

State of Colorado
Prescription Drug Monitoring
Program Ecosystem
Future State Recommendations
Version 2



December 4, 2020

Table of Contents

Executive Summary	2
Part I: Background	5
Background on Colorado’s Prescription Drug Monitoring Ecosystem	5
Recommendations for Change	8
Part I: Summary	16
Part II: Supporting Information	17
Methodology Used	17
Recommendations	20
Timelines and Responsibilities	21
Influencing Factors	22
Interstate Data Sharing	22
Policy/Statutory	23
Data Governance	23
Application Programming Interfaces (APIs)	24
Fast Healthcare Interoperability Resources (FHIR)	24
Health Information Exchanges (HIEs)	24
Analytics	25
Future PDMP Oversight	25
Funding Considerations	26
Conclusion	28
Appendix 1: Glossary of Terms	29
Appendix 2: Recommendation Details	32
Appendix 3: Adding Medications to the PDMP	38
Appendix 4: Proposed Architecture Option Review	39
Appendix 5: Tasks/Funding by Agency/Organization	44
Appendix 6: Prescriber Access to PDMP Data	48
Appendix 7: National Governors Association Recommendations	49
Appendix 8: Interstate Data Sharing	50
Appendix 9: Policy Insights	55
Appendix 10: Data Governance	57
References	58

Executive Summary

Through the leadership of the Office of eHealth Innovation (OeHI) in collaboration with public and private sector stakeholders, this Future State Recommendations document was developed to provide recommendations to the State of Colorado to improve the adoption, utilization, and value of the State's Prescription Drug Monitoring Program (PDMP), including ancillary and supporting systems operating as an ecosystem. To aid understanding, a Glossary of Terms is provided in [Appendix 1](#).

Colorado has long recognized the need to improve patients' health and reduce medication costs. Access to comprehensive medication information along with robust clinical data when prescribing medications is critical. This access supports quality and safe healthcare delivery, can prevent prescription drug overdoses and abuse, reduces medication errors, and improves overall health outcomes and care. Colorado's Prescription Drug Monitoring Program (PDMP) is a state-run electronic database that collects and reports data on dispensed controlled substance prescriptions to prescribers at time of prescribing and within other clinical contexts.

While systems have been put in place to increase utilization of the PDMP, there are still opportunities to improve the adoption, utilization, and value of the PDMP and its supporting ecosystem. In formulating future state recommendations, work began with an in-depth evaluation of the legislative and policy factors, prescriber, payer, patient, and state needs, and the evaluation of current technical infrastructure and policy.

A strong underpinning of the future state is the need to create a formal governance process that includes specific guidelines and/or steps that clearly direct how Colorado responds to PDMP data requests. This includes data requests (1) from State entities and (2) non-state entities, including those originating from other states. Initial steps will include a review of what is allowed by Colorado legislature, current data governance models that could be expanded and leveraged and what is needed to support PDMP future state.

In addition, a priority for the State must be the legislative change allowing for Medicaid access to PDMP information. This will provide opportunities for expanded use of the data in supporting Medicaid programs serving vulnerable populations, improved analytics and most importantly the ability to support PDMP infrastructure and activities through Medicaid federal funding streams. The Centers for Medicare and Medicaid Services has stated “ . . . states may find it difficult to leverage Medicaid to address the opioid crisis without allowing communications between states' qualified PDMPs and their Medicaid programs.”¹

As the State continues its efforts to improve the health of Coloradans and reduce prescription medication costs, a comprehensive approach will need to be determined and implemented. The recommendations for a future state PDMP ecosystem represent options to advance Colorado's goals.

¹ <https://www.medicaid.gov/federal-policy-guidance/downloads/faq051519.pdf>

PDMP Ecosystem Future State - Recommendations

The Colorado PDMP is a complex system involving healthcare prescribers, pharmacies, state systems, patients, technology, policy, legislation, and funding. Future state recommendations support an improved PDMP ecosystem which will support the goals of reducing the volume of prescription medications, reducing medication costs, and supporting prescribers in the delivery of quality care. Moving forward will require cross collaboration among public and provider stakeholders including legislative and policy review, determining oversight roles (currently the Division of Professions and Occupations (DPO) housed in the Department of Regulatory Agencies (DORA) oversees the PDMP) and funding opportunities identified. The identification of additional funding opportunities, not only for PDMP infrastructure costs but also enhancements, expansion, and integrations is necessary to optimize the PDMP ecosystem.

Leverage the Medicaid Prescriber Tool

The OpiSafe application provides opioid risk metrics and medication monitoring services for prescribers and was selected as one component of the Medicaid Prescriber Tool. OpiSafe will coordinate multiple activities to promote prescriber adoption and utilization of the PDMP - activities which are key in reducing the number of prescriptions and prescribing less expensive medications, both of which will assist in reducing healthcare costs. The ability to have these insights will optimize medication prescribing and reduce medication costs, coupled with use of the PDMP, will support real-time clinical decision making and reduce negative prescription effects on the patient.

Comprehensive Medication History through Additional Medication Data Sets Contained in the PDMP

Adding additional types of medications to the PDMP may increase the value of the system to prescribers by becoming a more comprehensive prescription medication reference, versus being restricted to controlled prescription medications only. This will provide the prescriber with a more complete understanding of the patient's prescription medication history enabling the prescriber to make more informed prescribing decisions, thereby supporting PDMP adoption and utilization.

Having comprehensive medication history more widely available supports the recommendation of creating a robust analytical platform and makes patient records more extensive. It also supports the information available through the Prescriber Tool. Since the current PDMP infrastructure is legislated, as the State moves forward there may be the need for revised and/or new legislation. If legislation is prohibitive, then increased integration and connectivity with the State's Health Information Exchanges (HIEs) can support increased medication history availability.

Increase PDMP Integration Within the HIEs and EHR Systems

The direct integration of the PDMP into existing Health Information Exchange (HIE) and Electronic Health Record (EHR) workflows has reported benefits of improved PDMP usability and decreased prescriber burden (no need to jump between systems). Increased integration will support prescriber PDMP adoption and use which are key in reducing the rate of opioid prescription abuse, promoting the use of less expensive medications, and supporting prescriber clinical decision making and quality of care. Through the HIEs,

medication information can be supported by other clinical data providing that comprehensive patient view to the prescribing providers.

Create a Robust Analytical Platform Supporting Clinical Informatics for Surveillance and Decision Making

Increased comprehensive data available through a clinical informatics platform will allow the State to share person and population-level information with authorized users, further supporting priority policies and programs. As the State evaluates options specific to data analytics and the PDMP ecosystem of the future, prediction models and advanced analytical methods should be considered to complement Medicaid data. In addition, the use of data for triggered alerts, risk scores, and additional data presentations from the PDMP could be used to support safe and appropriate prescribing and dispensing as well as help prescribers align their prescribing practices with prevention strategies and state PDMP use mandates. Overall, the innovative use of comprehensive PDMP data can promote new approaches for responding to emerging public health crises and improve overdose data reporting.

These recommendations take a holistic approach to addressing the myriad and complex factors surrounding prescription drug use and costs including technical systems and policies to address opioid abuse and misuse. Moving forward, Parts II and III of this document outline detailed information of how these recommendations were formulated, research conducted, policies reviewed, stakeholder involvement as well as details on funding, timelines, and supporting activities. Expanded relevant and reference material can be found in the Appendices. Future State Recommendations represent a collective, thoughtful approach designed to be a guide, with tangible recommendations and next steps to improve the adoption, utilization, and value of the State's PDMP.

Part I: Background

This section of the document provides expanded information on the background of the various components of the PDMP ecosystem, additional details on the recommendations, a short review of the process undertaken in visioning future state, recommendations on supporting activities including policy/legislation, funding, and timelines with activities, description, and lead agency.

Background on Colorado's Prescription Drug Monitoring Ecosystem

It has been reported that over the last six years, the median cost of prescription drugs has increased over 70 percent, but drug costs are only part of the crisis. The Centers for Disease Control and Prevention (CDC) estimates that the "*economic burden*" of prescription opioid misuse alone in the United States is \$78.5 billion a year. This includes healthcare costs, lost productivity, addiction treatment, and criminal justice involvement.² From 2014 to 2019 the total number of benzodiazepine prescriptions dispensed to Colorado residents totaled 9,828,296³ and in 2019 alone, the State experienced more than 1,000 deaths from drug overdoses.⁴

This section outlines key activities that have occurred and are occurring that support a future state of the PDMP ecosystem.

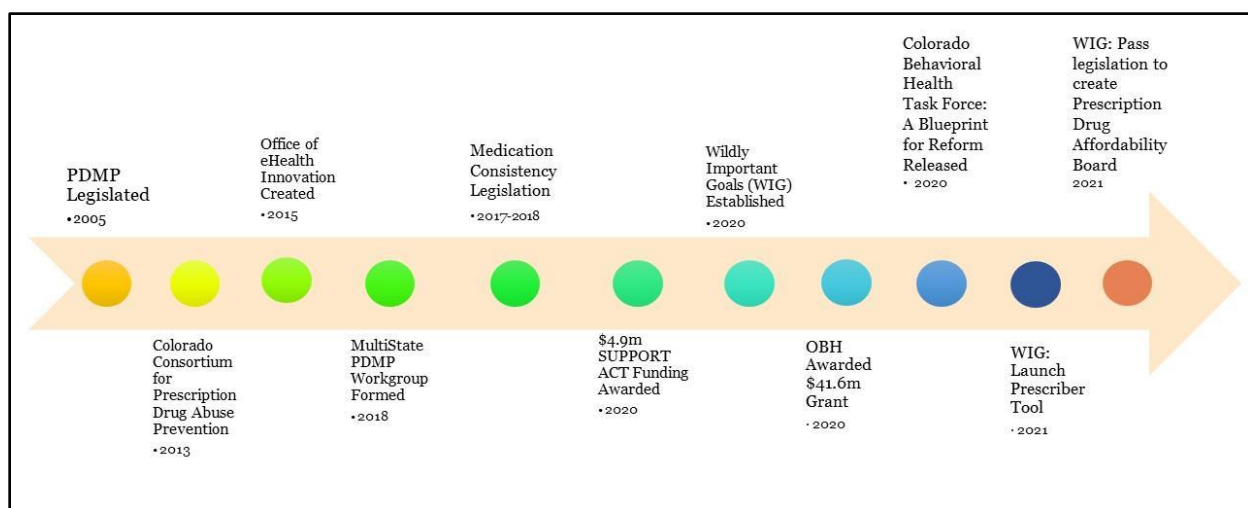


Figure 1: Timeline of Key Background Activities

Legislatively created in 2005 and reauthorized in 2011, Colorado's PDMP is a secure online database collecting information on dispensed controlled substances. The PDMP, housed in the Division of Professions and Occupations (DPO) at the Department of Regulatory Agencies (DORA), is intended to reduce prescription

² <https://www.drugabuse.gov/drug-topics/opioids/opioid-overdose-crisis>

³ <https://cohealthviz.dphe.state.co.us/t/PSDVIP-MHPPUBLIC/views/DrugOverdoseDashboard/PDMPCountData>

⁴ <https://www.cpr.org/2020/08/07/colorado-fentanyl-meth-overdose-deaths-coronavirus-pandemic/>

drug abuse by providing information about patients' controlled substance prescription records to prescribers and pharmacies. Colorado's PDMP is connected to other state PDMPs for the purpose of covering patients who may travel out of state seeking care so that comprehensive information can be made available to prescribers and pharmacies.

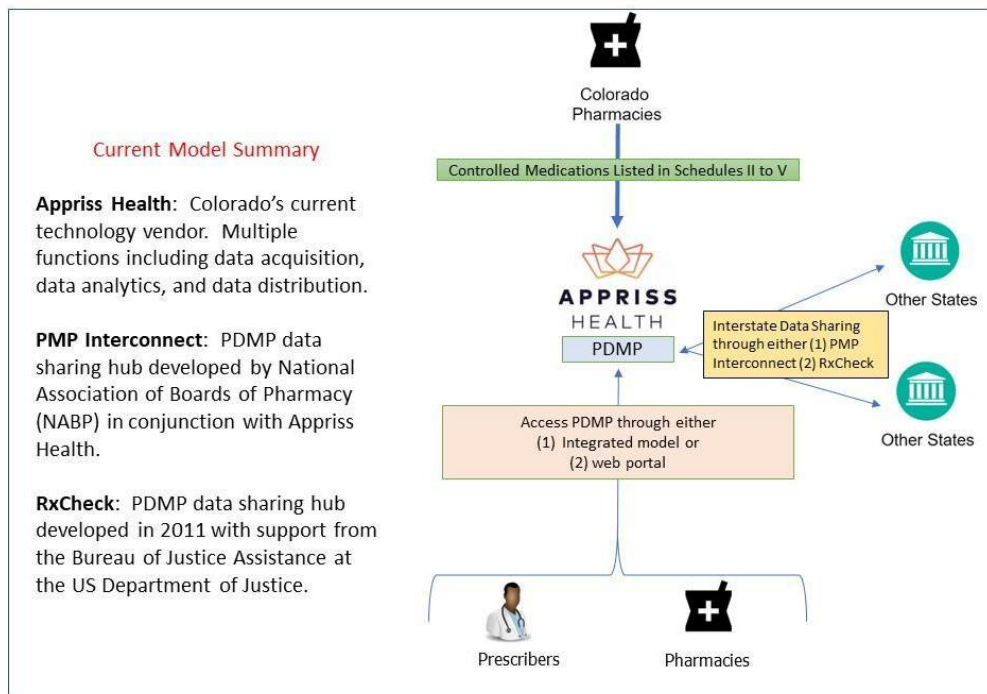


Figure 2: Current PDMP Infrastructure

The Colorado Consortium for Prescription Drug Abuse Prevention was created in 2013⁵ to coordinate the State's response to the misuse and abuse of prescription medications. Participants include federal agencies, state departments, and agencies including the Colorado Department of Public Health and Environment (CDPHE) and the Office of Behavioral Health (OBH), and dozens of organizations and individuals. The consortium meets monthly and produces an annual report of activities and summary recommendations.

In 2015, the State created the Office of eHealth Innovation (OeHI) which is responsible for the coordination and collaboration of the various investments and policies for Health Information Technology (HIT) infrastructure and data sharing among state and non-state agencies. OeHI's efforts are focused on reducing health care costs in Colorado, recognizing the importance of coordinated health information technology and data sharing, and implementation of Colorado's Health IT Roadmap supporting the health of Colorado's communities and revolutionizing health care. The Roadmap is Colorado's Health IT strategic plan intended to advance specific initiatives, such as the evaluation of the PDMP ecosystem. It includes input from stakeholders in frontier, rural, and urban communities.

⁵ Source: <https://www.corxconsortium.org/about-the-consortium/#:~:text=The%20Consortium%20was%20initially%20funded,Colorado%20end%20the%20opioid%20epidemic.>

In 2018, OeHI launched the Multi-State Agency PDMP Workgroup. This workgroup, which focuses on reviewing and recommending PDMP improvements, represents a variety of stakeholder organizations and individuals working in concert with the implementation of Colorado's Health IT Roadmap. These efforts were timely as in 2019 Governor Polis created the Office of Saving People Money on Health Care, appointing Lt. Governor Dianne Primavera as Director.

Work began in 2018, implementing Senate Bill (SB) 17-019 calling for enhanced medication consistency solutions in county and municipal jails including requiring the Office of Behavioral Health (OBH) and relevant prescribers to develop a plan for electronically sharing patient-specific and mental health care and treatment information across systems. Individuals within the criminal justice system are frequently transferred between community treatment prescribers and criminal justice settings resulting in lack of standardized screening, inadequate access to medications and other clinical history, and the potential for gaps in medication consistency and treatment coordination upon community release.

Funding through the federally legislated H.R.6. - Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act of 2018 Act awarded \$4.9 million in early 2020 to Colorado to further develop, integrate, and strengthen Colorado's PDMP efforts. It should be noted that in addition to providing directed funding for related activities, the SUPPORT Act⁶ also created opportunities for states to aggressively move forward on substance abuse coverage and treatment. These efforts are being coordinated at the various State Agency levels and have a critical influence on the State's overall approach. Specific to the Future State Recommendations, SUPPORT Act funding activities included the identification and development of approaches to combat the opioid crisis, ways to leverage and enhance State resources, identifying data sources to enhance the information provided through the current PDMP vendor, legal challenges, technical approaches allowing for increased data sharing and reflection, and recognition of the "user experience." In addition to the technical capabilities of the PDMP, there are other various systems which support prescribing practices including the implementation of the Medicaid Prescriber Tool. The Medicaid Prescriber Tool will provide a foundational platform for prescribers encapsulating key data points informing prescribing practices.

As part of the effort to review the PDMP ecosystem, the Multi-State Agency PDMP Workgroup was expanded and meeting frequency increased as progress was made reviewing the various PDMP components. These efforts also support several areas of the Substance Use Disorder (SUD) Health Information Technology (HIT) Plan which is being created with input from several stakeholders with the Healthcare Policy and Financing (HCPF) SUD team having a primary role. The SUD HIT plan is part of the Section 1115 Medicaid demonstration waivers allowing states to test new approaches to administering Medicaid programs.⁷

In Spring 2020, Colorado's Health Cabinet established Wildly Important Goals (WIGs) designed to be measurable, responsive to change, and transparent. Key WIGs related to the PDMP include the implementation of the Behavioral Health Task Force recommendations and to reduce prescription drug costs

⁶ <https://www.congress.gov/bill/115th-congress/house-bill/6>

⁷ <https://www.colorado.gov/pacific/sites/default/files/Summary%20of%20the%20Waiver%20Components.pdf>

through a combination of legislation, technology, and other initiatives including the implementation of the Medicaid Prescriber tool by early 2021.

