthcare provider or from SAMHS.

This PMP Integration Project will allow SAMHS to improve Maine's PMP in three key areas:

- ***Interoperability.*** SAMHS will create interoperability with at least eight other states, which means prescribers in Maine will have access to patient-specific data on controlled substances dispensed in those states, and prescribers in those states will have access to similar patient data in Maine. Historically, State PMPs have not communicated with each other because technology did not allow for interoperability and because of legal barriers. Several initiatives are underway nationwide to address the technological and legal issues, and interoperability is on the horizon.
- ***Integration.*** The project will integrate the PMP database with Maine HealthInfoNet (HIN), Maine's Health Information Exchange (HIE) and the centralized hub for electronic health records in Maine. HIN formed in 2006 and started a demonstration project in 2008 connecting 15 Maine hospitals and one multi-site primary care practice. Currently, 34 of Maine's 38 hospitals and several hundred physician practices and other health care providers have access to patient electronic records through HIN.[8] When PMP is integrated into this system, those health care providers will have "one click" access to patient records in PMP, resulting in increased integration of health care information and potentially improved patient care.
- ***System enhancements.*** SAMHS will enhance the PMP system by 1) creating a tracking system for referrals to substance abuse treatment that result from healthcare providers consulting PMP; 2) creating a feature that will allow prescribers to set individual patient prescribing limits that, when exceeded, will trigger an automatic report to the prescriber; and 3) upgrading software to the most up-to-date version that will prevent unauthorized access and disclosure of prescription and dispensing information and that will improve the accuracy of PMP data.

Funding from another source will allow SAMHS to implement a planned requirement for pharmacies to upload data daily. Taken as a whole, these changes will lead to a significant

[7] U.S. Department of Justice, Drug Enforcement Administration, Office of Diversion Control. Controlled Substance Schedules. Available at http://www.deadiversion.usdoj.gov/schedules/index.html

[8] Maine HealthInfoNet. Participating Healthcare Organizations. http://www.hinfonet.org/about-us/participating-healthcare-organizations

improvement in the functionality of Maine's PMP as a tool for improved patient care and reducing prescription drug diversion leading to increased prescriber use of PMP.

Purpose of this Report

SAMHS contracted with Hornby Zeller Associates, Inc. (HZA) to conduct a process evaluation of the implementation of grant strategies and to administer a survey to individuals registered to use PMP. The purpose of the survey was to understand PMP user needs in light of the system enhancements and to inform implementation of the grant. The Methodology section of this report describes how HZA collected the data for this report, including the PMP Survey. The next section reviews how the PMP Integration Project is being implemented in Maine. The Year One Results section describes the implementation of grant activities in year one, including the results of the PMP Survey. The Surveillance section provides key data elements that SAMHS monitors to understand the impact of the combined interventions to reduce prescription drug diversion and abuse in Maine. The final section presents recommendations for year two of the grant.

METHODOLOGY

HZA employs an Action Research Model in its evaluations,[9] which means that the evaluator is actively engaged in the implementation process by providing technical assistance and guidance. The HZA evaluators worked with the PMP Project Integration Coordinator and other PMP staff at SAMHS as they implemented grant activities. The evaluator attended an initial planning meeting with the PMP staff and PMP Advisory Committee meetings, and also met regularly with the PMP Project Integration Coordinator.

To understand and address PMP user needs in light of the new opportunities presented by the PMP Integration Project, SAMHS invited all registered PMP users (4,127 individuals) to participate in a web-based survey. HZA administered the survey and analyzed the results. A total of 1,282 people responded, for a response rate of 31 percent. Most respondents (61.9%) were prescribers (physicians, nurse practitioners or physician assistants). Other respondents were nurses, pharmacists, clinical support, case managers, behavioral health providers and administrative support.[10]

As part of this year-end evaluation, HZA staff conducted key informant interviews with staff from SAMHS, Maine HealthInfoNet and Health Information Design, and some members of the PMP Advisory Committee to understand the processes used to implement the PMP Integration Project. An interview protocol was developed to solicit feedback, and seven individuals were interviewed in person or on the phone; they included three SAMHS staff (including the Project Coordinator), one Maine HealthInfoNet representative, one HID representative, and two PMP Advisory Committee members. The evaluators sought information on the steps taken to integrate the PMP database with HIN data and to create interoperability with other states. The evaluators also sought information on the facilitators and barriers to implementing the PMP Integration Project.

The year-end evaluation also included a document review of Memoranda of Agreement with other states, HID Statements of Understanding about online registration and delegate accounts, and meeting minutes from the PMP Advisory Committee and the Substance Abuse Services Commission, as well as minutes from an ad hoc group of representatives from the Maine Licensing Boards, HID and SAMHS staff.

