Bureau of Justice Assistance

Prescription Drug Monitoring Program Performance Measures Report: January 2009 through June 2012

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Executive Summary

In 2005, the Bureau of Justice Assistance (BJA) convened a group of state representatives and BJA consultants to develop performance measures for Prescription Drug Monitoring Programs (PDMPs). Over the following three years, an initial set of measures was adopted, consistent with federal reporting requirements mandated by the Government Performance Results Act. The initial measures were developed in each of four areas:

- Inputs—the elements of the system that allow it to do its work. Training is a very important input; measures in this area relate to training of prescribers, dispensers, and individuals authorized to conduct investigations in how to access and use PDMP data.
- Outputs—the work performed by the system. Solicited and unsolicited reports generated by a PDMP are seen as essential to its effectiveness. Solicited reports are those provided in response to a request from a prescriber, pharmacist, investigator, regulatory agency or other authorized end user of the PDMP. Unsolicited reports are proactively provided by the PDMP to any of these end users as a result of the PDMP's having identified questionable prescription patterns. Measures in this area relate to solicited and unsolicited reports provided to prescribers, dispensers, and individuals authorized to conduct investigations.
- Outcomes—the immediate effects attributable to the system. There are a number of possible outcomes, but initially the focus is on consumers who fill prescriptions in a manner that may indicate inappropriate use of prescription drugs. Measures in this area relate to the number of individuals who exceed certain thresholds of prescribers and pharmacies, and to the number of doses of drugs associated with these individuals.
- Impacts—the ultimate results the system seeks to achieve. The primary impact measure proposed was the prevalence of inappropriate use of prescription drugs by the general population, to be obtained from the National Survey on Drug Use and Health (NSDUH). Overdoses and deaths attributable to misuse of controlled substances are other such measures.

Reporting on these measures has been required of BJA Harold Rogers PDMP grantees beginning in 2008. The measures have been periodically revised, as has BJA guidance in interpreting the measures, based on program grantee feedback. In 2010, measures were added to capture the number of prescribers registered with the PDMP for online access to PDMP data and the number of prescribers who wrote at least one controlled substance prescription during the reporting period. These measures allow for measurement of prescriber registration rates (an input) and, coupled with solicited reports, for measurement of prescriber utilization of the PDMP (an output). Beginning in July 2010, the reporting period changed from six months to three months, affecting the comparability of some of the measures across reporting periods.

This report represents the first comprehensive compilation of the measures, across the three and one-half years from January 2009 through June 2012. It is intended to present both the variation and the similarity across PDMPs in the measures and trends within each PDMP. We have attempted minimal analysis of the variation across programs and over time, primarily noting that prescriber online access has been available in programs for varying periods, which would be expected to affect prescriber registration and utilization rates. Data are compiled from performance measure data reported by grantees with awards from different fiscal years. This allows more PDMPs to be included in tables encompassing multiple reporting periods, although data may be missing for some reporting periods for which the PDMP was not a grantee. A total of 29 operational PDMPs are represented in the quantitative portion of the report for at least some of the reporting periods; and a total of 38 grantees (including planning and implementation grantees) are included in the summary of qualitative responses.

The report is organized by sections, corresponding to input, output, outcome, and impact measures as sketched above. The first section, *Inputs*, describes trainings (formal and informal) and prescriber registration rates. The second section, *Outputs*, summarizes data on solicited and unsolicited reports (both within and out of state) and on prescriber utilization of the PDMP. The third section, *Outcomes*, presents data on threshold measures thought to be indicative of prescription misuse. The fourth section, *Impacts*, presents data on non-medical use of pain relievers and on rates of drug-related overdose deaths for recent years. A final section reports on narrative responses to performance measure questions about program accomplishments, challenges, and barriers.

Summary of Findings

Inputs

- *Trainings*. All grantees reported providing formal and informal trainings to prescribers, pharmacists, and individuals authorized to conduct investigations during at least some reporting periods. Most grantees provided formal trainings to several hundred prescribers and somewhat fewer pharmacists over a typical 12-month period.
    - To date, this measure has asked for the number of formal and informal trainings provided in the current reporting period. Beginning in 2013, the measure will ask for the *cumulative* number of trainings provided to each end-user group, so that the proportions of prescribers, pharmacists, and individuals authorized to conduct investigations registered with or eligible to use the PDMP, who have received trainings as of the end of the current reporting period, can be determined. This latter measure is thought to be more relevant to PDMP performance.

- *Prescriber registration rates*, defined as the proportion of prescribers with at least one controlled substance prescription in the current reporting period (three months) who had registered to use the PDMP, varied according to how long online access to the PDMP had been available. Registration rates appeared to continue to increase for four or more years after implementation of online access, reaching an average of 58% in the first half of 2012 for the six states where online access began prior to 2007. Any attempt to benchmark prescriber registration rates consequently needs to take into account the time online access to the PDMP has been available. In addition, some of the states with years of online access have recently implemented new strategies for increasing prescriber registration (e.g., mandating registration in Kentucky).

Outputs: Solicited Reports

- The 22 grantee PDMPs for which trend data were available exhibited substantial growth from January 2009 through June 2012 in the number of solicited reports provided to in-state prescribers (an increase of more than 400% on average), pharmacists (an increase of more than 200% on average), and law enforcement (an increase of more than 100% on average). Increasing numbers of solicited reports were also being provided to regulatory agencies. Solicited reports to out-of-state prescribers through other PDMPs (i.e., interstate data sharing) began in 2011.

- Prescriber utilization, measured as the number of solicited reports per prescriber registered with the PDMP, averaged about 22 reports per prescriber in each of the four three-month reporting periods between July 2011 and June 2012 across the 20 grantee PDMPs reporting these measures. For most PDMPs, this measure of utilization was

relatively constant from July 2010 to June 2012, suggesting that overall growth in solicited reports to prescribers in these states was largely driven by growth in the number of registered prescribers. For a number of states, however, utilization exhibited growth over this period, suggesting that growth in solicited reports to prescribers in these states was driven both by growth in the number of registered prescribers and growth in these prescribers' use of the PDMP. Strategies these latter states use to increase prescriber utilization should be investigated further (e.g., mandated prescriber registration). Utilization rates appeared to be higher in states where online access to the PDMP had been in place for at least four years.

- Prescriber utilization can also be measured as the number of solicited reports per prescriber who wrote at least one controlled substance prescription in the reporting period. Using this measure, prescriber utilization was about five reports per prescriber on average for each of the four three-month reporting periods between July 2011 and June 2012. This rate increased from July 2010 to June 2012 for about half of the grantee states, and was relatively constant for the remaining states. Utilization based on this measure was also higher in states where online access to the PDMP had been in place longer.

Outputs: Unsolicited Reports

- Approximately half as many BJA PDMP grantees engage in unsolicited reporting as engage in solicited reporting. Unsolicited reports are provided by at least some PDMPs to in-state prescribers, pharmacists, law enforcement, and regulatory agencies. (The latter unsolicited reports are typically focused on providers rather than on patients.) In addition, a few states provide unsolicited reports to out-of-state prescribers and pharmacists.

- Rates of unsolicited reporting to prescribers, in those states where unsolicited reports are provided, are much lower than rates of solicited reports. The number of unsolicited reports provided on average to each prescriber who wrote at least one prescription in a reporting period is generally much less than one, compared with an average of slightly more than five solicited reports per prescriber who wrote at least one prescription, as noted earlier.

Outcomes

- Threshold, or questionable activity, rates varied across PDMPs and, to a lesser extent, over time for individual grantee PDMPs. No clear trends within PDMPs were apparent. Typical rates of individuals who had obtained Schedule II prescriptions from five or more prescribers and five or more pharmacies in a three-month reporting period were less than 1/10th of 1%. The proportions of non-liquid doses obtained by these individuals were typically three to four times as much as for other patients. Threshold rates for Schedule II and III and Schedule II–IV drugs were higher, but are not reported here because they were not reported in the same way by different PDMPs.

Impacts

- We obtained state-level data on non-medical use of pain relievers from the NSDUH, Model-Based Estimates (50 states and the District of Columbia), for residents age 12 and older, for the years 2002/2003, 2009/2010, and 2010/2011. Nationally, non-medical use of pain relievers by individuals age 12 and older declined over these last two periods, and was 4.79% in 2002/2003, 4.89% in 2009/2010, and 4.57% in 2010/2011. In our sample of 27 states, non-medical use in 2010/2011 ranged from 3.84% to 6.00%.

- We obtained state-level data on age-adjusted rates of drug-related overdose deaths for the years 2008, 2009, and 2010 (the most recent year available) from the National Vital Statistics System and the Centers for Disease Control and Prevention. Rates of drug-related overdose deaths exhibited a wider range than non-medical use of pain relievers, from 3.4 to 23.6 deaths per 100,000 in our sample in 2010.

- We explored associations between non-medical use of pain relievers and rates of drug-related overdose deaths for the grantee states. We found that all years of non-medical use were correlated with all years of overdose death rates. However, the highest correlations were between non-medical use in 2002/2003 and overdose death rates in 2008, 2009, and 2010 (correlation coefficients of .725, .747, and .754, respectively). (The correlation between non-medical use in 2009/2010 and overdose death rates in 2010 was .654.) This finding suggests that the relationship between these two impact measures may be complex, and that effects of PDMP activities, if any, may be different on each measure.

Narrative Responses

- BJA grantee PDMPs reported a wide range of accomplishments, primarily in the area of what we have termed inputs, including increasing public awareness of the PDMP; increasing provider utilization of the PDMP and of both solicited and unsolicited reports; improvements to data reporting compliance, data quality, IT infrastructure, and capacity for interstate datasharing; and developing collaborative relationships for evaluation.

- Slightly more than half of grantees reported encountering problems or barriers in accomplishing grant goals, resulting in project delays for an increasing proportion of grantees through the first half of 2012. The most frequently cited barriers were operational, having to do with obtaining adequate funding and resolving technological issues; legislative barriers, issues with stakeholder collaborations, and legal issues were also mentioned.

- Grantee PDMPs continue to innovate to enhance the effectiveness of their programs. Innovations included new ways to increase PDMP utilization by prescribers, pharmacies, and law enforcement, and ways to increase the utility of PDMP data for these end users. PDMPs are increasingly forming research and evaluation partnerships to enhance the uses and usefulness of their data.

Introduction

In 2005, the Bureau of Justice Assistance (BJA) convened a group of state representatives and BJA consultants to develop performance measures for Prescription Drug Monitoring Programs (PDMPs). Over the following three years, an initial set of measures was adopted, consistent with federal reporting requirements mandated by the Government Performance Results Act. The initial measures were developed in each of four areas:

- Inputs—the elements of the system that allow it to do its work. Training is a very important input; measures in this area relate to training of prescribers, dispensers, and individuals authorized to conduct investigations in how to access and use PDMP data.
- Outputs—the work performed by the system. Solicited and unsolicited reports generated by a PDMP are seen as essential to its effectiveness. Solicited reports are those provided in response to a request from a prescriber, pharmacist, investigator, regulatory agency or other authorized end user of the PDMP. Unsolicited reports are proactively provided by the PDMP to any of these end users as a result of the PDMP's having identified questionable prescription patterns. Measures in this area relate to solicited and unsolicited reports provided to prescribers, dispensers, and individuals authorized to conduct investigations.
- Outcomes—the immediate effects attributable to the system. There are a number of possible outcomes, but initially the focus is on consumers who fill prescriptions in a manner that may indicate inappropriate use of prescription drugs. Measures in this area relate to the number of individuals who exceed certain thresholds of prescribers and pharmacies, and to the number of doses of drugs associated with these individuals.
- Impacts—the ultimate results the system seeks to achieve. The primary impact measure proposed was the prevalence of inappropriate use of prescription drugs by the general population, to be obtained from the National Survey on Drug Use and Health (NSDUH). Overdoses and deaths attributable to misuse of controlled substances are other such measures.

Reporting on these measures has been required of BJA Harold Rogers PDMP grantees beginning in 2008. Simeone and Associates, under contract from BJA, worked with grantee PDMPs to facilitate their reporting of the performance measures in 2008. Simeone and Associates addressed a number of questions regarding the performance measures and helped clarify definitions and methods for computing the measures.[1] Dr. Ronald Simeone presented the 2008 outcome measures at the Harold Rogers Prescription Drug Monitoring Program Fifth National Meeting on September 24, 2009.

Subsequently, the measures have undergone several changes, although the core measures of inputs, outputs, and outcomes remain. In 2010, measures were added to capture the number of prescribers registered with the PDMP for online access to PDMP data and the number of prescribers who wrote at least one controlled substance prescription during the reporting period.[2] These measures allow for measurement of prescriber registration rates (an input) and, coupled with solicited reports, for measurement of prescriber utilization of the PDMP (an output).

In this report, the performance measure data are compiled for calendar years 2009, 2010, and 2011, and the first six months of 2012. In 2009 and the first half of 2010, the reporting period was six months. Beginning July 1, 2010, the reporting period changed to three months. This change is reflected in two ways in the report tables. For some measures,

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[1] U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Assistance. Draft 11/28/2008. *Frequently Asked Questions on Performance Measures for Prescription Drug Monitoring Programs*.Prepared by Simeone and Associates.

[2] The current BJA PDMP performance measures are available from the BJA web site at www.bja.gov/ProgramDetails.aspx?Program_ID=72.

such as numbers of solicited and unsolicited reports, we have constructed tables of six-month values so that trends from 2009 can be more easily examined. In these cases, the six-month values are simply the sum of the corresponding two three-month values (e.g., the number of solicited reports for January – June 2011 is the sum of the number of solicited reports for January – March and for April – June). Other measures, such as the number of prescribers registered to use the PDMP, the number of prescribers who wrote at least one prescription in the current reporting period, and various ratios, are not additive or otherwise commensurate between the six-month and three-month reporting periods. For these, we display values for the different reporting periods, noting that the values are not comparable across reporting periods.

Data are compiled from performance measure data reported by grantees with awards from different fiscal years. This allows more PDMPs to be included in tables encompassing multiple reporting periods, although data may be missing for some reporting periods for which the PDMP was not a grantee. A total of 28operational PDMPs are represented in the report for at least some of the reporting periods.

This report represents the first comprehensive compilation of the measures, across three and one-half years. It is intended to present both the variation and the similarity across PDMPs in the measures and trends within each PDMP. We have attempted minimal analysis of the variation across programs and over time, primarily noting that prescriber online access has been available in programs for varying periods, which would be expected to affect prescriber registration and utilization rates. The report will be updated every six months, and future reports will explore different analyses of the measures. We have attempted to identify anomalous values and have followed up with individual PDMPs to clarify and correct such values. However, some errant values may still remain. We welcome comments, suggestions, and questions regarding both the report and the performance measures, including suggestions for measures to better capture PDMP operations and performance, and indications of errors in the data presented or in how we have interpreted the data in this report.

The report is organized by sections, corresponding to input, output, outcome, and impact measures as sketched above. The first section, *Inputs*, describes trainings(formal and informal) and prescriber registration rates. The second section, *Outputs*, summarizes data on solicited and unsolicited reports (both within and out of state) and on prescriber utilization of the PDMP. The third section, *Outcomes*, presents data on threshold measures thought to be indicative of prescription misuse. The fourth section, *Impacts*, presents data on non-medical use of pain relievers and on rates of drug-related overdose deaths for recent years. A final section reports on narrative responses to performance measure questions about program accomplishments, challenges, and barriers. This final section includes responses from recipients of BJA Harold Rogers PDMP planning and implementation grants as well as enhancement grants. In each section, we discuss trends within each PDMP as well as similarities and variations across PDMPs. Each section concludes with a series of summary bullet points.

I. Inputs

Trainings

PDMPs provide trainings in how to access and use PDMP data reportsto various end users, including prescribers, pharmacists, and individuals authorized to conduct investigations. Formal trainingsinvolve a structured presentation

such as in a classroom setting or medical facility, or a web-based training if the latter requires enrollment.They follow a well-defined curriculum and may providecertification of successful completion. Informal trainings typically involve the provision of information or educational materials by mail, e-mail, at professional conferences, or as downloaded from the PDMP's website. The following tables present, in turn, the number of prescribers, pharmacists, and authorized investigators who received formal and informal training from each BJA PMDP grantee.

In Table 1.1, we note considerable variation in the formal trainings provided to prescribers by each PDMP over time. A number of factors may account for this variation, including how long the PDMP has been operational or had online access, the number of licensed prescribers in a state, availability of resources, and scheduling of trainings with respect to the reporting periods. Over the course of the most recent 12 months reported on, most grantee PDMPs provided formal trainings to several hundred prescribers, ranging to more than 1,000 for Maine and Minnesota.

Table 1.1. Number of licensed prescribers that were formally trained in the use of the PDMP system during the reporting period

	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	0	0	0	0	0	15	0	0	0
AL	-	91	133	46	0	56	140	74	44
CA	-	-	65	173	146	146	0	0	0
CT	-	70	-	0	60	0	-	-	-
DE	-	-	-	-	-	-	-	0	7
HI	200	77	458	235	100	23	140	208	277
FL	-	-	-	-	-	125	65	25	85
ID	-	-	0	0	3	35	3	30	50
IN	47	67	19	55	0	110	548	28	183
KS	-	-	-	-	-	100	0	10	10
KY	290	26	189	13	162	3	198	121	22
MA	10	0	175	160	237	159	255	417	131
MD	-	-	-	-	-	-	10	0	6
ME	290	70	52	141	105	121	254	417	614
MN	62	30	100	250	0	-	225	437	425
NC	504	96	398	96	155	18	32	85	96
ND	107	82	0	64	0	-	-	-	-
NY	255	190	171	50	200	220	110	0	-
OH	172	200	240	85	283	74	299	308	50
OK	285	150	0	236	32	0	0	-	-
UT	500	-	-	-	281	280	281	-	-
VA	76	20	-	-	-	-	-	-	-
VT	163	75	50	50	135	130	100	500	156
WA	-	-	0	0	200	90	135	210	55

Perhaps because of differences in how they are counted, informal trainings to prescribers show much greater variation across PDMPs than formal trainings (Table 1.2).