In August 2020, the Colorado Office of Behavioral Health (OBH) was awarded \$41.6 million over the next two years from the State Opioid Response (SOR) Grant, a Substance Abuse and Mental Health Services Administration (SAMHSA) grant. Funding will be used to deploy mobile units to provide services in rural and frontier communities; distribute opioid overdose reversal kits; increase the number of recovery residences; support residential treatment; and support other recovery efforts including anti-stigma campaigns, the Recovery Cards Project, and partner with community organizations to provide per-delivered support services. Additionally, OBH will collaborate with the Colorado Hospital Association and CU Practice Innovation Center to develop and roll out best practices to manage and treat pain without the use of opioids and train hospitals and healthcare practices to prescribe MAT in rural communities. Since 2017, the Colorado Department of Human Services, Office of Behavioral Health (OBH) has received more than \$94 million in federal grants to help Coloradans access medication-assisted treatment for opioid use disorder.^{8 9}

Most recently, the Colorado Behavioral Task Force (BHTF) released its recommendations addressing behavioral health care across the State. The Blueprint for Reform represents the combined efforts of more than 100 Task Force and subcommittee members, consumers, stakeholders, content experts, and The Farley Health Policy Center. The approach for reform is focused on the following key pillars: Access, Affordability, Workforce & Support, Accountability, Local & Consumer Guidance and Whole Person Care, and 19 actionable recommendations.

The work of the Task Force was predicated on a statewide assessment recognizing that when it comes to behavioral health there is room for improvement. Access to care was identified by 92 percent of those interviewed as a challenge facing Coloradans and the system that is supposed to help them. There is not a cohesive statewide approach to efficiently address behavioral health needs in Colorado, which puts the burden on the person in need of services to determine where and how they can access their care.¹⁰ Immediate recommendations of the BHTF include creation of a Behavioral Health Administration, expansion of tele-behavioral and identification of legislation opportunities, and new funding sources.

The Colorado PDMP ecosystem is a complex system involving healthcare prescribers, pharmacies, state systems, patients, technology, policy, legislation, and funding. As the State continues its efforts to prevent opioid misuse and reduce prescription medication costs, a comprehensive approach will need to be determined and implemented. The suggestions in this Future State Recommendations represent options to advance those goals.

Recommendations for Change

In recent years, prescriber reaction to the PDMP has been collected and reported out by multiple organizations. Members of OeHI reviewed existing feedback to determine how the PDMP was working from

⁸ <https://www.colorado.gov/pacific/cdhs/colorado-state-targeted-response-opioid-crisis>

⁹ <https://www.colorado.gov/pacific/cdhs/news/colorado-receives-416-million-over-two-years-address-opioid-crisis>

¹⁰ <https://drive.google.com/file/d/1IWWIG3IHPM8OUgVFgLuqWFn8waggUseZ/view>

the prescriber perspective and from other entities working with the PDMP. There have been conversations to gather real-world information, HIE demonstrations, as well as feedback from the HIEs and Department of Regulatory Agencies (DORA). Based on the feedback reviewed and received, and as supported by national studies, certain topics consistently emerged. Examples of prescriber feedback included that the PDMP query and retrieval process taking approximately 4-5 minutes per query, the path to query initiation requiring at least 30 clicks and keystrokes per patient, the cumbersome password requirements, and the lack of an intuitive format of data presentation.¹¹ Following a PDMP integration project by CDPHE and DORA/DPO, favorable feedback was received from prescribers with statements such as *“This is going to save SO MUCH time”* and *“This is great.”*¹²

Prescriber perception and feedback is reflected through many of the recommendations. This includes the additional medications being added to the PDMP, making the user interface easier to navigate, having more robust data including clinical information that can be available at the point of care, as well as real time data. Having prescriber feedback is an important factor when exploring options as it contributes to the success of the future of the PDMP ecosystem.

Evolving from work to date, the recommendations have been identified that can have a positive impact on not just controlled substance prescribing and opioid misuse, but also on controlling medication costs and supporting prescriber decision making. Please see [Appendix 2](#) for detailed recommendations. In support of funding options specifically leveraging potential MMIS funding available, having Medicaid access to PDMP data is critical in supporting infrastructure, integration and access. The summary recommendations are:

Leverage the Medicaid Prescriber Tool

The implementation of the Medicaid Prescriber Tool will provide prescribers with insights to the patient’s currently prescribed controlled medications and medication options versus being limited to the more expensive medications. The Prescriber Tool can be leveraged by promoting prescriber adoption, utilization, and feedback throughout the implementation and roll-out. Additional opportunities to leverage the Prescriber Tool include the ability to have prescribing insights that will support the efforts of reducing the incidence of opioid prescriptions, support the option of using a less expensive medication thereby saving money, and supporting the prescriber in making these important decisions at the point of care.

Policy considerations:

- Current policy does not require the PDMP to be checked with initial prescription
- PDMP check is required for prescription medication refills
- Policy analyst will need to review current policy to determine next steps

¹¹ [Usability of the Massachusetts Prescription Drug Monitoring Program in the Emergency Department: A Mixed-methods Study 2016 by the Society for Academic Emergency Medicine](#)

¹² 2019 Prescription Drug Monitoring Program Task Force Report

Funding considerations:

- October 1, 2020: Utilization of Medicaid Management Information System (MMIS) funding pursuant to SMD 18-006

Include Additional Medication Data Sets Within the PDMP and Increase the Availability of Comprehensive Medication History

Adding additional types of medications, including controlled and non-controlled substances, to the PDMP will contribute to the value of the PDMP versus being restricted to certain scheduled drugs. The ability to have a comprehensive medication history will also provide the prescriber with a greater view of the patient's medication history versus the narrow view that is limited to only controlled substances. Expansion of the types of medication available could also eliminate the need for multiple registries to be maintained and checked prior to prescribing. For example, the Office of Behavioral Health (OBH) has medications, including those used in medication-assisted treatment (MAT) and Naloxone, that should be considered for inclusion eliminating the need for a separate OBH registry. These features will likely support prescriber's PDMP adoption and utilization. Please reference [Appendix 3](#) for details on medications identified for inclusion.

The inclusion of additional medications is further supported by the 2020 Sunset Review of the Prescription Drug Monitoring Program (PDMP). The Colorado General Assembly established the sunset review process in 1976 as a way to analyze and evaluate regulatory programs and determine the least restrictive regulation consistent with the public interest. Resulting from the sunset review process a key recommendation was to "authorize the Board to create, using evidence-based practices, a list of other drugs of concern and require them to be entered into the PDMP." As explained in the report, some prescription drugs not currently required to be reported to the PDMP are also dangerous and when used in combination with other substances, they can create a drug cocktail that enhances a controlled substance or street drug, like heroin. By including drugs of concern in the Colorado PDMP, a prescriber or a pharmacist may be able to uncover such activity by looking up the patient's prescribing history.¹³

A policy analyst should perform a detailed review of existing legislation specific to PDMP to determine if any legislative changes are needed. Stakeholder feedback and a detailed review of non-controlled medications for consideration in the PDMP, including Naloxone and medical Marijuana, will need to be performed by the policy analyst. This review will allow for insights to what is possible, the immediate future, and several years out. DORA/DPO and HCPF (Medicaid) will need to undertake a review of current PDMP medication history to allow for increased use of the Medicaid Prescriber Tool and Real Time Benefit Check tool.

¹³ https://drive.google.com/file/d/1ufX3J9z11_-6xc22Sycrgs5yU2Bphft/view

Policy considerations:

Additional detailed policy review will be required to determine any current restrictions. The following policy insights were provided by DORA/DPO:

Naloxone/"Drugs of concern"

- Colorado statute governing PDMP data submission only requires prescription drug outlets (pharmacies) to report controlled substance dispensations and authorizes controlled substances to be reported to the PDMP
- Naloxone is not a controlled substance
- Statutory change will likely be needed to give the Board of Pharmacy the authority to add non-scheduled "drugs of concern" to the list of medications required to be reported to the PDMP
- Common non-scheduled "drugs of concern" collected by other states include Gabapentin and Naloxone

Medication-assisted treatment (MAT)

- Pharmacy dispensing: A MAT prescriber writes prescriptions such as Suboxone (Buprenorphine/naloxone) that are dispensed by a pharmacy. Those dispensations are being reported to the PDMP by the dispensing pharmacy.
- Clinic dispensing: When a MAT prescriber is dispensing these medications from their clinic, current state law does not require dispensations from a practitioner's clinic to be reported to the PDMP.

Opioid Treatment Programs (OTPs)

- Opioid Treatment Programs (OTPs) are covered under 42 CFR Part 2 (methadone clinics)
- OTPs report the patients participating in those programs to a Central Registry (managed by the Colorado Department of Human Services, Office of Behavioral Health - <https://www.colorado.gov/pacific/cdhs/opioid-treatment-programs-otps>)
- A recent federal rule change now allows those programs to report data to PDMPs but does not require those programs to report to PDMPs
- States are in the very early stages of researching what can/cannot/may be done with respect to linking that data with the PDMP

Funding considerations:

- For Fiscal Year 2020, HITECH dollars could be used for planning.
- Beginning with Fiscal Year 2021, , MMIS funding may be leveraged as outlined below: 42 C.F.R. § 433.112

- May provide a 90 percent federal match for the design, development, installation or enhancement activities related to qualified PDMPs that are integrated with existing Medicaid mechanized claims processing and information retrieval systems

42 C.F.R. § 433.116

- May provide a 75 percent federal match for the operation of qualified PDMPs that are integrated with existing Medicaid mechanized claims processing and information retrieval systems.¹⁴

Increase PDMP Integration Within the HIEs and EHR Systems

The integration of the PDMP into Health Information Exchanges (HIEs) and Electronic Health Records (EHRs) has reported benefits of increased PDMP usability and decreased prescriber burden as well as minimal workflow interruptions. Integrations can involve various locations such as hospitals, clinics, pharmacies, and private practices. Colorado State Health Information Exchange (CORHIO) currently has more than 70 facilities integrated with more than 15,000 prescribers with additional facilities planned for integration. Quality Health Network (QHN) reports that 20 facilities/organizations with approximately 210 users have access to the PDMP via HIE. QHN has approximately 20 additional facilities and 150 users that could be added. Continued implementations will support prescriber PDMP adoption and use which are key in reducing the rate of prescription medications and promoting the use of less expensive medications. Integrations will also support prescriber clinical decision making and subsequently contribute to quality care.

Colorado's HIEs, CORHIO and QHN, should confirm the additional facilities (HIE and EHR) and prescribers where additional PDMP implementation can occur. The HIEs should collaborate with DORA/DPO, including the potential DORA/DPO PDMP integration grants, to support the financial aspect of the integration. Similar to past integrations, the HIE should oversee all elements of the integration such as training, surveys, and stakeholder updates.

Policy considerations:

Additional policy research will be required to determine what additional integration strategies can be supported.

Funding considerations:

- For Fiscal Year 2021, HITECH funding can be used to support integration and planning efforts
- For and after Fiscal Year 2020, MMIS funding may be leveraged as outlined below
 - 42 C.F.R. § 433.112
 - May provide a 90 percent federal match for the design, development, installation, or enhancement activities related to qualified PDMPs that are integrated with existing Medicaid mechanized claims processing and information retrieval systems

¹⁴ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

- 42 C.F.R. § 433.116
May provide a 75 percent federal match for the operation of qualified PDMPs that are integrated with existing Medicaid mechanized claims processing and information retrieval systems¹⁵
- Overdose Data to Action grant funding
 - In 2020 the Division and CDPHE began reimbursing PDMP integration costs for healthcare organizations through the award of mini-grants in connection with Overdose Data to Action grant funding from the Centers for Disease Control and Prevention (CDC); grants were awarded to CPDHE and DORA/DPO coordinated the grant process with prescribers

Create a Robust Analytical Platform Supporting Clinical Informatics for Surveillance and Decision Making

Today's PDMP offers limited reporting most of which is stagnant to the prescriber and CDPHE is authorized to receive data for state county level reporting; however, in the future, there are opportunities to have more robust analytics and reporting options. This may include the use of predictive models and advanced analytics as well as combining data sources from Medicaid, other human services programs, and clinical data from HIEs. This will be key in supporting clinical decisions, surveillance, and public health initiatives. The State of Colorado Office of Information Technology (OIT) could build a portion of the infrastructure and contract with a vendor for analytics. Additional research will be needed to determine if the current PDMP vendor, Appriss, can support robust analytics.

Key stakeholders, such as OeHI, CDPHE, DORA/DPO, HCPF, HIEs, and OIT should collaborate and identify the detailed technical infrastructure and data that is needed to enhance the PDMP data and ecosystem to support robust analytics and surveillance for decision making. A policy expert will need to review current legislation to determine if there are any barriers and what actions need to occur for advanced analytics and surveillance tools to be possible.

The following policy insights were provided by DORA/DPO. Additional detailed policy review will be required to determine any current restrictions.

Policy considerations:

- SB 18-022: The lack of diagnostic information recorded in the PDMP limits the program's ability to identify prescriptions that are subject to SB 18-022's (SB 18-022: Clinical Practice for Opioid Prescribing Concerning Clinical Practice Measures for Safer Opioid prescribing) requirements, and is therefore challenged in evaluating SB 18-022 compliance
- Detailed policy research will be required to determine if there are any restrictions

Funding considerations:

- Detailed funding research will be required to determine what funding options to pursue

¹⁵ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

Future State Architecture Recommendations

The current and possible future PDMP ecosystem options were thoroughly reviewed by multiple stakeholders over a period of several meetings. The review resulted in the creation of Option 5 which represents the ideal pieces that should comprise the ecosystem going forward. While Option 5 schematic has been created, additional detailed review will be needed. This includes policy/legislation, funding/finance options, interstate data sharing considerations, OIT infrastructure (including MuleSoft, data lake, data warehouse), and the use of APIs when possible. Please reference [Appendix 4](#) for additional detail on all the architecture options considered.

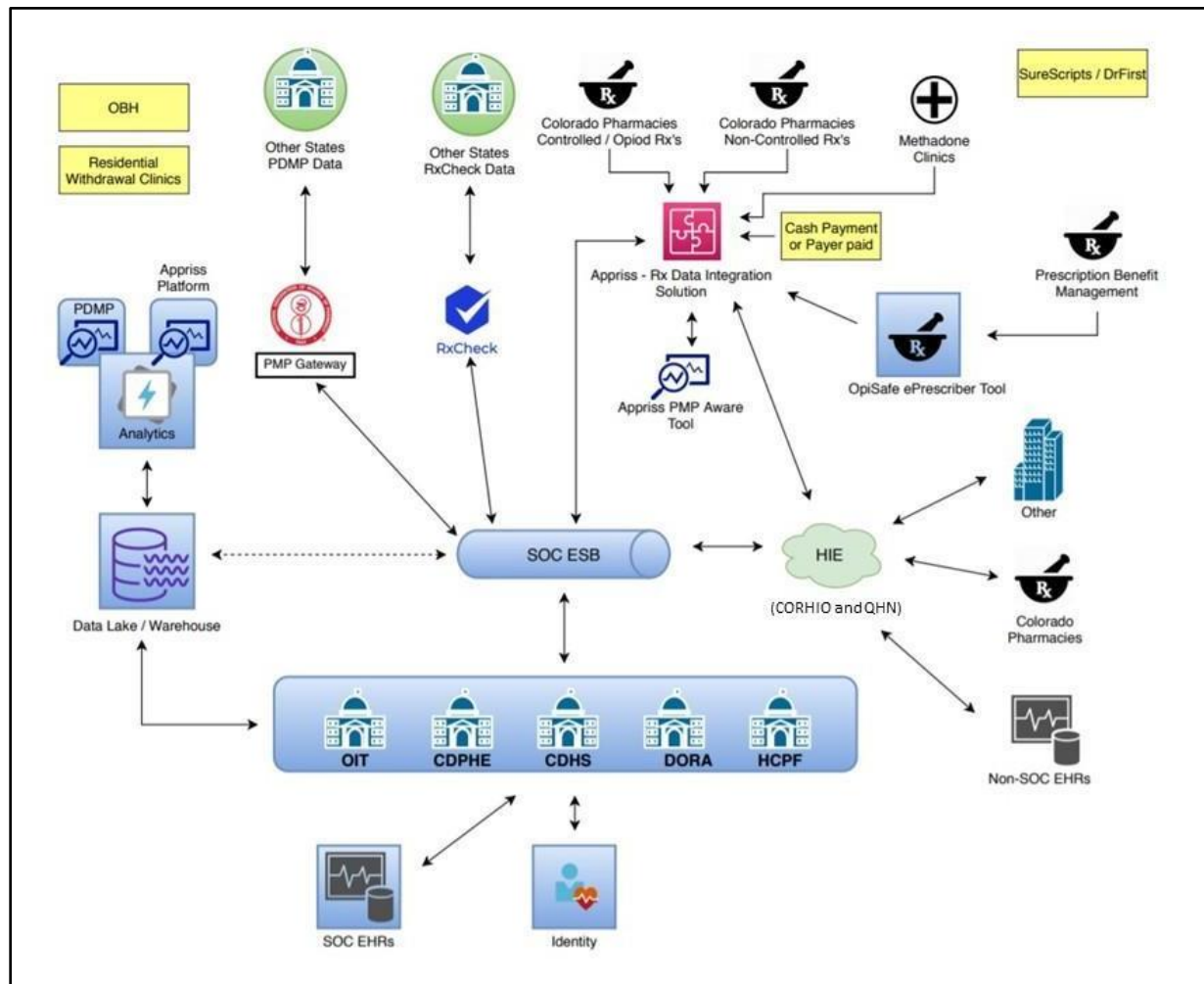


Figure 3: Option 5 - Future State Architecture Recommendations

Implementing and supporting these recommendations will require a subset of activities that will need to be undertaken in the areas of legislation and policy, infrastructure needs, and funding considerations. Closely related to operation of the PDMP and federal funding for substance abuse treatment are requirements of the SUPPORT Act related to Medicaid operations.¹⁶ The requirements include Medicaid coverage and

¹⁶ <https://www.congress.gov/bill/115th-congress/house-bill/6>

treatment, PDMP verification requirements for Medicaid prescribers, and disclosure changes for non-opioid treatment program prescribers. These requirements, though not directly related to operation of the PDMP, do have an impact on the ecosystem as a whole and can serve as catalysts for support of the recommendations. Additionally, though Colorado is actively sharing data with contiguous and other states, determination of individual state data sharing policies need to be explored to ensure that the policies are not hindering the flow of information.

