

Overdose Epidemic, Prescription Monitoring Programs, and Public Health: A Review of State Laws

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Prescription monitoring programs (PMPs), state-level databases that collect patient-specific prescription information at the time medications are dispensed, have been suggested as tools to address the overdose epidemic. We reviewed all laws in the United States ($n=25$) that articulated the purposes PMPs are intended to serve. Attributes related to reducing abuse, misuse, and diversion of prescription medications appeared most commonly. Only 5 purpose statements mentioned the promotion of public health as goals of the PMP, and only 3 listed improving health care. None listed overdose prevention as a goal of the PMP. (*Am J Public Health*. 2015; 105:e9–e11. doi:10.2105/AJPH.2015.302856)

FATAL POISONINGS, MOST OF

which are caused by drug overdose, have increased by nearly 600% over the past 3 decades and are now the leading cause of injury death in the United States.¹ The age-adjusted rate of prescription opioid-involved deaths nearly quadrupled between 1999 and 2011, closely mirroring increases in opioid medication prescriptions.^{2,3} Heroin-related deaths have likewise increased dramatically, a rise at least partly attributable to prescription opioid users transitioning to heroin, which is less expensive and increasingly more accessible than prescription opioids.^{4,5}

Prescription monitoring programs (PMPs) are state-level databases that collect patient-specific prescription information at the time medications are dispensed.⁶ Numerous federal agencies and nongovernmental organizations have suggested them as key components in the effort to stem the tide of preventable overdose deaths. The past decade has seen a rapid increase in both the number of states mandating the programs and the amount and timeliness of the data collected.⁶ However, evidence of the effectiveness of the programs in reducing overdose deaths is mixed, and a recent survey of state PMP program Web sites found that although nearly all emphasize the potential role of PMPs in reducing the supply of prescription opioids, only 38% noted their potential role in reducing overdose and only 17% contained overdose prevention information.^{7,8}

In this public health policy brief, we report that the legislation establishing PMPs and guiding their operation most often cites the prevention of diversion, abuse, and misuse of prescription medications as the programs' goals, followed by benefits to practitioners. The goals of public health promotion and patient protection appear less often, and no states list a reduction in overdose or overdose deaths as goals of the programs. We suggest that modifying state law to explicitly specify that the PMPs' goals include reducing overdose and other drug-related harms may improve the effectiveness of the programs as health promotion and overdose reduction tools.

METHODS

First, we updated a comprehensive data set of all statutes and regulations (referred to here as "laws") relevant to PMP design and operation in the 50 US states to reflect their status on June 30, 2014.⁶ After updating all relevant laws, 2 researchers independently examined each law to determine whether it contained an explicit statement of the law's intended purpose or purposes.

We imported all laws containing such a statement into ATLAS.ti for analysis (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany). We then selected relevant attributes of the purpose statements in an iterative process, based on both our knowledge of the existing literature on PMPs and recurrent

concepts that emerged from the purpose statements. On the basis of this review, we identified a total of 17 attributes (Table 1). Two coders independently reviewed every law for the presence of each of the 17 attributes, using a codebook developed on the basis of an initial review of the laws and updated recursively during the coding process.

This research examined only state PMP laws that included a clear statement of the PMP's goals, and did not attempt to categorize the PMP laws' operational characteristics to determine whether they coincide with the goals listed in the purpose statements.

RESULTS

As of June 30, 2014, a total of 49 states had passed legislation establishing PMPs. The legislation in 25 of these states contained an explicit statement of the purpose or purposes for which the statute was enacted.

Attributes related to reducing abuse, misuse, and diversion of prescription medications appeared most commonly (Table 1). In 15 of these 25 states, the law named reducing inappropriate use or misuse of prescription medications as a goal of the PMP, whereas purpose statements in 12 states declared that the PMP was intended to address diversion of prescription medications. Ten laws explicitly noted that the PMP was intended to assist in the investigation or prevention of criminal activity, and 5 listed an intention to assist law enforcement actors.

TABLE 1—Characteristics of Prescription Monitoring Program Purpose Statements in US State Laws as of June 30, 2014

Attribute	States (n = 25), No. (%)
Reduce misuse or inappropriate use of prescription medications	15 (60)
Do not interfere with appropriate prescription or use of medications	15 (60)
Reduce diversion of prescription medications	12 (48)
Reduce abuse of prescription medications	11 (44)
Investigate or prevent illegal activity	10 (40)
Benefit “practitioners”	7 (28)
Benefit pharmacists or dispensers	5 (20)
Operate cost-effectively or efficiently or minimize inconvenience	5 (20)
Assist law enforcement	5 (20)
Promote or safeguard public health	5 (20)
Assist regulators	4 (16)
Identify patients in need of treatment or counseling	4 (16)
Benefit patients or patient safety	4 (16)
Benefit prescribers	3 (12)
Create data for research or surveillance	3 (12)
Improve health care	3 (12)
Reduce or prevent overdose	0 (0)

Attributes related to benefiting health care professionals appeared in approximately one third of state laws. Laws in 7 states declared the PMP’s purpose as assisting “practitioners,” with a smaller number mentioning pharmacists or prescribers specifically. Direct statements emphasizing patient health and well-being were least prevalent. The laws of only 5 of the 25 states mentioned the promotion of public health or the safety of the public as goals of the program, and only 3 listed the creation or use of data to assist research or identify trends. Four state laws included identifying patients needing treatment or counseling as goals of the PMP, with the same number listing patient safety. Only 3 laws listed improving health or health care generally.