Table 1.2. Number of licensed prescribers that were informally trained in the use of the PDMP system during the reporting period

	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	0	0	0	0	0	0	15	0	5
AL	-	196	390	148	73	116	90	81	85
CA	-	-	0	171	0	0	0	0	0
CO	1140	-	1007	467	748	650	496	474	1055
CT	-	0	-	25553	0	0	-	-	-
DE	-	-	-	-	-	-	-	0	100
FL	-	-	-	-	-	99533	131	1565	2531
HI	5350	5489	5419	48805	4954	4634	4634	4767	4980
ID	-	-	0	75	0	0	0	0	0
IL	1226	605	216	300	400	200	400	600	300
KS	-	-	-	-	-	100	50	13000	500
KY	37	0	0	0	16	0	0	0	120
MA	663	143	88	280	375	402	457	425	522
ME	713	0	2294	219	10811	10465	12687	10690	2479
MN	916	1261	534	516	390	-	400	150	576
NC	390	120	120	84	36	150	180	160	180
ND	456	1089	56	375	87	-	-	-	-
NV	368	142	104	656	1038	142	142	161	158
NY	2091	8141	2773	33190	13661	8974	9581	6844	-
OH	64	55375	0	0	55400	30107	451	13	180
OK	5000	61	0	0	0	115	0	-	-
TX	202	81	-	-	-	-	-	-	-
UT	2840	-	-	-	3750	6784	3750	-	-
VA	31000	0	-	-	-	-	-	-	-
VT	200	55	100	300	60	78	231	200	223
WA	-	-	0	0	0	0	44397	70	48

Fewer formal trainings were provided to pharmacists than to prescribers, with two exceptions. Massachusetts, reflecting implementation of online access in 2011, provided nearly 1,000 formal trainings to pharmacists in 2011. Ohio provided more than 1,600 formal trainings to pharmacists in 2011. And Florida, in its start-up phase in the third and fourth quarters of 2011, provided 2,710 formal trainings to pharmacists during 2011.

Table 1.3. Number of licensed pharmacists that were formally trained in the use of the PDMP system during the reporting period									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	0	0	0	0	0	12	0	0	0
CA	-	-	0	0	37	37	0	0	0
CT	-	300	-	100	300	0	-	-	-
FL	-	-	-	-	-	1685	1025	350	150
HI	70	50	62	125	5	2	5	65	166
ID	-	-	0	0	1	0	0	0	0
IN	30	8	19	0	0	35	0	7	91
KS	-	-	-	-	-	100	0	0	5
KY	91	1	4	1	26	27	0	33	0
MA	430	0	1	0	205	0	451	309	213
ME	3	1	0	0	122	5	0	65	75
MN	52	0	0	0	0	-	50	154	125
NC	101	11	10	5	7	3	5	20	10
ND	168	65	70	0	0	-	-	-	-
NY	488	395	100	50	100	200	0	0	-
OH	172	100	40	620	564	229	133	634	650
OK	100	23	0	68	46	60	0	-	-
UT	200	-	-	-	187	187	187	-	-
VA	80	122	-	-	-	-	-	-	-
VT	45	45	25	15	10	17	50	40	15
WA	-	-	0	0	0	0	60	0	0

As with informal trainings for prescribers, there was much greater variation in informal trainings for pharmacists than in formal trainings.

Table 1.4. Number of licensed pharmacists that were informally trained in the use of the PDMP system during the reporting period									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	0	0	126	0	0	0	10	0	5
AL	-	63	48	23	17	31	18	46	36
CO	40	-	51	31	47	206	54	58	57
FL	-	-	-	-	-	27934	88	936	1605
HI	362	380	366	444	370	355	249	312	360
IL	583	267	364	0	0	200	0	300	200
KS	-	-	-	-	-	4740	50	4700	50
MA	0	48	20	30	30	14	19	60	272
ME	3	0	251	2	0	50	400	80	16

Table 1.4. Number of licensed pharmacists that were informally trained in the use of the PDMP system during the reporting period									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
MN	581	219	91	117	101	-	60	15	143
NC	25	20	36	10	7	20	24	24	36
ND	235	256	17	120	38	-	-	-	-
NV	0	17	14	109	167	7	7	8	87
NY	2000	2431	2031	0	0	1570	1746	1138	-
OH	307	200	92	10	117	11	0	343	527
OK	600	1156	0	0	0	145	800	-	-
TX	4117	2465	-	-	-	-	-	-	-
UT	162	-	-	-	1750	1750	1750	-	-
VA	7089	5200	-	-	-	-	-	-	-
VT	75	75	50	63	25	30	100	10	35
WA	-	-	0	0	0	0	9299	22	0

Each BJA PDMP grantee also provided formal trainings to individuals authorizedto conduct investigations. These ranged across PDMPs from a handful to several hundred within a 12-month period.

Table 1.5. Number of personnel authorized to conduct investigations that were formally trained in the use of the PDMP system during the reporting period									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
CA	-	-	0	110	265	265	0	0	0
CT	-	38	-	37	39	1	-	-	-
FL	-	-	-	-	-	0	350	297	218
HI	575	118	0	15	13	10	10	0	11
ID	-	-	0	0	5	0	0	0	0
IN	0	8	2	0	0	0	0	90	0
KS	-	-	-	-	-	15	0	0	0
KY	202	52	107	1	136	87	76	0	200
MA	16	0	0	20	0	31	45	0	30
MD	-	-	-	-	-	-	30	15	0
ME	1	0	0	13	0	0	0	0	3
NC	0	0	0	0	0	0	1	0	0
ND	20	14	0	0	0	-	-	-	-
NY	165	35	85	222	395	10	0	0	-
OH	35	23	23	0	0	2	0	140	0
OK	38	80	0	17	0	0	0	-	-
UT	0	-	-	-	22	0	68	-	-

Table 1.5. Number of personnel authorized to conduct investigations that were formally trained in the use of the PDMP system during the reporting period									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
VA	20	0	-	-	-	-	-	-	-
VT	2	2	0	0	0	0	3	0	0
WA	-	-	0	0	0	2	0	44	1

With one exception, informal trainings for authorized investigators tended not to exceed formal trainings.

Table 1.6. Number of personnel authorized to conduct investigations that were informally trained in the use of the PDMP system during the reporting period									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AL	-	113	10	12	1	12	3	16	3
CT	-	0	-	0	7900	0	-	-	-
FL	-	-	-	-	-	364	44	449	839
HI	575	130	0	15	13	10	10	3	11
IL	0	0	0	0	0	0	0	0	15
IN	0	0	0	0	0	0	0	0	146
KS	-	-	-	-	-	3	0	0	2
KY	0	0	0	0	8	0	0	0	0
MA	6	0	0	0	0	3	0	1	25
ME	0	0	0	0	0	0	1	1	0
NC	0	0	0	0	0	0	0	31	0
ND	5	62	9	0	3	-	-	-	-
NV	16	27	9	61	55	5	4	0	1
NY	325	0	0	0	0	0	0	0	-
OH	32	0	21	0	17	0	0	0	0
OK	0	7	0	0	0	0	0	-	-
TX	217	51	-	-	-	-	-	-	-
UT	95	-	-	-	30	0	32	-	-
VT	2	2	0	0	0	0	3	0	0
WA	-	-	0	0	0	0	0	12	4

Going forward, the required measures for formal and informal trainings have been changed to be the unduplicated *cumulative* number of individuals trained in each end-user category by the end of each reporting period, from the number (newly) trained in each reporting period. This number can then be compared with the total number of endusers registered to use the PDMP and, in the case of prescribers, the number who wrote at least one controlled substance prescription during the reporting period.

Summary

- All grantees reported providing formal and informal trainings to prescribers, pharmacists, and individuals authorized to conduct investigations during at least some reporting periods. Most grantees provided formal trainings to several hundred prescribers and somewhat fewer pharmacists over a typical 12-month period.
- To date, this measure has asked for the number of formal and informal trainings provided in the current reporting period. Beginning in 2013, the measure will ask for the *cumulative* number of trainings provided to each end-user group in order to determine the proportions of prescribers, pharmacists, and individuals authorized to conduct investigations registered with or eligible to use the PDMP who have received trainings as of the end of the current reporting period. This latter measure is thought to be more relevant to PDMP performance.

Registration Rates

Prescriber registration rates are measured as the ratio of (1) the cumulative number of prescribers registered to use the PDMP by the end of the reporting period, and (2) the total number of licensed prescribers who issued one or more controlled substance prescriptions during the reporting period. Note that the denominator is not simply the total number of licensed prescribers, but the subset that issued one or more prescriptions in the current reporting period. Registration rates are important in documenting the proportion of prescribers for whom the PDMP is *applicable* (i.e., who write controlled substance prescriptions) who have actually registered with the PDMP. It does not, however, capture the extent to which registered users access and use the PDMP. A measure of use, based on number of solicited reports generated, is developed in the next section.

The number of registeredprescribers was first reported in January 2010 and was collected over a six-month period for January – June 2010. Subsequently, the reporting period was changed to three months. The six-month version of the measure is not comparable to the three-month version.While the total number of prescribers registered to use the PDMP is probably not drastically different over a three-month period compared to a six-month period (the numerator), the number of prescribers who wrote at least one prescription is likely different over a six-month period versus a three-month period (denominator).

Table 1.7 below presents registration rates for January – June 2010 and for the eight three-month periods from July 2010 through June 2012. Thus, trend data are available for most of the reporting states for some number of the three-month reporting periods. (We report on the six-month version of the measure simply for comparison.) Because the number of prescribers registered to use the PDMP is cumulative, rather than the number of prescribers newly registered in each period, the registration rate for each state tends to be fairly stable with somewhat of an upward trend.

Because prescriber registration rates vary depending on the length of time online access has been available to prescribers, we include in the table a column indicating whether the PDMP's online access began prior to 2007 (eight states), between 2007 and 2009 (eight states), between 2009 and 2011 (six states), or in 2012 (two states). Information about online access was obtained from each PDMP's website.

Among the reporting grantees, registration rates range from 1% for the PDMPs that have recently begun online access to 80% for Kentucky and 82% for Maine in the April – June 2012 quarter.[3] The most frequently reported registration rates were between 30% and 40% (five states), and six states had registration rates greater than 50%. Across thegrantees, the median registration rate was approximately 35%. Most of the states appear to have a gradual increase in the rates of registered prescribers who wrote a prescription in each reporting period, with several exceptions. Maine appears to be on a more accelerated pace, with the proportion of registered prescribers increasing steadily from 48% in the first quarter of 2011 to 82% in the second quarter of 2012. The number of registered prescribers increased from 1,960 in the first quarter of 2011 to 4,623 in the second quarter of 2012. Over the same time period, Kentucky's registration rate increased from 44% to 80% (see note 3), Minnesota's from 18% to 32%, and Ohio's from 22% to 34%. The percentage change in registration rates from the first six months of 2011 to the first six months of 2012 (for grantees where there are data to compute this change) is displayed in the second column from the right in Table 1.7.

To assess how the length of time online access has been available affects registration rates, we first computed the average registration rate for each PDMP in the first six months of 2012, based on data availability. We then computed the average registration rate for each category of online access availability. For the six states where online access began prior to 2007 (and for which we had 2012 data), the average first half of 2012 prescriber registration rate was 58%. For the six states where online access began between 2007 and 2009, the average rate was 48%. For the six states where online access began between 2009 and 2011, the average rate was 12%, and for the two states where online access began in 2012, the average rate was 13%. Despite the small sample size, these average rates suggest that voluntary prescriber registration may continue to increase during four or more years after implementation of online access.

Table 1.7: Registration Rates by State

	Prescribers registered to use PDMP during the reporting period/ Total number of licensed prescribers who issued one or more controlled substance prescriptions during the current period									Percent change	Online portal status**
	Jan-June 2010*	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012	1st half 2011 – 1st half 2012	as of June 2012
AK	-	-	-	-	-	-	<0.01	0.01	-	-	3
AL	-	0.09	0.29	0.30	0.29	0.32	0.32	0.32	0.33	10	2
CA	-	-	0.02	0.03	0.06	0.06	-	-	-	-	3
CO	-	-	-	0.45	0.47	0.47	0.51	0.51	0.53	13	2
CT	0.14	0.14	0.15	0.17	0.19	0.18	-	-	-	-	2
DE	-	-	-	-	-	-	-	-	0.09	-	4
FL	-	-	-	-	-	-	0.06	0.08	0.09	50	3
HI	-	-	-	-	-	-	-	0.15	0.16	-	3
ID	-	-	-	-	-	0.63	0.49	0.63	-	-	1
IL	0.09	0.20	0.22	0.24	0.26	0.27	0.28	0.29	0.32	22	1
IN	0.31	0.42	0.42	0.44	0.41	0.43	0.44	0.51	0.50	19	1
KS	-	-	-	-	-	0.38	0.43	0.46	0.48	-	2
KY	0.39	0.41	0.43	0.44	0.46	0.47	0.47	0.49	0.80	43	1

[3] We note that Kentucky passed new legislation in 2012 requiring prescribers to register with the PDMP as of July 2012.

	Prescribers registered to use PDMP during the reporting period/ Total number of licensed prescribers who issued one or more controlled substance prescriptions during the current period									Percent change	Online portal status**
	Jan-June 2010*	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012	1st half 2011 – 1st half 2012	as of June 2012
MA	-	-	<0.01	0.01	0.01	0.01	0.02	0.01	0.02	50	3
ME	0.35	-	0.43	0.48	0.54	0.57	0.65	0.74	0.82	53	1
MN	0.05	0.13	0.15	0.18	0.20	-	0.24	0.30	0.32	63	3
NC	0.20	-	0.25	0.26	0.28	0.29	0.30	0.31	0.32	17	2
ND	0.26	0.06	0.20	0.22	0.25	-	-	-	-	-	2
NY	<0.01	0.01	0.01	0.12	0.34	0.01	0.01	0.62	-	35	2
OH	0.18	0.20	0.21	0.22	0.24	0.25	0.27	0.30	0.34	39	1
OK	0.27	0.34	0.38	0.37	0.38	0.38	0.39	-	-	-	1
VA	0.21	0.54	-	-	-	-	-	-	-	-	1
VT	0.37	0.13	0.47	6.55	0.54	0.54	0.53	0.57	0.63	17	2
WA	-	-	-	-	-	-	<0.01	0.21	0.28	-	4

*Column records a semi-annual reporting period (January-June 2010);remaining columns are quarterly.
** Online portal status: 1 = online access for prescribers prior to 2007; 2 = online access begun between 2007 and 2009; 3 = online access begun between 2009 and 2011; 4 = online access begun in 2012.

Summary

- Prescriber registration rates, defined as the proportion of prescribers with at least one controlled substance prescription in the current reporting period (three months) who had registered to use the PDMP, varied according to how long online access to the PDMP had been available. Registration rates appeared to continue to increase for four or more years after implementation of online access, reaching an average of 58% in the first half of 2012 for the six states where online access began prior to 2007. Any attempt to benchmark voluntary prescriber registration rates consequently needs to take into account the time online access to the PDMP has been available. In addition, some of the states with years of online access have recently implemented new strategies for increasing prescriber registration(e.g., mandating registration in Kentucky).

II. Outputs

Solicited Reports

The performance measures ask for the number of solicited reports the PDMP provided to end users during the reporting period. Such reports are primarily online queries to the PDMP database to retrieve an individual's prescriptionhistory, but also include faxed and paper-based reports in some states. End users include prescribers, pharmacists, law enforcement, and regulatory agencies within the state,as well as end users in other states. We report on these measures

in three parts. In Part A, we report the raw numbers of reports for the seven six-month periods from 2009 through June 2012 to facilitate examination of in-state trends. In Part B, we examine similar trends in solicited reports for out-of-state end users. Finally, in Part C, we report two ratios that measure prescriber utilization, or rates of solicited reporting: the number of solicited reports to prescribers divided bythe number of prescribers registered to use the PDMP, and of the number of solicited reports to prescribers divided by the number of prescribers who wrote at least one controlled substance prescription during the reporting period.The ratios facilitate comparisons across the grantee PDMPs and provide a basis for benchmarks.

A. Numbers of In-StateSolicited Reports

Table 2.1 displays the number of solicited reports to prescribers, compiled by six-month periods. We have computed the percent change from total reports in calendar 2009 to total reports in the 12 months from July 2011 through June 2012 (i.e., the most recent 12 months available). The status of online access for prescribers is also displayed.

Table 2.1. Solicited Reports to Prescribers

	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012	Percent change 2009 to 7/11-6/12*	Online Portal Status**
AK	-	-	0	0	0	12	1404	-	3
AL	161277	233019	-	205942	200914	206728	258471	18	2
AZ	39854	-	-	-	-	-	-	-	2
CA	24913	17691	-	123535	174811	392620	436068	1845	3
CO	151768	180926	104228	97369	197932	181646	155752	2	2
CT	25000	28972	49728	81644	83350	19481	-	91*	2
DE	-	-	-	-	-	-	6033	-	4
FL	-	-	-	-	-	124589	462570	2713*	3
HI	302	229	30	9	0	9268	9833	3497	3
ID	-	-	-	29000	926	1178	1246	-	1
IL	75298	78684	108251	85250	286407	510795	602760	623	1
IN	190803	204720	222041	263445	258471	367113	456371	108	1
KY	234475	265127	275089	295922	314909	324717	433124	52	1
MA	0	0	0	293	12255	33430	52061	581*	3
ME	14540	19502	24993	32460	42253	48061	69990	247	1
MN	0	0	11958	51956	68511	40389	105024	128*	3
NC	-	-	140960	281756	383424	399429	446125	100*	2
ND	6396	1985	10016	11763	14225	-	-	210*	2
NV	91888	105620	123789	133434	21777	172371	208661	93	1
NY	0	0	6742	27828	64452	70983	31147	195*	2
OH	184870	241194	252273	297960	417357	701921	684123	225	1
OK	113767	-	161501	225147	314160	399633	-	159*	1
RI	109	65	0	51	89	75	75	-14	5

Table 2.1. Solicited Reports to Prescribers									
	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012	Percent change 2009 to 7/11-6/12*	Online Portal Status**
TN	373728	-	-	-	-	-	-	-	1
TX	1480	2300	3185	1554	-	-	-	25*	5
UT	113767	-	107536	-	90039	219670	-	40*	1
VA	17497	46481	158229	100444	-	-	-	304*	1
VT	744	0	6737	6823	8581	16875	17019	353*	2
WA	-	-	-	0	0	553	160597	289*	4

* Ratio of July 2011 – June 2012 reports to 2009 reports.When 2009 or July 2011 – June 2012 reports were missing, we used the earliest and/or latest available 12 months of reports to compute percentage change.
** Online portal status: 1 = online access for prescribers prior to 2007; 2 = online access begun between 2007 and 2009; 3 = online access begun between 2009 and 2011; 4 = online access begun in 2012; 5 = no online access as of June, 2012.

We observe considerable variation in growth of the number of solicited reports provided to in-state prescribers over the three and one-half years from January 2009 to June 2012. Not surprisingly, the highest percentage growth occurred in those states where online access is more recent. For the nine states where online access was implemented prior to 2007 (online portal status = 1), growth from 2009 to the first six months of 2012 was solid, averaging 206% (ranging from 40% to 623%). Similarly, for the seven states where online access was implemented between 2007 and 2009 (online portal status = 2), growth in reports averaged 138% (ranging from 2% to 353%). For the six states where online access began between 2009 and 2011 (online portal status = 3), growth in solicited reports to prescribers averaged 1,753% (ranging from 128% to 3,497%). For the state (Washington) where online access began in 2012 and where there was at least one prior period for comparison, growth in reports was 289%. For the two states without online access by June 2012 (online portal status = 5), growth in solicited reports averaged 6% (ranging from -14% to 25%).