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[9] Patton, M.Q. (1978). *Utilization Focused Evaluation*. Sage Publications.

[10] Hornby Zeller Associates, Inc. (2013). *2013 Prescription Monitoring Program Survey Results*. Available at https://www.maine.gov/dhhs/samhs/osa/pubs/data/2013/PMPSurveyResultsFINALJul2013.pdf.

DESCRIPTION OF THE PROGRAM

Maine's PMP Integration Project comprises eight objectives that fall into four categories: create interoperability with other states, create integration with electronic health records, add technology enhancements, and increase use of PMP.

Interoperability

Objective 1: Become interoperable with at least eight other state PMPs (including at least two states in New England) by September 2014

There are no formal national standards in place for information sharing and interoperability, although consensus-based national standards are emerging. The critical component in PMP interoperability is a national information technology architecture that allows for consistent and secure interstate data sharing. This architecture is the Prescription Monitoring Information Exchange (PMIX) National Architecture.[11]

Twenty-eight states currently provide a means for sharing data from PMPs. Maine is one of 12 states that require a written agreement to allow reciprocity before PMP data may be released. Maine is one of nine states to require that access to the data or use of the data be consistent with their state laws;[12] this means that interoperability with the Maine PMP is limited to states where a written agreement of reciprocity is in place that is consistent with Maine law.

Data sharing can occur through a direct state-to-state flow of information, or through interstate data hubs. Currently there are three such hubs, RxSentry Exchange (operated by HID, the vendor for Maine's PMP software), RxCheck Hub (now hosted by Integrated Justice Information Systems for the RxCheck Governance Committee) and PMPi Hub (hosted by the National Association of Boards of Pharmacy). Maine's PMP system links with RxSentry Exchange, thereby creating potentially technologically simple data sharing opportunities with the other states using RxSentry Exchange. However to implement data sharing, states must also have legislation in place authorizing interstate data sharing, as well as a signed Memorandum of Agreement with their identified partner state(s).

[11] Finklea, K.M., Bagalman, E. & Sacco, L. (2013). Prescription Drug Monitoring Programs. Congressional Research Services. Available at http://www.fas.org/sgp/crs/misc/R42593.pdf

[12] The other states requiring a written agreement or reciprocity are Illinois, Indiana, Kansas, Kentucky, Massachusetts, Mississippi, Nevada, New Jersey, New York, Ohio, and Virginia. The other states requiring consistent state laws are Arkansas, Illinois, Mississippi, Maryland, Montana, Nevada, North Dakota and Oregon. National Alliance for Interstate Drug Laws. (2011). *Interstate Sharing Of Prescription Monitoring Database Information.* Available online http://www.namsdl.org/library/2BA908DC-1372-636C-DD0EDA3313BE8CF8/

Integration

Objective 2: Integrate PMP and electronic health records (EHRs) via the health information exchange (HIE) serving at least one EHR in a pharmacy, emergency department and primary care office by October 2013

Activities to develop PMIX occur in the rapidly changing landscape of health care information technology, which includes the development and expansion of HIEs. One way to increase use of PMPs is to integrate access to PMP data into clinical workflow in the office practice or hospital setting.[13] This can be done by leveraging work to date in linking healthcare providers to HIEs and then integrating the PMP with EHRs via the HIE.

Maine HealthInfoNet (HIN) has agreed to integrate participating EHRs with PMP. When this integration is complete, a healthcare provider whose office or hospital participates in HIN will be able to consult a patient's EHR during a patient visit and then link directly to the patient's record in PMP, thereby bypassing the PMP login and patient look-up steps. This will allow "one click" access to PMP for providers in the 34 hospitals and hundreds of primary care practices across the state that participate in HIN.

Enhancements

Objective 3: Adopt the ASAP 4.2 Standard for Prescription Monitoring Programs

The American Society for Automation in Pharmacy (ASAP) has created standards for PMPs, and ASAP 4.2 is the most recent version of the ASAP software. The PMP Integration Project enhancement to adopt ASAP 4.2 applies to HID as well as all data submitters (licensed pharmacies in Maine), who are required to use ASAP 4.2 software as of September 1, 2013 to submit their data to HID.

