Oregon's strategy to confront prescription opioid misuse: a case study

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1. Introduction and context

A federal report on nonmedical prescription drug use asserted that Oregon led the nation in nonmedical use of opioid analgesics. State-level data from the 2010 and 2011 National Survey on Drug Use and Health estimated that 6.4% of the Oregon population 12 years or older used prescription pain relievers in the past year for non-medical reasons (Substance Abuse and Mental Health Services Administration, 2012). Clearly, the state had a problem.

Governor John Kitzhaber appointed a Prescription Drug Taskforce to address Oregon's opioid epidemic. This case study reviews the Taskforce's participation in the National Governors Association State Policy Academy on Reducing Prescription Drug Abuse. To address the challenge of the misuse and abuse of prescription opioids, the Taskforce developed a strategy for practice change, community education and enhanced access to safe opioid disposal using stakeholder meetings, consensus development, and five action steps: (1) fewer pills in circulation, (2) educate prescribers and the public on the risks of opioid use, (3) foster safe disposal of unused medication, (4) provide treatment for opioid dependence, and (5) continued leadership from the Governor, health plans and health professionals. Although the story is ongoing, there are lessons for leadership in other states and for public health and medical practitioners throughout the country.

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Advocacy for access to controlled medications for pain relief may have contributed to the rates of individuals prescribed opioids and the number of opioid prescriptions issued. The Oregon Intractable Pain Act (passed in 1995; amended in 2003 and 2007) allows physicians to prescribe controlled substances for treatment of chronic pain without sanction from the Oregon Medical Board (http://www.oregon.gov/omb/board/philosophy/Pages/Pain-Management.aspx). The Act promotes adequate treatment of pain. Oregon Administrative Rules require that chronic pain be assessed and managed and physicians must inform patients about the risks of opioid therapy; patients must sign that they have been informed and understand the therapeutic risks (http://www.oregon.gov/omb/OMBForms1/material-risk-notice.pdf). The Oregon Pain Commission (http://www.oregon.gov/oha/OHPR/Pages/pmc/index.aspx) advocates for appropriate patient access to pain management and promoted the 2007 amendments expanding access to pain medication (http://www.oregon.gov/omb/OMBForms1/material-risk-notice.pdf). Because of the history of advocacy for the use of opioid analgesics, Oregon needed to bring diverse stakeholders to the table (e.g., Oregon Pain Commission, Oregon Medical Association, Medicaid health plans, commercial health plans, emergency physicians), document the problem with reports on overdose fatalities and data on prescription opioids from the Oregon Prescription Drug Monitoring Program, and seek relative consensus on how to reduce opioid overdoses and the burden of opioid abuse.

2. Alcohol and Drug Policy Commission and the NGA Policy Academy

Oregon legislation in 2009 created the Alcohol and Drug Policy Commission to coordinate alcohol and drug prevention and treatment activities across state agencies and to promote integrated data on the nature and impact of alcohol and drug problems in Oregon (http://www.doj.state.or.us/adpc/Pages/index.aspx). Commissioners represent state agencies (e.g., corrections, education, health, human services, the liquor control board, and the youth authority) and interest groups directly and indirectly affected by alcohol and drugs (e.g., healthcare, law enforcement, treatment, prevention and recovery, and research). The Attorney General at the time, John Kroger, advocated for creation of the Commission and served as the Chair of the Commission. As a person in recovery and former Federal prosecutor, Attorney General Kroger understood the personal, public safety, and public health impacts of alcohol and drug use disorders. Mr. Kroger’s enthusiasm and authority encouraged the leadership of key state agencies to participate actively in Commission meetings and initiatives.