As with prescribers, there was strong growth overall in solicited reports provided to pharmacists, and growth rates varied according to online portal status. For the 10 states where online access was implemented prior to 2007, growth from 2009 to June 2012 averaged 211% (ranging from 2% to 819%). For the five states where online access was implemented between 2007 and 2009, growth in reports averaged 77% (ranging from 13% to 110%). Hawaii's growth of over 38,000% (resulting from the PDMP;s having implemented online access in 2011) dominated the rate for the six states where online access was implemented between 2009 and 2011.

Table 2.2. Solicited Reports to Pharmacists									
	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012	Percent change 2009 to 7/11-6/12*	Online Portal Status**
AK	-	-	0	0	0	5	572	-	3
AL	13299	15848	-	15251	13765	13879	19008	13	2
AZ	8623	-	-	-	-	-	-	-	2
CA	-	-	-	31362	42039	92625	109369	175*	3

Table 2.2. Solicited Reports to Pharmacists									
	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012	Percent change 2009 to 7/11-6/12*	Online Portal Status**
CT	3000	2814	4990	8012	7977	1795	-	68*	2
DE	-	-	-	-	-	-	46	-	4
FL	-	-	-	-	-	168828	587246	2478*	3
HI	7	3	0	0	0	2444	1453	38,870	3
ID	-	-	-	100	51	45	36	-46*	1
IL	45435	39342	54125	43767	58607	109381	125456	177	1
IN	45549	43971	47634	48394	34542	53720	37161	2	1
KY	7779	12401	8503	11171	12413	11978	13821	28	1
MA	0	0	0	33	364	1819	4975	1,611*	3
ME	734	677	999	1228	1048	1230	1643	104	1
MN	0	0	4414	12321	14306	11790	30343	152*	3
NC	-	-	19539	26020	29511	41448	47078	94*	2
ND	1040	1315	2344	2226	2517	-	-	101*	2
NV	12924	10872	12290	19630	4207	15789	19249	47	1
OH	32158	41649	62300	79001	92279	191285	487264	819	1
OK	5908	-	2539	16817	22010	29706	-	512*	1
RI	5	4	0	7	12	9	4	44	5
TN	48167	-	-	-	-	-	-	-	1
TX	557	598	1552	1061	-	-	-	126*	5
UT	5908	-	4576	-	10651	23306	-	224*	1
VA	2382	4003	12988	9055	0	-	-	245*	1
VT	83	0	0	561	747	1364	1377	110*	2
WA	-	-	-	0	0	109	25493	233*	4

* Ratio of July 2011 – June 2012 reports to 2009 reports. When 2009 or July 2011 – June 2012 reports were missing, we used the earliest and/or latest available12 months of reports to compute percentage change.
** Online portal status: 1 = online access for prescribers prior to 2007; 2 = online access begun between 2007 and 2009; 3 = online access begun between 2009 and 2012; 4 = online access begun in 2012; 5 = no online access as of June, 2012.

Law enforcement investigator access to PDMP reports varies considerably across states. In most states, investigators need to document an active case to request a person's prescription history. In some of those states, investigators can become authorized users with online access (again, with an active case). In other states, investigators are required to have a court order or subpoena in order to obtain PDMP data. Grantee PDMP data indicates growth from 2009 through June 2012 in solicited reports provided to law enforcement in 18 states, ranging from 30% to more than 8,000%. In four states, the number of solicited reports provided to law enforcement declined over those years.

Table 2.3. Solicited Reports to Law Enforcement								
	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012	Percent change 2009 to 7/11-6/12*
AL	397	462	-	440	384	491	627	30
AZ	431	-	-	-	-	-	-	-
CA	510	734	-	2042	4936	9364	9086	1383
CO	62	101	90	34	131	83	131	31
CT	150	600	1696	2517	3083	700	-	404*
HI	61	85	105	93	31	20	211	58
FL	-	-	-	-	-	1229	11352	8237*
ID	-	-	-	197	370	450	643	93
IL	123	198	259	321	496	420	426	164
IN	3838	3976	5072	4619	13779	11480	9445	168
KY	6589	5911	6875	5522	6790	5949	5854	-6
MA	49	88	119	167	251	559	564	720
ME	37	63	10	64	87	0	0	51*
MN	0	0	23	54	73	30	75	36*
NC	-	-	1486	1265	922	940	916	-33*
ND	105	129	177	135	193	-	-	40*
NV	1505	1773	2221	2572	0	0	0	46*
NY	407	355	603	398	833	1097	396	96
OH	5757	5850	7916	6839	8039	7739	8320	38
OK	4777	-	1050	8609	12215	13562	-	342*
RI	126	49	116	241	81	139	117	46
TN	85	-	-	-	-	-	-	-
TX	522	656	1638	584	-	-	-	89*
UT	4777	-	2888	-	1402	2374	-	-51*
VA	2091	1613	1553	877	-	0	-	-34*
VT	9	13	0	0	-	0	-	-
WA	-	-	-	0	0	0	298	-

* Ratio of July 2011 – June 2012 reports to 2009 reports.When 2009 or July 2011 – June 2012 reports were missing, we used the earliest and/or latestavailable 12 months of reports to compute percentage change.

Finally, many of the grantee PDMPs provided solicited reports to regulatory agencies within their state. This performance measure was added in 2010, so data for 2009 were not available. While there was variation across PDMPs in the number of such reports, and variation over time within individual PDMPs, there appeared to be overall growth in providing these reports across most grantees, particularly in 2012 and particularly in California, Kentucky, and Washington.

Table 2.4. Solicited Reports to Regulatory Agencies					
	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012
AL	-	942	1416	1018	1213
CA	-	6	46	12	240
CO	-	-	-	13	32
FL	-	-	-	0	267
HI	0	0	0	4	2
ID	-	94	90	49	156
IL	0	0	0	69	56
KY	-	-	0	84	1299
MA	2	3	39	45	117
ME	32	57	210	214	361
MN	-	-	-	-	-
NC	183	160	293	241	345
ND	24	17	35	-	-
NY	75	117	160	148	140
OK	116	67	453	0	-
RI	0	40	89	33	74
TX	123	47	-	-	-
VA	658	424	10	0	-
VT	10	0	30	8	0
WA	-	0	0	162	859

* Ratio of July 2011 – June 2012 reports to 2009 reports.When 2009 or July 2011 – June 2012 reports were missing, we used the earliest and/or latestavailable 12 months of reports to compute percentage change.

B. Numbers of Out-of-State Solicited Reports

The grantee PDMPs reported providing solicited reports to out-of-state end users. This performance measure began in 2010. Reports were provided to out-of-state prescribers who registered as authorized users with a PDMP, as displayed in Table 2.5.

Table 2.5. Solicited Reports to End Users In Another State, Prescribers									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
CA	-	-	0	1	0	0	0	0	0
CO	-	-	-	12	3	3	5	8	4
DE	-	-	-	-	-	-	-	-	470
ID	-	-	-	-	17	10	14	22	97

Table 2.5. Solicited Reports to End Users In Another State, Prescribers									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
IN	0	-	0	0	0	6894	0	11797	14815
KY	43887	29476	27669	31270	30376	33429	34249	35554	40968
ME	94	0	43	0	46	80	8	51	0
MN	8	187	161	143	291	-	437	557	459
NC	0	1494	1302	1702	5557	5810	3983	5027	4258
ND	59	112	195	96	37	-	-	-	-
OH	25997	18551	19723	18720	26276	19058	21133	19465	22870
VA	11364	6060	-	-	-	-	-	-	-
VT	22	0	34	0	40	0	57	23	23
WA	-	-	0	0	0	0	0	794	0

Kentucky, North Carolina, and Ohio, in particular, provided many thousands of reports to out-of-state prescribers registered to use those PDMPs. In addition, grantee PDMPs reported providing solicited reports to out-of-state prescribers through a request from a PDMP in the other state or states. The numbers of those reports are displayed in Table 2.6.

Table 2.6.Solicited Reports to Another PDMP for End User In Another State, Prescribers									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AL	**-**	**0**	**0**	**0**	**0**	**0**	**0**	0	549
IN	0	0	0	0	0	0	28495	0	34586
KY	-	-	0	0	0	0	390	0	0
OH	0	-	-	0	-	1741	5898	271	10106
VT	0	50	50	0	-	-	-	-	-

These reports, also referred to as interstate data sharing, began as of 2011, with Alabama, Indiana, Kentucky, Ohio, and Vermont reporting having provided such reports.

Reports were provided to out-of-state pharmacists and law enforcement investigators through direct requests to a PDMP, as presented in Tables 2.7 and 2.8, respectively.

Table 2.7.Solicited Reports to End Users In Another State, Pharmacists									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
ID	-	-	0	0	2	1	9	4	2
IN	0	0	0	0	0	0	0	0	622
KY	978	668	963	862	998	1240	742	729	1506

Table 2.7.Solicited Reports to End Users In Another State, Pharmacists									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
MN	0	10	0	81	0	-	0	46	1316
ND	76	14	27	66	19	-	-	-	-
OH	2063	1363	1589	1626	1642	1720	3407	4938	6039
VA	734	486	-	-	-	-	-	-	-
VT	0	0	0	0	0	0	0	13	-
WA	-	-	0	0	0	0	0	101	0

Table 2.8. Solicited Reports to End Users In Another State, Law Enforcement									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
CA	-	-	0	1	0	0	0	0	0
CO	-	-	-	0	2	0	0	0	17
ID	-	-	0	0	2	4	1	0	1
IL	0	0	0	0	0	1	2	4	0
IN	0	0	0	0	0	0	0	0	273
KY	813	179	122	168	115	121	144	114	164
ND	1	2	0	3	7	-	-	-	-
NY	2	3	3	0	5	0	14	9	-
OH	100	51	37	37	49	53	40	39	32
OK	0	0	1	0	1	0	0	-	-
TX	94	7	-	-	-	-	-	-	-
VA	5	6	-	-	-	-	-	-	-

We observe that Kentucky and Ohio appear to be the leading PDMPs in providing solicited reports to out-of-state pharmacists and law enforcement investigators.

C. Rates of Solicited Reports

To gain a better understanding of variation and growth in the raw numbers of solicited reports provided to prescribers, we compared the number of reports with the number of prescribers registered to use each PDMP and the number of prescribers who wrote at least one prescription in the current reporting period, the same measures used as numerator and denominator to compute registration rates in section I(Inputs) above. Table 2.9 displays the ratio, for each state and reporting period, of the number of solicited reports provided to prescribersto the number of prescribers registered to use the PDMP. Table 2.10 displays the ratio of the number of solicited reports to prescribers to the number of prescribers who wrote at least one controlled substance prescription during the reporting period.

Assuming that each data query results in a solicited report, then the ratio of the number of solicited reports to prescribers to the number of prescribers registered to use the PDMP provides a measure of PDMP utilization by prescribers. We do not know how many of the prescribers registered with the PDMP actually used it during the reporting period, but this ratio provides a measure of average use across those registered.

Table 2.9: Number of Solicited Reports to Prescribers/Number of Prescribers Registered to Use the PDMP in the Reporting Period

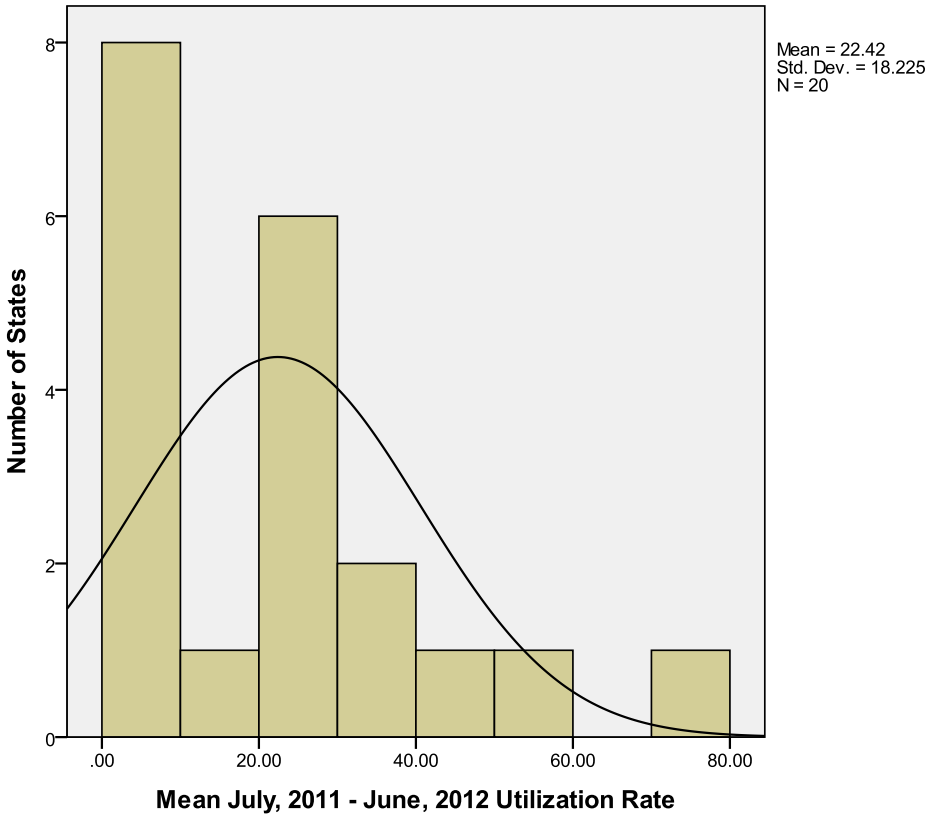
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012	Online Portal Status**
AK	-	-	-	-	-	-	0.75	13.15	-	3
AL	-	34.28	28.16	27.75	27.70	26.34	26.52	29.11	34.32	2
CA	-	-	33.44	<0.01	30.76	30.76	-	-	-	3
CO	-	-	-	12.17	12.22	13.09	8.05	8.45	8.44	2
CT	26.10	27.17	13.27	12.31	23.73	8.06	-	-	-	2
FL	-	-	-	-	-	-	39.53	51.94	48.57	3
HI	0.01	-	-	-	-	-	-	6.62	6.25	3
ID	-	-	12.03	0.35	0.01	0.48	0.30	0.53	0.25	1
IL	14.03	4.96	5.03	5.30	24.56	24.45	24.40	23.21	28.62	1
IN	29.40	16.20	16.42	14.72	16.77	19.63	24.08	21.31	25.42	1
KY	54.65	27.94	26.65	27.47	27.25	26.77	26.66	28.94	23.30	1
MA	-	-	3.33	12.46	23.38	39.53	38.38	55.02	54.94	3
ME	12.75	7.41	7.33	6.24	8.59	7.46	6.40	7.79	8.01	1
MN	11.71	9.49	9.62	9.16	9.89	-	8.86	8.70	8.97	3
NC	34.35	19.17	19.54	19.25	19.28	21.99	22.13	21.91	23.00	2
ND	15.70	8.64	17.52	13.12	12.72	-	-	-	-	2
NV	-	-	-	33.20	0.00	75.31	64.98	75.01	66.80	1
NY	33.71	16.63	17.53	1.96	1.04	29.43	31.59	0.58	-	2
OH	40.27	22.25	20.76	25.93	27.29	32.14	44.05	31.47	28.87	1
OK	57.84	34.06	32.91	40.03	47.93	52.92	54.61	-	-	1
TX	0.04	0.02	-	-	-	-	-	-	-	5
VA	28.94	16.12	-	-	-	-	-	-	-	1
VT	6.83	3.34	3.14	3.37	3.14	3.97	7.98	5.33	5.63	2
WA	-	-	-	-	-	-	12.86	13.17	12.46	4

** Online portal status: 1 = online access for prescribers prior to 2007; 2 = online access begun between 2007 and 2009; 3 = online access begun between 2009 and 2011; 4 = online access begun in 2012; 5 = no online access as of June 2012.

We can make several observations. First, for at least nine of the grantee PDMPs, this measure of utilization is relatively constant over the eight three-month reporting periods through June of 2012 (for the months where this measure was available). For these states, growth in overall numbers of solicited reports to prescribers appears to be driven by growth

in the number of prescribers registered to use the PDMP. Second, a number of states exhibited growth trends in utilization, including Illinois, Indiana, Massachusetts, Oklahoma, Vermont, and to a lesser extent,North Carolina and Ohio. In these states, average utilization per registered prescriber increased overall during the period of July 2010 to June 2012. For them, growth in the numberof solicited reports provided to prescribers appears to have been driven both by growth in the number of registered prescribers and by growth in actual utilization of the PDMP by at least some prescribers. Follow-up discussions with these PDMPs could help identify strategies they have in place to increase prescriber utilization.

Third, there is variation across states in this measure of prescriber utilization, although this variation is less than the variation in overall numbers of solicited reports to prescribers. A graph of the distribution of this prescriber utilization measure, averaged for July 2011 – June 2012, is displayed below. We can see that eight of the grantee PDMPs have average prescriber utilization rates for this period of 10.0 or fewer reports per registered prescriber. Nine grantee PDMPs have utilization rates between 11.0 and 40.0, while three PDMPs have utilization rates greater than 41.0. The mean utilization rate across all 20 states with data for at least some portion of the July 2011 – June 2012 period is 22.4 reports per prescriber registered with the PDMP.



We also examined the average of this measure of prescriber utilization, over the July 2011 – June 2012 period, in relation to PDMP online portal status. For the eight states with online prescriber access prior to 2007, the average prescriber utilization rate for this period was 30.1 (range 0.4 to 70.5). For the six states where online access was implemented between 2007 and 2009, the average prescriber utilization rate was 15.9 (range 5.7 to 29.1); and for the six states where online access was implemented between 2009 and 2011, average prescriber utilization was 18.8 (range 6.4 to 47.0). There is at least the suggestion from these results that PDMPs with longer online access are associated with

higher prescriber utilization. At the same time, some PDMPs that only recently implemented online access have been able to increase prescriber utilization rapidly. As with growth trends in prescriber utilization, a more in-depth look at the PDMPs in question may help to identify successful strategies for increasing prescriber utilization.

An additional way of looking at solicited reports to prescribers is in relation to the number of prescribers who wrote at least one controlled substance prescription in the reporting period. The ratio of these two measures is presented in Table 2.10.