Objective 4: Allow prescribers to set their own levels for patient drug monitoring

One feature of Maine's PMP is Patient Threshold Reports. These are automatically generated monthly reports on individual patients who exceed certain thresholds. The reports are sent automatically to any healthcare provider who has written a prescription for the patients. SAMHS bases the thresholds on certain unpublished parameters to indicate potential prescription drug diversion or potentially dangerous drug interactions. The PMP Integration Project is responding to requests by prescribers to create another automatic report that allows prescribers to set their own levels for patient drug monitoring based on additional parameters. For example, a prescriber might wish to receive an automatically generated report when a specific patient fills prescriptions for OxyContin in excess of a certain amount (number of milligrams). These customized reports would be sent in addition to the Patient Threshold Reports generated by SAMHS.

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[13] MITRE Corporation. (2012). *Enhancing Access to Prescription Drug Monitoring Programs Using Health Information Technology: Work Group Recommendations.* Office of the National Coordinator for Health Information Technology, in partnership with SAMHSA.

Use of PMP

Objective 5: Increase the percentage of licensed physicians registered with the PMP and HIE to 90 percent by January 2014[14]

In 2012, the Maine Legislature enacted a law that requires all health care providers in a class of providers to register for PMP by March 1, 2014 if 90 percent of prescribers in that class have not registered by January 1, 2014.[15] (The six classes of prescribers are medical doctors, doctors of osteopathy, dentists, podiatrists, physician assistants and advanced practice registered nurses.) In 2013, the legislature passed a Resolve, directing the Substance Abuse Services Commission to create a process to make PMP registration easier than the current system. SAMHS does not anticipate that 90 percent of healthcare providers in each class will register in time and is planning for a significant increase in registration requests in February 2014 to meet the March 1 deadline.

Objective 6: Increase by 10 percent the number of providers requesting patient reports

Objective 7: Decrease by five percent the number of unsolicited Patient Threshold Reports sent to providers

Objective 8: Increase the number of referrals made to substance abuse treatment providers due to providers viewing PMP data

As more healthcare providers use PMP, SAMHS anticipates they will have increased knowledge about patient behavior, including prescription drug diversion and abuse. This will likely change healthcare provider practices in three ways. First, this will likely increase the number of providers requesting patient reports to understand patient behavior and prescription history. Second, healthcare providers will likely change their patient care practices by, for example, changing prescribing practices, increasing the frequency of patient visits, and requiring the patient to sign an opiate/pain management agreement. These changes will in turn decrease diversion and abuse, as evidenced by a reduction in the number of Patient Threshold Reports sent to prescribers. Third, healthcare providers will likely identify more patients who are in need of substance abuse treatment, resulting in more referrals from a provider consulting PMP. (Data on referrals are available in the Treatment Data System. Substance abuse treatment providers receiving State funding enter referral data on the primary referral source into the system. SAMHS added two options at the beginning of the grant for primary referral source: Physician/PMP and Hospital/PMP.)

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[14] If licensed physicians register to use PMP and integration with Maine HealthInfoNet is successful, then all physicians registered to use PMP will automatically be able to link with PMP through HIN if they participate in HIN. The focus of this grant is on registering physicians for PMP, not on increasing physicians who participate in HIE.

[15] Maine Revised Statute Title 22, Chapter 1603: Controlled Substances Prescription Monitoring. Available at http://www.mainelegislature.org/legis/statutes/22/title22ch1603.pdf

YEAR ONE RESULTS

The PMP Integration Project is being implemented in a rapidly changing environment. Technological advances and changes in legal interstate agreements will affect the pace of efforts to create interoperability. Legislative changes may speed up the rate at which healthcare providers register for PMP. Healthcare provider education about PMP and an increased awareness among providers of prescription drug diversion may lead to changes in the way prescribers use PMP. This environment presents opportunities and challenges for SAMHS as it implements the PMP Integration Project.

Interoperability

SAMHS plans to implement interstate data sharing with at least eight other states by September 2014. Physician and pharmacy representatives interviewed strongly supported interoperability as a way to improve patient care, because so many patients travel from state to state, including especially "snow birds" who live in Maine in the summer and in Florida during the winter.

Table 1 shows the number of states that currently are able to share data with Maine and the number of interoperability MOUs in process or signed with other states, which includes states using RxSentry as their hub. In the first year of the grant, discussions began with PMP officials in Connecticut, Washington, Vermont, Massachusetts, Kentucky, Florida, South Carolina, New Jersey and Alabama. As of September 30, 2013, a signed Memoranda of Understanding (MOU) was in place with Alabama, and data sharing was successful. A signed MOU was in place with Kentucky, but data sharing had not yet occurred. Vermont and Massachusetts had agreed to MOU language but had not yet signed the documents, and SAMHS had exchanged draft MOUs with South Carolina and New Jersey. The remaining 18 states listed as "in process" use RxSentry as their hub.