Timeline of Recommendations

The following table represents the high level tasks for a two phase approach that have been outlined to move forward with consideration of the recommendations and possible implementation. Part II and [Appendix 5](#) contains additional timelines on the proposed activities for both Phase One and Phase Two. As projects and direction is decided, detailed project timelines will be developed to support implementation activities.

Phase One: October 2020 - June 2021	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH
Continue Evaluation Efforts	Lead	X	X	X	X	X	X
Coordination With BHTF BluePrint and OBH Statutory Requirements	X						Lead
Determine Advancement of Recommendations	Lead						
Revisit Multi-State PDMP Workgroup Structure	Lead	X	X	X	X	X	X
Review Contract Options with the Current PDMP Vendor	X				Lead	X	
Identify Policy Changes Necessary to Support Advancing Recommendations	Lead		X		X		
Establish Governance	Lead						
Determine Immediate and Long-Term Funding Needs and Strategies	Lead		Lead		X		
Identify Additional Integration Strategies		Lead		Lead	Lead	X	
Assess Technology Enhancements	X	Lead		Lead			

Table 1: Phase One: October 2020 - June 2021

Phase Two: July 2021 - September 2022	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH
Review of Provider Survey Feedback	X	X	Lead	X	Lead	X	X
Inclusion of Additional Medication Sets	Lead	X	Lead	X	X	X	Lead
Identification of Funding Strategies	X	X	Lead		X	X	
Support Ongoing PDMP Operations	X	X	X	Lead	Lead	X	X
Support OBH Operations	Lead	X	X	X	X	X	Lead
Ensure Functional Governance Operations	Lead	X	X	X	X	X	X
Assess Regulatory Oversight of PDMP Operation	Lead	X	X		X	X	X
Implementation of Clinical Informatics Platform	Lead	Lead	X	X	X	X	X
Ongoing Policy Review	Lead		X		X	X	X

Table 2: Phase Two: July 2021 - September 2022

Part I: Summary

The suggestions in this Future State Recommendations document represent the collective work of a variety of stakeholders and should be viewed as a starting point for the next phase of this work. Colorado’s work and investments to date are making an impact. Even with the record number of deaths in 2019, the State did see a slight decline in the volume of patients receiving controlled substance prescriptions as reported in the 2020 PDMP Task Force Annual Report.¹⁷ It is noted in the 2020 Prescription Drug Monitoring Program Task Force Report that: *“Controlled substance prescriptions, opioid prescriptions, and high-risk prescribing indicators continue to decline in Colorado while PDMP utilization continues to increase.”*¹⁸

This strategy serves as Future State Recommendations going forward based on the recognition of the critical role of the Medicaid Prescriber Tool and subsequent opportunities in improving prescription decision making. This strategy will also maximize Colorado’s investment in its HIEs as key points to collecting and disseminating information. This includes using established and trusted connections as well as leveraging Colorado’s Office of Information Technology (OIT) investments in technology, including Colorado’s Health IT Roadmap. The IT Roadmap includes several accomplishments that are related to the PDMP recommendations such as sustainable health information exchanges (HIE), the Colorado Regional Health Information Exchange (CORHIO), and the Quality Health Network (QHN); upgraded Medicaid Management Information System (MMIS); and shared eligibility system between Medicaid and the health insurance exchange. This strategy will also ensure adherence to the need for standard governance across data sharing within and outside the State. These strategies are based on a systematic approach that will support the State’s goal of saving people money.

¹⁷<http://www.leg.state.co.us/library/reports.nsf/xsp/.ibmmodres/domino/OpenAttachment/library/reports.nsf/99C6BD6C7B9800ED872576C700587597/AttachReport/2020%20PDMP%20Report.002.pdf>

¹⁸ [Data Source: Colorado Prescription Drug Monitoring Program, DORA; Data Analysis by: CDPHE, 2020](#)

Part II: Supporting Information

This section of the document provides expanded information on the methods used, recommendations, timelines and responsibilities, influencing factors such as interstate data sharing, policy/statutory factors, data governance, the use of application programming interfaces (API's) and fast healthcare interoperability resources (FHIR), health information exchanges (HIE's), the use of analytics, future PDMP oversight, and funding considerations.

Methodology Used

To understand the current state of the PDMP ecosystem, OeHI, in partnership with state agencies, launched a systematic process of information gathering, policy research, stakeholder convenings, interviewing key informants in Colorado and other states, prescriber surveys, and architecture reviews. These recommendations represent the coordination of multiple moving items in a large and complex environment.

The Multi-State Agency PDMP Workgroup led by OeHI has focused on creating an understanding of how Colorado's PDMP operates, best practices, and identification of the needs to move functionality forward. The core project team, representing 20-plus stakeholder organizations, met over 30 times in addition to phone calls, email correspondence, and ad hoc meetings to understand the current state of the PDMP and discuss future state recommendations. As part of this workgroup's efforts, the group sought and were awarded funding to plan and implement the expansion of the PDMP and clinical decision support through the SUPPORT ACT. Key themes emerged during the evaluation of the current state and plans for the future of the PDMP that include expanded medication information, increased integrations of the PDMP in the prescribers' workflow, and the increased availability of clinical information in real-time. Overall, stakeholders agreed on the need to reuse and leverage existing infrastructure investments such as the Medicaid Prescriber Tools, state information technology investments, and Colorado's HIEs (CORHIO and QHN), as well as prescriber investments in existing connections to the PDMP.

The Colorado Consortium for Prescription Drug Abuse Prevention has coordinated Colorado's response to the misuse and abuse of opioids, stimulants, and sedatives since being formed in 2013. Participants include federal agencies, state departments, and agencies including the Colorado Department of Public Health and Environment and the Office of Behavioral Health, OeHI, and several other state and community organizations and individuals. Through the Consortium, there are 10 workgroups focused on various areas including data, public awareness, prescriber education, and the PDMP. When developing policy, including proposed legislation, subject matter is divided into areas of prevention, treatment, harm reduction, criminal justice, and recovery.

During Consortium meetings, PDMP discussions included exploring the addition of all prescribed medication to the current PDMP and enhancing PDMP usability and functionality for prescribers. The Consortium also produces an annual report each year with the most recent being 2020. Within this report, specific tasks are presented. Task 1 was to *Analyze the Viability and Appropriateness of User Experience Testing of Available Software Interfaces*. Task 2 was to *Develop a Plan for Directly Measuring PDMP Utilization in Connection with*

Controlled Substance Prescriptions. The recommendation for Task 1 focused on PDMP integration “with many available software solutions and with PDMP access being leveraged in a variety of clinical contexts, the State should focus on making PDMP data accessible to practitioners and pharmacists.” Recommendation for Task 2 supports advanced analytics while noting that “Colorado should evaluate whether statute authorizes the program to collect ICD-10 information and should weigh the benefits for analytics and clinical decision support against privacy concerns with respect to the program’s mission of reducing prescription drug abuse, misuse, and diversion.”

The Consortium’s Prescription Drug Monitoring Program (PDMP) Workgroup focuses on issues relating to the use and improvement of the State’s PDMP. The group meets every other month and participants include a variety of individuals including those from the State, healthcare systems, and prescribers. OeHI received a variety of feedback specific to the PDMP including that any changes to the PDMP should not increase the prescriber’s work burden, that the PDMP user interface should be “*user friendly*,” and that existing infrastructure and investments should also be taken into consideration. In addition, OeHI received feedback from the PDMP Consortium Workgroup Co-Chair, who is a prescriber, and provided perspective on actual use of the PDMP. The prescriber mentioned opportunities for PDMP improvements including adding medications, creating a clinical informatics tool that directly benefits prescribers, as well as increasing the number of delegates so that prescribers can focus on their core job responsibility versus administrative tasks.

In addition to the various structured workgroups, information was gained from stakeholders on an individual basis. Even though these stakeholders were part of the larger conversation, creating the ability for discussion and input specific to an organization further solidifies the recommendations as the right steps in moving forward.

Key stakeholder conversations included:

Health Information Exchange (HIE): Colorado’s HIEs include Colorado Health Information Organization (CORHIO) and Quality Health Network (QHN). These organizations are trusted partners who connect siloed electronic health records and health care prescribers across the State to improve care and reduce costs. The HIEs are involved with the State and the Consortium in advancing the PDMP. For this specific project, OeHI’s project team conducted multiple meetings with the HIEs to document and review PDMP integrations and reporting available in the HIEs. Discussions included how prescribers access the PDMP, the various programs each HIE coordinates, as well as successes achieved through the PDMP integration pilots. In the pilots, 200 prescribers participated with CORHIO and 87 prescribers participated with QHN. Pilot insights included increased PDMP knowledge, improvement in PDMP access, and prescribers recommending PDMP integration. The HIEs were also involved in the Multi-State Agency PDMP Workgroup and provided valuable insights, including technology and policy factors that will need to be considered. An example of how a prescriber accesses PDMP data can be found in [Appendix 6](#).

Colorado Department of Regulatory Agencies (DORA) Division of Professional and Occupations (DPO): As the regulatory authority of the PDMP, DORA staff has been key in the review and development of Future State Recommendations of the PDMP ecosystem. This includes providing historical context, operational factors,

legislative and policy ramifications, and current insights regarding the overall operations of the PDMP including technical details.

Colorado Department of Regulatory Agencies (DORA) Colorado Office of Policy, Research & Regulatory Reform (COPRRR): Staff involved in the “*sunset review*” process, which evaluates PDMP functionality and applicability, were also consulted in determining Future State Recommendations. As part of the sunset review process, feedback to DORA COPRRR was received including which individuals should have PDMP access, potential legislative or policy factors that may need to be considered, which organization should have PDMP oversight, and the use and distribution of PDMP data. OeHI was also able to provide feedback from the Multi-State Agency PDMP Workgroup to DORA COPRRR for their sunset review report. Findings from the 2020 Sunset Review final report support Future State Recommendations.

Colorado Department of Health Care Policy and Financing (HCPF): HCPF is the state entity responsible for oversight of Health First Colorado (Colorado's Medicaid Program) that serves Colorado's Medication and uninsured population, Child Health Plan Plus, and other health care programs. HCPF works closely with the PDMP and is interested in the future of the PDMP as the PDMP directly influences the prescription medications that are prescribed to Health First Colorado's members. As such, HCPF is motivated to keep healthcare costs down and to have the ability to offer less expensive medications. HCPF is OeHI's fiscal agent and they request, oversee, and administer the SUPPORT Act Funds. HCPF's team provided key strategy recommendations to improve care and to reduce costs, in particular for medications. Reducing medication costs is one of Colorado's Health Cabinet's Wildly Important Goals (WIG) for both FY20 and FY21. As part of this strategy, HCPF is implementing Medicaid's Prescriber Tools to support clinical decisions related to prescriptions and real-time benefits. These prescriber tools will help to reduce the volume of prescriptions, reduce medication costs, and provide the prescriber with real-time clinical information. These tools are integral to the PDMP ecosystem and should be considered in the development and planning of Future State Recommendations.

Office Behavioral Health (OBH): The Office of Behavioral Health, part of the Colorado Department of Human Services, could benefit from the PDMP as OBH does dispense medications to OBH patients. Critical information is being gathered by OBH related to medications, such as methadone, being provided through OBH-licensed clinics. OBH is in the process of updating their legacy prescription medication tracking system, with the goal of modernization and expansion, so that additional prescribers can have access to the information. Connection to the PDMP would benefit the availability of OBH information.

Colorado Department of Public Health and Environment (CDPHE): CDPHE is the department of the Colorado state government responsible for public health and environmental regulation. CDPHE has the ability to administer research and analysis within the PDMP as defined in statute. In addition, CDPHE has been involved in the Multi-State Agency PDMP Workgroup and has worked with DORA/DPO on PDMP evaluation projects, including PDMP/EHR integration pilot projects. CDPHE has access to the PDMP and appreciates the review process that the Multi-Agency PDMP Workgroup has developed to move the PDMP to the future vision.

Colorado Office of Information Technology (OIT): The State of Colorado's Office of Information Technology (OIT) is responsible for supporting state agencies through the development and support of enterprise and

agency-specific applications, projects, programs, and services. Within OIT there is a Strategy Office which helps create, drive, and manage OIT’s overall strategy and goals. Working alongside the strategy team is OIT’s technical team encompassing the Enterprise Architecture Team who is tasked with defining statewide technology standards, including accessibility. Key to OIT’s infrastructure is the State’s MuleSoft Enterprise Service Bus (ESB) which can serve as the central router of information among state agencies within a secure and authorized environment. Additional details and technical specifications regarding the ESB are available through OIT.

Additional Resources: To ensure that Colorado was moving in the right direction, organizations and entities outside the State were also consulted as well as conducting an extensive literature review. Discussions included the Nebraska Health Information Initiative (NEHII) whose PDMP is operated through the State HIE and includes all prescription medications. Involvement with the New England States Consortium Systems (NESCO) provides insights to other states’ (e.g., Maine, Rhode Island, Nebraska, Idaho) activities such as improving the operations of the PDMP, integration with HIEs, modernized analytics infrastructure for surveillance, monitoring (e.g., prescribing patterns), and integrated data analytics. Extensive review of reports, articles, and research further validated Colorado’s approach. Review of the PDMP Task Force Annual Reports revealed common themes. Examples include the recommendation for EHR integration and increased PDMP utilization (2016, 2020), EHR integrations and non-HIE/EHR integrations (2017), prescriber utilization and behavior/utilization comparison to his/her colleagues (2018), identifying metrics for PDMP effectiveness, and integration effectiveness (2019,2020).¹⁹ The National Governors Association July 2020 report “*State Strategies to Improve the Use of Prescription Drug Monitoring Programs to Address Opioid and other Substance Use Disorders*” includes multiple recommendations, such as robust analytics and adding substances tracked through the PDMP, that align with the recommendations presented in this report.²⁰ A table summarizing the recommendations that align with this report can be found in [Appendix 7](#).

Recommendations

In formulating recommendations, work began with a clear evaluation of the prescriber, payer patient, state needs, and the evaluation of current technical infrastructure and policy. Prescribers requested easier access, improved user-friendliness such as fewer clicks to reach the PDMP, and more robust reporting from the PDMP. Discussions with Medicaid indicated the desire to have the ability to leverage multiple data sources including prescription medication options, pricing options, PDMP data, and public health data to create a robust clinical reporting tool to assist with reducing medication and overall healthcare costs while supporting prescribers in making prescription decisions. The requests that were received align with the recommendations included in this report. Additionally, the review of the current PDMP ecosystem and four options led to the creation of a fifth option (Option 5) that reflects the review and input from multiple stakeholders. The technical requests and input from the prescribers and payers align with the technical recommendations included in this document. This evaluation process set the foundation for identification of

¹⁹ <http://www.leg.state.co.us/library/reports.nsf/ReportsDoc.xsp?documentId=81B40E0416B1ABD187257CE6005A3F76>

²⁰ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

new needs, expansion opportunities, and missing elements. Additionally, the legislative and policy factors surrounding the PDMP were identified for consideration on the impact of change.

Timelines and Responsibilities

The recommendations set forth are the result of multiple activities outlined to support the foundational needs in moving forward. The timelines and details of these activities represent a collective, collaborative process among stakeholders. Depending on the direction chosen, upon review of the recommendations, including considerations given to the current pandemic state, timelines, tasks, and responsible entities can be further delineated. OeHI in its role of coordination, and collaboration among stakeholders can drive activities but moving forward will require engagement and ownership from other agencies and entities.

Below are the immediate steps that can be taken over the next six to nine months. Further timelines and more details on proposed activities can be found in [Appendix 5](#).