Table 2.10. Number of Solicited Reports to Prescribers/Number of Prescribers Who Wrote One or More Controlled Substance Prescriptions in the Reporting Period

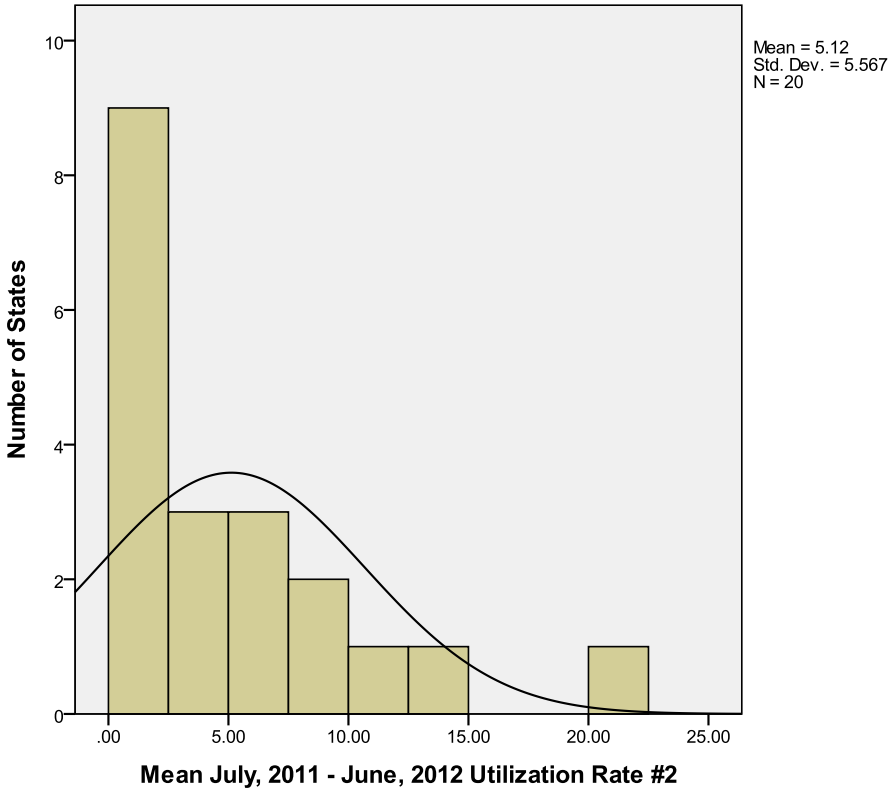
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012	Online Portal Status**
AK	-	-	-	-	-	-	<0.01	0.16	0.19	3
AL	-	3.19	8.26	8.36	8.15	8.30	8.47	9.43	11.32	2
CA	-	-	0.78	<0.01	1.74	1.74	1.43	1.28	2.08	3
CO	-	-	-	5.54	5.77	6.16	4.12	4.28	4.47	2
CT	3.58	3.92	1.96	2.10	4.46	1.41	-	-	-	2
FL	-	-	-	-	-	-	2.39	4.26	4.56	3
HI	0.01	<0.01	<0.01	-	-	1.00	1.00	1.00	1.02	3
ID	-	-	-	0.57	0.04	0.30	0.14	0.33	0.30	1
IL	1.28	1.01	1.10	1.29	6.26	6.52	6.77	6.70	9.04	1
IN	9.20	6.75	11.97	6.49	6.82	8.45	10.53	10.94	12.74	1
KY	21.12	11.59	11.33	12.15	12.52	12.67	12.48	14.15	18.64	1
MA	-	-	0.01	0.12	0.30	0.54	0.58	0.77	0.95	3
ME	4.52	-	3.13	3.03	4.61	4.26	4.19	5.77	6.55	1
MN	0.61	1.26	1.49	1.67	1.98	-	2.08	2.57	2.86	3
NC	7.02	-	4.86	5.01	5.37	6.30	6.58	6.84	7.39	2
ND	4.06	0.54	3.51	2.94	3.13	-	-	-	-	2
NY	0.09	0.11	0.15	0.24	0.36	0.29	0.34	0.36	-	2
OH	7.13	4.41	4.33	5.68	6.46	8.06	11.88	9.45	9.80	1
OK	15.73	11.53	12.43	14.97	18.18	19.95	21.51	-	-	1
RI	-	<0.01	<0.01	0.01	<0.01	<0.01	0.01	0.01	<0.01	
VA	6.04	8.73	-	-	-	-	-	-	-	1
VT	2.56	0.44	1.48	22.03	1.69	2.13	4.20	3.06	3.54	2
WA	-	-	-	-	-	-	0.02	2.71	3.44	4

** Online portal status: 1 = online access for prescribers prior to 2007; 2 = online access begun between 2007 and 2009; 3 = online access begun between 2009 and 2011; 4 = no online access as of December 2011.

As with the first measure of prescriber utilization above, utilization measured as the ratio of solicited reports to prescribers with at least one controlled substance prescription showed both PDMPs where utilization was relatively

constant from July 2010 to June 2012, and PDMPs where utilization increased over this period. For this second measure of prescriber utilization, somewhat more PDMPs exhibit an overall growth trend during this period than exhibit relatively little change. Because the number of prescribers who wrote at least one prescription during the reporting period is likely to change much less than the (cumulative) number of prescribers registered with the PDMP, trends in this second measure of utilization are more directly related to trends in the number of solicited reports provided to prescribers.

We computed the average rate for the period of July 2011 – June 2012 of this second measure of prescriber utilization and examined the distribution of 12-month averages. As displayed below, the distribution of this second prescriber utilization measure differed somewhat from that of the first: nine PDMPs had a utilization rate of reports to prescribers who wrote a prescription of 2.5 or less; eight PDMPs had utilization rates of between 2.6 and 10.0; while three PDMPs had rates higher than 10.0. The average utilization rate across all 20 states with data during July 2011 – June 2012 was 5.1 reports per prescriber who wrote at least one prescription.



We also assessed this second measure of prescriber utilization in relation to PDMP online portal status. Similarly to the first measure of utilization, there were differences in means across the three categories of online access. For the seven states with online prescriber access prior to 2007, the average (second) prescriber utilization rate was 9.8 (range 0.3 to 20.7). For the six states where online access was implemented between 2007 and 2009, the average (second) prescriber utilization rate was 4.3 (range 0.3 to 9.4); and for the six states where online access was implemented between 2009 and 2011, average (second) prescriber utilization was 1.3 (range 0.2 to 2.5). As with the first measure of prescriber utilization, there is at least the suggestion that prescriber utilization continues to increase over a period of four or more years.

Summary

We can identify three major findings from this compilation of PDMP performance measure data on solicited reports to different end users:

- The 22 grantee PDMPs where trend data were available exhibited substantial growth from January 2009 through June 2012 in the number of solicited reports provided to in-state prescribers (an increase of more than 400% on average), pharmacists (an increase of more than 200% on average), and law enforcement (an increase of more than 100% on average). Increasing numbers of solicited reports were also being provided to regulatory agencies. Solicited reports to out-of-state prescribers, through other PDMPs (i.e., interstate data sharing), began in 2011.

- Prescriber utilization, measured as the number of solicited reports per prescriber registered with the PDMP, averaged about 22 reports per prescriber in each of the four three-month reporting periods between July 2011 and June 2012 across the 20 grantee PDMPs reporting these measures. For most PDMPs, this measure of utilization was relatively constant from July 2010 to June 2012, suggesting that overall growth in solicited reports to prescribers in these states was largely driven by growth in the number of registered prescribers. For a number of states, however, utilization exhibited growth over this period, suggesting that growth in solicited reports to prescribers in these states was driven both by growth in the number of registered prescribers and growth in these prescribers' use of the PDMP. Strategies these latter states use to increase prescriber utilization should be investigated further (e.g., mandated prescriber registration). Utilization rates appeared to be higher in states where online access to the PDMP had been in place for at least four years.

- Prescriber utilization can also be measured as the number of solicited reports per prescriber who wrote at least one controlled substance prescription in the reporting period. Using this measure, prescriber utilization was about five reports per prescriber, on average, for each of the four three-month reporting periods between July 2011 and June 2012. This rate increased from July 2010 to June 2012 for abouthalf of the grantee states and was relatively constant for the remaining states. Utilization based on this measure was also higher in states where online access to the PDMP had been in place longer.

Unsolicited Reports

As for solicited reports, BJA performance measures ask for the number of unsolicited reports the PDMP provided to prescribers, pharmacists,law enforcement, and regulatory agencies within the state and in other states. Unsolicited reports involve proactive dataanalysis by the PDMP to identify questionable activity by individuals (e.g., possible doctor shopping) and sending a prescription history report on a patient or provider to appropriate end users(e.g., a patient report to the patient's prescribers and/or pharmacies; a patient or provider report to law enforcement; a provider report to a regulatory agency). Some PDMPs send electronic alerts to providers in addition to, or in lieu of, a mailed patient prescription history report. And at least one state enables prescribers to alert other prescribers about questionable activity by a patient. All of these activities—actual reports as well as alerts—are counted as unsolicited reporting for the purposes of the performance measures.

PDMPs may use different thresholds for identifying questionable activity as the basis for unsolicited reporting. Typically, these thresholds are a number of prescribers and a number of pharmacies from which a patient has obtained prescriptions in a specified period of time. In some states, unsolicited reports are sent to providers for all patients meeting a threshold; in others, due to resource limitations,reports are sent only for a fraction of patients meeting the threshold. For these reasons, unsolicited reporting may not be comparable across PDMPs, although trends within a PDMP may be meaningful.

As with solicited reports, we report on unsolicited reports in three parts. In Part A, we report the raw numbers of reports for the seven six-month periods from January – June 2009 through January – June 2012 to facilitate examination of trends within each grantee PDMP. In Part B, we report similar patterns for out-of-state end users. In Part C, we report on the ratio of the number of unsolicited reports provided to prescribers to the number of prescribers who wrote at least one prescription during the reporting period. This ratio providesaninitialbasis for examining unsolicited reporting levels and trends across as well as within the grantee PDMPs.

A. Numbers of In-State Unsolicited Reports

Table 2.11 displays the number of unsolicited reports to prescribers, compiled by six-month periods. Seventeen grantee PDMPs reported some level of unsolicited reporting. In most cases, trends over time were uneven and appeared to decline. In two cases—Alabama and Indiana—there appears to be an upward trend in unsolicited reports. For Indiana, the sharp increase in the first half of 2012 appears to reflect the use of prescriber alerts initiated by prescribers.

Table 2.11. Unsolicited Reports to Prescribers

	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012
AL	0	0	-	0	498	518	731
CA	5319	868	-	0	550	384	0
CT	0	0	1260	1502	2133	667	-
HI	0	0	62	67	0	0	0
IL	0	0	0	0	0	0	524
IN	-	0	-	621	990	386	6458
MA	0	0	647	316	445	400	270
ME	3670	4781	3714	4792	850	2657	2196
NC	-	-	0	0	13	0	5
ND	4373	7418	687	5737	4417	-	-
NV	-	128	-	258	0	5	18
NY	6584	4413	3076	2602	3449	2455	581
OK	12	-	0	0	5	0	-
UT	12	-	169	-	61	194	-
VT	0	4232	503	262	157	29	12

Note: Electronic PDMP alerts might be counted and reported as "unsolicited reports."

Table 2.12 displays unsolicited reports to pharmacists over the same three and one-half year period. Thirteen grantee PDMPs reported some level of unsolicited reporting to pharmacists. As with unsolicited reports to prescribers, the data are uneven across the six-month periods. Four states—Alabama, Indiana, North Dakota, and Utah—display an overall upward trend during this period.

Table 2.12. Unsolicited Reports to Pharmacists

	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012
AL	-	-	-	0	483	534	737
CT	-	-	640	1046	1060	325	-
HI	-	-	70	51	0	0	0
IN	-	-	0	324	461	229	708
NC	-	-	0	0	5	0	0
ND	2102	1804	201	3853	3374	-	-
NV	0	128	297	258	0	5	18
OK	2	-	-	-	-	-	-
TX	8	2	9	0	-	-	-
UT	2	-	53	-	861	2171	-
VA	0	418	-	-	-	-	-
VT	-	-	0	0	0	0	233

Note: Electronic PMP alerts might be counted and reported as "unsolicited reports."

Ten grantee PDMPs reported some level of unsolicited reporting to law enforcement during the period, shown in Table 2.13. Only four of the PDMPs reported unsolicited reporting to law enforcement during the most recent 12 months displayed (Hawaii, North Carolina, New York, and Ohio).

Table 2.13. Unsolicited Reports to Law Enforcement

	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012
AZ	2	-			-	-	-
CA	1042	0			-	-	-
CT	10	0	125	0	0	0	-
HI	0	0	4	0	73	118	122
NC	-	-	23	8	30	13	15
NY	1108	1212	212	432	756	749	172
OH	15	5	-	134	12	0	12
OK	21	-	0	0	26	0	-
TX	63	92	212	13	-	-	-
UT	21	-	15	21	56	-	-

Finally, seven grantee PDMPs reported having provided unsolicited reports to regulatory agencies within their state. This performance measure was added in 2010, so data for 2009 were not available. Four of these PDMPs reported unsolicited reporting to regulatory agencies within the most recent 12 months displayed (Alabama, Hawaii, Kentucky, and North Carolina).

Table 2.14. Unsolicited Reports to Regulatory Agencies					
	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012
AL	-	0	0	0	323
HI	0	0	0	4	2
KY	0	0	0	0	11
MA	11	2	0	0	0
NC	0	0	0	0	8
RI	0	0	5	0	0
TX	3	0	-	-	-

B. Numbers of Out-of-State Unsolicited Reports

This performance measure began in 2010. Five grantee PDMPs reported providing unsolicited reports to out-of-state prescribers. Reports were provided to out-of-state prescribers who registered as authorized users with a PDMP in Illinois, Maine, North Dakota, Virginia, and Vermont, as displayed in Table 2.15.

Table 2.15. Unsolicited Reports to End Users In Another State, Prescribers					
	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012
IL	-	0	0	0	5
ME	404	20	0	49	125
ND	359	292	402	-	-
VA	9	15	-	-	-
VT	-	10	0	331	64

Note: Electronic PMP alerts might be counted and reported as "unsolicited reports."

North Dakota and Vermont reported providing unsolicited reports to out-of-state pharmacists, as displayed in Table 2.16.

Table 2.16.Unsolicited Reports to End Users In Another State, Pharmacists					
	Jan-June 2010	July-Dec 2010	Jan-June 2011	July-Dec 2011	Jan-June 2012
ND	26	165	170	-	-
VT	-	0	0	23	-

Note: Electronic PMP alerts might be counted and reported as "unsolicited reports."

Only Idaho reported having provided unsolicited reports to out-of-state law enforcement investigators, and only Vermont reported having provided unsolicited reports to out-of-state regulatory agencies. In each case, the PDMP provided five unsolicited reports in the period of January – June 2012 only.

C. Rates of Unsolicited Reports

To gain a better understanding of variation in the raw numbers of unsolicited reports provided to prescribers, we compared the number of unsolicited reports with the number of prescribers who wrote at least one prescription in the current reporting period. Table 2.17 displays the ratio of these two measures for each PDMP and reporting period.

Table 2.17: Number of Unsolicited Reports to Prescribers/Number of Prescribers Who Wrote One or More Controlled Substance Prescriptions in the Reporting Period									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AL	-	-	-	<0.01	0.04	0.02	0.02	0.03	0.03
CA	-	-	-	<0.01	<0.01	<0.01	-	-	-
CT	0.09	0.05	0.06	0.06	0.11	0.05	-	-	-
HI	0.01	0.01	0.01	-	-	-	-	-	-
IL	-	-	-	-	-	-	-	<0.01	0.01
IN	-	-	0.06	0.01	0.04	0.02	-	0.03	0.31
MA	0.02	0.01	<0.01	0.01	<0.01	0.01	0.01	<0.01	0.01
ME	0.67	-	0.43	0.01	0.15	0.30	0.17	0.16	0.23
NC	-	-	-	<0.01	<0.01	-	-	-	<0.01
ND	0.28	0.72	0.41	1.34	0.55	-	-	-	-
NY	0.04	0.01	0.01	0.01	0.02	0.01	0.01	0.01	-
OK	-	-	-	<0.01	-	-	-	-	-
VA	0.09	0.02	-	-	-	-	-	-	-
VT	0.19	0.02	0.05	0.14	0.05	0.01	-	<0.01	-

We observe that, with only occasional exceptions in individual reporting periods, 12 of the 15 grantee PDMPs that reported providing unsolicited reports to prescribers provided, on average, much less than one report per prescriber who wrote at least one prescription during each reporting period. The PDMPs that provided higher rates of unsolicited

reports include Indiana, which, as noted above, enabled prescriber-initiated alerts in 2012; Maine, where unsolicited reports have been triggered by law for patients meeting a specified threshold; and North Dakota, at least into 2011.

Summary

We make two observations with respect to unsolicited reporting to different end users:

- Approximately half as many BJA PDMP grantees engage in unsolicited reporting as engage in solicited reporting. Unsolicited reports are provided by at least some PDMPs to in-state prescribers, pharmacists, law enforcement, and regulatory agencies. (The latter unsolicited reports are typically focused on providers rather than on patients.) In addition, a few states provide unsolicited reports to out-of-state prescribers and pharmacists.

- Rates of unsolicited reporting to prescribers, in those states where unsolicited reports are provided, are much lower than rates of solicited reports. The number of unsolicited reports provided, on average, to each prescriber who wrote at least one prescription in a reporting period is generally much less than one, compared with an average of slightly more than five solicited reports per prescriber who wrote at least one prescription, as noted earlier.

III. Outcomes

Threshold Measures

The performance measures ask for the number of patients who have obtained prescriptions from five or more prescribers and filled them at five or more pharmacies in each reporting period (initially, six months; after July 1, 2010, three months). The measures also ask for the number of non-liquid doses associated with these patients, broken out by drug class—pain relievers, sedatives, stimulants, and tranquilizers. We report these threshold measures as ratios—of the number of patients meeting the five prescriber/five pharmacy threshold to the total number of patients who received a prescription during the reporting period, and of the number of non-liquid doses associated with the threshold-meeting patients to the total number of non-liquid doses dispensed in the reporting period, overall and by drug class. A parallel set of performance measures, and ratios, is based on a 10 prescriber and 10pharmacy threshold. Each of these measures is asked for Schedule II prescriptions only, Schedule II and III prescriptions only, and Schedule II, III, and IV prescriptions. These threshold measures are thought to be indicators of questionable activity.