Table 1: PMP Interoperability

	9/30/13 Baseline	12/31/12	3/31/12	6/30/13	9/30/13
Number of states that have interoperability with Maine	0	1	1	1	1
Number of MOUs either in process or signed with other states	0	0	4	23	23

Interview results indicate the main challenges to interstate data sharing are legislation in each state that allows data sharing (including differences in access to PMP), legal agreements between the states, and legal agreements between the states and the hub (in Maine's case, RxSentry). The governing bodies of RxCheck and RxSentry are developing legal agreements that states will be able to use to share data between the two hubs.

SAMHS is working on all fronts to create interoperability: through bilateral agreements with individual states, through RxSentry for interoperability with other states that use this hub, and eventually through states that use other hubs. It appears that Maine's ability to reach the grant goal of interoperability with eight other states rests heavily on legislation in other states and legal agreements with other states and with RxSentry. According to the Project Coordinator, the most efficient process for implementing interoperability is to work on signed agreements with states that also use RxSentry as a hub, thereby eliminating technology issues. A challenge will remain, though, in establishing interoperability with Massachusetts, which has created its own "home grown" PMP that is not a part of any interstate hub.

Integration

Physician and pharmacy representatives interviewed strongly supported integrating PMP and electronic health records through Maine HealthInfoNet as a way to improve patient care. This did not take place in year one due to challenges working out the technical details of consolidating two systems that use different programming language. Staff at SAMHS, HID and HIN worked to iron out differences such as how each system verifies the correct patient, has different user names, and has a different time period for password renewal. HID and HIN staff understand the technical issues, and it appears that the need for data security and user authentication have been addressed. Overall, staff are confident a single sign-on will occur in year two. Staff at both organizations stressed the need for good communication and collaboration to make sure the goals of the grant are met in this regard.

Enhancements

HID completed the software upgrade to ASAP 4.2 successfully, and data submitters are using ASAP 4.2 as required. The software upgrade helps ensure that gross formatting errors in identification numbers, National Drug Codes, and other data are minimized. No barriers were encountered upgrading and using the software. By the end of year one, HID had not completed the system changes necessary to allow prescribers to set their own threshold limits.

Use of PMP

PMP staff spent the last months of year one gearing up for the increase in registrations that they expected as a result of the legislation requiring all prescribers to register. SAMHS looked at the experience of Kentucky where registration was required in 2012. Prescribers had three months to comply. The result was a tremendous spike in registration requests that overloaded the state's capacity to accept registrations. Temporary workers were hired, and a paperless registration system was created to deal with the influx. In Tennessee, PMP staff had about six months to prepare for the increase in registrations, and they developed an electronic registration system combined with staff verifying manually DEA and state license numbers to accommodate the increase in registrations.

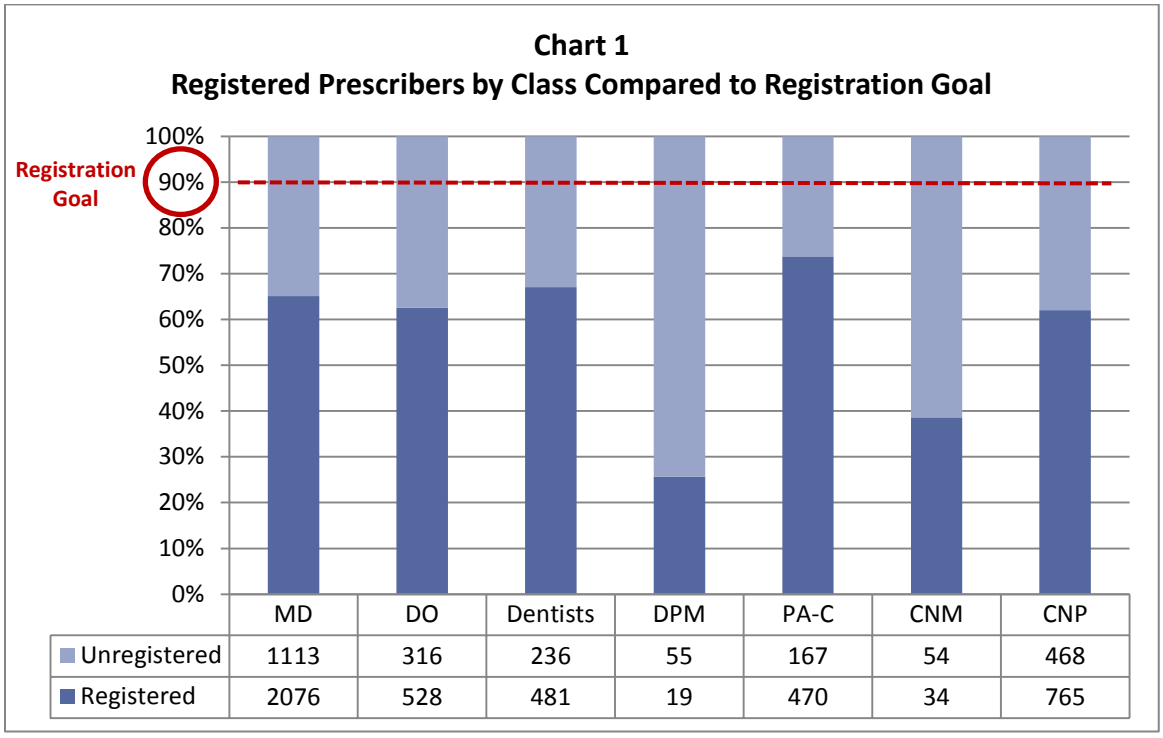
Currently, Maine prescribers register for PMP by sending a paper registration form with original signatures through the mail. PMP staff verify that the provider license is active and the provider is in good standing, approve the registration and fax the approved form to HID. PMP staff then enter this registration information into a master spreadsheet for internal use. HID processes the registration and emails the prescriber a link to the PMP web portal, a user name and a password. SAMHS estimates that the number of new registrations will be between 5,500 and 6,000 and does not have capacity to accept this deluge of registrations under the current system.