The Director of the Commission reports to the Governor’s Office and seeks support from participating state agencies for coordinated prevention and treatment initiatives. In this capacity, the Director, with support from members of the Commission, prepared and submitted an application to participate in the NGA State Policy Academy on Reducing Prescription Drug Abuse. A nine member Prescription Drug Taskforce formed the Oregon delegation to the policy academy and blended stakeholders with eclectic perspectives on public policy (a State Senator, Director of the Alcohol and Drug Policy Commission, Director of Pharmacy Programs, Governor’s health advisor), public health (county health officer, manager of the prescription monitoring program, public health investigator, prevention provider), and public safety (county district attorney) (see Table 1). Taskforce members participated in meetings sponsored by the NGA and with support from NGA held public forums for stakeholders in Oregon.

2.1. NGA Policy Academy

The NGA sponsored the Policy Academy to facilitate state initiatives to reduce prescription drug abuse (http://www.nga.org/cms/Rx). “Abuse” and “misuse” of prescription opioids were not explicitly defined; in context, the terms included nonmedical use, the operation of pill mills, doctor shopping, illicit sales, and other inappropriate uses of opioids. The Academy received support from the Robert Wood Johnson Foundation, the Association of State and Territorial Health Officials, and pharmaceutical and healthcare organizations. The governors of Alabama (Governor Robert Bentley) and Colorado (Governor John Hickenlooper) hosted the Academy and a competitive application process selected five additional states: Arkansas, Kentucky, New Mexico, Oregon and Virginia. Prior to the initial 2 day meeting in Montgomery, Alabama (October 22 and 23, 2012), states described their prescription drug monitoring program, outlined prior regulatory and purchasing strategies to affect prescription practices, reviewed support for law enforcement, listed current partnerships addressing prescription drug abuse and public education efforts, and noted legislative proposals.

Presentations at the Academy described (a) prescription drug monitoring programs, (b) strategies supported by pharmaceutical corporations and retailers to dispose of unused medications and to reduce illicit sales, and (c) the Office of National Drug Control Policy’s Prescription Drug Strategy. The NGA spokesperson acknowledged that prescription drug misuse included many types of medication but the Policy Academy would focus on opioid medications. In subsequent breakout sessions, states outlined needs and drafted strategies to address the misuse and abuse of prescription opioids.

The Oregon delegation discussed the nature of Oregon’s prescription drug problems and focused on opioid analgesics. The state senator explained the need for ongoing access to opioid analgesics by reviewing his support for the Oregon Intractable Pain Act and his role on the

Table 1: Prescription Drug Taskforce and Delegation to NGA Policy Academy.

<table>
<thead>
<tr>
<th>Member</th>
<th>Title</th>
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<tr>
<td>Rob Bovett*</td>
<td>Former District Attorney for Lincoln County, Oregon</td>
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<td>Tom Burns</td>
<td>Director of Pharmacy Programs, Oregon Health Authority</td>
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<td>Judy Cushing*</td>
<td>Chief Executive Officer, Lines for Life</td>
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<td>Mary Ellen Glynns</td>
<td>Former Director, Alcohol and Drug Policy Commission</td>
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<td>Sean Kolmer</td>
<td>Governor’s Office, Chair of the Delegation</td>
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<td>Jeff Kruse</td>
<td>Oregon State Senator</td>
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<tr>
<td>Dennis McCarty*</td>
<td>Professor, Oregon Health &amp; Science University</td>
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<tr>
<td>Lisa Millet</td>
<td>Section Manager, Oregon Injury and Violence Prevention Program, Center for Prevention and Health Promotion, Oregon Health Authority</td>
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<tr>
<td>Jim Shames</td>
<td>Public Health Officer, Jackson County and Josephine County</td>
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* Member of the Alcohol and Drug Policy Commission.
Oregon Pain Commission. Discussion continued with a review of data on opioid overdoses and Oregon's Prescription Drug Monitoring Program. The Oregon Health Authority valued the Oregon Prescription Drug Monitoring Program as a tool to inform clinical practice and to assess the effectiveness of public policy interventions and identify communities for public and practitioner education. To protect confidentiality, however, the program's enabling legislation limited access to prescribers (delegated authority was not allowed), prohibited public safety from access without a court-order, and constrained the ability of the Oregon Department of Public Health to link records for data analysis. The Oregon delegation recognized the need to amend the Oregon Prescription Drug Monitoring Program's enabling legislation to permit physicians to delegate staff to access patient data, enhance the use of data for public health analysis, and permit the State Medical Examiner to access the database in cases of fatal overdose.