We include below tables for threshold rates for patients, total non-liquid doses associated with patients meeting the threshold, and non-liquid doses of pain relieversand of stimulants associated with patients meeting the threshold, for both the five prescriber/five pharmacy and 10prescriber/10pharmacy thresholds, for Schedule II prescriptions only. Although we have compiled the threshold measures for Schedules II – III and Schedules II – IV, we have found inconsistencies in how PDMPs have interpreted these measures. In particular, beginning in 2010,some PDMPs have interpreted “the number of individuals who received Schedule II and Schedule III prescriptions during the reporting period” as meaning the number of individuals who received prescriptions from *both* schedules, while other PDMPs interpreted this measure as meaning the number of individuals who received prescriptions from Schedule II *and/or* from Schedule III(i.e., from either schedule). A similar problem arose for individuals who received prescriptions from Schedules II, III, and IV. Because these numbers are used as the denominators in threshold measuresand are not

reported in a consistent way across PDMPs, the threshold measures for multiple schedules are not included in this report. BJA guidance for the revised performance measures as of 2013 clarifies this measure as the "and/or" measure, which should allow inclusion of the threshold measures for Schedules II – III and II – IV in future reports.

There is a further caveat in interpreting the threshold measures, which also applies to unsolicited reporting. PDMPs use different procedures for determining which prescription records belong to the same patient, which is called "linking" procedures. Some PDMPs count records as belonging to the same patient only if the patient identifying information (name, birth date, gender, and street address) in the different records matches exactly. Other PDMPs use probabilistic matching procedures, where slight variations in the spelling of patient names or single digit variations in birth date for patients with the same name, for example, are considered highly likely to represent the same patient. Even among PDMPs using some sort of linking procedure, however, the linking procedures differ, as do thresholds for counting a highly likely match as a match. Because the threshold measures depend on the number of individuals who obtain prescriptions from multiple providers and because different linking procedures will lead to different attributions of prescription records to patients, threshold values are not strictly comparable across PDMPs, although they should be comparable over time within a PDMP for reporting periods of the same length.

Table 3.1 displays questionable activity rates for patients, based on their having obtained Schedule II prescriptions from five or more prescribers, and filled them at five or more pharmacies, in the reporting period. Again, we note that the rates for the three leftmost columns are for six-month reporting periods, while the remaining columns are for three-month reporting periods; the two groups of columns are not directly comparable. Note also that the rates displayed are the actual rates multiplied by 1,000. Thus, the questionable activity rate for Alaska in the April – June 2012 reporting period, which is shown as 0.57, is actually .00057. That is, less than 1/10th of 1% of patients who filled a Schedule II prescription in Alaska during the reporting period met the five prescriber/ five pharmacy threshold during that period. For the three-month reporting periods (beginning July 2010), questionable activity rates in Table 3.1 range from less than 1/100th of 1% to more than 2/10th of 1%; the higher rates are more than 200 times the lower rates. In the vast majority of cases, however, rates range between 1/10th and 1/100th of 1%.

Table 3.1: Threshold ("Questionable Activity") Rates for Patients, Schedule II Only (Five Prescribers and Five Pharmacies)

	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	-	-	-	-	-	-	-	0.28	0.37	0.61	0.57
AL	0.41	0.49	-	0.15	0.12	0.11	0.13	0.12	0.17	0.15	0.15
CA	0.93	1.68	-	-	0.58	0.52	0.38	0.38	0.53	1.08	2.79
CO	0.50	0.59	.70	-	.75	0.18	0.24	0.24	0.23	0.18	0.14
CT	-	-	-	0.01	-	0.01	0.06	0.04	-	-	-
DE	-	-	-	-	-	-	-	-	-	-	0.68
FL	-	-	-	-	-	-	-	-	1.00	0.54	0.51
HI	1.54	1.12	1.25	0.77	-	-	-	-	-	0.50	0.71
ID	-	-	-	-	0.22	0.18	0.29	0.21	0.17	0.29	0.30
IL	0.95	0.92	0.91	0.26	0.25	0.22	0.21	0.18	0.17	0.21	0.19
IN	12.82	1.44	1.27	0.35	0.26	-	0.30	0.29	0.33	-	0.25

Table 3.1: Threshold ("Questionable Activity") Rates for Patients, Schedule II Only (Five Prescribers and Five Pharmacies)											
	Jan-June 2009	July-Dec 2009	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
KS	-	-	-	-	-	-	-	0.16	0.19	0.24	0.11
KY	1.75	1.63	1.46	0.64	0.51	0.59	0.36	0.59	0.49	0.42	0.57
MA	3.27	3.99	6.37	1.20	1.08	0.94	0.91	0.87	0.94	0.80	0.68
ME	0.02	-	-	-	-	0.25	0.43	0.22	0.19	0.18	0.27
MN	-	-	3.74	1.07	0.78	1.02	0.83	-	0.78	1.15	1.24
NC	-	-	1.82	0.53	0.34	0.40	0.57	0.57	0.50	0.52	0.47
ND	1.12	1.03	0.95	0.31	0.34	0.30	0.46	-	-	-	-
NV	7.68	15.47	10.15	2.83	2.54	0.66	-	0.73	0.69	0.57	0.72
NY	2.40	2.68	2.57	0.58	1.21	1.26	1.32	1.30	1.23	0.66	-
OH	3.16	3.23	2.79	0.89	0.82	0.69	0.69	0.79	0.59	0.53	0.49
OK	0.28	-	0.36	0.08	0.07	0.15	0.16	0.12	0.08	-	-
RI	2.50	2.58	2.33	1.00	0.85	0.61	0.88	0.89	0.86	0.61	-
UT	0.28	-	0.09	-	-	-	0.97	2.38	2.38	-	-
VA	2.38	2.76	2.25	0.76	-	-	-	-	-	-	-
VT	1.38	0.79	0.57	0.17	0.21	0.12	0.13	0.13	-	0.16	0.16
WA	-	-	-	-	-	-	-	-	0.94	0.70	0.61

Notes: 1. Rates for the six-month reporting periods (through June 2010) are not commensurate with rates for the three-month reporting periods (July 2010 and later).
2. Rates are multiplied by 1,000 to yield the values displayed here.

Table 3.2 displays the rates of non-liquid doses obtained by the individuals who met the five prescribers/five pharmacies threshold and the total number of non-liquid doses obtained by all patients during each reporting period. Again, the rates shown are 1,000 times actual rates. We observe that these rates are multiples of the rates in Table 3.1, indicating that individuals who met the threshold obtained disproportionately more non-liquid doses than other patients, often by a factor of three or four or more. Kentucky appears to be an outlier in this regard, with individuals who meet the five prescriber/five pharmacy threshold obtaining more than 20 times as many Schedule II non-liquid doses as other patients.

Table 3.2. Threshold ("Questionable Activity") Rates for Total Non-Liquid Doses Schedule II Only (Five Prescribers and Five Pharmacies)											
	Jan-June 2009	July-Dec2009	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	-	-	-	-	-	-	-	0.79	1.82	2.31	1.99
AL	0.84	1.16	-	0.40	0.35	0.21	0.32	0.27	0.42	0.42	0.45
AZ	-	-	-	-	-	-	-	-	-	-	-
CA	-	-	-	-	3.56	2.58	0.35	0.35	2.10	4.12	9.42
CO	2.91	2.79	2.96	-	3.52	0.67	0.73	0.74	0.85	0.65	0.45
CT	-	-	-	-	-	-	4.83	-	-	-	-
DE	-	-	-	-	-	-	-	-	-	-	2.02

Table 3.2. Threshold ("Questionable Activity") Rates for Total Non-Liquid Doses Schedule II Only (Five Prescribers and Five Pharmacies)

	Jan-June 2009	July-Dec2009	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
FL	-	-	-	-	-	-	-	-	3.26	1.16	0.98
HI	12.65	10.3	12.64	12.65	-	-	-	-	-	-	-
ID	-	-	-	-	-	-	-	-	-	-	-
IL	0.98	0.96	2.96	1.12	0.98	0.91	0.70	0.77	0.63	0.90	0.78
IN	49.06	5.82	5.93	1.32	0.96	-	1.16	1.24	1.34	14.46	0.98
KS	-	-	-	-	-	-	-	0.51	0.47	0.44	0.23
KY	14.41	12.85	12.94	11.47	11.47	12.31	11.69	12.70	12.28	12.94	14.66
MA	12.35	16.08	-	4.29	3.68	3.63	3.33	3.30	3.41	2.91	2.46
ME	0.1	-	-	-	-	0.44	1.02	0.55	0.03	0.44	0.75
MN	-	-	11.58	3.40	2.53	2.66	2.40	-	2.08	2.93	3.12
NC	-	-	0.91	1.26	0.91	1.05	1.52	1.39	1.30	1.19	1.11
ND	3.19	3.65	3.12	0.86	0.82	0.88	1.19	-	-	-	-
NV	-	-	-	-	-	1.15	-	0.59	2.26	1.74	2.59
NY	-	16.47	18.13	9.65	8.82	8.26	8.41	7.68	7.42	3.70	-
OH	11.93	11.91	10.16	3.09	2.38	2.16	2.07	2.36	1.76	1.63	1.55
OK	1.18	-	0.41	0.25	0.19	0.28	0.23	0.40	0.22	-	-
RI	13.95	14.99	13.59	3.51	2.80	14.42	2.14	3.79	2.11	2.88	-
UT	1.18	-	-	-	-	-	-	-	-	-	-
VA	14.6	17.41	13.49	4.61	-	-	-	-	-	-	-
VT	1.48	2.65	4.81	0.43	0.62	0.39	0.30	0.30	2.69	0.27	0.46
WA	-	-	-	-	-	-	-	-	2.50	1.63	1.29

1. Doctor shopping rates are based on five prescribers and five pharmacies in a six-month or three-month period. Rates are non-liquid doses associated with individuals meeting this threshold divided by all non-liquid doses for the reporting period.
2. Rates are multiplied by 1,000 to yield the values displayed here.

Tables 3.3 and 3.4 display rates of Schedule II non-liquid doses of pain relievers and stimulants, respectively, associated with individuals meeting the five prescribers/five pharmacies threshold, divided by the total number of non-liquid doses of pain relievers and stimulants dispensed during each reporting period. The patterns across PDMPs and within PDMPs over time in Table 3.3 are similar to those in Table 3.2. This is not surprising since most Schedule II drugs obtained by individuals who meet the threshold measures are pain relievers.

Table 3.3. Threshold ("Questionable Activity") Rates for Non-Liquid Doses of Pain Relievers OnlySchedule II (Five Prescribers and Five Pharmacies Only)

	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	-	-	-	-	-	0.88	2.24	2.50	2.00
AL	-	0.46	0.46	0.23	0.37	0.34	0.54	0.50	0.57
CA	-	-	2.25	3.29	0.14	0.14	2.34	4.56	10.20
CO	3.42	-	3.99	0.79	0.86	0.87	0.94	0.73	0.52
CT	-	-	-	-	3.91	-	-	-	-
DE	-	-	-	-	-	-	-	-	2.25
FL	-	-	-	-	-	-	3.66	1.23	1.07
HI	14.65	14.65	-	-	-	-	-	-	-
IL	5.74	1.95	1.77	1.72	1.19	1.31	0.99	1.64	1.21
IN	7.60	1.74	1.33	-	-	-	-	-	1.30
KS	-	-	-	-	-	0.64	0.62	0.53	0.26
KY	14.67	12.60	-	13.44	12.39	13.53	13.23	14.00	15.79
MA	-	-	-	4.48	4.11	3.73	3.91	3.56	3.05
ME	-	-	-	0.55	1.25	0.72	0.03	0.54	0.90
MN	17.01	3.68	3.91	-	3.17	-	2.79	4.23	4.58
NC	5.91	1.57	1.17	1.31	1.90	1.74	1.56	1.61	1.37
ND	4.36	1.22	1.23	1.41	1.72	-	-	-	-
NV	-	-	-	1.24	-	0.58	2.32	1.85	2.62
NY	22.68	11.69	10.72	10.11	10.24	9.21	8.97	4.38	-
OH	12.43	3.76	2.88	2.66	2.57	2.92	2.31	2.17	2.06
OK	0.36	0.22	0.20	0.27	0.24	0.47	0.26	-	-
RI	-	5.34	4.18	-	2.94	5.18	2.88	4.16	-
VA	18.44	6.13	-	-	-	-	-	-	-
VT	1.95	3.53	0.82	0.41	0.41	0.41	3.26	0.32	0.65
WA	-	-	-	-	-	-	2.96	1.84	1.45

1. Rates are multiplied by 1,000 to yield the values displayed here.

The patterns in Table 3.4, for Schedule II stimulants, are similar to those in Tables 3.2 and 3.3; however, for some states, stimulants appear to be less favored by individuals meeting the threshold than pain relievers.

Table 3.4. Threshold ("Questionable Activity") Rates for Non-Liquid Doses of Stimulants OnlySchedule II Only (Five Prescribers and Five Pharmacies)

	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	-	-	-	-	-	0.37	-	1.50	1.93
AL	-	0.27	0.14	0.18	0.21	0.12	0.19	0.26	0.24

Table 3.4. Threshold ("Questionable Activity") Rates for Non-Liquid Doses of Stimulants OnlySchedule II Only (Five Prescribers and Five Pharmacies)

	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
CA	-	-	8.47	1.01	1.12	1.12	1.17	2.48	6.31
CO	0.57	-	1.03	0.02	0.05	0.09	0.35	0.22	0.12
DE	-	-	-	-	-	-	-	-	1.15
FL	-	-	-	-	-	-	0.87	0.80	0.53
HI	0.85	0.88	-	-	-	-	-	-	-
IL	1.20	0.58	0.37	0.33	0.32	0.27	0.29	0.22	0.38
IN	2.28	0.40	0.18	-	-	-	-	-	0.28
KS	-	-	-	-	-	0.22	0.15	0.25	0.17
KY	7.80	7.88	-	8.85	9.42	9.92	9.29	9.64	10.99
MA	10.07	9.39	14.61	1.18	1.21	1.64	1.70	1.38	1.08
ME	-	-	-	0.13	0.38	0.08	0.23	0.19	0.35
MN	2.75	-	0.58	0.61	1.13	-	0.92	0.85	0.68
NC	1.73	0.30	0.18	0.30	0.35	0.34	0.52	0.35	0.36
ND	1.02	0.20	0.10	-	0.17	-	-	-	-
NV	-	-	-	0.31	-	1.17	1.64	0.65	2.25
NY	3.24	1.81	1.77	1.53	1.57	1.72	1.65	1.28	-
OH	2.27	0.62	0.36	0.36	0.38	0.46	0.38	0.31	0.23
OK	0.62	0.38	0.16	0.29	0.20	0.11	0.06	-	-
RI	0.98	0.11	0.30	0.36	0.68	0.98	0.56	0.41	-
VA	3.89	1.39	-	-	-	-	-	-	-
VT	0.03	-	0.12	0.34	-	-	1.26	0.17	-
WA	-	-	-	-	-	-	0.80	0.86	0.69

1. Rates are multiplied by 1,000 to yield the values displayed here.

We compiled the threshold measures for individuals who obtained Schedule II drugs from 10 or more prescribers and 10 or more pharmacies in the reporting period, and the proportions of total non-liquid doses, pain reliever non-liquid doses, and stimulant non-liquid doses associated with them. As can be seen in Table 3.5, the rates of individuals who met the 10 prescribers/10 pharmacies threshold are a fraction of the rates of individuals who met the 5 prescribers/5 pharmacies threshold. In addition, the range of rates across PDMPs and within PDMPs over time appears narrower, generally between 1/1000th of 1% and 1/100th of 1%.

Table 3.5. Threshold ("Questionable Activity") Rates for Schedule II (10 Prescribers and 10 Pharmacies)

	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	-	-	-	-	-	-	0.04	0.04	0.07
AL	-	-	-	-	-	0.01	-	-	-
CA	-	-	0.03	0.01	0.02	0.02	0.02	0.04	0.10

Table 3.5. Threshold ("Questionable Activity") Rates for Schedule II (10 Prescribers and 10 Pharmacies)									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
CO	0.01	-	0.01	0.01	<0.01	<0.01	-	-	-
FL	-	-	-	-	-	-	0.03	0.02	<0.01
HI	0.21	0.14	-	-	-	-	-	-	-
IL	0.01	-	-	<0.01	-	-	-	-	<0.01
IN	0.02	<0.01	-	-	-	-	0.02	0.02	-
KS	-	-	-	-	-	-	-	0.01	-
KY	0.10	0.07	0.07	0.07	0.02	0.06	0.06	0.05	0.05
MA	0.41	0.35	0.87	0.04	0.04	0.04	0.02	0.02	0.02
MN	0.24	0.03	0.04	0.01	-	-	0.01	0.02	0.03
NC	0.04	<0.01	<0.01	0.01	0.02	<0.01	0.01	0.01	0.01
ND	-	-	-	0.05	-	-	-	-	-
NV	0.19	-	-	0.01	-	0.01	-	0.03	0.02
NY	0.20	0.04	0.08	0.06	0.05	0.06	0.07	0.04	-
OH	0.07	0.01	<0.01	0.01	0.01	<0.01	0.01	<0.01	0.01
OK	0.01	-	-	-	-	-	-	-	-
RI	0.05	-	0.03	-	0.03	0.02	-	-	-
UT	0.09	-	-	-	0.07	0.05	0.05	-	-
VA	0.13	0.04	-	-	-	-	-	-	-
WA	-	-	-	-	-	-	0.03	0.01	0.02

1. Doctor shopping rates are based on five prescribers and five pharmacies in a six-month period. Rates are individuals or non-liquid doses associated with this threshold divided by all individuals or doses for the corresponding Schedule(s).
2. Rates are multiplied by 1,000 to yield the values displayed here.

Table 3.6 displays the proportions of non-liquid doses associated with individuals who met the 10 prescribers/10 pharmacies threshold in each reporting period. As with the 5 prescribers/5 pharmacies threshold, individuals who met this new threshold also obtained disproportionately more Schedule II non-liquid doses than did other patients. Kentucky again appears to be an outlier.

Table 3.6. Threshold ("Questionable Activity") Rates for Non-Liquid Doses Schedule II (10 Prescribers and 10 Pharmacies)									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	-	-	-	-	-	-	0.29	0.10	0.28
AL	-	-	-	-	-	0.03	0.03	-	-
CA	-	-	0.12	0.11	0.09	0.09	0.11	0.20	0.44
CO	0.05	-	0.05	0.02	0.02	0.01	-	-	-
FL	-	-	-	-	-	-	0.16	0.05	0.01
HI	1.82	1.82	-	-	-	-	-	-	-
IL	0.04	-	-	0.03	-	-	-	-	-
IN	0.18	0.03	-	0.66	0.56	0.67	0.19	0.19	-

Table 3.6. Threshold ("Questionable Activity") Rates for Non-Liquid Doses Schedule II (10 Prescribers and 10 Pharmacies)									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
KS	-	-	-	-	-	-	-	0.02	-
KY	7.98	8.85	32.47	10.21	9.98	10.50	10.36	10.76	12.63
MA	1.80	1.22	2.49	0.23	0.15	0.13	0.11	0.05	0.09
ME	-	-	-	-	<0.01	<0.01	<0.01	-	-
MN	1.09	-	0.20	0.03	-	-	0.02	0.05	0.12
NC	0.14	<0.01	0.02	0.03	0.05	0.01	0.04	0.04	0.02
ND	-	-	-	0.15	-	-	-	-	-
NV	-	-	-	0.03	-	0.01	-	0.06	0.08
NY	2.26	0.97	0.87	0.65	0.58	0.50	0.54	0.24	-
OH	0.38	0.05	0.02	0.06	0.02	0.02	0.02	<0.01	0.02
OK	0.01	-	-	-	-	-	-	-	-
RI	0.25	-	0.16	-	0.14	0.04	-	-	-
VA	1.42	0.40	-	-	-	-	-	-	-
VT	-	-	0.01	0.01	-	-	-	-	-
WA	-	-	-	-	-	-	0.06	0.03	0.04

1. Doctor shopping rates are based on five prescribers and five pharmacies in a six-month period. Rates are individuals or non-liquid doses associated with this threshold divided by all individuals or doses for the corresponding Schedule(s).
2. Rates are multiplied by 1,000 to yield the values displayed here.