Members of the PMP Advisory Committee recommended that SAMHS initiate discussions with the six Licensing Boards to discuss a more streamlined approach, moving away from manual registration to an electronic process. SAMHS staff met with representatives from the Licensing Boards, HID and the Agency Licensing Management System (ALMS), the software vendor for the Licensing Boards to discuss options. Possibilities under consideration include direct online registration with HID, automatic registration of all non-registered prescribers, a secure web link from Licensing Board sites to HID's registration link, and direct data uploads from ALMS to HID. SAMHS also met with the Substance Abuse Services Commission to discuss the registration requirement and to propose that the law be repealed and replaced with a method of PMP registration that requires registration of all prescribers in the six license classes at the time of licensure or renewal. While this would not result in registration of all prescribers in the six classes by March 1, 2014, it would ensure required registration that would result in 100 percent compliance over time. At the end of year one, this issue had not been resolved.

Table 2 shows an overall steady increase in the number prescribers, sub-accounts, PMP users, and pharmacies accessing PMP over the first year of the grant, although number of registered prescribers and the number of PMP users fell somewhat in the fourth quarter. (The number of PMP users includes registered prescribers and sub-accounts, which are accounts that registered prescribers may assign to staff who work for them. Typically, the sub-account holder is a licensed health care professional such as Registered Nurses or Medical Assistant.) It is important to note here that it is unclear what the ideal number of PMP users is. First, some healthcare provider specialties (such as pulmonologists or obstetricians) do not prescribe controlled substances frequently and therefore would not be expected to use PMP even if they are registered. Second, in some large primary care practices, a single sub-account holder consults PMP for several prescribers, resulting in one PMP user but several registered prescribers.

Table 2: PMP Users					
	Baseline 9/30/12	Q1 12/31/12	Q2 3/31/12	Q3 6/30/13	Q4 9/30/13
Number of registered prescribers in Maine	3,043	3,232	3,873	4,215	4,076
Number of sub-accounts	1,174	1,325	1,573	1,766	1,904
Number of PMP users (prescribers & sub-accounts)	1,489	1,571	1,700	1,760	1,736
Number of pharmacies accessing PMP	88	110	152	203	208
Total out-of-state prescribers	0	0	0	38	42

The percentage of prescribers registered across all healthcare provider classes has increased, but is not close to the goal of 90 percent. Chart 1 shows the percentage of prescribers registered by class. SAMHS staff believe that no class of prescribers will reach the goal of 90 percent by January 1, 2014.



PMP Survey Results….*at a glance*

Frequency of using PMP. Survey results indicate that most prescribers use PMP at least once a week or less than three times per month, and most consult it just before or during a patient visit. Nearly 72% of pharmacists use PMP during the patient visit.

Reasons for using PMP. The most common reasons by far for using PMP are when misuse or diversion is suspected. This is true across the board, for all types of responders, no matter how frequent their use. PMP is also used periodically (49.2%) or routinely (37.6%) for patients receiving controlled substances, and periodically for patients receiving opioids (34.8%).