Phase One: October 2020 - March 2021

Phase One: October 2020 - June 2021	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH
Continue Evaluation Efforts	Lead	X	X	X	X	X	X
Coordination With BHTF BluePrint and OBH Statutory Requirements	X						Lead
Determine Advancement of Recommendations	Lead						
Revisit Multi-State PDMP Workgroup Structure	Lead	X	X	X	X	X	X
Review Contract Options with the Current PDMP Vendor	X				Lead	X	
Identify Policy Changes Necessary to Support Advancing Recommendations	Lead		X		X		
Establish Governance	Lead						
Determine Immediate and Long-Term Funding Needs and Strategies	Lead		Lead		X		
Identify Additional Integration Strategies		Lead		Lead	Lead	X	
Assess Technology Enhancements	X	Lead		Lead			

Table 3: Timeline Activities by Lead Agency - Phase One

- Continue with planning efforts in developing an approach for implementation of approved recommendations
- Review and crosswalk recommendations with Behavioral Health Task Force Blueprint and statutory requirements assigned to OBH
- Determine which recommendation and next steps will be advanced in FY21. Revisit the role and charter of the Multi-State Agency PDMP Workgroup
- Review contract options with current PDMP vendor
- Identify policy changes necessary to support future state enhancements
- Assess technology options supporting future state enhancements
- Establish governance that will provide oversight and guidance for all PDMP data use cases
- Determine immediate and long-term funding needs and mechanisms with stakeholders

- Assess technology enhancements

Phase Two: July 2021 - September 2022

Phase Two: July 2021 - September 2022	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH
Review of Provider Survey Feedback	X	X	Lead	X	Lead	X	X
Inclusion of Additional Medication Sets	Lead	X	Lead	X	X	X	Lead
Identification of Funding Strategies	X	X	Lead		X	X	
Support Ongoing PDMP Operations	X	X	X	Lead	Lead	X	X
Support OBH Operations	Lead	X	X	X	X	X	Lead
Ensure Functional Governance Operations	Lead	X	X	X	X	X	X
Assess Regulatory Oversight of PDMP Operation	Lead	X	X		X	X	X
Implementation of Clinical Informatics Platform	Lead	Lead	X	X	X	X	X
Ongoing Policy Review	Lead		X		X	X	X

Table 4: Timeline Activities by Lead Agency - Phase Two

- Incorporation of HCPF Prescriber Survey results from HCPF Prescriber Tool prescriber survey project
- Continue to identify medication sets that support PDMP operations
- Ongoing identification of funding options and strategies
- Continue PDMP/HIE integrations by DORA/DPO and HIEs
- Create implementation strategies to support OBH operations including medication inclusion or connection to the PDMP
- Ensure that functional Governance structure is in place
- Determination of authorizing agency that will oversee PDMP
- Implementation of a robust clinical informatics platform
- Continue policy reviews to ensure PDMP maximum positive impact while contemplating legislative factors

Influencing Factors

As has been stated, understanding the current PDMP ecosystem in preparation for visioning a future state was a multi-pronged approach. The following factors play a role in both the current infrastructure and must be considered moving forward.

Interstate Data Sharing

Availability of PDMP data is not limited to just Colorado prescribers and Colorado prescribers are not limited to just what information is contained in the State. There are two interstate data hubs: PMP InterConnect and RxCheck, with Colorado using both depending on the receiving state. While there is the technical ability to share data, there are multiple rules regarding the PDMP and interstate data sharing including how the State chooses to request data sharing from other states, the individuals or organizations that they share the data

with, as well as how the data is integrated with other systems such as electronic health record systems, pharmacy management systems, and health information exchanges.

Please see [Appendix 8](#) for additional interstate data sharing information including diagrams, maps, and Colorado protocol (guidance).

Policy/Statutory

How controlled substance information is collected, who has access, and when the PDMP must be consulted is governed by existing policies and statutory guidelines.

One of the key recommendations of a future state reflecting the needs of the State is to have controlled substance data more widely available, primarily for analytical purposes, but also as part of a comprehensive patient record. As the State moves forward with a focus on expanded access there may be the need for revised and/or new legislation. Additionally, policy and legislative requirements will need to be reviewed in context of the SUPPORT Act.²¹ Data governance, aside from regulatory adherence, is a strong component of Colorado's Health IT Roadmap and is applicable to all Health IT initiatives. Future model considerations will leverage data governance work to ensure that data across all levels adhere to applicable policies and statutes. The Bureau of Justice Assistance's publication "*Opioid Abuse Program Prescription Drug Monitoring Program Statutes and Regulations Table*" provides extensive details that may be a useful resource when considering national factors.²²

Policy considerations will likely involve the review of the Substance Abuse and Mental Health Services Administration (SAMHSA) 42 CFR Part 2 Revised Rules. Topics that have been revised, as listed by the U.S. Department of Health & Human Services, include consent, disclosures permitted with written consent, disclosures to central registries and PDMPs, audit and evaluation, and undercover agents and informant's PDMP access.²³ Additional policy factors for Medicaid, Office of Behavioral Health, and HIE involvement should be reviewed. Examples of policy factors can be found in [Appendix 9](#).

Data Governance

A formal governance process will need to be created specific to the PDMP ecosystem. DORA/DPO currently oversees the PDMP ecosystem and it is logical for DORA/DPO to have an initial lead role in creating the governance process. The governance process should include specific guidelines and/or steps that clearly direct how the State of Colorado responds to PDMP data requests. This includes PDMP data requests (1) from State entities and (2) non-state entities, including those located outside the State of Colorado.

The PDMP Data Governance process would require any data requests to be formally vetted. The vetting process should have specific rules and guidelines in place that clearly define and describe the appropriate procedures that must occur for a data request to be responded to and/or reported on. Similar efforts from

²¹ <https://www.congress.gov/bill/115th-congress/house-bill/6>

²² https://www.pdmpassist.org/pdf/PDMP_Statutes_and_Regulations_Table_20200324.pdf

²³ <https://www.hhs.gov/about/news/2020/07/13/fact-sheet-samhsa-42-cfr-part-2-revised-rule.html>

PDMPs are taking place in the New England states and they are going through a similar process. Members of OeHI are participating to gain insights, best practices, and lessons learned. As the PDMP governance process is determined for Colorado, there may be an opportunity for OeHI to be a regional leader in establishing a similar forum. Please see [Appendix 10](#) for a governance schematic.

Application Programming Interfaces (APIs)

Throughout the review process, several technology factors were identified including the use of an API. This technology allows for different software programs to interact without the need for traditionally resource intensive technology implementations. The ability to use an API can reduce technology implementation costs as it allows for software program integration without the traditional staffing and technology needs as well as support the prescriber's workflow. In addition, MuleSoft, the current API vendor used by the State of Colorado, may become part of the PDMP ecosystem in the future. Experts from MuleSoft and the State of Colorado, including OeHI and OIT, will need to review MuleSoft's potential role and related details. This will also require the detailed review of the Option 5 ecosystem infrastructure.

Fast Healthcare Interoperability Resources (FHIR)

The Office of the National Coordinator (ONC) for Health Information Technology (HIT) is supporting the efforts to implement and use the most advanced health information technology and the electronic exchange of health information. This includes utilizing health IT to help reduce the inappropriate use of opioids and opioid-related harms, the PDMP and Health IT Data Integration Data Standardization, as well as Electronic Prescribing of Controlled Substances (EPCS).²⁴

ONC is involved with the Fast Healthcare Interoperability Resources (FHIR) program. FHIR is a standard for exchanging healthcare information electronically. Specific to PDMPs, the ONC PDMP FHIR project has developed and tested a standard that can enable low cost access to PDMPs with minimal infrastructure requirements, can be used in conjunction with existing standards, and can support non-proprietary Clinical Decision Support (CDS) tools in development.²⁵ Experts from the State of Colorado and FHIR program will need to review the current status of the State's MuleSoft (FHIR) platform to review potential next steps, including applications within and outside the State of Colorado.

Health Information Exchanges (HIEs)

The two Health Information Exchange (HIE) organizations in Colorado, Colorado State Health Information Exchange (CORHIO) and Quality Health Network (QHN), are key contributors to the PDMP ecosystem. Feedback provided by the HIEs is to ensure that the PDMP components continue to recognize existing investments by utilizing entities that have expertise in prescriber, health system, hospital, and physician practice data collection, data processing, and data reconciliation, in addition to the PDMP data. These details are important as prescribers use PDMP information in their clinical workflow. Ensuring that accurate data or

²⁴ https://www.pdmpassist.org/pdf/TTAC_webinar_PDMP_FHIR_Pilot_Overview_20190220.pdf

²⁵ https://www.pdmpassist.org/pdf/TTAC_webinar_PDMP_FHIR_Pilot_Overview_20190220.pdf

information is available can reduce prescriber burden, support prescriber and prescriber clinical decisions, support the appropriateness of prescriptions, and support optimal patient care and outcomes.

HIEs also support PDMP activities through direct integration. Through a CPDHE pilot, support for additional integrations was highlighted as it was reported that there was an increase in prescriber PDMP use, increased confidence in using the PDMP, as well as a reduction in the number of clicks required to access the PDMP. Additionally, the integration report also provided important insights that align directly with the State's goals of reducing the number of prescriptions, keeping healthcare costs down, and reducing opioid use.

Analytics

As defined by statute and policy, access to PDMP data is narrowly limited. The need for expanded access is critical in supporting programs and initiatives designed to combat not just opioid use but the misuse of controlled substances holistically. Having relevant, authorized PDMP data, coupled with other data sources, can allow for a robust analytical system to be developed. Information at the prescriber, dispenser, and patient level could prove beneficial in identifying abusive or medication shopping patterns. Analytics will also provide the necessary information for state-level policies and programs to support efforts.

The current PDMP structure provides information on the number and type of controlled substances prescribed to, and filled, for a covered individual only to authorized PDMP users. As noted in the 2019 Prescription Drug Monitoring Program Task Force Report, reporting includes average Morphine Milligram Equivalent (MME), multiple concurrent opioid prescriptions or concurrent opioid and benzodiazepine prescriptions, and patients with multiple prescribers for opioid prescriptions. Though static reporting is available, users have expressed frustration at not having the ability to “*drill down*” into the data for further insights and to verify data integrity. And while population level is available – that is only to one state agency for a narrowly defined scope.

It should be noted that through Colorado's OIT the concept of a “*data lake*” is being formalized that will take disparate pieces of information into a central location. The use of existing and future technical infrastructure, including the State's data lake and warehouse, will leverage existing resources thereby reducing additional technology costs. The State has made significant investments in a data governance structure that can be applied supporting authorized use but at the same time allowing for an increased availability of PDMP related information coupled with HIE provided information, additional treatment modalities, potential claims data, and paves the way for the identification and collection of additional data sources.

Future PDMP Oversight

As the future PDMP model is further developed and reviewed, the question of PDMP oversight should be considered. The PDMP is currently managed by DORA/DPO. Feedback, including anonymous feedback through the DORA COPRRR sunset review process, is that other agencies might be considered as potential new oversight. The Department of Public Health and the Health Information Exchange were mentioned as options. Similar to any oversight alternative, this will require a review of the details including what is allowed by Colorado legislature.

Funding Considerations

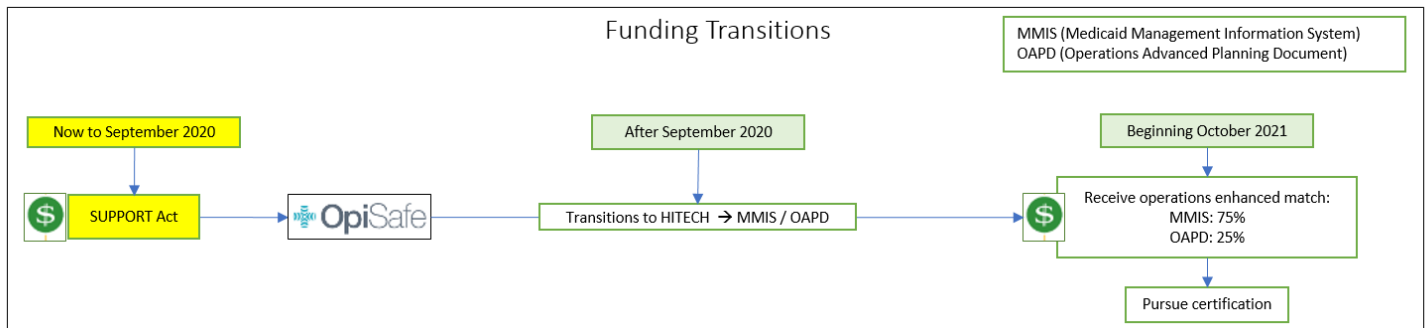
Currently, the PDMP is funded through prescriber fees required of any prescriber with a Colorado license that provides the statutory authority to prescribe controlled substances. The PDMP does not receive any state funding appropriation and staffing is maintained through the Department of Regulatory Agencies.

While there is not currently Medicaid funding for the PDMP infrastructure, implementation dollars for the Medicaid Prescriber Tool are being funded in part through SUPPORT Act dollars which expire on September 30, 2020. Beginning October 1, 2020, HITECH dollars will be available to continue planning activities and begin development and design work. After the end of HITECH funding on September 30, 2021, the ability to continue PDMP activities will be evaluated in the context of Medicaid Management Information System (MMIS) funding and SMD 18-006.²⁶ To continue under MMIS funding, there will have to be the correlation of how PDMP activities support Medicaid operations.

Given the scope and complexities of the PDMP ecosystem, members of the Multi-State Agency PDMP Workgroup are involved in exploring funding options in collaboration with OeHI, HCPF, and other State agencies and private partners. The exact funding needed to support PDMP operations; including technology vendors, staffing, and infrastructure, is largely dependent on activities as determined by consensus on the future state of the PDMP.

Any funding that is requested would be intended to be invested in the overall PDMP ecosystem. The PDMP technical infrastructure, including potential new vendors, will likely be advancing over the next several years. This would directly contribute to the State of Colorado's overarching WIGs as well as Medicaid/HCPF's efforts to reduce medication costs, ensure appropriateness of prescriptions, and potentially contribute to prescribers' practices as a clinical informatics tool. Investing in technology such as the Prescriber Tool will allow prescribers to have clinical insights that are not currently available. Such advances would assist prescribers to provide optimal care and contribute to potentially better medication management for patients being seen in Colorado.

The figure below highlights the potential funding transition:



²⁶ <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

In addition to the above, future funding opportunities should include a further detailed review of funding considerations presented by the National Governors Association Center with specific attention opportunities after FY2020:

- After FY2020, States may be able to use MMIS two other Medicaid funding as outlined below support ongoing PDMP operations and improvements:
 - 42 C.F.R. § 433.112 may provide a 90% federal match for the design, development, installation or enhancement activities related to qualified PDMPs that are integrated with existing Medicaid mechanized claims processing and information retrieval systems
 - 42 C.F.R. § 433.116 may provide a 75% federal match for the operation of qualified PDMPs that are integrated with existing Medicaid mechanized claims processing and information retrieval systems²⁷

The same report also notes that multiple funding sources should be leveraged when possible as this can lead to less monies being required by the State while reducing administrative costs.

“Through efficient blending of federal monies, states can develop highly valuable PDMP tools while reducing administrative costs involved in managing federal funds. Long-term maintenance of robust PDMPs requires states to look beyond federal financial resources which may be re-allocated in the future to other national priorities. Leveraging other available public and private sector resources and identifying strategies to use PDMP data across programs can increase likelihood of providing stable, long term funding to ensure that PDMPs can help providers and public health and safety officials effectively respond to evolving challenges.”²⁸

Additional funding opportunities may be available through the CDC’s Overdose Data to Action (OD2A) Program and Bureau of Justice Assistance (BJA) Comprehensive Opioid, Stimulant, and Substance Abuse Program (COSSAP) funds.²⁹

	Organization (Lead = lead role X = involved)							Timelines: Funding and Tasks																											
	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	June 2021	July 2021	Aug 2021	Sept 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	June 2022	July 2022				
Timeframes																																			
6 months: 10/2020-3/2021										X	X	X	X	X	X																				
12 months: 4/2021-3/2022																X	X	X	X	X	X	X	X	X	X	X	X								
After 4/2022																													X	X	X	X			
Appriss contract renewal / Bid document anticipated in 2021					X																														
Funding Sources																																			
SUPPORT Act Funds																																			
HITECH Funds - CMS funding			X							X	X	X	X	X	X	X	X	X	X	X	X														
HITECH Planning			X							X	X	X	X	X	X	X	X	X	X	X	X														
HITECH DDI			X							X	X	X	X	X	X	X	X	X	X	X	X														
HITECH funding allocation can change			X																																
MMIS Funds -> assigned to OpiSafe (Medicaid)			X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
Determine how X activity(s) supports Medicaid operational activities	X		X																																

Table 5: Funding Opportunities, Owner, Timeframes

²⁷ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

²⁸ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

²⁹ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

Conclusion

For more than a decade the State of Colorado has responded to the opioid crisis through a variety of initiatives. Through activities such as leveraging HCPF's implementation of the Medicaid Prescriber Tool, adding medication data sets to the PDMP, increasing PDMP integrations, and creating a robust analytical platform, the new PDMP ecosystem will support the goals of reducing the volume of prescription medications, reducing medication costs, and supporting prescribers in the delivery of quality care. Through the Medicaid Tool, prescribers will be able to access patient-specific information which will inform options including alternative medication costs and benefits. This will assist with the efforts of reducing health costs related to medication prescriptions. Additional efforts from various stakeholders, such as the HIEs, DORA, HCPF, OBH, and the PDMP Workgroup will continue to provide guidance as the PDMP ecosystem advances. Influencing factors including data governance, interstate data sharing, and funding opportunities will also contribute to the PDMP ecosystem's success. The next six months will involve the continued detailed review of the PDMP ecosystem including the specific tasks and activities that need to be accomplished. For additional details, including lead agencies and specific tasks and timelines, please see [Appendix 5](#).