Tables 3.7 and 3.8 display rates for Schedule II non-liquid doses of pain relievers and stimulants, respectively, associated with individuals who met the 10 prescribers/10 pharmacies threshold for each reporting period, as a proportion of total Schedule II non-liquid doses of pain relievers and stimulants. These tables provide further evidence that individuals meeting this threshold have obtained proportionately many times more non-liquid doses of pain relievers and stimulants than other patients have. In Kentucky, it appears that these individuals—representing just 1/200th of 1% of patients—have obtained more than 1% of non-liquid doses of Schedule II pain relievers in recent reporting periods.

Table 3.7. Threshold ("Questionable Activity") Rates for Non-Liquid Doses of Pain Relievers Only Schedule II (10 Prescribers and 10 Pharmacies)									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AK	-	-	-	-	-	-	0.35	0.13	0.34
CA	-	-	0.14	0.16	0.11	0.11	0.13	0.23	0.53
CO	0.06	-	0.06	0.02	0.02	0.01	-	-	-
FL	-	-	-	-	-	-	0.19	0.05	0.01
HI	2.13	2.13	-	-	-	-	-	-	-
IL	-	-	-	0.06	-	-	-	-	-
IN	0.19	-	-	0.89	0.66	0.88	0.26	0.26	-

Table 3.7. Threshold ("Questionable Activity") Rates for Non-Liquid Doses of Pain Relievers Only Schedule II (10 Prescribers and 10 Pharmacies)

	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
KS	-	-	-	-	-	-	-	0.03	-
KY	8.80	9.56	34.43	10.89	10.41	10.87	10.85	11.30	13.31
MA	2.30	1.55	3.21	0.31	0.17	0.16	0.11	0.07	0.12
MN	1.61	-	0.32	0.05	-	-	0.03	0.09	0.19
NC	0.19	<0.01	0.03	0.04	0.07	0.01	0.03	0.04	0.01
ND	-	-	-	0.24	-	-	-	-	-
NV	-	-	-	0.03	-	0.01	-	0.07	0.07
NY	2.84	1.11	0.98	0.79	0.71	0.59	0.63	0.25	-
OH	0.46	0.06	0.02	0.07	0.03	0.02	0.03	<0.01	0.02
OK	0.01	-	-	-	-	-	-	-	-
RI	0.40	-	0.25	-	0.05	0.06	-	-	-
VA	1.91	0.52	-	-	-	-	-	-	-
WA	-	-	-	-	-	-	0.08	0.04	0.04

1. Rates are multiplied by 1,000 to yield the values displayed here.

Table 3.8. Threshold ("Questionable Activity") Rates for Non-Liquid Doses of Stimulants only Schedule II (10 Prescribers and 10 Pharmacies)									
	Jan-June 2010	July-Sep 2010	Oct-Dec 2010	Jan-Mar 2011	Apr-June 2011	July-Sept 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-June 2012
AL	-	-	-	-	-	0.07	0.07	-	-
CA	-	-	0.04	-	0.04	0.04	0.05	0.09	0.10
CO	0.01	-	0	0.02	-	-	-	-	-
FL	-	-	-	-	-	-	0.04	0.06	0.01
IL	0.07	-	-	-	-	-	-	-	-
IN	0.16	0.09	-	0.18	0.30	0.18	0.02	0.02	-
KY	5.54	6.61	26.40	8.14	8.59	9.24	8.81	9.07	10.45
MA	0.46	0.29	0.63	0.04	0.08	0.05	0.10	0.02	0.02
ME	-	-	-	-	0.01	0.01	0.01	-	-
MN	0.26	-	-	-	-	-	-	-	-
NC	-	-	-	-	-	-	0.08	0.04	0.06
NV	-	-	-	-	-	-	-	-	0.08
NY	0.38	0.39	0.47	0.13	0.09	0.14	0.21	0.18	-
OH	0.10	0.02	-	0.03	-	-	0.01	-	<0.01
RI	-	-	-	-	0.30	-	-	-	-
VA	0.46	0.17	-	-	-	-	-	-	-
VT	-	-	0.02	0.02	-	-	-	-	-
WA	-	-	-	-	-	-	-	0.01	0.05

1. Rates are multiplied by 1,000 to yield the values displayed here.

Summary

- Threshold, or questionable activity, rates varied across PDMPs and, to a lesser extent, over time for individual grantee PDMPs. No clear trends within PDMPs were apparent. Typical rates of individuals who had obtained Schedule II prescriptions from five or more prescribers and five or more pharmacies in a three-month reporting period were less than 1/10th of 1%. The proportions of non-liquid doses obtained by these individuals were typically three to four times as much as for other patients. Threshold rates for Schedule II and III and for Schedule II – IV drugs were higher, but are not reported here because they were not reported in the same way by different PDMPs.

IV. Impacts

PDMPs are not asked to report data on impacts, because of the lag time in the availability of these data and because they are now available to the public from federal agencies. The measures include non-medical use of prescription drugs and age-adjusted rates of drug-related overdose deaths, the majority of which are attributed to prescription drugs.

We obtained state-level data on non-medical use of pain relievers from NSDUH, Model-Based Estimates (50 states and the District of Columbia), for residents age 12 and older for the years 2002/2003, 2009/2010, and 2010/2011.[4] Note that

[4] Retrieved from http://www.samhsa.gov/data/NSDUH/2k11State/NSDUHsaeTables2011.pdf, for 2010/2011 data.

the survey asks about non-medical use of pain relievers in particular, not of prescription drugs more generally, so that data about non-medical use of stimulants or benzodiazepines, for example, is not included. We obtained state-level data on age-adjusted rates of drug-related overdose deaths for the years 2008, 2009, and 2010 (the most recent year available) from the National Vital Statistics System and the Centers for Disease Control and Prevention.[5] These data are displayed in Table 4.1 for the states with performance measure data reported on above.

Table 4.1

	Prevalence of nonmedical useof pain relievers in the past year,ages 12 and higher (in %)				Death rate from drug overdose (age-adjusted rate per 100,000 total population)		
	2002-2003	2009-2010	2010- 2011		2008	2009	2010
AK	5.34	5.41	5.32		18.1	18.3	11.6
AL	4.89	4.62	4.43		13.1	14.9	11.8
AZ	6.07	6.31	5.66		13.1	16.1	17.5
CA	5.20	4.95	4.68		10.4	11.4	10.6
CO	6.08	6.23	6.00		14.6	15.1	12.7
CT	4.03	4.12	4.38		10.8	11.2	10.1
DE	5.12	5.56	5.61		14.5	15.8	16.6
FL	4.85	4.37	4.05		14.6	15.7	16.4
HI	3.90	4.22	3.90		9.4	11.1	10.9
ID	5.63	6.09	5.73		9.7	12.4	11.8
IL	4.02	3.94	4.07		10.5	11.1	10.0
IN	5.88	5.73	5.68		13.2	14.6	14.4
KS	4.36	4.71	4.56		8.0	11.6	9.6
KY	6.50	5.36*	4.48		17.9	18.3	23.6
MA	5.28	5.07	4.27		11.8	13.5	11.0
ME	4.61	4.51	4.15		12.3	13.3	10.4
MN	3.93	4.09	4.57		7.2	8.3	7.3
NC	5.07	4.54	4.00		12.9	13.1	11.4
ND	3.54	4.11	3.84		7.6	4.7	3.4
NV	5.66	5.96	5.62		19.6	20.8	20.7
NY	3.72	4.45**	3.98		8.4	8.8	7.8
OH	4.53	5.48**	5.00		15.1	11.6	16.1
OK	5.81	7.01*	5.19		15.8	21.2	19.4
RI	5.91	5.93	5.18		17.2	15.3	15.5
UT	5.57	4.92	4.33		18.4	20.0	16.9
VA	4.35	5.13	4.60		9.1	8.8	6.8
VT	5.37	4.85	5.13		10.9	8.6	9.7
WA	5.86	6.20	5.75		14.7	14.9	13.1

* p< .10, ** p < .05 for 2009/2010 prevalence compared to 2002/2003 prevalence

[5] E.g., 2009 data accessed at http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_03.pdf.

The analysts who compiled the NSDUH data statistically compared the prevalence of non-medical use of pain relievers between 2002/2003 and 2009/2010, which we have reported in Table 4.1. Kentucky had a marginally significant ($p < .10$) decline in non-medical use over that time, with further decline noted in 2010/2011. New York and Ohio had statistically significant ($p < .05$) and Oklahoma a marginally significant increases in non-medical use over that time; non-medical use declined in all three states in 2010/2011. Nationally, non-medical use of pain relievers by individuals age 12 and older declined over these last two years, and was 4.79% in 2002/2003, 4.89% in 2009/2010, and 4.57% in 2010/2011. In our sample of 27 states, non-medical use in 2010/2011 ranged from 3.84% to 6.00%.

Rates of drug-related overdose deaths exhibited a wider range, from 3.4 to 23.6 deaths per 100,000 in our sample in 2010, the most recent year available. Both non-medical use and overdose death rates were relatively normally distributed. For our sample, we explored associations between non-medical use of pain relievers and rates of drug-related overdose deaths. We found that all years of non-medical use were correlated with all years of overdose death rates. However, the highest correlations were between non-medical use in 2002/2003 and overdose death rates in 2008, 2009, and 2010 (correlation coefficients of .725, .747, and .754, respectively). (The correlation between non-medical use in 2009/2010 and overdose death rates in 2010 was .654.) This suggests that if non-medical use of pain relievers, at the population level, leads to drug-related overdoses, again at the population level, that there may be a lead time of up to several years in this association. Other than to say that the relationship between non-medical use and overdose death rates is complex, however, interpretation of this relationship must be made with caution. For example, we noted that Kentucky had a notable decline in non-medical use of pain relievers from 2002/2003 to 2009/2010 and again to 2010/2011. However, the state also had a clear upward trend in overdose death rates from 2008 to 2009, and again to 2010. In this initial report, we present these data to initiate a discussion of whether and how PDMPs can impact non-medical use of pain relievers and rates of drug-related overdose deaths.

V. Narrative Responses

BJA's performance measures include a set of narrative questions that are reported in July and January of each calendar year based on activities that occurred in the previous six-month period. Responses to seven questions were collected alongside the quantitative indicators presented above between January 1, 2010 and June 30, 2012. The seven narrative questions are:

1. What were the major accomplishments within this reporting period?
2. What goals were accomplished, as they relate to your grant application?
3. What problems/barriers did you encounter within the reporting period that prevented you from reaching your goals or milestones?
4. Is there any assistance that BJA can provide to address any problems/barriers identified in question 3 above?
5. Are you on track to fiscally and programmatically complete your program as outlined in your grant application? (Please answer YES or NO, and if no, please explain.)
6. What major activities are planned for the next six months?
7. Based on your knowledge of the criminal justice field, are there any innovative programs/accomplishments that you would like to share with BJA?

These open-ended narrative questions were analyzed thematically over time for the period between January 2010 and June 2012. For the purposes of this analysis, the questions that deal with accomplishments (questions 1 and 2) and questions that deal with looking ahead to assess appropriate progress (questions 5 and 6) have been collapsed. For purposes of best informing the field, this section concentrates most on question 4 regarding the barriers and problems encountered by grantees.

The remainder of this section presents a summary of the themes around (a) Accomplishments and Goals Achieved; (b) Problems/Barriers to Reaching Goals or Milestones; (c) Areas for Possible BJA Assistance; (d) On-Track to Complete Program; (e) Major Activities Planned for the Next Six Months, and (f) Innovative Program Examples.

A. Accomplishments and Goals Achieved

This first section summarizes results of grantee responses to two questions:

1. *What were the major accomplishments within this reporting period?*
2. *What goals were accomplished, as they relate to your grant application?*

Responses to these questions were extracted from the BJA performance measure data file and incorporated into *Atlas.ti* qualitative analysis software, yielding 186 pages of raw data from grantees in 38 states between January 2010 and June 2012. (Because BJA Harold Rogers PDMP Program grants encompass planning and implementation, as well as enhancement, states working toward an operational PDMP can report in this section, while they cannot yet respond to the quantitative performance measures. Consequently, the number of states reporting in this section is higher than the number reporting in sections I – III.) The following types of accomplishments and goals achieved were most prevalent:

1. Public awareness accomplishments, including developing and disseminating materials (e.g., brochures, flyers, etc.), public service announcements, and websites (e.g., counting visitor"hits" to a website).
2. Data utilization to recruit, register, and incentivize practitioners, prescribers, and law enforcement utilization of both solicited and unsolicited reports.
3. PDMP data reporting compliance, including efforts to obtain data from pharmacies, analyzing data for completeness and accuracy and ensuring pharmacies submit data that meet standards.
4. Education of stakeholders, including trainings and information sessions with law enforcement, practitioners, and prescribers on using PDMP software and understanding PDMP data and reports.
5. Enhancing informational technology of database systems by procuring software vendors, enhancing both hardware and software, testing systems for security, and developing and maintaining website and database systems.
6. Building internal capacity of PDMP staff by participating in trainings and meetings, hiring new staff, coordinating with key stakeholders, and increasing/maintaining budgets.
7. Interstate data sharing through participation in conversations with other states, developing MOUs, testing the PMIX interface, and analyzing capacities and needs for data sharing using common formats.
8. Legislative accomplishments, including preparing and proposing new bills in state governments, re-authorization of existing PDMP programs, and engaging stakeholders.
9. Evaluation efforts to obtain feedback from PDMP endusers and collaborate with academic institutions for research studies.

B. Problems/Barriers to Reaching Goals or Milestones

Respondents were asked,*What problems/barriers did you encounter within the reporting period that prevented you from reaching your goals or milestones?* Responses were categorized into eight types of responses that delayed or prevented progress:

1. No barriers
2. Operational Barriers or Problems
3. Funding & Access to Finances/Accounting

4. Technological Computer Barriers
5. Outreach/Collaborations
6. Legislation (Political Obstacles)
7. Legal Obtaining Review and Approvals
8. Litigation

Table 5.1 presents a summary of the number of responses for each time period. As can be seen, the largest number of respondents consistently reported that they encountered no barriers or problems.Reports of no problems/barriers seemed to increase slightly from 13 PDMPs in the first half of 2010 to 18 in the first half of 2012.The remaining seven themes will be summarized below.

Table 5.1. Themes of Responsesto *What problems/barriers did you encounter within the reporting period that prevented you from reaching your goals or milestones?*by Grant Period

	Jan-Jun 2010	**July-Dec 2010**	**Jan-Jun 2011**	**July-Dec 2011**	**Jan-Jun 2012**
No Barriers	13	14	18	18	18
Operational Barriers or Problems	8	7	8	5	4
Funding & Access to Finances/Accounting	9	7	5	5	4
Technological Computer Barriers	3	5	4	3	4
Outreach/ Collaborations (including with stakeholders)	4	3	0	3	1
Legislation (Political)	4	3	1	1	2
Obtaining Review and Approvals (Legal)	0	1	1	2	4
Litigation	0	1	0	1	1
Total Number of States Reporting Barriers	**41**	**41**	**37**	**38**	**38**

Operational Barriers or Problems

As can be seen in Table 5.1, operational barriers or problems seemed to decrease somewhat between 2010 and 2012.Operational delays included problems with vendors, staff changes, and other issues related to the implementation of PDMPs. Regarding vendor problems, some grantees reported delays in the solicitation, selection, and contracting of

vendors, resulting in delays in vendors completing work on schedule.Other grantees reported that staff changes during the implementation process complicated and delayed the achievement of goals. In some cases, other implementation problems, such as unforeseen requirements to upgrade software, were reported.

Funding & Access to Finances/Accounting

There were three types of problems.In some cases, there were delays within the grantee organization resulting from contract delays, setting up accounts, or other bureaucratic mechanisms. In these cases, grantees were confident that funding was available, but it remained temporarily inaccessible. Such delays were reportedly exacerbated by state budget crises. As one grantee reported,

> Our Governor has requested that any item or service purchased by either state or federal funds has to be carefully reviewed. This has caused a delay in purchasing ability of key items.

A second type of financial/funding challenge occurred when funding for aspects of the project were unavailable to either the grantee or partners to pay for unexpected costs, such as software upgrades. An example:

> The first is the economic issues facing the country and the state. One of the items [Grantee] received funding for was to change the data submission format for its PDMP. For many of [Grantee's] pharmacies, especially those in rural areas, this would be a financial burden to upgrade software reporting.

Technological Computer Barriers

The adoption of new technologies across spatially disparate networks can be time consuming and sometimes raises new technologicalhurdles. These included challenges related to interstate data sharing and issues related to enhancing PDMP systems for end users. For example, one grantee reported technical issues regarding message encryption as part their new data sharing initiative:

> We planned to implement the PMIX pilot during this reporting period. However staffing issues with CHFS and technical issues with developing the message level encryption scheme did not permit implementation of the pilot. All issues have now been resolved and we anticipate the PMIX pilot will be implemented by August.

Outreach/Collaborations (including with stakeholders)

Holding meetings and following up on them also posed challenges to some states. Several grantees noted difficulty coordinating with other states on interoperability issues or with endusers.

> We have been having difficulties following up with Tribal Leaders in regards to their annual conference. A date was finally set and work will begin on conducting that conference, of which a portion will be training in regards to the prescription drug registry.

Although the collaborations take time, some grantees also acknowledged that the benefits of involving stakeholders in decisions might pay off in the long run.

LegislativeBarriers

Several grantees reported that legislationthat would have supported their work failed to pass or move out of committee.In one case, adopted legislation presented a barrier, sinceit required system enhancements that delayed the implementation of the PDMP:

> During the 2012 legislative session, the legislature passed House Bill 1 that requires mandatory prescriber and dispenser accounts, and mandatory prescriber usage of the PDMP under certain circumstances. Responding to the system enhancements needed to support the legislative mandate has delayed the start or work on our performance, security and usability enhancements, and our web-based training capability. We anticipate starting work on these initiatives during the next reporting period.