Prompts for using PMP. Some office practices incorporate PMP as part of office procedure, policy or required protocol, and in these cases nurses most frequently access PMP. Pharmacists use PMP as part of required protocol more frequently than prescribers. Very few healthcare providers are prompted by a pop-up notice in electronic health records to consult PMP.

Prescribing practices as a result of using PMP. Prescribers who alter their prescribing practices as a result of using PMP stopped (60.7%) and/or decreased (49.3%) prescribing controlled substances to the patient and/or provided patient education (44.9%). Over a third referred the patient to substance abuse treatment. A smaller number (16.5%) refused to treat the patient. (Respondents could provide more than one action, so percentages do not total 100.) For non-prescribers, the most frequent course of action after reviewing a patient's PMP record was to notify the prescribers of discrepancies.

Barriers to using PMP. The vast majority of respondents find PMP easy to use (77.7%). While PMP users had frustrations with forgetting their passwords and with the password retrieval process, by far the greatest challenge to using PMP is the lack of real-time data. Currently, data submission is required within seven days of dispensing. Pharmacists and prescribers in particular see this as a challenge to using the system to its greatest effect in prescribing and dispensing appropriate medications and in detecting misuse and diversion.

Customer satisfaction. Most PMP users who also used SAMHS customer service were satisfied with customer service (70.5%). Responses did not vary significantly by role or by frequency of use.

Table 3 shows the number and type of PMP reports requested by prescribers, sub-account holders, pharmacists and out-of-state prescribers. An increase in the number of reports requested can be seen as a possible improvement in patient care, as prescribers become more aware of prescription drug abuse and diversion and consult PMP to access additional information about a patient's history. The significant uptick in pharmacist requests for patient reports in the third quarter of the grant (April – June 2013) is the result of a new policy at Walgreens pharmacies. There, pharmacists have been instructed to consult the PMP when verifying prescriptions for controlled substances in addition to other verification strategies (such as requesting photo identification of the person receiving the prescription).

Table 3: PMP Reports

	Baseline 9/30/12	Q1 12/31/12	Q2 3/31/12	Q3 6/30/13	Q4 9/30/13
Number of reports requested by prescribers and sub-accounts	36,808	38,566	43,060	46,288	46,364
Number of reports requested by pharmacies	1,469	1,799	2,904	10,235	9,141
Number of reports requested by out-of-state prescribers	46	17	29	35	42

Table 4 shows the number of unsolicited Patient Threshold Reports issued. A decrease in the number of patient threshold reports that are automatically sent to prescribers can be seen as a possible improvement in patient care, as fewer patients reach thresholds indicating possible abuse or diversion, or drug interaction or overprescribing. The number of Patient Threshold Reports issued increased over the course of the grant, perhaps reflecting the ongoing challenge of preventing abuse and diversion in the healthcare setting.

Table 4: PMP Unsolicited Patient Threshold Reports

	Baseline 9/30/12	Q1 12/31/12	Q2 3/31/12	Q3 6/30/13	Q4 9/30/13
Number of unsolicited reports	778	1,139	945	833	847

PMP prescribers made 13 referrals to substance abuse treatment as a result of consulting PMP; nine were physician referrals, and four were hospital referrals.

Table 5 below summarizes progress toward grant objectives.

Table 5: Progress Toward Grant Objectives			
	Target	**Actual**	**Progress**
Objective 1: Become interoperable with at least eight other state PMPs (including at least two states in New England) by September 2014	8	1	Partially attained
Objective 2: Integrate PMP and electronic health records (EHRs) via the health information exchange serving at least one EHR in a pharmacy, emergency department and primary care office by October 2013.	1 pharmacy 1 emergency department 1 primary care office	1 0 0	Attained Did not attain Did not attain
Objective 3: Adopt the ASAP 4.2 Standard for Prescription Monitoring Programs		Completed	Attained
Objective 4: Allow prescribers to set their own levels for patient drug monitoring		Not completed	Did not attain
Objective 5: Increase percentage of licensed physicians registered with the PMP and HIE to 90% by January 2014*			Partially attained
• MD			**Percent of goal attained:**
• DO		65.1%	72.3%
• DPM	90.0%	62.6%	69.6%
• PA-C		25.7%	28.6%
• CNM		73.8%	82.0%
• CNP		38.6%	42.9%
		62.0%	75.6%
Objective 6: Increase by 10% the number of providers requesting patient reports	1,638	1,736	Attained
Objective 7: Decrease by five percent the number of unsolicited Patient Threshold Reports	739	847	Did not attain
Objective 8: Increase number of referrals made to substance abuse treatment providers due to providers viewing PMP data	Not available	Not available	N/A

*Data are as of December 31, 2013.