Notably, none of the laws declared reducing overdose as a goal of the PMP or discussed PMPs as being part of a comprehensive effort to reduce drug overdose. In

fact, the word “overdose” does not appear in any of the purpose sections.

DISCUSSION

Statements that clearly explicate a statute’s intended purpose are important, both legally and practically. When tasked with interpreting a statute, many courts first look to the goals the legislature intended it to accomplish.⁹ A clear statement of the legislature’s purpose can be an important factor in that consideration, and in many states will generally be followed unless the statute itself is ambiguous or seems at odds with the statement.¹⁰ Legislative purpose statements may also guide the actions of the agencies responsible for operating the PMP and the individuals subject to its mandates.¹¹

We found that the most prevalent attributes in PMP purpose statements relate to reducing the

diversion, misuse, and abuse of prescription medications, the investigation and prevention of illegal activity, and benefits to practitioners. These goals are not necessarily incompatible with the goals of overdose reduction and public health improvement, but neither are they necessarily complementary.¹² If not coupled with initiatives such as training providers in how to properly counsel and refer patients to substance use disorder treatment or pain management specialists, and instructing providers in other overdose reduction strategies such as coprescribing the opioid antidote naloxone, they may in fact contribute to overdose risk. It is now clear, for example, that reductions in supply and increases in cost of illicitly obtained prescription opioids are partially responsible for the recent dramatic increase in heroin abuse and fatal heroin overdose.^{13–15} A PMP that helps to drive this transition by reducing the supply of prescription opioids may fulfill its statutory mandate, but does not necessarily improve public health.

Further research is indicated to determine whether and to what extent the goals listed in PMP purpose statements correlate with the behavior of those tasked with implementing the programs, the practitioners and others who utilize PMP data, and patient outcomes. Laws that explicitly state that the goal of the PMP is to reduce overdose and related harm might encourage the use of PMP data to further evidence-based interventions and encourage regulators and others to view the PMP as part of an overall effort to reduce drug-related harm generally, as opposed to simply being a means to reduce the supply of prescription opioids specifically.

In conclusion, the laws governing the operation of PMPs in many states focus on the programs’ benefits to law enforcement agents, regulatory agencies, and clinicians. Further research is indicated to determine whether modifying these laws to emphasize public health and patient safety goals may improve the effectiveness of PMPs in reducing overdose and other drug-related harm. ■

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Contributors

C. S. Davis conceptualized the article, conducted and supervised research, and led the writing. J. E. Johnston conducted research and coding and contributed to the writing. M. W. Pierce assisted with data collection and conceptualization and contributed to the writing. All authors read and approved the final article.

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Human Participant Protection

This research did not require protocol approval because it did not use human participants.

References

- Warner M, Chen LH, Makuc DM, Anderson RN, Minino AM. Drug poisoning deaths in the United States, 1980–2008. *NCHS Data Brief*. 2011; (81):1–8.
- Centers for Disease Control and Prevention. Vital signs: overdoses of prescription opioid pain relievers—United States, 1999–2008. *MMWR Morb Mortal Wkly Rep*. 2011;60(43):1487–1492.

3. Chen LH, Hedegaard H, Warner M. Drug-poisoning deaths involving opioid analgesics: United States, 1999–2011. *NCHS Data Brief*. 2014;(166):1–8.
4. Jones CM. Heroin use and heroin use risk behaviors among nonmedical users of prescription opioid pain relievers—United States, 2002–2004 and 2008–2010. *Drug Alcohol Depend*. 2013;132(1–2):95–100.
5. Hedegaard H, Chen LH, Warner M. Drug-poisoning deaths involving heroin: United States, 2000–2013. *NCHS Data Brief*. 2015;(190):1–8.
6. Davis CS, Pierce M, Dasgupta N. Evolution and convergence of state laws governing controlled substance prescription monitoring programs, 1998–2011. *Am J Public Health*. 2014;104(8):1389–1395.
7. Green TC, Bowman S, Davis C, Los C, McHugh K, Friedmann PD. Discrepancies in addressing overdose prevention through prescription monitoring programs. *Drug Alcohol Depend*. 2015;153:355–358.
8. Haegerich TM, Paulozzi LJ, Manns BJ, Jones CM. What we know, and don't know, about the impact of state policy and systems-level interventions on prescription drug overdose. *Drug Alcohol Depend*. 2014;145:34–47.
9. 82 CJS Stat §59 (2015).
10. 82 CJS Stat §401 (2015).
11. *Manual of Legislative Drafting*. Juneau, AK: Alaska Legislative Affairs Agency; 2015.
12. Davis C, Webb D, Burriss S. Changing law from barrier to facilitator of opioid overdose prevention. *J Law Med Ethics*. 2013;41(suppl 1):33–36.
13. Unick GJ, Rosenblum D, Mars S, Ciccarone D. Intertwined epidemics: national demographic trends in hospitalizations for heroin- and opioid-related overdoses, 1993–2009. *PLoS One*. 2013;8(2):e54496.
14. Dasgupta N, Creppage K, Austin A, Ringwalt C, Sanford C, Proescholdbell SK. Observed transition from opioid analgesic deaths toward heroin. *Drug Alcohol Depend*. 2014;145:238–241.
15. Pollini RA, Banta-Green CJ, Cuevas-Mota J, Metzner M, Teshale E, Garfein RS. Problematic use of prescription-type opioids prior to heroin use among young heroin injectors. *Subst Abuse Rehabil*. 2011;2(1):173–180.