During one grantee period in one state, a key agency was eliminated. Other states had "sunset provisions" written into their PDMP legislation, requiring reauthorization bylegislators to continue programs.

Obtaining Review and Approvals (Legal)

A few grantees reported delays caused by legal scrutiny by attorney generals or others. These included scrutiny of RFPs for vendors andaudits of PDMP practices.

Litigation

Although rare, two grantees reported litigation delaying the implementation of their grant to establish PDMPs and share data with other states.

C. Areas of Possible BJA Assistance

The fourth narrative question asked grantees to suggest "any assistance that BJA can provide to address any problems/barriers from the above." Eleven grantees requested help with grants and contract-related matters, including signing contracts, approving changes in the scope of work and allowable activities, and extending their timelines. In addition, five grantees requested additional financial help, including finding a way to finance out-of-state travel to circumvent restrictions imposed by state government.

Two grantees sought information including a list of NDC numbers that includes a drug classification (opioids, stimulants, etc.) in either MS Excel or .txt format. Another requested a list of average salaries for PDMP administrators to help leverage staffing improvements in their state. One grantee requested that BJA resolve the PMIX architecture issue, and another requested that the program officer improve communication with the grantee. Finally, although not a direct answer to the question, one grantee summarized arguments raised by physicians and others opposed to PDMPs,which might prove useful in legislative efforts by PDMP supporters.

D. On-Track to Complete Program

This section summarizes results of grantee responses to the question,*Are you on track to fiscally and programmatically complete your program as outlined in your grant application? (Please answer YES or NO, and if no, please explain.)*This question considers the progress of grantees in relation to their previously stated goals.

Table 5.2 summarizes responses to the question by six-month periods from January – June 2010 to January – June 2012. Those who did not answer this question or answered "N/A" were excluded from the table. With these exclusions, the proportion of respondents who indicated they were not on track fiscally or programmatically increased to a high of 85% in the first half of 2012. Several of these grantees indicated they requested an extension; however, only those who reported receiving an extension are listed as "extended."

Table 5.2.Summary of Responses to "Are you on track to fiscally and programmatically complete your program as outlined in your grant application? (Please answer YES or NO, and if no, please explain.)"

	Jan-Jun 2010	Jul-Dec 2010	Jan-Jun 2011	Jul-Dec 2011	Jan-Jun 2012	Grand Total
Yes	22	32	3	3	0	60
	59%	*68%*	*21%*	*33%*	*0%*	*50%*
No	14	11	9	4	11	49
	38%	*23%*	*64%*	*44%*	*85%*	*41%*
Extended	1	4	2	2	2	11
	3%	*9%*	*14%*	*22%*	*15%*	*9%*
Grand Total	**37**	**47**	**14**	**9**	**13**	**120**
	100%	**100%**	**100%**	**100%**	**100%**	**100%**

Explanations for delays in the 2012 period referred to previous discussions of problems and barriers and included the need to add staff, problems with vendors, and work taking longer than expected.

E. Major Activities Planned for the Next SixMonths

For every six-month report period, grantees were asked to describe the major activities planned for the next six months. Table 5.3 summarizes the types of activities that grantees planned. Grantees could and usually did report multiple activities, but this summary parallels the categories used in the list of accomplishments. (See Section A above.) As can be seen, enhancing technology and data utilization were the two most commonly mentioned types of planned activities, followed by public awareness (17), stakeholder education activities (15), and interstate data sharing (12).

Table 5.3. Types of activities planned in the next 6 months as of June 2012

Type of Activities	Number of Grantees in 2012
Enhancing IT	21
Data Utilization	19
Public Awareness	17
Stakeholder Education	15
Interstate Data Sharing	12
Internal Capacity	8
PDMP Data Compliance	5
Evaluation & Research	5
Legislation	3
Law Enforcement	2

F. Innovative Program Examples

Finally, grantees responded to the question,*Based on your knowledge of the criminal justice field, are there any innovative programs/ accomplishments that you would like to share with BJA?* Table 5.4 presents the number of grantees who reported innovative programs by grantee period.

Table 5.4. Number of Self-Reported Innovative Programs by Reporting Period

	Jan-Jun 2010	Jul-Dec 2010	Jan-Jun 2011	Jul-Dec 2011	Jan-Jun 2012
Number of Grantees reporting Innovative programs:	4	7	6	6	10

These innovations were coded into four categories as follows:

- Innovations for data utilization by prescribers or pharmacies (13)
- Law enforcement (12)
- Research and evaluation innovations (7)
- New collaborations (3)

A full list of these reported innovations may be found in the Appendix.

Summary

- BJA grantee PDMPs reported a wide range of accomplishments, primarily in the area of what we have termed "inputs," including increasing public awareness of the PDMP; increasing provider utilization of the PDMP and of both solicited and unsolicited reports; improving data reporting compliance, data quality, IT infrastructure, and capacity for interstate datasharing; and developing collaborative relationships for evaluation.

- Slightly more than half of grantees reported encountering problems or barriers in accomplishing grant goals, resulting in project delays for an increasing proportion of grantees through the first half of 2012. The most frequently cited barriers were operational, having to do with obtaining adequate funding and resolving technological issues; legislative barriers, issues with stakeholder collaborations, and legal issues were also mentioned.

- Grantee PDMPs continue to innovate to enhance the effectiveness of their programs. Innovations included new ways to increase PDMP utilization by prescribers, pharmacies, and law enforcement, and ways to increase the utility of PDMP data for these end users. PDMPs are increasingly forming research and evaluation partnerships to enhance the uses and usefulness of their data.

Appendix 1: Innovative Programs Detail

Responses to "Based on your knowledge of the criminal justice field, are there any innovative programs/accomplishments that you would like to share with BJA?" by report period.

January-June 2012

1)	California plans to develop a "child" registration role whereby a practitioner's delegate can submit a PAR request on behalf of the practitioner; however, the PAR response will only be provided to the practitioner.
2)	Delaware's Division of Professional Regulation has found that the threshold of four pharmacies and one doctor for either one month or six months identifies fraudulent prescription activity.
3)	In Florida, on June 27, a federal investigation known as "Operation Pill Street Blues" resulted in seven doctors and seven clinic owners being charged on state racketeering violations. The arrests come following a two-year investigation led by the Drug Enforcement Administration (DEA)in conjunction with the Indian River County Sheriff's Office, Vero Beach Police Department, and the Attorney General's Office of Statewide Prosecution.
4)	In Indiana, the INSPECT Statewide Diversion Officer met with the Indiana Prosecuting Attorneys Council and is working toward establishing charging agreements procedures to expand the number of prosecutors that will file cases directly from the DO and our Board of Pharmacy Compliance Officers.
5)	The Massachusetts PMP is currently conducting an evaluation survey of prescribers receiving unsolicited reports regarding the usefulness of these reports for their medical practice. Data thus far indicate that, until they received the reports, a majority of prescribers were unaware that the patients reported on were receiving Schedule II prescriptions from other prescribers. This highlights the utility of unsolicited reports for increasing awareness among prescribers of possible questionable activity (i.e., doctor shopping-like activity) on the part of some patients. Such reports may also increase awareness among prescribers of the role PMP data can play in improving medical practice. We intend to conduct a detailed analysis of these data and disseminate findings in a journal article. Data from planned online surveys of providers receiving electronic alerts will also be collected and analyzed, and will provide the basis for future publications and presentations. The PMP's electronic alert system is designed to send alerts (i.e., unsolicited reports) to any e-mail address specified by the enduser. The e-mail contains no patient-specific information, but rather a unique code number usable only in the PMP system. This innovation obviates the need for separate secure e-mail accounts for providers. We are also carrying out analyses of PMP data of individuals who meet questionable activity thresholds for whom unsolicited reports have been sent to their prescribers, comparing, among other measures, the number of prescribers, controlled substance prescriptions dispensed, and pharmacies visited for periods before and after the reports were issued. The primary hypothesis to be tested is that during the post-report period these measures will be less than the pre-report period, on the assumption that the reports will influence prescriber practice for these individuals. Using propensity scoring, a matched control group of patients not reported on has been selected in order to help test this hypothesis. Preliminary data analyses show differences between cases and controls on some variables in the expected direction. More patients and controls are being added to increase the statistical power of the analysis, and cases and controls will be compared on total doses dispensed calculated in morphine equivalents.

6)	In Maryland, although the CDSIU implementation is still in an early stage, the controlled dangerous substances (CDS) fusion center model may prove an innovative approach to coordination between public health authorities and law enforcement agencies with concordant CDS-related responsibilities. PDMP involvement in the CDSIU will aid the unit's ability to engage in "deconfliction" with external law enforcement investigations. Likewise, the early identification of practitioner-related public health and safety threats will allow DHMH to mitigate the burden on local law enforcement agencies, first responders, and hospital emergency departments by reducing the supply of and demand for diverted CDS before situations reach a critical level. GOCCP and DHMH/ADAA will continue to provide updates on CDSIU implementation generally and focus specifically on those activities related to PDMP-assisted investigations.
7)	Maine continues to see a decrease in the number of unsolicited reports sent, which are indicative of "doctor shopping" and "pharmacy hopping" behaviors.
8)	North Carolina conducted in-depth research with the Division of Public Health and discovered that among the 900 or so deaths experienced in 2010, one doctor had prescribed a drug to 12 of the deceased patients,six of them within the 30 days preceding their deaths.
9)	In Oregon, the program continues to apply the PMBOK project management methodology to develop business operations efficiencies and subsequently minimize staff time typically used to conduct day-to-day prescription monitoring activities (e.g., user registration and authentication, password resets, and data report generation). The goal is to identify ways to automate business processes so staff can be freed up to work on other projects to help prevent prescription drug overdose.
10)	Washington State suggests they have a unique access solution for law enforcement. They have the elected or appointed leader of each agency create a master account first and then delegate accounts can be created for investigators. The delegates are allowed to directly query the data by providing a case number for an open investigation. At the end of each month, the master account holder then performs an audit of all requests made by their agency and provides an approval to the department through the system when the review is complete.

July-December 2011 Innovative Programs

1.	In Hawaii, NED implemented an online controlled substance renewal registration process through vendor ehawaii.gov, which has significantly reduced process time and fee collections.
2.	Kentucky's Cabinet for Health and Family Services has implemented a program to analyze PDMP data for potentially inappropriate prescribing, and to notify the appropriate licensure boards. We plan to provide more detail on the program and evaluation of the results under our 2010 grant.
3.	The Massachusetts PMP is currently conducting an evaluation survey of prescribers receiving unsolicited reports regarding the usefulness of these reports for their medical practice.
4.	Maine statistics reveal the number of people who filled Prescriptions for Controlled Substances, and the number of unsolicited reports (triggered by an established threshold level), have both decreased in the past year. While there is no one statistic that marks the efficacy of the PMP, these statistics show that state and national efforts are having a positive impact on prescription drug misuse and diversion in Maine in some respects. The problem has not been "fixed," but it is noteworthy that some of these alarming rates are decreasing.

5.	In Oregon, the Department utilized a version of the PMBOK project management methodology during the initiation and planning stages of the project. This methodology and work with state IT Project Management Profession staff allowed the Department to look at prescription monitoring from a unique perspective and identify many ways to automate business processes pertaining to the PDMP. The program continues to apply this methodology to help minimize staff time typically used to conduct prescription monitoring activities (i.e., user registration and authentication, password resets, and data error corrections).
6.	Washington State plans to allow law enforcement access a bit differently than other PDMPs, and we think it is a first. Master accounts need to be established first by each agency. Then delegate accounts can be created for investigators and detectives.

January-June 2011

1.	In Hawaii, the Narcotics Enforcement Division (NED) will convert its old fax pharmacy alert program to e-mail based. This program allows NED to alert all pharmacies in the state of individuals wanted/interested parties involved in pharmaceutical diversion cases. Pharmacies are able to send NED information on these specific suspects.
2.	In Indiana, the grantee believes that efforts arounda newly launched Rx Watch application, *Regenstrief I integration initiative*, and the recent (Optimum) software enhancements, as user-led unsolicited reporting and practitioner self-lookup, constitute "firsts" for PDMPs and thus may warrant further examination by BJA and other state PDMPs.
3.	The Massachusetts PMP is currently conducting an evaluation survey of prescribers receiving unsolicited reports regarding the usefulness of these reports for their medical practice.
4.	Maine's online tutorial for current and potential data requesters as created (with a vendor) has been a huge success (see #2).
5.	Oklahoma prescriptiontake-back programs need to be dramatically increased and supported by the DEA.
6.	In Oregon, thedepartment utilized a version of the PMBOK project management methodology during the initiation and planning stages of the project.

July-December2010 Innovative Programs

1.	In Connecticut, a new task force has been created by the U.S. Attorney's Office in Connecticut composed of the State Police, State Chief Attorney's Office, State Drug Control, HHS Office of Inspector General, and the DEA to conduct investigations on doctor shoppers. The PMP will be used as the tool for the investigation.
2.	In Kentucky, user evaluation of the state PDMP is valuable for identifying user training needs and needed system enhancements. We are willing to provide information regarding how we designed and conducted our 2010 KASPER User Satisfaction Survey.
3.	The Massachusetts PMP is currently conducting an evaluation survey of prescribers receiving unsolicited reports regarding the usefulness of these reports for their medical practice.
4.	In Maryland, the Division of Drug Control (DDC) has been repeatedly successful in the criminal justice field, involving issues related to illegal pharmacy operations, pain management, and abuse of CDS prescriptions. Thus, from 2006,DDC has jointly investigated about 12 illegal internet pharmacy investigations. All pharmacies, except one that was sanctioned by the Maryland Board of Pharmacy, closed operations. The illegal internet activity of one Maryland

pharmacy involved doctors in Miami, Florida and resulted in prosecution by DEA. During June 2010, DDC assisted the Baltimore District DEA office in execution of simultaneous administrative warrants of four pharmacies. DDC's name was specifically included for the first time in a DEA administrative warrant based on DDC's audit of the four pharmacies and reporting discrepancies to DEA.
5. In Maine, the qualitative evaluation supported by this grant may be the first of its kind.
6. Oklahoma's training for PMP stakeholders is usually a major obstacle for PMP administrators. Several third party vendors provide training systems and development programs. Wewould strongly recommend that BJA consider funding and/or providing an online PMP training center that all states could use to share, host, and provide training for stakeholders involved with prescription drug control.
7. In Indiana, the Department utilized a version of the PMBOK project management methodology during the initiation and planning stages of the project.

January-June 2010

1. In Connecticut, the Inspector General's Office, U.S. Attorney's Office, and State Police are planning a fraud task force that will utilize the PMP as part of their investigations.
2. Illinois established a referral system for medical prescribers and dispensers that will direct individuals to treatment or to law enforcement.
3. The Massachusetts PMP has determined estimates of the prevalence of both medical and non-medical use of Schedule II opioids over time in the Commonwealth. The analyses showed the estimated number of individuals who received Schedule II opioids, the estimated number of possible doctor shoppers in Massachusetts, and the estimated number of prescriptions obtained by possible doctor shoppers and the drugs of choice. Additionally, spatial analysis was conducted on the rates of questionable activity and prescriptions dispensed using multiple regression analysis to explore associations with socio-demographic measures. These methodologies and analyses are being further developed under the current BJA grant. In addition, the Massachusetts Department of Public Health has shared with BJA the findings and recommendations from the Taskforce on the Clinical Use of Prescription Data advisory group—the "tool kit" materials developed for unsolicited provider reports—and has begun to evaluate the impact of unsolicited reports to practitioners. Finally, the Department and project staff published a journal article titled, "Usefulness of Prescription Monitoring Programs for Surveillance: Analysis of Schedule II Opioid Prescription Data in Massachusetts, 1996-2006," in the 2009 Pharmacoepidemiology and Drug Safety Journal. The article is available upon request.
4. North Carolina identifies forgeries using the PMP. They look for X number or pharmacies and 1 prescriber within a short period of time (one month or less). They then work the list asking the pharmacist to verify the scrip with the prescriber. North Carolina often finds a forgery and then report to the State Bureau of Investigation.

APPENDIX 2: Grantee Responses to Report

Prior to its public release, this report was sent to the BJA PDMP grantees whose data is included. This appendix contains the letter sent to the grantees, requesting their feedback on the report and the accuracy of its data for their state; and the PDMP responses received (for which the respondent did not ask that the response not be reprinted here).

February 12, 2014

Dear {Grantee PDMP Administrator's name],

Attached you will find our report on the BJA performance measures required of Harold Rogers PDMP grantees. **Please review this report and respond to me by February 28 if you have any concerns or suggestions.** The report compiles performance measures reported for the period January 1, 2009 through June 30, 2012, by all grantees that reported for at least some part of that period, and includes narrative as well as quantitative measures.

The report is a first effort to provide an overall framework for the performance measures, compile the measures in a consistent way over time for each grantee and across grantees, and provide some initial analysis, for example examining prescriber utilization of the PDMP in relation to the number of years online access has been operational. The report also notes changes in the performance measures and reporting period, and adjusts for those changes as much as possible. Finally, the report discusses important limitations in interpreting the performance measures, in particular limitations to comparisons across grantees.

The report has been prepared by the PDMP Center of Excellence at Brandeis University, and has been reviewed and approved for distribution by BJA. Before we release it publicly, however, we wanted to share it with all of the grantees whose performance measures are included. On the one hand, this is a chance for you to learn what has happened with the performance measures you and the other grantees have been reporting, and to know that they have not been forgotten. On the other hand, this is an opportunity for you to review the measures recorded and/or computed for your PDMP. We have made every effort to ensure that the performance measure data we used were the same as the data you reported to BJA; however, it is possible that some discrepancies remain.

Please examine the report, and in particular, the data reported for your PDMP. Let us know as soon as possible of any inaccuracies. If you have questions or concerns about any of the interpretations or comparisons regarding your state's data, please document your questions and/or concerns/objections. If you find the report informative, or interesting, or that it reflects in a positive way on the performance and effectiveness of PDMPs, please let us know that as well. Finally, we would welcome any suggestions you have for improvements to the performance measures, for additional or alternative performance measures to better capture PDMP effectiveness, and for improvements in how we have reported on the performance measures.

We ask that you send responses by February 28, 2014. (You can do so by replying to this e-mail.) Our intent is to do a final revision of the report, as needed, to address any questions or concerns raised, and then to publish your responses along with the report on our website (www.pdmpexcellence.org). BJA intends to publish the report and your responses on their website as well. If you do not wish your response to be used in this way, please indicate that in your response. If you have any questions, or would like to discuss the report or this request, please contact Peter Kreiner (781-736-3945; pkreiner@brandeis.edu).