SURVEILLANCE

The PMP Integration Project activities are one of several strategies employed in Maine to decrease prescription drug abuse. SAMHS monitors trends in use of alcohol, prescription drugs and other drugs to detect emerging trends and to monitor the impact of the combined interventions to reduce drug abuse in Maine. Table 6 shows some of the indicators SAMHS uses to monitor prescription drug use and its consequences. The table is followed by a description of sources for the data.

Table 6: Prescription Drugs

Source	Indicator	Year(s)	12 to 17	High School	Under 18	18 to 25	26 and older	18 and older	~~a~~All ages
MIYHS	**Past month misusage of prescription drugs**	2009		9%					
		2011		7%					
	Lifetime misusage of prescription drugs	2009		18%					
		2011		15%					
NSDUH	**Past Year Nonmedical Pain Reliever Use**	2006-08	6.0%			13.8%	3.0%	4.4%	
		2010-11	5.7%			11.3%	3.0%	4.0%	
BRFSS	**Past month misusage of prescription drugs**	2011				6.1%		2.8%	
EMS	**Number of Emergency Medical Responses related to drug/medication overdose**	2011			161	211	992	1203	1,364
		2012			252	289	1412	1701	1,953
	EMS responses related to drug/medication overdose by age group	2011			12%	15%	73%	88%	
		2012			13%	15%	72%	85%	
NNEPC	**Number of calls received involving opioids**	2011							13,687
		2012							9,108
OCME	**Number of deaths due to pharmaceuticals**	2010							161
		2011							140
MHDO	**Number of outpatient hospital visits due to abuse of opiates**	2010							42,820
		2011							39,914
	Number of outpatient hospital visits due to poisoning from opiates	2010							353
		2011							377
	Number of inpatient hospital visits due abuse of opiates	2010							3,509
		2011							3,619
	Number of inpatient hospital visits due to poisoning from opiates	2010							303
		2011							288
TDS	**Number of primary treatment admissions to synthetic opioids**	2011							4,085
		2012							3,838

Maine Integrated Youth Health Survey (MIYHS). The MIYHS is a statewide survey administered biennially through a collaborative partnership by the Maine Office of Substance Abuse and Mental Health Services (SAMHS) the Maine Center for Disease Control and Prevention and the Maine department of Education to students in grades 5 through 12. The survey collects information on student substance use, risk factors related to substance use, as well as consequences, perceptions and social risk factors related to substances, and collects information on many other health factors. As of the date of this report, the most recent data available are from 2011.

Maine Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a national survey administered on an ongoing basis by the National Centers for Disease Control and Prevention (CDC) to adults in all 50 states and several districts and territories. The instrument collects data on adult risk behaviors, including alcohol abuse. The most recent data available are from 2011. **Due to methodological changes in weighting and sampling, 2011 BRFSS data cannot be trended with previous BRFSS years and considered a baseline year.**

National Survey on Drug Use and Health (NSDUH). The NSDUH is a national survey administered annually by the Substance Abuse and Mental Health Services Administration (SAMHSA) to youth grades 6 through 12 and adults ages 18 and up. The instrument collects information on substance use and health at the national, regional and state levels. Retrieval: https://nsduhweb.rti.org/

Maine Emergency Medical Services (EMS). Maine EMS is a bureau within the Maine Department of Public Safety (DPS) and is responsible for the coordination and integration of all state activities concerning Emergency Medical Services and the overall planning, evaluation, coordination, facilitation and regulation of EMS systems. EMS collects data statewide from the 272 licensed ambulance and non-transporting services.

Northern New England Poison Center (NNEPC). The NNEPC provides services to Maine, New Hampshire, and Vermont. A poisoning case represents a single individual's contact with a potentially toxic substance. NNEPC also collects detailed data on calls requesting the verification of medications. The opioid category includes Oxycodone, Hydrocodone, buprenorphine, methadone, tramadol, morphine, propoxyphene, codeine, hydromorphone, stomach opioids, Meperidine (Demerol), heroin, Fentanyl, and other/unknown opioids. Data available from the poison center are reported on a continual daily basis and are included through December 2012. These data are only reflective of cases in which the Poison Center was contacted.

Maine Office of chief Medical Examiner (OCME). The Maine Office of the Chief Medical Examiner maintains records of all deaths associated with drug overdose. The death data are compiled on an annual basis and must be finalized prior to release, and so are not available to track changes that may occur over shorter time frames.