Appendix 1: Glossary of Terms

Application Programming Interface (API) – A computing interface which defines interactions between multiple software intermediaries, defining the kinds of calls or requests that can be made, how to make them, the data formats that should be used, the conventions to follow.

Benzodiazepines – A class of drugs primarily used for treating anxiety, but they also are effective in treating several other conditions. Common examples include Diazepam (Valium), clorazepate (Tranxene), Oxazepam (Serax), lorazepam (Ativan), alprazolam (Xanax), and clonazepam (Klonopin).

Center for Disease Control and Prevention (CDC) – A federal agency that conducts and supports health promotion, prevention and preparedness activities in the United States, with the goal of improving overall public health.

Clinical Informatics – information-based approach to healthcare delivery in which data is structured in a certain way to be effectively retrieved and used in a report or evaluation.

Clinical Workflow – A process involving a series of tasks for the delivery of clinical services—how tasks are accomplished, in what order, and by whom.

Colorado Consortium for Prescription Drug Abuse Prevention – Works with partners in government, academia, and communities to coordinate the state’s response to the opioid crisis.

Colorado Department of Regulatory Agencies (Division of Professions and Occupations) – Provides consumer protection through its regulation of 345,000 licensees within more than 50 professions, occupations, and entities in the State of Colorado. This is also the agency where the PDMP is housed.

Colorado Department of Public Health and Environment (Division of Prevention Services) – The department aims to improve the health, well-being and equity of all Coloradans through health promotion, prevention and access to health care. This is also the agency where the opioid overdose prevention program is housed.

Colorado Regional Health Information Organization (CORHIO) - A nonprofit, public-private partnership that is improving health care quality for all Coloradans through cost effective and secure implementation of health information exchange (HIE).

Controlled Substance – A drug or chemical whose manufacture, possession, or use is regulated by a government.

Database – A structured set of data held in a computer, especially one that is accessible in various ways.

Data Lake – A single store of all enterprise data including raw copies of source system data and transformed data used for tasks such as reporting, visualization, advanced analytics and machine learning.

Dispenser – Pharmacy, Pharmacist, Veterinarian, Veterinary office, or any other entity or individual with the authority to distribute or provide controlled substances to the public.

Ecosystem – A network of organizations—including suppliers, distributors, customers, competitors, government agencies, and so on—involved in the delivery of a specific product or service through both competition and cooperation.

Electronic Health Record (EHR) – An electronic version of a patient’s medical history, that is maintained by the provider over time, and may include all of the key administrative clinical data relevant to that person's care under a particular provider.

Electronic Medical Record (EMR) – The digital equivalent of paper records, or charts at a clinician's office.

Enterprise Service Bus (ESB) – A kind of data transfer connector between applications and services. It is essentially a piece of middleware used to distribute work among components of an application or between applications. The central concept is that the ESB provides the middleware and interfaces that allow businesses to connect their applications without writing code.

Fentanyl – Pharmaceutical fentanyl is a synthetic opioid, approved for treating severe pain, typically advanced cancer pain. It is 50 to 100 times more potent than morphine. However, illegally made fentanyl is sold through illicit drug markets for its heroin-like effect, and it is often mixed with heroin or other drugs, such as cocaine, or pressed into counterfeit prescription pills.

Health Information Exchange (HIE) – The mobilization of health care information electronically across organizations within a region, community or hospital system.

Health Information Technology (HIT) – The application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of healthcare information, data, and knowledge for communication and decision making.

Health System – The organization of people, institutions, and resources that deliver health care services to meet the health needs of target populations.

Heroin – An illegal, highly addictive opioid drug processed from morphine and extracted from certain poppy plants.

Hydrocodone – An opioid used to treat severe pain of a prolonged duration if other measures are not sufficient.

Medication-assisted treatment (MAT) – Treatment for opioid use disorder combining the use of medications (methadone, buprenorphine, or naltrexone) with counseling and behavioral therapies.

Morphine Milligram Equivalents (MME) – Value assigned to opioids to represent their relative potencies and is determined by using an equivalency factor to calculate a dose of morphine that is equivalent to the ordered opioid.

Naloxone – A drug that can reverse the effects of opioid overdose and can be life-saving if administered in time. The drug is sold under the brand name Narcan or Evzio.

Opioid – A class of drugs that include the illegal drug heroin, synthetic opioids such as fentanyl, and pain relievers available legally by prescription, such as oxycodone (OxyContin®), hydrocodone (Vicodin®), codeine,

morphine, and many others. All opioids are chemically related and interact with opioid receptors on nerve cells in the body and brain.

PDMP Delegate – A person employed or supervised by a prescriber or pharmacist who granted them access to query the PDMP system on their behalf. Delegates are not required by law to be licensed healthcare professionals.

Prescriber – A person who prescribes medication (usually a physician, physician assistant, or nurse practitioner).

Prescription – An instruction written by a medical practitioner that authorizes a patient to be provided a medicine or treatment.

Prescription Drug Monitoring Program (PDMP) – An electronic database that tracks controlled substance prescriptions in a state.

Provider – A person or company that provides a health care service.

Quality Health Network (QHN) – A health information exchange (HIE) helps medical and behavioral health providers in western Colorado securely share patient data that enhances care coordination, reduces duplication of services and identifies individuals at risk so that efforts can be focused where they are needed most.

University of Colorado – A system of public universities in Colorado consisting of four campuses: University of Colorado - Boulder, University of Colorado - Colorado Springs, University of Colorado - Denver in downtown Denver and at the Anschutz Medical Campus in Aurora. It is governed by the elected, nine-member Board of Regents of the University of Colorado.

Appendix 2: Recommendation Details

The following provides additional details on the four key recommendations including background research and reference material.

Leverage the Medicaid Prescriber Tool

When prescribing medications to patients, prescribers use their clinical knowledge and the PDMP to determine which medication(s) to prescribe to patients with the goals of prescribing the optimal medication with reasonable cost to support the patient's overall health. The current PDMP is limited in its ability to provide prescribers with this level of detail and support. In 2021, a component of the Prescriber Tool (i.e., the OpiSafe application) will be added into the PDMP ecosystem through the efforts of HCPF. The OpiSafe application provides opioid risk metrics and medication monitoring. This is significant as it is noted in DORA DPOs 2020 Annual report that the *"SUPPORT Act requiring Medicaid providers to query the PDMP when electronically prescribing Schedule II, III, and IV controlled substances beginning October 1, 2021, electronic prescribing and PDMP integration are central activities in OeHI's SUPPORT Act evaluation."*³⁰ The Prescriber Tool will have direct access to the PDMP through an API. The Prescriber Tool will then be able to provide the prescriber with insights regarding the patient's past and current prescription history.

It is anticipated that the Prescriber Tool will also provide a patient-specific, real-time benefit check (RTBC) functionality that will provide insight into Medicaid prescription medication options. This is a significant ability as combining the OpiSafe application and RTBC functionalities into the Prescriber Tool will directly support numerous WIGs, including optimal medication prescribing, potentially reducing medication costs, using the PDMP to support real-time clinical decision making, and potentially reducing negative prescription effects on the patient.

Because the Prescriber Tool will be new to Colorado prescribers, OpiSafe will coordinate multiple activities to promote prescriber adoption and utilization of the PDMP. Activities include marketing campaigns, prescriber education and training, and prescriber surveys and feedback. These efforts are important as prescriber adoption and use of the OpiSafe application will be key in reducing the number of prescriptions and prescribing less expensive medications, both of which will assist in reducing healthcare costs.

These recommendations align with Department of Health and Human Services Centers for Medicare & Medicaid Services SMD # 18-006 *"RE: Leveraging Medicaid Technology to Address the Opioid Crisis which addresses potential funding opportunities."* The report states:

*"Accordingly, a state can receive enhanced federal funding to build a PDMP or enhance PDMP functionality, as discussed in SMD 16-003. States may claim the 90 percent HITECH match for costs related to the design, development, and implementation of PDMPs and connections to PDMPs so long as the cost controls described in SMD 16-003 are met and so long as these costs help Eligible Providers meet Meaningful Use measures focused on public health reporting and the exchange of public health data described in 42 CFR 495.22 and 495.24. However, Medicaid Management Information System (MMIS) matching funds may be a more appropriate source of federal funding for costs related to developing a PDMP in some cases, and states should not claim 90 percent HITECH match for costs that could otherwise be matched with MMIS matching funds."*³¹

³⁰ [2020 Prescription Drug Monitoring Program Task Force Report](#)

³¹ <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

The report supports and recommends the use of risk assessment tools:

“States are encouraged to consider linking screening data from risk assessment tools such as the Opioid Risk Tool into EHRs and/or HIEs to facilitate targeted case management or to deploy other resources or follow up interventions.”³²

Recommendations also apply toward the use of an electronic prescribing tool:

“States might also consider using Medicaid support to add systems supporting the Electronic Prescribing of Controlled Substances (EPCS). These systems might be integrated into other pharmacy systems or health information exchange architecture and complement broader state initiatives around securing prescribing processes. Workflow analysis and thoughtful on-boarding of Medicaid providers as described in SMD# 16-003 could help reduce the burden which might be associated with adopting the two-factor authentication in EPCS as well.”³³

Comprehensive Medication History through Additional Medication Data Sets Contained in the PDMP

A recurrent request for increased benefit was inclusion of additional medications available through the PDMP and/or complementary and connected type systems and the ability to access a patient’s comprehensive medication history. Colorado’s PDMP is currently legislatively limited to controlled medications listed in Schedules II to V. This opportunity also aligns with the Department of Health and Human Services Centers for Medicare & Medicaid Services SMD # 18-006 *“RE: Leveraging Medicaid Technology to Address the Opioid Crisis recommendations.”*

“Consistent with the recommendations of the President’s Commission, integrating pharmacy and other data in PDMPs could help facilitate the provision of non-opioid pharmaceutical treatments for acute and chronic pain management.”

Examples of medications to be considered for addition to the PDMP include:

- Medication-Assisted Treatment (MAT)
- Medical Marijuana
- Naloxone
- Office of Behavioral Health Central Registry Data Medications

While the final list of medications has not been determined as of this report, the addition of medications to the PDMP align with national best practices and is referenced in the National Governors Association Center: State Strategies to Improve the Use of Prescription Drug Monitoring Programs to Address Opioid and other Substance Use Disorders.³⁴ Additional medication data sets can further prevent situations of patients receiving provider or clinic dispensed medications and then later receiving a prescription for similar medication increasing the chance of overdose.

³² <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

³³ <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

³⁴ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

Increase PDMP Integration Within the HIEs and EHR Systems

Throughout the review of the PDMP, the opportunity to have the PDMP integrated into the prescriber's EHR/EMR was frequently mentioned. When integration is not used, barriers to the prescriber accessing and using the PDMP included the prescriber needing to login to another system, having to navigate among several windows, and an increased number of clicks and steps to reach PDMP data. The need for increased integration is further documented through the results of a recent CDPHE grant reporting the following key findings:

"Integrating the PDMP with health information exchanges, electronic health records, and a secure mobile app all reduced barriers to accessing patient PDMP data."

"Prescribers at all of the pilot sites experienced increased PDMP knowledge, improved prescribing behaviors, increased PDMP use, and gained confidence in using a patient's PDMP report."

*"All sites experienced a decrease in the proportion of high dose prescriptions and reported an increase in the selection of non-pharmacologic therapy and/or an alternative to prescribing opioids for treating chronic pain."*³⁵

This approach mirrors best practices as noted by the National Governors Association Center.³⁶ To support these efforts, in the fall of 2020 DORA/DPO will be announcing the *"Request for Applications (RFA) to reimburse healthcare organizations for PDMP integration implementation costs, funded by the CDC Overdose Data to Action grant awarded to CDPHE and implemented through an Interagency Agreement between DORA/DPO and CDPHE."*³⁷

The opportunity to leverage HIE and EHR integration not only assists with the prescriber's point of care, it has broader benefits. For example, as part of best practices, when PDMP and HIE are integrated, this allows staff to apply PDMP information in additional manners, such as:

*"PDMP staff can dedicate more time to improved analytics and functionalities for patient care, health care quality, and public health surveillance initiatives."*³⁸

Direct integration is also included in the Substance Use Disorder (SUD) Health Information Technology (IT) Plan as well as DORA/DPOs 2020 Prescription Drug Monitoring Program Task Force Report. The Department of Health and Human Services Centers for Medicare & Medicaid Services SMD # 18-006 *"RE: Leveraging Medicaid Technology to Address the Opioid Crisis"*, recommends:

"Integrating connections to PDMP data into EHRs to limit provider burden and improve interstate Health Information Exchange (HIE). This integration removes the requirement for providers to log in to a separate system, manage a separate log in, and disrupt their workflow to query the PDMP. Single sign-on

³⁵ ["Integration of the Colorado Prescription Drug Monitoring Program into Prescriber Workflow: Evaluation Report for the Centers for Disease Control and Prevention Grant #1U17CE002719-01, Project Period: 03/01/2016 – 08/31/2019 Funding Opportunity CE15-1501, entitled Prescription Drug Overdose Prevention for States".](#)

³⁶ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

³⁷ [2020 Prescription Drug Monitoring Program Task Force Report](#)

³⁸ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

interoperability between EHR and PDMP such that PDMP results are displayed when the EHR indicates a controlled substance is prescribed could be supported.”³⁹

Create a Robust Analytical Platform Supporting Clinical Informatics for Surveillance and Decision-Making

Data is key in identifying problems and opportunities. Within the current PDMP infrastructure and based on policy limitations, data availability is strictly controlled. Additionally, data is limited to controlled substance data which is limited to what is being reported by pharmacies. The need for increased comprehensive data available through a clinical informatics platform will allow the State to share information with authorized users further supporting policies and programs that can support Colorado’s efforts.

Basic analysis of PDMP data is currently in place. As noted in DORA/DPO’s Deliverable 11: Report of PDMP Interstate Interoperability Barriers Experienced by Colorado Healthcare Entities, “*quarterly Prescriber Reports (also known as Scorecards)*” are created and distributed to prescribers today.

As the State evaluates options specific to data analytics and the PDMP ecosystem of the future, technologies and innovation that are not being used today should be considered in the immediate future. Examples include prediction models and advanced analytical methods. These considerations align with the Centers for Medicare & Medicaid Services:

“States interested in developing prediction models or deploying advanced analytical approaches to data driven interventions might also look to complement Medicaid data with data from human services programs, consistent with the above discussion of interoperability under 42 CFR § 433.112(b)(16).”⁴⁰

The National Governors Association mentions that “*Health care providers and dispensers use PDMPs to support safe and appropriate prescribing and dispensing. When providers encounter patients, they are presented with physical indicators, verbal information communicated by the patient, historical information available in a health record, and PDMP information (which may or may not be accessible via electronic health record (EHR) systems.*”⁴¹ As such, the use of data to trigger alerts, risk scores, and additional data presentations should be considered. In addition, it is noted that the “*Delivery of the report with references to state prescribing guidance can help providers align their prescribing practices with OUD/SUD prevention strategies and state PDMP use mandates.*”⁴² The SUPPORT Act advocates the use of PDMP to “*promote new approaches for responding to emerging public health crises, and improve overdose data reporting.*”⁴³ The recommendations presented here align with the intended efforts of the Medicaid Prescriber Tool and State WIGs.

Option 5: PDMP Ecosystem of the Future

Multi-State Agency PDMP Workgroup members focused on incorporating their recommendations, research findings, and vision for the future into a technical diagram that represents future state. “*Option 5*” resulted from review of varied technical options (refer to [Appendix 4](#)) building upon the current infrastructure representing a “*best of breed*” approach for moving forward. Option 5 shown below reflects the progress the Workgroup was able to accomplish within the timeframe allowed. Additional details will need to be determined as the Workgroup’s activities continue.