Thank you for your consideration.

Peter Kreiner, Ph.D.
Principal Investigator
PDMP Center of Excellence at Brandeis

John Eadie
Director
PDMP Center of Excellence at Brandeis

Grantee responses/correspondence

2/13/2014

Hi Peter,

I have only been here 2 years and was unaware that we were ever a BJA grantee. I remember some discussion about us receiving an implementation grant, but I was never sure of the source because I did not work for the Department at that time. This fills in the blanks for me!

I will try to check our data-when did our required reporting to BJA end? That will give me a reference point.

Also, Mary Brewer does not work for us anymore.

Thanks,
Andy

Andrew Holt, PharmD
Tennessee Controlled Substances Monitoring Database
665 Mainstream Dr
Nashville, TN 37243
(615)253-1300
(615)253-8782 (fax)
Andrew.holt@tn.gov

2/14/2014

Hi Andy,

Thanks for your reply. Based on BJA's archives, Tennessee received an FY2004 planning grant ($50,000) and an FY2005 implementation grant ($350,000), and no BJA grants after that. Usually these awards are for two years, and grantees often request and are granted no-cost extensions. The most recent data that Tennessee seems to have reported to BJA is for the first six months of calendar 2009. So it looks like they did receive at least one extension. As far as I can tell, the first half of 2009 was the last required reporting period for Tennessee.

Regards,
Peter

2/14/2014

Hi Peter,

So far what I have read looks really nice. John will compare the numbers we have from our BJA reports and what you all have in the document to make sure they are the same and will let you know what he finds soon.

Anne Rogers, M.Ed., ABD, CHES
Manager, Data and Research
Substance Abuse and Mental Health Services/DHHS

11 SHS, 41 Anthony Ave
Augusta, ME 04333-0011
☎Tel: 207-287-4706
Fax: 207-287-8910

2/17/2014

Peter:

The x number relates to the number of pharmacies.

North Carolina identifies forgeries using the PMP. They look for X number or pharmacies and 1 prescriber within a short period of time (one month or less). They then work the list asking the pharmacist to verify the scrip with the prescriber. North Carolina often finds a forgery and then report to the State Bureau of Investigation.

John Womble
N.C. Department of Health and Human Services
Program Consultant, DMH/DD/SAS
NC Controlled Substance Reporting System
325 N. Salisbury Street
Raleigh, NC 27603
919-733-1765 ext 248
Johnny.womble@dhhs.nc.gov
http://www.ncdhhs.nc.gov/mhddsas

2/17/2014

John,

Many thanks for clarifying this.

Regards,
Peter

2/18/2014

Peter,

Looks good.

Sherry

2/18/2014

Peter,

Please double check Table 2.12. Unsolicited Reports to Pharmacists,

We do not have authority to send unsolicited reports to pharmacists so not sure where that number came from. It should be removed.

Did not read all very closely as Virginia did not report to BJA for most of this report's timeframe.

Thanks for the opportunity to review.

Ralph

2/28/2014

Hi Ralph,

Thanks for this feedback. I will make the correction. We've found a number of inaccuracies in the data we've received from BJA - some were obvious, and we've already checked them with the respective PDMP Administrators, but others, as with Virginia, were not so obvious. It's helpful for us to find out about these to try to address how the inaccuracies come about.

Regards,
Peter

2/18/2014

Hello, Peter:

Thank you for the opportunity to review your report. I cannot dispute your figures; they represent CURES performance prior to my assumption of the program during Dec, '11, as well as reporting periods before I acquired loaner staff to get CURES back into business.

All I can ask is that CA be judged by our renewed dedication and efforts to improve CURES. Our current efforts are focused on rebuilding a robust, new CURES 2.0 automation system to far exceed our current capacities for information delivery. Our unsolicited reporting is expected to take the form of ongoing dashboard metrics reflecting each and every practitioner's above threshold patient data. And we are dedicated to achieve interoperability with CA's healthcare systems to ensure accessibility to all our prescribers and dispensers.

Mike

Mike Small, DOJ Administrator II
Law Enforcement Support Program
Bureau of Criminal Identification
and Investigative Services
California Department of Justice
(916) 227-3324

mike.small@doj.ca.gov

2/21/2014

Peter

I have been reviewing the areas in the Brandies report that are pertinent to Maine and I found 8 pages in the report where Maine is discussed (9, 14, 31, 32, 46, 52, 53, and 54). I offer my comments below to the areas that I believe need further investigation.

page 14 – Registration Rates, 5th paragraph.

My registration data does not support what you have in your report on page 14. Can you send me a copy of the correspondence that provided you with the information used in the report? The earliest registration rate data I was able to generate dates back to October 2011 and the percentage registered at that time was only 21.4 percent. The Brandeis report states Maine had a 48 percent registration percentage in the first quarter of 2011 which is very different from what I have. I wonder if this information was provided prior to our vendor change when several users were automatically unregistered. The report also references an 82 percent registration in the second quarter of 2012 which is also different. My records reflect that our registration rate was 32.1 percent on March 31, 2012 and 39.8 percent on June 30, 2012. My figures seem to align closely with the most frequently reported registration rates. Our current registration rate is 64.9 percent but will spike substantially because prescribers are required to register by March 1st.

Page 32 – Table 2.17

Can you send me the information you have on hand that supports Maine data in table 2.17? I want to verify this but I am having difficulty because the time period in this table is across vendors and I don't have access through our current vendor to support the earlier measures.

Thank You,

Clear Eyes, Full Hearts, Can't Lose (FNL)
John Lipovsky
Prescription Monitoring Program Coordinator
Office of Substance Abuse and Mental Health Services
41 Anthony Ave
11 SHS
Augusta, ME
04333-0011
John.lipovsky@Maine.gov
207-287-3363
Web: www.maine.gov/pmp

2/26/2014

I am adding my bit of 2cents in below.

Anne Rogers, M.Ed., ABD, CHES
Manager, Data and Research
Substance Abuse and Mental Health Services/DHHS
11 SHS, 41 Anthony Ave
Augusta, ME 04333-0011
☎Tel: 207-287-4706
Fax: 207-287-8910
What great thing would you attempt if you knew you could not fail? -Robert H. Schuller

You change your life by changing your heart. -Max Lucado

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From: Lipovsky, John
Sent: Friday, February 21, 2014 10:00 AM
To: 'Peter Kreiner'; Rogers, Anne
Subject: RE: BJA performance measures report

Peter

I have been reviewing the areas in the Brandies report that are pertinent to Maine and I found 8 pages in the report where Maine is discussed (9, 14, 31, 32, 46, 52, 53, and 54). I offer my comments below to the areas that I believe need further investigation.

page 14 – Registration Rates, 5th paragraph.

My registration data does not support what you have in your report on page 14. Can you send me a copy of the correspondence that provided you with the information used in the report? The earliest registration rate data I was able to generate dates back to October 2011 and the percentage registered at that time was only 21.4 percent. The Brandeis report states Maine had a 48 percent registration percentage in the first quarter of 2011 (this sounds correct to me- we had a huge drop off when we had to change to the new ASAP which required folks to reregister)which is very different from what I have. I wonder if this information was provided prior to our vendor change when several users were automatically unregistered. The report also references an 82 percent registration in the second quarter of 2012***[AR]*** (I know this can't be correct Peter, weve never had 82% registered) which is also different. My records reflect that our registration rate was 32.1 percent on March 31, 2012 and 39.8 percent on June 30, 2012. My figures seem to align closely with the most frequently reported registration rates. Our current registration rate is 64.9 percent but will spike substantially because prescribers are required to register by March 1st.

2/25/2014

Hi:

I did skim through the results. I think it looks good for WA number except for unsolicited reports. We have not done any to any user group.

Please update those tables to show zeros for WA.

Thanks,

Chris Baumgartner, PMP Director
WA Department of Health
PO Box 47852
Olympia, WA 98504-7852
Phone: 360.236.4806
Fax: 360.236.2901
Web: www.doh.wa.gov/pmp

2/25/2014

Thanks, Chris. I will make the changes for unsolicited reports.

Regards,
Peter

2/27/2014

Hello Peter,

Following are some suggestions for your consideration regarding the grant performance measures report.

- In both the executive summary and the report introduction, where you have the bullets listing the four measurement areas, you may want to add the definitions for solicited reports and unsolicited reports in the Outputs bullet. While the PDMP audience would not need that explanation, there may be readers who will not be familiar with those terms.

- Going forward, I wonder how relevant the measure of informal training really is. I was all in favor of it when the original measures were being put in place. However, now I wonder whether better information would be asking the states to report the types of informal training activities they have completed, e.g., mass mailings, trade show booths, etc. This "subjective" information may provide states with ideas about informal activities they might want to undertake, and may be of more value that the figures. Just a thought for the measures team.

- On page 13, it looks like the measure for training will be the unduplicated cumulative number of individuals trained. While I have been maintaining the cumulative number of individuals trained, I'm not sure I could provide the unduplicated number. We often train groups over a hundred, and the organizers typically just provide us with total CE counts by profession. For us to have to try to obtain lists of names and wade through those to identify duplicates from prior trainings would be nearly impossible. Also, because things change with the PDMPs it can be very productive for providers and other users to have refresher courses periodically. The executive director of the Kentucky Academy of Family Physicians recently told me the providers need to hear

these training messages repeatedly for them to rally grasp the content. So I think the measure should remain the cumulative number of trainees.

- I don't know whether this merits clarification, but in table 2.6 on page 22, the figure of 390 reports from KY to another PDMP for a user in their state, represents the production PMIX Pilot with Ohio. When the pilot ended data sharing ceased until we completed development and implemented data sharing via the RxCheck and PMPI hubs. That is why the figure went back to zero. Again, may not need any explanation.

- Tables 3.3, 3.4 show no KY data for Oct-Dec 2010, but I show data in my PMT reports. Tables 3.6 and 3.7 show very high rates for KY. I'm not sure how the rates are calculated but let me know if you want to get together to verify the data from our PMT reports to make sure you have the same source data that I do.

That's all I have Peter. The report is very comprehensive and looks good!

Dave

2/28/2014

Hi Peter,

I hope this email finds you well. Thank you for the opportunity to review this report prior to submission to BJA. We noticed that our performance measures were not included in the report – I believe that you and I previously discussed the fact that we were set-up incorrectly in the Performance Management Tool and performance measures were not collected until the second half of 2012. We do have performance measures and would like to be included in the report. I am working on adding our performance measures now.

I wondered if you might have a copy of the old BJA performance measure question numbers that I can use as a reference?

Thanks,
Erika

Erika L. Marshall l **E-FORCSE Florida Prescription Drug Monitoring Program** l Program Outreach Director **l** Phone: 850-245-4797

2/28/2014

Hi Erika,

Here's a copy of the questions and question numbers from 2010, that I think applies for 2011 and the first half of 2012. If you're able to report on these measures, that would be great. We'd be happy to include Florida's data in the report. Note that we only included the threshold measures for Schedule II, and then only for 5 prescribers/5 pharmacies and 10/10. You don't need to report on every question in the guide, just the ones we included in the report.

Thanks!

Regards,
Peter

3/3/2014

Thanks, Peter. I will get this to you by the end of the day.

Erika L. Marshall l **E-FORCSE Florida Prescription Drug Monitoring Program** l Program Outreach Director **l** Phone: 850-245-4797

3/3/2014

Hi Peter:

Please see the attached report, which I have updated with the relevant performance measures. In the comments, I indicated the measure numbers that I inserted into the document, so that you can confirm I pulled the correct numbers. I am also including our reports from HID for 10/1/2011-12/31/2011; 1/1/2012-3/31/2012; and 4/1/2012-6/30/2012, in the event included an incorrect measure.

It appears that our narrative responses were included, so I did not provide any further information in that section – please let me know if you need additional information.

Please let me know if you have any questions or concerns regarding the information provided.

Best Wishes,
Erika

Erika L. Marshall l **E-FORCSE Florida Prescription Drug Monitoring Program** l Program Outreach Director **l** Phone: 850-245-4797

3/4/2014

Erika,

Thanks very much for putting all this information together. We'll certainly include it when the report is made public (soon, after I incorporate some corrections and comments from other PDMPs).

Regards,
Peter
3/12/2014

Hi Peter:

Sorry for the delay in the response, it has been busy busy.

Anyway, I have reviewed the report, and it looks fine, however, it appears that you didn't get any of our BJA reporting data for Jan - Dec of 2010. What I had available, I have placed for you below.

Thanks very much.

Table 1.2 Number of Licensed prescribers informally trained

Jan - June 2010 1140

July - Sept 2010 - unavailable

Oct - Dec 2010 1007

Table 1.4 Number of licensed pharmacists informally trained

Jan - June 2010 40

July - Sept 2010 unavailable

Oct - Dec 2010 51

Table 1.7 Registration Rates - Prescribers registered / # of licensed prescribers who issued one or more cs rx during the period

Jan - June 2010 (unavailable neither measure was gathered)

July - Sept 2010 unavailable

Oct - Dec 2010 unavailable

Table 2.1 Solicited reports to prescribers

Jan - June 2010 104228

Table 2.3 Solicited reports to law enforcement / individuals authorized to conduct investigations

Jan - June 2010 90

Table 2.5 Solicited reports to end users in another state, prescribers

Jan - June 2010 (measure was not gathered)

July - Sept 2010 unavailable

Oct - Dec 2010 unavailable

Table 2.8 Solicited reports to end users in another state, law enforcement

Jan - June 2010 (measure was not gathered)

July - Sept 2010 unavailable

Table 2.9 # of solicited reports / # of prescribers registered to use the PDMP

Jan - June 2010 (# of prescribers registered was not gathered)

July - Sept 2010 unavailable

Oct - Dec 2010 unavailable

Table 2.10 # of solicited reports / # of prescribers who wrote one or more cs rx during the period

Jan - June 2010 (# of prescribers who wrote was not gathered)

July - Sept 2010 unavailable

Oct - Dec 2010 unavailable

Table 3.1 Threshold rates for patients, sched II only (5 prescribers and 5 pharmacies)

Jan - June 2010

* 269 individuals filled sched II cs rxs from 5 or more prescribers at 5 or more pharmacies

* 424586 total individuals filled sched II cs rxs

269/424586 * 1000 = .697 rounded to .7

July - Sept 2010 unavailable

Oct - Dec 2010

* 335 individuals filled sched II cs rxs from 5 or more prescribers at 5 or more pharmacies

* 444145 total individuals filled sched II cs rxs

*335/444145 * 1000 = .754 rounded to .8

Table 3.2 Threshold rates for non liquid doses Sched II only (5 prescribers and 5 pharmacies)

Jan - June 2010

* 213863 total non liquid doses of Sched II assoc w/ individuals who filled rxs from 5 or more prescribers at 5 or more pharmacies

* 72217762 total schedule II non liquid doses

213863/72217762 * 1000 = 2.96

July - Sept 2010 unavailable

Oct - Dec 2010

*269034 total non liquid doses of Sched II assoc w/ individuals who filled rxs from 5 or more prescribers at 5 or more pharmacies

* 76353298 total schedule II non liquid doses

*269034/76353298 * 1000 = 3.52

Table 3.3 Threshold rates for non-liquid doses of pain relievers only Sched II (5 prescribers and 5 pharmacies)

Jan - June 2010

*207268 non liquid doses of Sched II pain relievers (5 & 5)

*60,687,767 total non liquid doses of Sched II pain relievers

*207268/60687767 * 1000 = 3.415 rounded to 3.42

July - Sept 2010 unavailable

Oct - Dec 2010

* 256695 non liquid doses of Sched II pain relievers (5 & 5)

* 64365566 total non liquid doses of Sched II pain relievers

* 256695/64365566 * 1000 = 3.988 rounded to 3.99

Table 3.4 Threshold rates for non-liquid doses of stimulants only Sched II (5 prescribers and 5 pharmacies)

Jan - June 2010

*6595 non liquid doses of Sched II stimulants (5 & 5)

* 11509250 total non liquid doses of Sched II stimulants

*6595/11509250 * 1000 = .573

July - Sept 2010 unavailable

Oct - Dec 2010

* 12339 non liquid doses of Sched II stimulants (5&5)

* 11976089 total non liquid doses of Sched II stimulants

* 12339/11976089 * 1000 = 1.03

Table 3.5 Threshold Rates for Sched II (10 prescribers and 10 pharmacies)

Jan - June 2010

*4 individuals filled sched II cs rxs from 10 or more prescribers at 10 or more pharmacies

* 424586 total individuals filled sched II cs rxs

* 4 / 424586 * 1000 = .009 or < .01

July - Sept 2010 unavailable

Oct - Dec 2010

* 6 individuals filled sched II cs rxs from 10 or more prescribers at 10 or more pharmacies

* 444145 total individuals filled sched II cs rx

* 4/444145 * 1000 = .009 rounded to .01

Table 3.6 Threshold rates for non-liquid doses Sched II (10 prescribers and 10 pharmacies)

Jan - June 2010

* 3456 total non liquid doses of Sched II assoc w/ individuals who filled rxs from 10 or more prescribers at 10 or more pharmacies

*72217762 total sched II non liquid doses

* 3456/72217762 * 1000 = .047 rounded to .05

July - Sept 2010 unavailable

Oct - Dec 2010

*3545 total non liquid doses of Sched II assoc w/ individuals who filled rxs from 10 or more prescribers at 10 or more pharmacies

*76353298 total sched II non liquid doses

* 3545/76353298 * 1000 = .046 rounded to .05

Table 3.7 Threshold rates for non-liquid doses of pain relievers only Sched II (10 prescribers and 10 pharmacies)

Jan - June 2010

* 3396 non liquid doses of Sched II pain relievers (10 & 10)

* 60687767 total non liquid doses of Sched II pain relievers

* 3396/60687767 * 1000 = .055 rounded to .06

July - Sept 2010 unavailable

Oct - Dec 2010

* 3545 non liquid doses of sched II pain relievers (10 & 10)

* 64365566 total non liquid doses of Sched II pain relievers

* 3545/64365566 * 1000 = .055 rounded to .06

Table 3.8 Threshold rates for non liquid doses of stimulants only Sched II (10 prescribers and 10 pharmacies)

Jan - June 2010

* 60 non liquid doses of Sched II stimulants (10 & 10)

* 11509250 total non liquid doses of Sched II stimulants

* 60/11509250 * 1000 = .005 rounded to .01

July - Sept 2010 unavailable

Oct - Dec 2010

* 0 non liquid doses of Sched II stimulants (10&10)

* 11976089 total non liquid doses of Sched II stimulants

* 0/11976089 * 1000 = 0

3/13/2014

Thanks very much, Tia. I'm not sure why this data was not included in what we received from BJA, but I will add it to the version of the report that is released (probably in about a week).

Regards,
Peter

3/13/2014

Hi Peter.

Thanks very much.

Have a nice day.