Maine Hospital Data Organization (MHDO). MHDO data includes all inpatient admissions to all hospitals in Maine for calendar year 2009. Data categories created by the authors include alcohol, opioids, illegal drugs, and pharmaceuticals. All drug categories include intoxication, abuse, dependence, and poisoning cases related to the drug. The opioid category includes methadone, heroin, and opiates. The illegal drug category includes crack/cocaine, cannabis, and hallucinogens. The pharmaceuticals category includes all other non-opioid medications (including stimulants and depressants). Data are compiled annually and are therefore not available on a more frequent basis.

Maine Treatment Data System (TDS). TDS is a statewide database that includes information about clients admitted to treatment in OSA-funded facilities through December 2012. Analyses in this report are based on clients' reported primary, secondary and tertiary drug(s) of choice as well as other demographic and background information that is collected at intake. Drug categories included in this report are alcohol, marijuana, cocaine, heroin, synthetic opiates, methadone/buprenorphine and benzodiazepines.

SUMMARY AND RECOMMENDATIONS

SAMHS has met some of the objectives of the grant and is making solid progress toward completing all grant requirements. Progress includes data sharing with one state, signed MOUs for interoperability with two states, progress toward signing MOUs in 21 states, adoption of ASAP 42 by HID and pharmacies submitting data, an increase the number and percentage of prescribers registered for PMP, and an increase in the number of providers requesting patient reports. Activities nationally will likely result in interoperability with the PMP hubs, which in turn will facilitate interstate operability for Maine and other states. Two areas where technology improvements are expected to be completed in year two are integrating PMP and electronic health records through Maine HealthInfoNet and allowing prescribers to set their own levels for drug monitoring.

For the most part, project staff should "stay the course" on current activities, with an increased focus on improving communication among the various stakeholders for this grant. The recommendations below are additional steps SAMHS may wish to consider to maximize the effectiveness of grant funds in the second and final year of the grant.

Recommendation 1: Continue to offer training opportunities

SAMHS offers trainings to health care providers on how to use PMP and also works with Maine Medical Association, Healthy Maine Partnerships and other organizations to educate health care providers and others about the importance of registering for and using PMP. As the percent of prescribers registered and the number of subaccounts increase, it is important to maintain this level of training. It may be useful to offer a brief "refresher course" for long-time users to inform them of new features. SAMHS should also consider emphasizing in its trainings the importance of incorporating PMP into standard office procedures or protocol for practices that prescribe large amounts of controlled substances. When integration with Maine HealthInfoNet is complete, trainings should include the importance of using shared clinical information for patient care.

The data in the Treatment Data System indicating a low number of primary referrals as a result of prescribers consulting PMP may be due to the way substance abuse treatment providers enter referral source data into the system. SAMHS should include this aspect of data entry in the training they provide staff at substance abuse treatment agencies. SAMHS should also reinforce with prescribers that they may wish to refer a patient to treatment based on the patient information they find in PMP.

Recommendation 2: Improve password retrieval process

Survey respondents (prescribers and non-prescribers alike) noted that the PMP password retrieval process was slow and cumbersome. SAMHS should continue to simplify and improve the password retrieval process, which will address many of these concerns.

Recommendation 3: Collect real-time data

Pharmacists and prescriber respondents to the survey stressed the importance of having access to real-time data for optimal use of PMP as a clinical tool. SAMHS should work with its software vendor, policy-makers, and pharmacies to initiate real-time data collection as soon as feasible

Recommendation 4: Develop sustainability plan

SAMHS should consider using the second year of this grant as an opportunity to develop a long-term sustainability plan for Maine's PMP. The PDMP Training and Technical Assistance Center at Brandeis University has developed a guide on funding options and their rationales for state officials.[16] The guide presents options ranging from fees charged to prescribers and dispensers for using PMP or for prescribing and dispensing controlled substances, to using funds from Medicaid fraud settlement funds, to assessing drug manufacturers based on the sale of their controlled substance in the state.

Recommendation 5: Plan for other PMP innovations

If SAMHS is successful in implementing the remaining objectives of the grant, SAMHS may wish to lay the groundwork for other PMP innovations beyond grant requirements. For example, SAMHS may explore data sharing through a direct transfer of data with MaineCare to improve efficiencies in detection of possible abuse and diversion. SAMHS may also wish to explore incorporating a calculation of morphine equivalent for prescriptions included in the PMP.

[16] Prescription Drug Monitoring Program Training and Technical Assistance Center. (2013). *Funding Options for Prescription Drug Monitoring Programs.* Technical Assistance Guide No. 04-13., Brandeis University. Available at http://www.pdmpassist.org/pdf/PDMP_Funding_Options_TAG.pdf