³⁹ <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

⁴⁰ <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

⁴¹ https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

⁴² https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf

⁴³ <https://www.congress.gov/bill/115th-congress/house-bill/6>

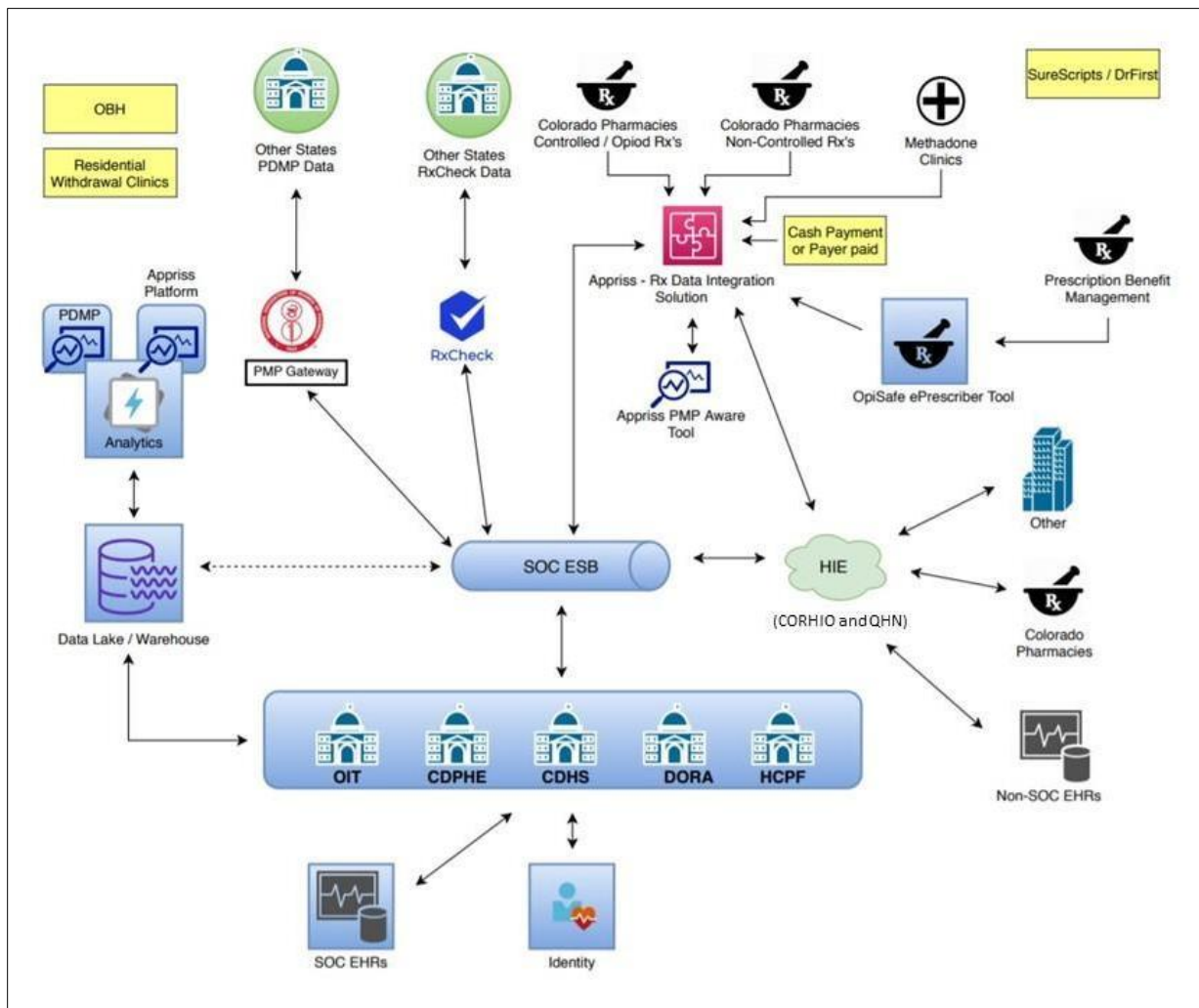


Figure 5: Schematic of Option 5

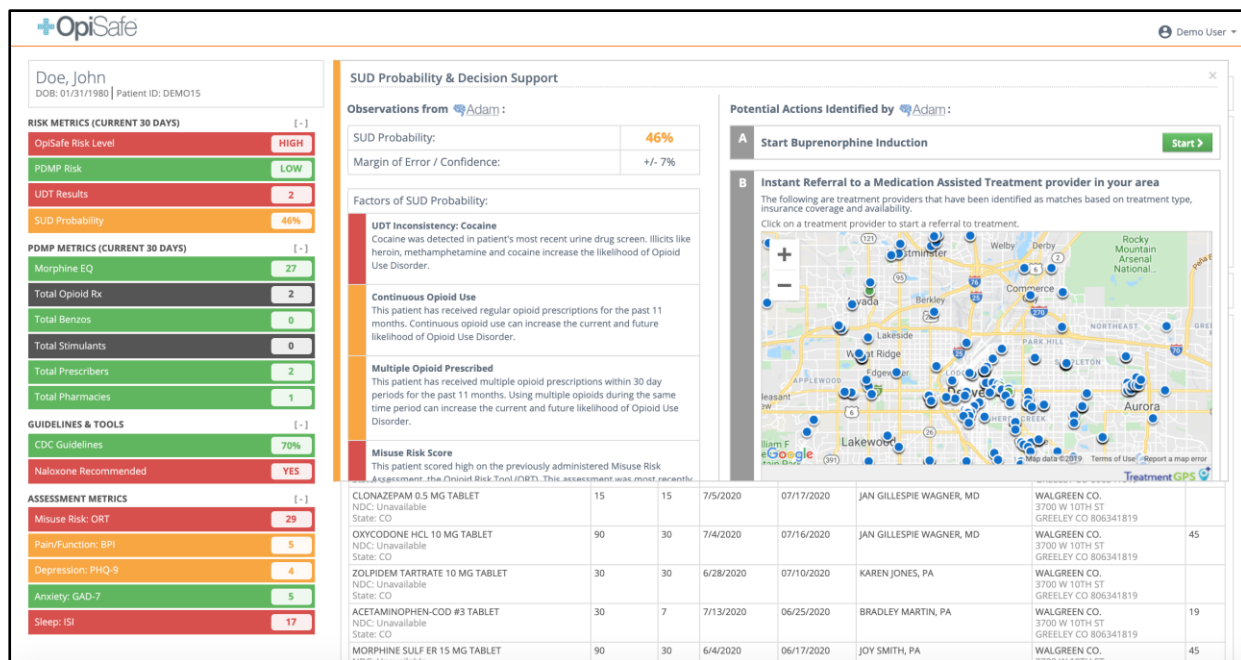
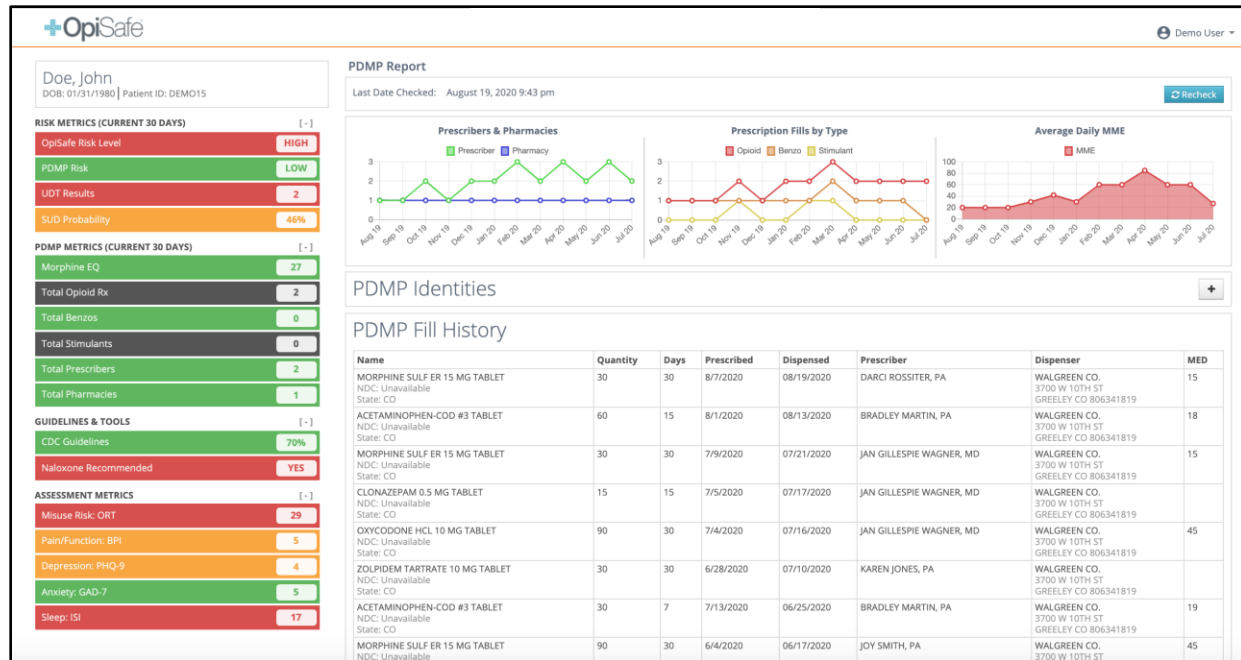
To support the recommendations as visualized in Option 5, the next phase of this work will necessitate additional review and analysis of several factors including:

- Potential changes to the current PDMP technical infrastructure
- Inclusion of additional data sources either directly into the PDMP or through other collaborative avenues
- Inclusion/leverage of additional technology vendors and current investments
- Policy and statutory analytics
- Governance of data and user access
- Data analytics
- Funding

The [Influencing Factors](#) section of this report contains additional information on the factors that will influence the PDMP ecosystem and require additional evaluation.

Proposed Medicaid Prescriber Tool Data Views

The following screenshots are highlights from the data views that will be seen by the prescriber through the OpiSafe application.



Appendix 3: Adding Medications to the PDMP

While the final list of medications has not yet been determined, the following provides examples of additional types of medications that could be considered for inclusion in the PDMP:

Medication-Assisted Treatment (MAT)

MAT is a clinical therapy that assists patients with opioid use disorder that involves the prescribing of specific opioid substitutes, such as methadone, combined with other therapies creating a comprehensive approach to patient care. This allows patients with substance use disorder to continue functioning while being rehabilitated from the disease.

Medical Marijuana

Medical marijuana has been proposed to be included in the PDMP. This consideration would require additional review and evaluation as there are policies and legislation that dictate the use of medical marijuana data.

Naloxone

It has been requested that Naloxone (used to combat opioid effects) be added to the PDMP. Additional feedback indicates that there is the potential for the patient to be stigmatized if a PDMP query leads to the ability to make the connection between Naloxone and the patient. This could potentially have negative consequences.

Prescribers mentioned that adding additional medications, including non-controlled medications, in the PDMP would contribute to the PDMP becoming a more robust clinical support platform allowing the prescriber more insights to the patient's medication history. Additional medication data, coupled with the Medicaid Prescriber Tool, would support efforts to reduce controlled medications, have the ability to offer less expensive medications, and support the State's efforts to reduce prescription drug costs. By having a single source of data, this could reduce provider/prescriber burden, ensure more accurate tracking of medication prescribing and dispensing, and potentially reduce medication costs.

Office of Behavioral Health Central Registry Data Medications

The Office of Behavioral Health (OBH) is currently working to update its legacy medication prescription tracking system that is being used to track OBH's prescription medications. As part of OBH's need to meet federal requirements, OBH is looking for a solution that will (1) modernize OBH medication tracking and (2) support the expansion of OBH medication tracking so that additional prescribers could have access to the information. There is an opportunity for OBH medications to potentially be added to the PDMP. This would solve the modernization and expansion request. This would also support OBH in meeting federal medication reporting requirements and remove a gap that is currently present as not all prescribers can access OBH's central registry. OBH's current vendor is on hold as OBH re-evaluates prescription medication tracking. This request will likely require a policy review to determine what information would be needed for policy change to occur including increased emphasis on ensuring security controls preventing unauthorized disclosures.

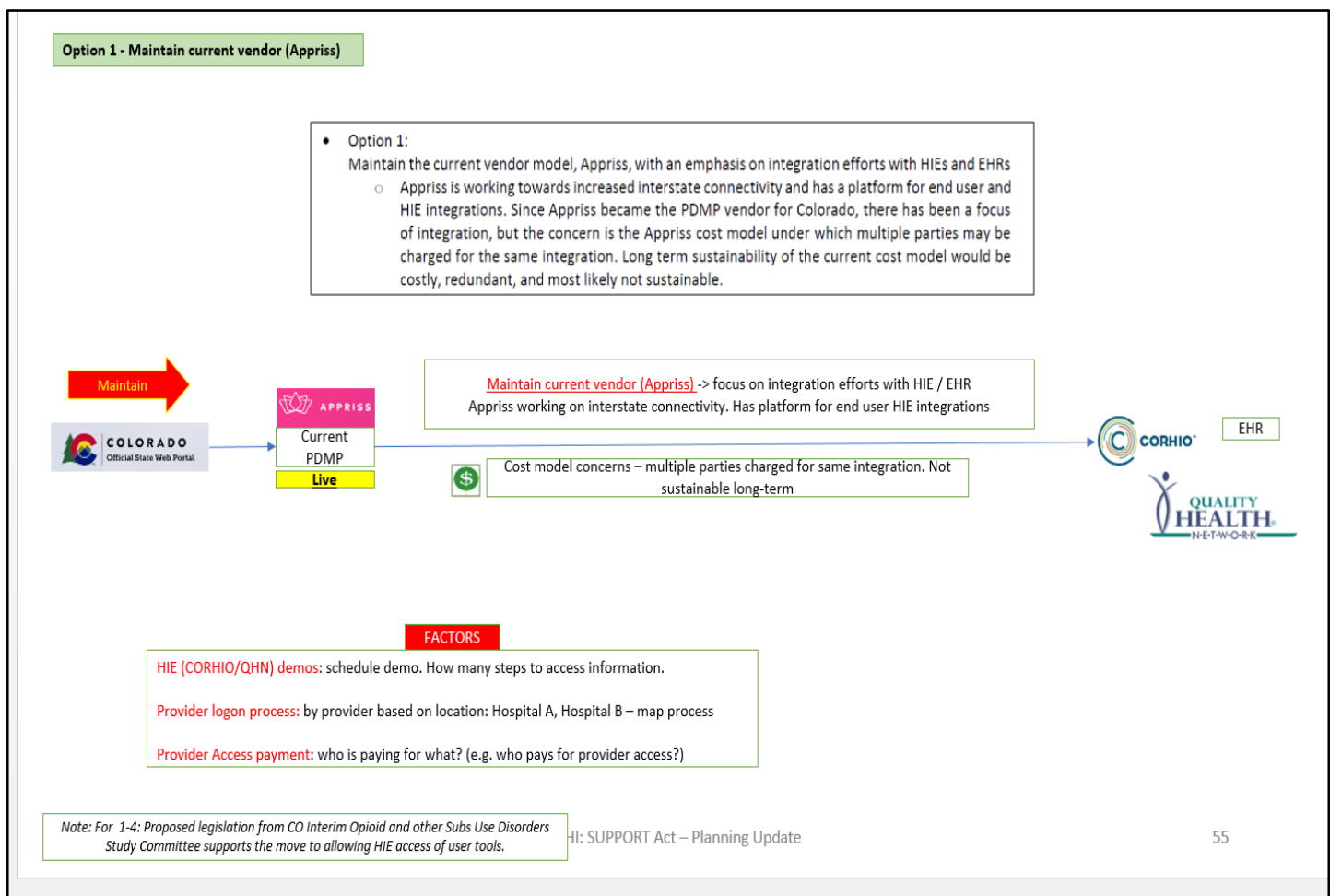
Appendix 4: Proposed Architecture Option Review

Part of the review of the PDMP ecosystem involved the Multi-State Agency PDMP Workgroup review of the existing structure and four options. This activity led to the creation of Option 5, which is a hybrid of Options 1-4. As the Multi-State Agency PDMP Workgroup work continues, Option 5 may continue to evolve.

The process of reviewing the options occurred during Multi-State Agency PDMP Workgroup sessions over several weeks and multiple iterations. The process began by creating a diagram based on the option's description. The diagram and the description were then presented to and reviewed with the workgroup. Through the review of each option select portions of each option were identified as key elements. In addition, the various parts of each option were reviewed in detail. The result was Option 5 representing an ideal structure that accounts for PDMP ecosystem factors including vendors, policy (which will continue to be reviewed), existing technology infrastructure, data sharing, and data analytics.

Option 1

Maintain the current vendor model, Appriss, with an emphasis on integration efforts with HIEs and EHRs but the concern is the Appriss cost model under which multiple parties may be charged for the same integration. Long term sustainability of the current cost model would be costly, redundant, and most likely not sustainable.

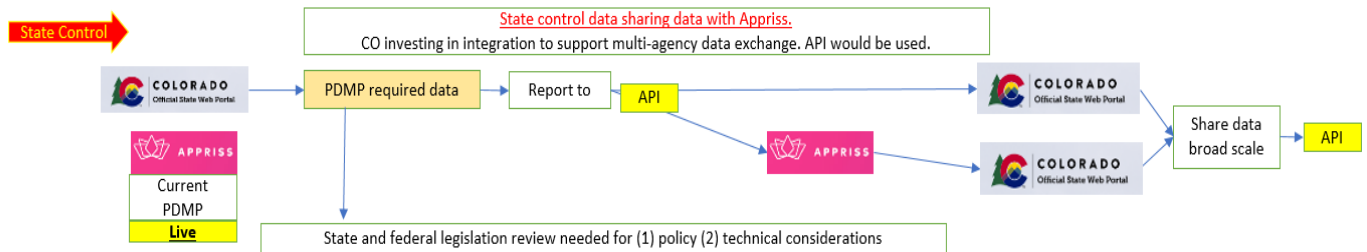


Option 2

Have data reported to both the State and current vendor Appriss through the use of State system integration resources. Data sharing would be supported via API technology.

Option 2 State control data sharing data with Appriss

- Option 2:
Have the State control the data sharing data with the current vendor Appriss
 - Colorado is investing in Systems Integration resources and technology to support multi-Agency exchange of data. API technology is an integral component. This possible option would have PDMP required data reported to both the State OR through Appriss shared with the State. Once the State has the data, there could be increased ability to share that data on a broader scale. A critical look at current state and federal legislation would inform both the policy and technical considerations.



FACTORS

Data: Can State receive data & have autonomy to share broadly?
e.g. FTP -> CDPHE -> minimal ability to share data

Access to Data: Appriss -> State (CDPHE DORA) -> State controls from here

Technical & policy: changes needed?