The Oregon delegation came to a rapid consensus that public education and changes in prescriber practices were key elements to reducing prescription opioid misuse and abuse; arrests and prosecutions would not solve Oregon's problem. Oregon's medical practitioners were wary of restrictive legislative mandates because legislation in Washington State required prescribers to access the Washington Prescription Drug Monitoring Program and state policies inhibited prescriptions for high doses of opioids. Oregon preferred changes in prescribing practices based on consensual practice standards. To reach consensus, the Prescription Drug Taskforce planned to invite the Oregon Pain Commission, Oregon Medical Board, Oregon Pharmacy Board, Oregon Medical Association, and health plans to participate in the conversation and development of the Prescription Drug Strategy.

Transformation of the Oregon Health Plan (Medicaid) created opportunities for Coordinated Care Organizations (Oregon's version of Accountable Care Organizations) to systematically address care for chronic non-cancer pain and to develop public health interventions to reduce the levels of opioid use in the health plan's population. Oregon's 16 Coordinated Care Organizations (CCOs) integrate physical and behavioral health care in a single point of accountability (a patient centered primary care home) to increase access to care, control healthcare costs and improve health outcomes (McConnell et al., 2014; Stecker, 2013). The locally governed, regional coalitions of health care providers and community stakeholders assume financial risk using global budgets and shared savings. The CCOs provided a platform for partnerships with community prevention programs and treatment centers for evidence-based prevention and treatment interventions.

The Oregon delegation had prior experience promoting drug take back initiatives for safe disposal. Despite federal regulations that make the process burdensome and increase expense, the delegation supported expansion of drug take backs and development of strong partnerships with local police departments.

The Oregon delegation outlined plans for engaging stakeholders, meeting with key groups, and scheduled an initial stakeholder meeting for early December, 2012 and a larger daylong meeting for February, 2013. The strategy was developed and approved in time for the second and final Policy Academy meeting scheduled for Denver on May 6 and 7, 2013.


2.2. Stakeholder meetings in Oregon

The Prescription Drug Taskforce hosted two meetings to engage stakeholders and seek support for a prescription drug strategy. The first (December 5, 2012) included 35 to 40 opinion leaders representing addiction treatment providers, clinical practitioners, chiefs of police, community prevention programs, Oregon Department of Justice, district attorneys, emergency departments, the Pain Commission, pain patients, pharmacists, primary care providers, coordinated care organizations, Oregon Health Authority, state representatives and senators, state medical examiner, and the Oregon Medical Board. Taskforce members described the NGA Policy Academy and the Taskforce’s draft strategy. Breakout sessions allowed stakeholders to discuss emerging recommendations and to suggest ways to enhance their potential effectiveness. Legislators were briefed on the proposed modifications to the Oregon Prescription Drug Monitoring Program.

Governor John Kitzhaber opened the second, larger meeting (February 7, 2013) with 125 participants. The Governor urged participants to lead initiatives to reduce prescription drug abuse in Oregon and asked them to support changes in clinical practice, enhance take back programs, support public and prescriber education, and implement evidence-based treatment for opioid dependence (i.e., opioid agonist and antagonist medications). The forum reviewed best practices for prescribing opioid analgesics, examined drug disposition options and inexpensive strategies local police could afford. Data from the Oregon Prescription Drug Monitoring Program were discussed and information presented on fatal opioid overdoses. Breakout sessions examined strategies for changing practice patterns, implementation of evidence-based treatment for opioid dependence, enhanced public education, and amending the enabling legislation for the Oregon Prescription Drug Monitoring Program. There was little disagreement with the proposed strategies. Oregon has an opioid problem.