Additional data field / API: Appriss charge fee for additional data fields

Note: For 1-4: Proposed legislation from CO Interim Opioid and other Subs Use Disorders Study Committee supports the move to allowing HIE access of user tools. HI: SUPPORT Act – Planning Update

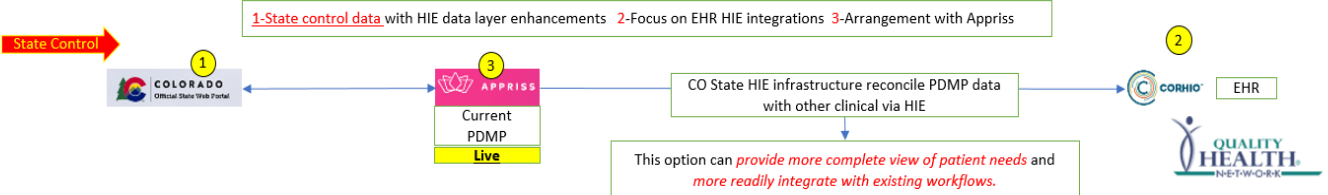
56

Option 3

Have the State control the data with HIE data layer enhancements, focus on EHR and HIE integrations, and an arrangement with the current vendor Appriss providing a more complete view of patient needs and more readily integrate with existing workflows.

Option 3: State control data 1-with HIE data layer enhancements 2-Focus on EHR HIE integrations 3-Arrangement with Appriss

- Option 3:
Have the State control the data with HIE data layer enhancements, focus on EHR and HIE integrations, and an arrangement with the current vendor Appriss
 - Based on visioning to date, Colorado's HIE infrastructure investments and the potential to reconcile PDMP data with other clinically relevant information available through the HIEs, this option can provide a more complete view of patient needs and more readily integrate with existing workflows.

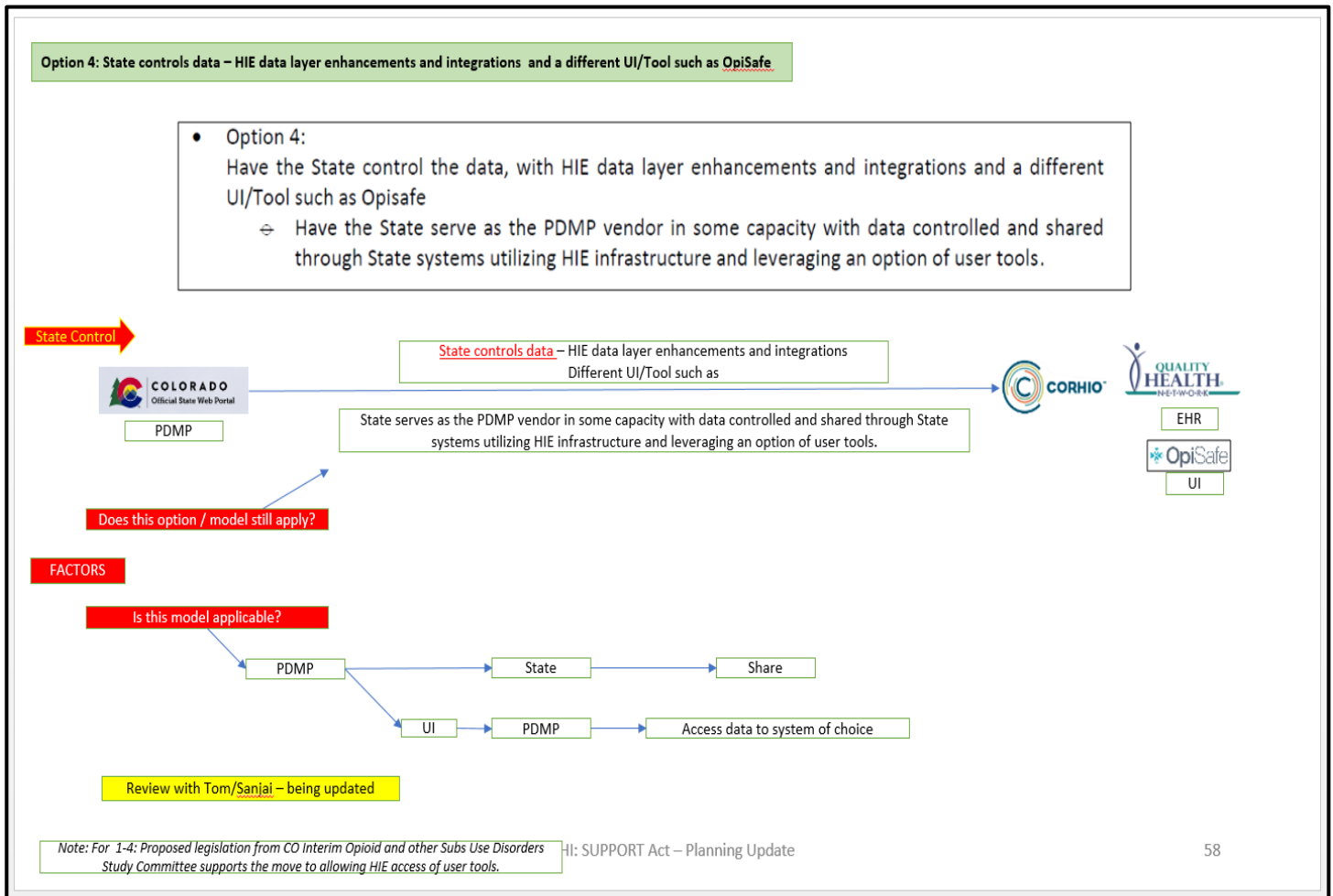


Note: For 1-4: Proposed legislation from CO Interim Opioid and other Subs Use Disorders Study Committee supports the move to allowing HIE access of user tools. H: SUPPORT Act – Planning Update

57

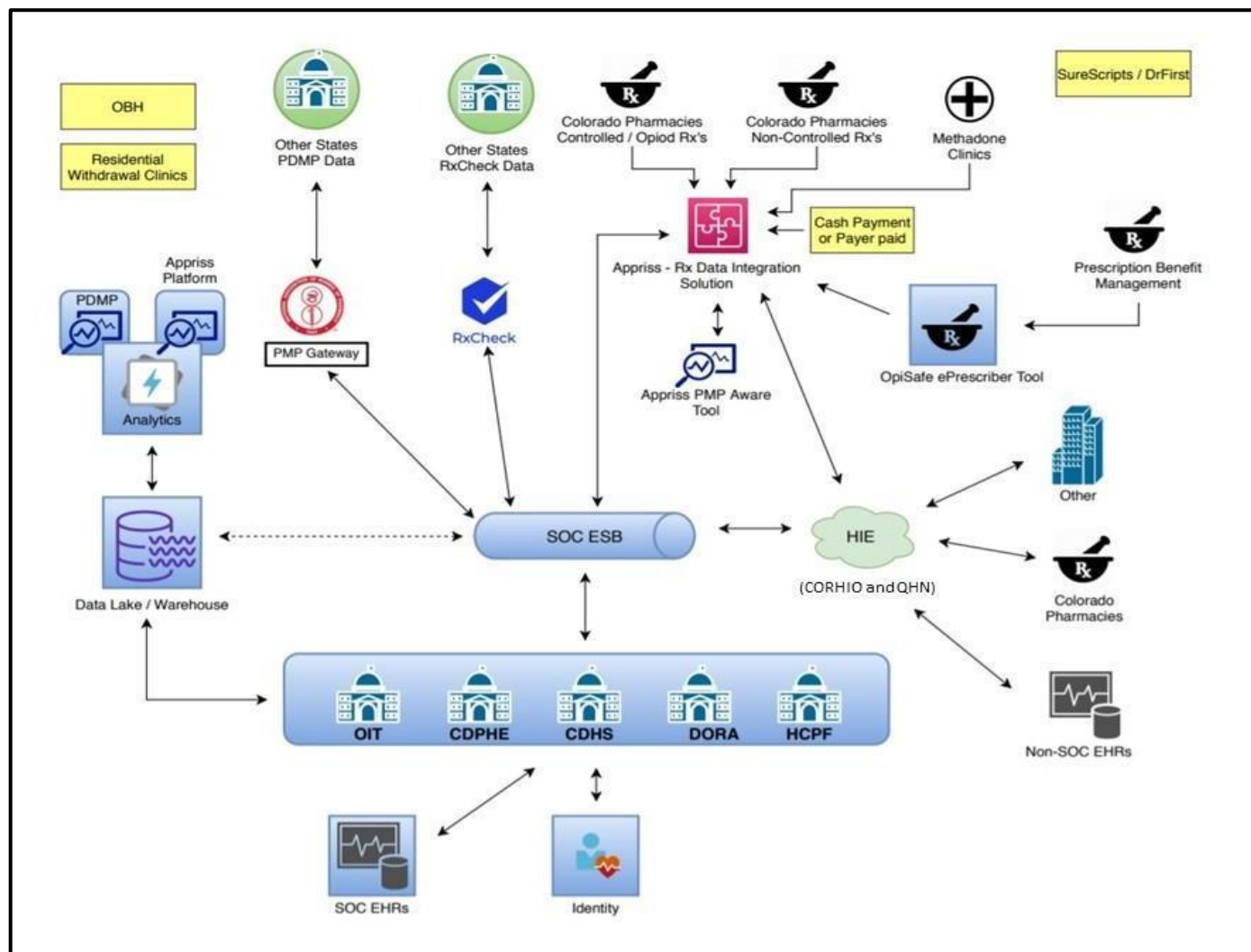
Option 4

Have the State serve as the PDMP vendor in some capacity with data controlled and shared through State systems utilizing HIE infrastructure and leveraging an option of user tools.

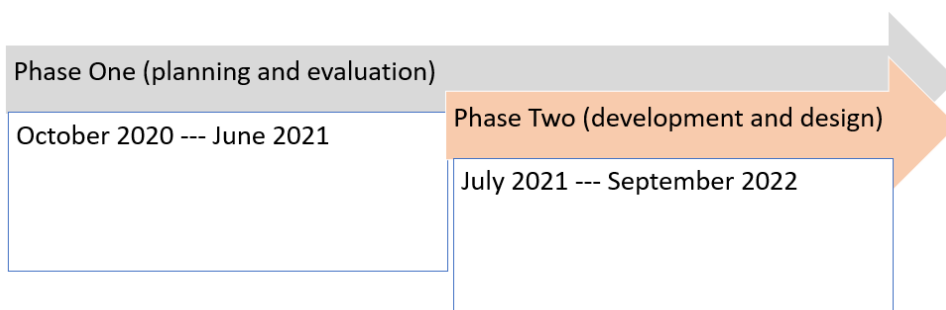


Option 5

This draft model reflects the initial results of the detailed review of Options 1-4. It is a hybrid model that incorporates portions of the existing PDMP ecosystem as well as new components including OIT's ESB and data lake, the addition of the Prescriber Tool, and inclusion of additional medication data sets. This model will continue to be reviewed and analyzed going forward.



Appendix 5: Tasks/Funding by Agency/Organization



Activities and timelines can be considered in Phase One immediate next steps (6 - 9 months) with these activities informing tasks and recommendations. Phase Two will support existing defined Phase Two activities as well as identify additional work needed. Actual implementation will be dependent on direction chosen including any support legislative and policy changes.

Phase One Immediate Next Steps: October through June 2021

Phase One: October 2020 - June 2021	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH
Continue Evaluation Efforts	Lead	X	X	X	X	X	X
Coordination With BHTF BluePrint and OBH Statutory Requirements	X						Lead
Determine Advancement of Recommendations	Lead						
Revisit Multi-State PDMP Workgroup Structure	Lead	X	X	X	X	X	X
Review Contract Options with the Current PDMP Vendor	X				Lead	X	
Identify Policy Changes Necessary to Support Advancing Recommendations	Lead		X		X		
Establish Governance	Lead						
Determine Immediate and Long-Term Funding Needs and Strategies	Lead		Lead		X		
Identify Additional Integration Strategies		Lead		Lead	Lead	X	
Assess Technology Enhancements	X	Lead		Lead			

Table 6: Timeline Activities by Lead Agency - Phase One

1. Continue with evaluation and planning efforts in developing an approach for implementation of approved recommendations. Additional planning is necessary to further inform the recommendations set forth and will require coordination with Colorado leadership, consensus building with involved Agencies, as well as have the responsibility to monitor and report on progress.
2. Review and cross-walk recommendations with Behavioral Health Task Force (BHTF) Blueprint and statutory requirements assigned to the Office of Behavioral Health (OBH). The recommendations set forth in BHTF's Blueprint are complementary to the recommendations contained herein and each can be leveraged in meeting State goals.

3. Determine which recommendation and next steps will be advanced in FY21. This will require coordination with stakeholders and Colorado leadership and will be dependent upon funding and legislative focus.
4. Revisit the role and charter of the Multi-State Agency PDMP Workgroup. This will include identifying the individuals that should be involved and clarifying the meeting purpose and schedule. Representatives from the Medicaid Prescriber Tool should be included if not yet added.
5. Review contract options with the current PDMP vendor. This will include creating a timeline, identifying proposed changes, and identification of any potential statutory changes needed.
6. Identify policy changes necessary to support advancing recommendations. An evaluation of the policies and legislative impacts must be considered in determining the what and how of what can be advanced in the future state.
7. Establish governance that will provide oversight and guidance for PDMP data use cases. For this item it is recommended that existing governance structures be utilized as much as possible. If the existing governance structure is not sufficiently expansive to include the PDMP ecosystem, additional governance processes and procedures may be needed.
8. Determine immediate and long-term funding needs and strategies. Key stakeholders will need to collaborate to identify funding that can be applied in the immediate future as well as long term funding.
9. Identify additional integration strategies with an emphasis on leveraging HIE investments. HIE, DORA, and other stakeholders (as needed) to continue HIE/PDMP integration. This is a significant opportunity as integrations have shown to reduce the number of prescriptions and allow for the potential use of alternative medications versus opioid.
10. Assess technology enhancements. Technology is rapidly evolving with a focus on Fast Healthcare Interoperability Resources (FHIR) which facilitates the sharing of information through API capabilities. Additionally, the concept of data lakes and leveraging central connections through Enterprise Service Bus (ESB) operations supports enhanced data availability at potentially lower costs.

Phase Two: July 2021 - September 2022

Phase Two: July 2021 - September 2022	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH
Review of Provider Survey Feedback	X	X	Lead	X	Lead	X	X
Inclusion of Additional Medication Sets	Lead	X	Lead	X	X	X	Lead
Identification of Funding Strategies	X	X	Lead		X	X	
Support Ongoing PDMP Operations	X	X	X	Lead	Lead	X	X
Support OBH Operations	Lead	X	X	X	X	X	Lead
Ensure Functional Governance Operations	Lead	X	X	X	X	X	X
Assess Regulatory Oversight of PDMP Operation	Lead	X	X		X	X	X
Implementation of Clinical Informatics Platform	Lead	Lead	X	X	X	X	X
Ongoing Policy Review	Lead		X		X	X	X

Table 7: Timeline Activities by Lead Agency - Phase Two

1. *Incorporation of HCPF Prescriber Survey results from HCPF Prescriber Tool prescriber survey project.* The provider/prescriber feedback received to date indicates an opportunity for the PDMP to be enhanced and/or modified to support the end users. As part of the HCPF/OpiSafe contract, a formal prescriber survey specific to the Prescriber Tool will be conducted. In addition to receiving Prescriber Tool feedback, the survey, in combination with communication and marketing plans, will be used to promote Provider Tool awareness, acceptance, and utilization.
2. *Continue to identify medication sets that support PDMP operations.* Strategies should be developed for either direct inclusion (legislative change) or system connections including Colorado's OIT and the State's Health Information Exchanges.
3. *Ongoing identification of funding options and strategies.* Collaboration with HCPF and other stakeholders will be ongoing as funding options and opportunities are reviewed.
4. *Continue PDMP/HIE integrations by DORA/DPO and HIEs.* CDPHE and DORA/DPO continue to collaborate with efforts to increase PDMP implementation within EHR. CDPHE has the grant money that is provided to DORA/DPO. DORA/DPO in turn can award clinicians/prescribers/practices with funding to support the PDMP implementation into the EHR. The opportunity for DORA/DPO to provide funding support to practices to make integration possible is significant. Previous PDMP implementation pilots by CDPHE and DORA/DPO have had favorable outcomes as noted by prescriber feedback. Such implementations support prescriber's clinical practice, can allow for better oversight of prescription medications, and potentially reduce the incidence of overprescribing.
5. *Create implementation strategies to support OBH operations including medication inclusion or connection to the PDMP.* OBH needs an effective technology solution that allows an increased number of approved individuals to have access to OBH information. This recommendation would also assist OBH with a 2020 compliance 42 CFR requirement governing substance abuse medications.
6. *Ensure that functional Governance structure is in place.* As the PDMP ecosystem expands it will be best practice to have formal governance in place and functional. Annual review of the governance process could be considered.
7. *Determination of authorizing agency that will oversee PDMP.* There have been several suggestions regarding which organization/entity should have PDMP oversight. This determination will be influenced by current policy/statutory factors.
8. *Implementation of a robust clinical informatics platform.* Feedback from multiple stakeholders has indicated that more robust data analytics are requested. This may be limited by policy and/or existing statutory rules.
9. *Continue policy reviews to ensure PDMP maximum positive impact while contemplating legislative factors.* Factors associated with the PDMP include medication that can be included, who has access, and what can be provided as an output. Policy factors will need to be reviewed throughout the process of expanding the scope of the PDMP.