3. Opioid strategy and action steps

The Prescription Drug Taskforce drafted a seven page academic memo filled with data on the need for change and strategies for promoting change. Working with the Governor’s Office, the memo was simplified and condensed to three pages with five concise action statements:

• Oregon needs fewer opioid pills in circulation.
• Oregon needs public education on the risks and limits of opioids.
• Oregon needs ways to safely dispose of unwanted prescription opioids.
• Oregon needs to provide treatment for people addicted to prescription opioids.
• Oregon needs continued leadership from Governor Kitzhaber, health plans and Coordinated Care Organizations.

With these statements as goals, the Taskforce advocated for amending the enabling legislation for Oregon's Prescription Drug Monitoring Program to facilitate checking the database as a routine practice prior to prescribing opioids. The Taskforce also took advantage of prescriber education opportunities and partnered with health plans and health systems to support strategies to reduce demand for opioid analgesics.

3.1. Amended legislation

The lack of delegated access inhibited prescribers from checking the Oregon Prescription Drug Monitoring database routinely prior to writing opioid prescriptions (Deyo et al., 2013). Taskforce members worked with legislative leadership to amend the legislation and permit delegated access. To enhance the value for public health, Senate Bill 470 authorized the Oregon Prescription Drug Monitoring Program to collect data on patient gender, days of medication, and refill frequency and permitted public health authorities to use de-identified data to inform policy (the initial enabling legislation
prohibited collection of these variables and the use of these data). To better understand opioid overdose deaths, the medical examiner was given authority to access the database. Prescribers in adjacent states (California, Idaho, and Washington) were allowed to apply for authorization to access the Oregon Prescription Drug Monitoring Program. The amendments also allowed prescribers to review prescriptions dispensed under their Drug Enforcement Agency number to assure that the number was not being used fraudulently, and to use these data to monitor their own prescribing practices. These changes enhanced the monitoring program, facilitated prescriber access, and contributed to the effort to modify practice patterns.

3.2. Educated prescribers

Practitioner education can enhance changes in clinical practice. Taskforce members hosted two trainings and partnered with stakeholders to promote the events. A taskforce member affiliated with the state’s medical school facilitated linkages with training resources specifically addressing safer opioid prescribing. Neither the Taskforce nor the Alcohol and Drug Policy Commission had a budget to support prescriber education. Instead, they took advantage of no-cost trainings sponsored by the Substance Abuse and Mental Health Services Administration and a training mandate from the Food and Drug Administration.

Case Western Reserve University School of Medicine and JBS International (with support from the Substance Abuse and Mental Health Services Administration) delivered 6.5 hours of continuing medical education for prescribers titled “Prescribing Opioids for Chronic Pain: Balancing Safety and Efficacy.” The training, held August 23, 2013 in Portland, included 5 co-sponsors in addition to the Taskforce: the Oregon Medical Association, the Board of Pharmacy, the Oregon Academy of Family Physicians, the Oregon Chapter of the American Society of Addiction Medicine, and the Oregon Society of Intervventional Pain Management. A presentation on the epidemiology of opioid abuse included data from the Oregon Prescription Drug Monitoring Program. The training concluded with discussion of prescriber practices, practice guidelines on opioid prescriptions for prescribers working within one of Portland’s largest healthcare systems, and a review of regulatory standards in Oregon. More than 150 prescribers participated. Participants reported being pleased with the prescribing guidelines because the guidelines helped them resist requests for increases in medication amounts and strengths that they did not believe were clinically appropriate.

The Taskforce and the stakeholder groups also partnered with Boston University School of Medicine to cosponsor “Safe and Competent Opioid Prescribing Education” (SCOPE of Pain) (September 21, 2013 in Salem). Boston University received an independent education grant from the Risk Evaluation and Mitigation Strategy (REMS) Program Companies (the Food and Drug Administration mandated that manufacturers of extended-release and long-acting opioid analgesics support prescriber education as part of a Risk Evaluation and Mitigation Strategy). The FDA Blueprint for Prescriber Education for Extended-Release and Long-Acting Opioid Analgesics (Food and Drug Administration, 2013) specifies the content of the training. The Oregon Prescription Drug Monitoring Program participated to enroll prescribers. Over 50 prescribers completed the half day training located in Salem. Fifteen individuals completed an additional 2 hours of training and host regional SCOPE trainings to facilitate spread of the information. Coordinated Care Organizations (Medicaid health plans in Oregon) (http://www. ohioprescribersgroup.com). Coordinated Care Organizations to identify physicians whose opioid prescribing practices exceeded community standards. As the health officer in these counties, Dr. Shames visits outlier practitioners seeking their participation in the community norms. The opioid prescribers workgroup uses the Internet to reinforce a sense of community standards, provide on-line prescriber education, share open access research papers, and disseminate practice guidelines (www. opioidprescribersgroup.com). Coordinated Care Organizations in other regions of the state adopted the southern Oregon change strategy and sponsored educational interventions for their prescribers. Coordinated Care Organizations also support pain centers that offer non-opioid therapies and rehabilitation (including alternative and complementary approaches) and support local prescribers with challenging patients.

Finally, reflecting changing social norms, the Oregon Pain Commission updated its physician guidance highlighting the risks of opioids. The adoption and spread of practice guidelines, development of community standards, and increased attention to the risk of opioid use reflect the use of local policy and promote the Taskforce goal of “fewer pills in circulation.”

3.3. Local policies

Oregon’s five-point strategy to reduce prescription opioid abuse encourages policy change to support changes in standards of care. The Oregon Medical Association posted the prescriber guidelines on its Web site and promoted statewide standardization of practices. The primary care clinics and health systems in Clackamas, Multnomah, and Washington Counties (metropolitan Portland) adopted standardized prescriber guidelines. Statewide, emergency departments share a common database so they can assess doctor shopping in real time. While these initiatives may not be a direct product of the Prescription Drug Taskforce, they reflect a zeitgeist that the Taskforce and the Governor’s leadership made more visible and support a consensus that prescribing practices contributed to the opioid problem in Oregon and require coordinated attention and change.

In southern Oregon, a taskforce member, Jim Shames, developed an opioid prescribers workgroup and engaged three Coordinated Care Organizations to identify physicians whose opioid prescribing practices exceeded community standards. As the health officer in these counties, Dr. Shames visits outlier practitioners seeking their participation in the community norms. The opioid prescribers workgroup uses the Internet to reinforce a sense of community standards, provide on-line prescriber education, share open access research papers, and disseminate practice guidelines (www. opioidprescribersgroup.com). Coordinated Care Organizations in other regions of the state adopted the southern Oregon change strategy and sponsored educational interventions for their prescribers. Coordinated Care Organizations also support pain centers that offer non-opioid therapies and rehabilitation (including alternative and complementary approaches) and support local prescribers with challenging patients.

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3.4. Remaining challenges

The Taskforce sought to facilitate safe disposal of unused opioid medication, educate the public, and promote effective treatment for opioid use disorders. The proposed changes in federal regulations controlling drug take backs (Department of Justice, Drug Enforcement Administration, 2012) will permit law enforcement to continue to conduct take-back events and for the first time allow mail-back programs and collection receptacles in retail pharmacies. Oregon police chiefs noted the substantial costs of maintaining collection receptacles and staffing take-backs. Clean air regulations, moreover, make medication incineration expensive. Oregon eagerly awaits final revised regulations from the Drug Enforcement Agency so that take-back and disposal opportunities can increase.

Treatment needs are addressed inconsistently and too few patients have access to medications that reduce craving and enhance recovery. An analysis of 2011 Medicaid utilization data found that among 8537 Medicaid recipients diagnosed with opioid dependence 530 (6%) had a prescription filled for an FDA approved medication for opioid dependence. In the 21st Century, programs that fail to offer pharmacotherapy and health plans that either refuse to cover pharmacotherapy or require patients to fail at abstinence-based therapy not only do their patients and members a disservice but stand in conflict with the National Quality Forum’s National Consensus Standards supporting the use of pharmacotherapy for alcohol, nicotine, and opioid dependence (National Quality Forum, 2007).

The Coordinated Care Organizations can educate their members on the value of and risks associated with opioid medications, but more
global education campaigns are required. Public education remains challenging because resources are limited.

3.5. Sustainability strategy

In December 2013, the Alcohol and Drug Policy Commission transitioned responsibility for public and practitioner education, advocacy for take-backs, and promoting access to medication for treatment of opioid dependence to a community-based prevention program—Lines for Life. The former U.S. Attorney for Oregon and current Lines for Life executive director, Dwight Holton, plans five Prescription Drug Summits throughout the state and is expanding the focus to include prescription and non-prescription stimulants as well as prescription and non-prescription opioids. Members of the Prescription Drug Taskforce were instrumental in the hand off to Lines for Life and remain active in the renamed Oregon Coalition for Responsible Use of Medications (OrCRM). The Coalition membership includes business leaders, health care providers, law enforcement and public safety professionals, media experts, addiction prevention and treatment providers, ministers and chaplains, parents, educators, the Governor’s office, members of the Prescription Drug Taskforce, young adults and individuals in recovery. The five regional summits will review local data and initiatives, share promising practices, and build community consensus and support. Eventually, the Coalition plans statewide media campaigns on the risks of misusing opioid and stimulant prescriptions. The campaign is supported through a small grant from the state and Lines for Life has applied for a federal Drug-Free Communities award. Partnerships with the Coordinated Care Organizations and regional prevention services provide additional resources.

4. Discussion

Under the auspices of the Alcohol and Drug Policy Commission and the Governor’s Office, the Prescription Drug Abuse Taskforce engaged Oregon stakeholders in reviewing data, understanding the problem, and considering options. Mortality data documented the increased risk to Oregon residents for overdose related to prescription opioids. Stakeholders not only agreed that action was required but that voluntary change in practice standards was preferable to legislated mandates. Scientists, clinical practitioners, public health experts, and policy makers partnered to develop five simple action steps that encourage state and local efforts to reduce prescription opioid misuse. Although the change process is still maturing, it appears that there is widespread acceptance of prescribing guidelines and emergency departments, primary care clinics, and health care systems applaud the change.

Oregon recognizes that the problem is not solved. Reducing the number of pills in circulation requires mechanisms for safe and lawful disposal of unused medication. Public education is an ongoing need. Effective treatment for opioid dependence is burdened by myth and stigma. Nonetheless, Oregon has made progress.

4.1. Limitations

Oregon capitalized on opportunities to participate in the National Governors Association Policy Academy and to receive high quality training on safer practices for opioid prescribing. In addition, the Oregon Health Plan’s implementation of Coordinated Care Organizations created regional structures that facilitate prescriber outreach and changes in prescribing standards. These opportunities may not be available in other states and Oregon’s processes and results may not generalize. Time, moreover, has been too short to assess the impacts, if any, from these initiatives. The Oregon Prescription Drug Monitoring Program continues to track opioid dispensing in the state and issue periodic reports and assessments. The State Medical Examiner and the state Public Health Division and county health departments will continue to track opioid overdoses and alert the community to the risks of opioid use and misuse.

Nonetheless, the Oregon process and strategies are likely to be informative to other states and their policy makers as they confront the opioid epidemic. Oregon’s lessons include (a) the need to facilitate and simplify use of prescription drug monitoring programs, (b) the value of prescriber guidelines, (c) use of practice standards rather than legislation to change prescribing practices, and (d) the importance of continued leadership from the Governor, health officers, medical associations, health plans, and practitioners.

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References