To further support timelines, the following table visualizes the federal funding streams, as further discussed in Part II that can be accessed to support related activities.

	Organization (Lead = lead role X = involved)							Timelines: Funding and Tasks																											
	OeHI	OIT	HCPF	HIE	DORA	CDPHE	OBH	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	June 2021	July 2021	Aug 2021	Sept 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	June 2022	July 2022				
Timeframes																																			
6 months: 10/2020-3/2021										X	X	X	X	X	X																				
12 months: 4/2021-3/2022																X	X	X	X	X	X	X	X	X	X	X	X								
After 4/2022																																			
Appriss contract renewal / Bid document anticipated in 2021						X																							X	X	X	X			
Funding Sources																																			
SUPPORT Act Funds																																			
HITECH Funds - CMS funding				X						X	X	X	X	X	X	X	X	X	X	X	X														
HITECH Planning				X						X	X	X	X	X	X	X	X	X	X	X	X														
HITECH DDI				X						X	X	X	X	X	X	X	X	X	X	X	X														
HITECH funding allocation can change				X																															
MMIS Funds -> assigned to OpiSafe (Medicaid)				X						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
Determine how X activity(s) supports Medicaid operational activities	X		X																																

Table 8: Funding Opportunities, Owner, Timeframes

Appendix 6: Prescriber Access to PDMP Data

The figure below provides a summary of how a prescriber currently accesses PDMP data.

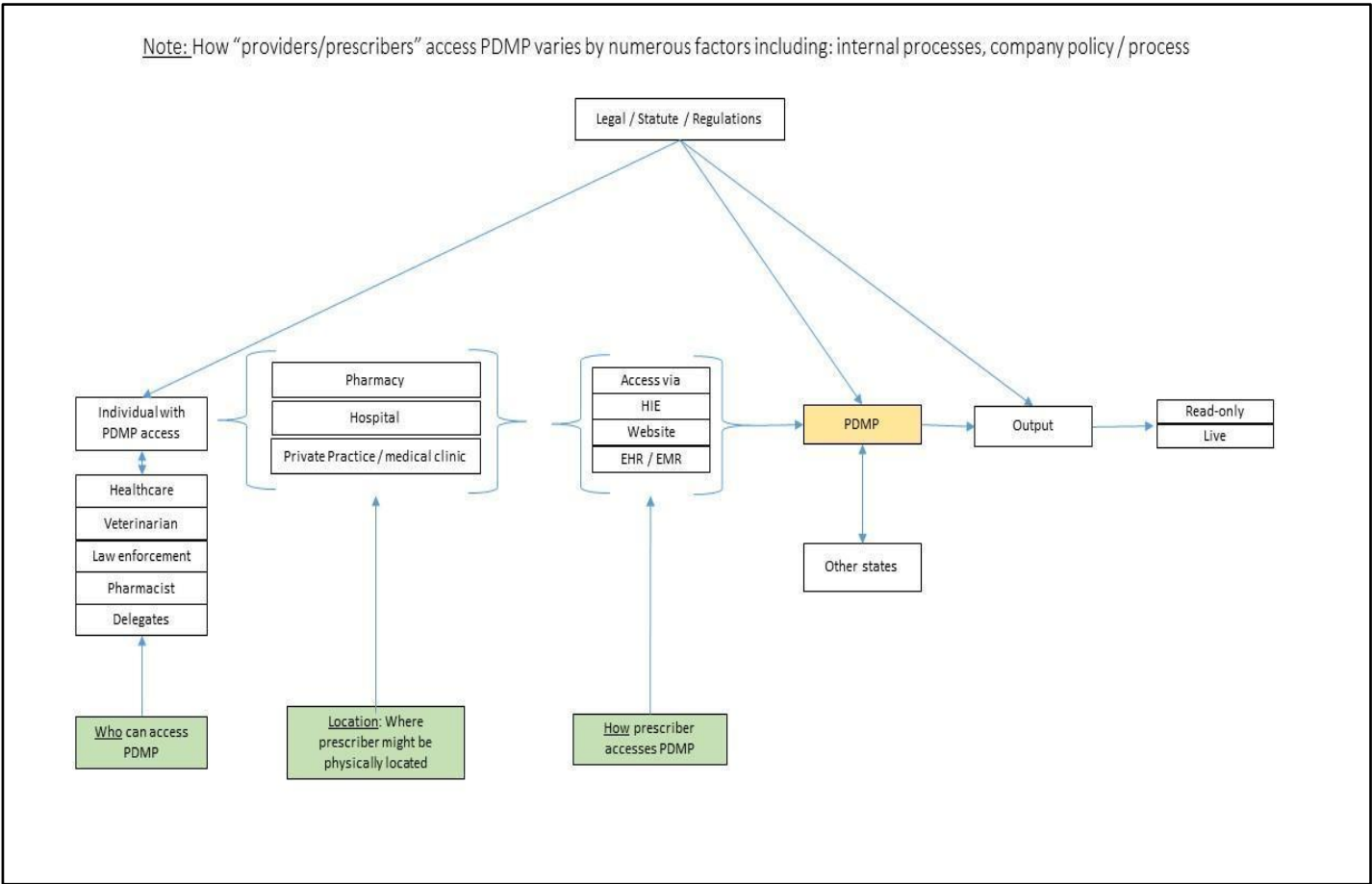


Figure 8: Schematic of Prescriber Access to PDMP Data

Appendix 7: National Governors Association Recommendations

The table below presents a summary of the recommendations from The National Governors Association July 2020 report “*State Strategies to Improve the Use of Prescription Drug Monitoring Programs to Address Opioid and other Substance Use Disorders*” that align with this report.

<p>Summary of: National Governors Association July 2020 report <i>“State Strategies to Improve the Use of Prescription Drug Monitoring Programs to Address Opioid and other Substance Use Disorders”</i></p> <p>The Following Recommendations Align With The Recommendations in This Report</p>
Produce PDMP data analyses that support clinical decision-making by health care providers
Expand types of substances and overdose information tracked through the PDMP to identify potential overdoses or misuse of potentially addictive substances or dangerous drug combinations
Permit staff of prescribers and dispensers and providers who have no prescribing authority to access PDMP data to facilitate clinical decision support and care coordination across health care providers
Support use of PDMP data by public health authorities to identify hotspots, trends, and improve understanding of drug-related overdoses
Streamline provider access to PDMP data within health information technology platforms, such as electronic health records (EHR) systems and health information exchanges (HIEs) to facilitate providers’ efficient review of patient information from various sources
Increase use of PDMP data for cross-system data analyses to find patterns of behavior and identify factors that might contribute towards inappropriate prescription drug use, addiction, and overdose
Promote interstate data sharing for an improved picture of residents’ controlled substance prescription histories to identify potential doctor shopping and create opportunities for greater care coordination across state lines
Identify financial strategies to keep PDMPs sustainable and relevant with timely, accurate, comprehensive, and technologically actionable in-formation as drug trends change over time

Table 9: National Governors Association Recommendations

Appendix 8: Interstate Data Sharing

Interstate data sharing is recommended by the Centers for Medicare & Medicaid Services. In the June 2018 State Medicaid Director letter (SMD # 18-006) it is noted that *"emphasizing the importance of enhancing prescription drug monitoring programs (PDMPs) to help improve appropriate and safer prescribing of prescription opioid medications, and integrating connections to PDMP data into EHRs to limit provider burden and improve interstate Health Information Exchange (HIE)".*⁴⁴ Colorado has an established PDMP interstate data sharing process outlined below.

PMP InterConnect is the component of Appriss for interstate data sharing capabilities. It was created by the National Association of Boards of Pharmacy (NABP) and Appriss after states experienced roadblocks implementing PDMP data sharing solutions. It is operated through a framework that allows participating states to enter a single memorandum of understanding (MOU) with NABP versus developing separate contractual agreements with each participating PDMP. A Steering Committee, composed of representatives of state PDMPs participating in the system, oversees PMP InterConnect. As an additional incentive, NABP pays the fees associated with the development and implementation of PMP InterConnect. Today, those states using PMP InterConnect as their data hub can connect via API and are connected to other PMP InterConnect states.

The second data hub is RxCheck, created by the Bureau of Justice Assistance at the U.S. Department of Justice. Historically, RxCheck was used primarily by states that were not participating in the PMP InterConnect Hub. In 2018, the CDC Overdose Data to Action (OD2A) grant required states that were receiving OD2A funds to connect to RxCheck. Colorado implemented RxCheck in September 2019. As a platform, RxCheck continues to work on enhancements for additional functionality. A key component that could support future model functionality is RxCheck's successful creation of an Application Programming Interface (API). An API allows for simplified technology implementations versus traditional implementations that tend to involve additional resources and longer timeframes for completion. This will support RxCheck's overall program functionality and robustness compared to other interstate data hub vendor offerings. RxCheck is also working to enhance overall audit capabilities to determine (1) what was requested by the requesting entity and (2) what was provided to the requesting entity. Audit log functionality is expected early 2021 and from Colorado's perspective is important in looking at expansion of RxCheck within the State. DORA/DPO has noted that under the interstate data sharing policies governing PMP InterConnect and RxCheck, states engage in PDMP data sharing with other states for roles that are consistent in both states' statutes. For example, a challenge for interstate interoperability is that some states do not require practitioners to have a Drug Enforcement Agency (DEA) license to prescribe controlled substances to access their PDMP. This can limit individual access as well as which state can share data externally to other states. Policy factors will need to be reviewed throughout the process of expanding the expanding the scope of the PDMP.

The ability for Colorado to share PDMP data within and outside of the State is a key item in the future vision of the PDMP ecosystem. It aligns with the SUD Health Information Technology (IT) Plan and the

⁴⁴ <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18006.pdf>

Department of Health and Human Services Centers for Medicare & Medicaid Services SMD # 18-006 “RE: Leveraging Medicaid Technology to Address the Opioid Crisis” recommendations:

“The registry must consolidate related records from multiple sources (e.g., intrastate, interstate, or federal agencies) into one comprehensive data store, which may or may not reside within the state’s Medicaid information system.”

Colorado Interstate Data Sharing

The Colorado PDMP shares PDMP data with other states through both the NABP PMP InterConnect and the RxCheck data sharing hubs. This aligns with the SUPPORT Act efforts to promote “PDMP improvements regarding use, data reporting, and intrastate and interstate interoperability”.⁴⁵ These hubs were developed to facilitate data sharing between state PDMPs by allowing practitioners, pharmacists, and delegates to access patient prescription data housed in other state PDMPs by leveraging role-based access, allowing states to configure data sharing for roles consistent with each state’s statutes. PMP InterConnect offers interstate data sharing through both the PMP AWARe web portal and the PMP Gateway API, which offers integrated single sign-on PDMP access through other health information systems including EHRs, HIEs, and electronic prescribing tools. RxCheck offers interstate data sharing for the PMP AWARe web portal and for integrated connections that connect to PDMPs through RxCheck, which is currently offered in a limited number of states. Both hubs are operated through a framework allowing participating states to enter into a single memorandum of understanding (MOU) with the respective data sharing hub, rather than developing separate contractual agreements with each participating PDMP.

PMP InterConnect became operational in August 2011, and Colorado joined PMP InterConnect in November 2012. As noted by DORA/DPO, there are multiple members of PMP InterConnect, including several states, along with the District of Columbia, St Louis County, Puerto Rico, and the Department of Defense’s Military Health System. Colorado is currently engaged in bidirectional data sharing with multiple other PDMPs through PMP InterConnect.

The RxCheck PDMP data sharing hub was developed in 2011 with support from the Bureau of Justice Assistance at the U.S. Department of Justice. This hub has historically been used by states not participating in the NABP PMP InterConnect hub, but the 2018 CDC Overdose Data to Action (OD2A) grant required any states receiving OD2A funds to connect their PDMPs to the RxCheck data sharing hub with the minimum requirement of responding to interstate PDMP data requests from states that designate RxCheck as their preferred data sharing hub. Colorado implemented data sharing through RxCheck in September 2019 and is currently engaged in bi-directional data sharing with Kentucky, Utah, Nebraska and Washington. Colorado also shares data with Utah and Washington through PMP InterConnect, but since both of these

⁴⁵ <https://www.congress.gov/bill/115th-congress/house-bill/6>

states have identified RxCheck as a potential integration hub, Colorado has opted to share data with these states through RxCheck as well.

Protocol for Data Sharing through PMP InterConnect

When seeking to establish interstate data sharing through PMP InterConnect, the respective state administrators perform initial discussions to determine each state's requirements for interstate data sharing. Though most participating states can implement interstate data sharing under the PMP InterConnect MOU, some states such as Oregon have statutory requirements for bilateral MOUs between two states to engage in interstate data sharing. If a bilateral MOU is required to initiate data sharing, both states must sign on to the bilateral MOU to initiate interstate data sharing in addition to the process described below.

If no additional MOU is required, states share information such as statutes, regulations, and policies governing the program, legal barriers or “hot button” issues that require discussion, user authentication processes, end user license agreements, and user disclaimers concerning access and use of the program, dispenser data reporting requirements, system security features, record retention policies, and authorized roles used by the program. After reviewing these items, the respective state administrators hold a meeting via phone to discuss any questions, concerns or discrepancies between each state's statutes, regulations, or policies concerning PDMP access. Based on these discussions, state administrators enable the roles through the PMP InterConnect administrator console for users in the other state which are consistent with the home state's statutes.

Protocol for Data Sharing through RxCheck

With the CDC requiring all states receiving Overdose Data to Action grants to connect their PDMPs to RxCheck with a minimum requirement of responding to interstate PDMP data requests from states that use RxCheck as their preferred data sharing hub, there has been considerable expansion in the number of states connected to RxCheck. Many states are currently only implementing interstate data sharing through RxCheck with states that designate RxCheck as their preferred interstate data sharing hub. Kentucky, Utah, and Nebraska have identified RxCheck as their preferred hub and are using RxCheck to integrate their PDMPs with some in-state healthcare systems, and Colorado has implemented bidirectional data sharing with these three states.

The protocol for establishing interstate data sharing through RxCheck follows the same process as PMP InterConnect data sharing with preliminary discussions and sharing a document outlining roles, how those roles are defined, requirements for PDMP access, and other considerations such as whether a DEA license is required for prescribers and the circumstances under which a state allows each role to access PDMP data for a patient. After reviewing these documents, administrators hold a phone meeting to discuss any pertinent issues and enable the roles for the other state that are consistent with the home state's statutory allowances for PDMP access.

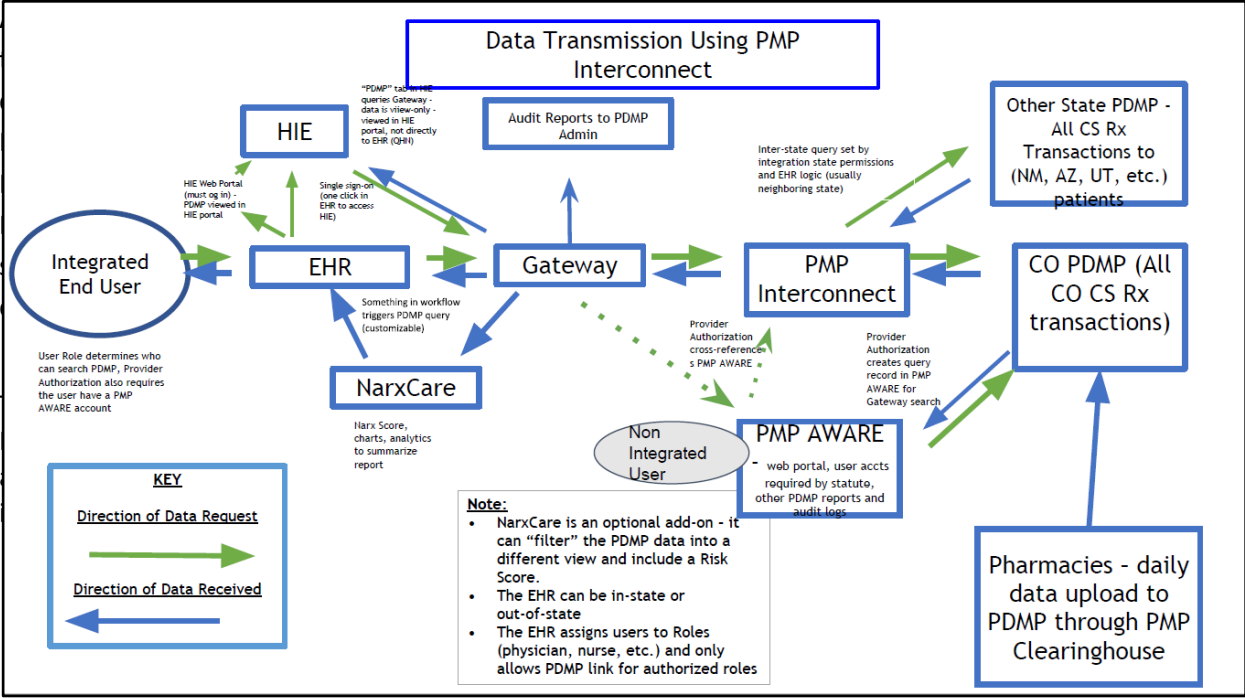


Figure 9: Data Transmission Using RxCheck

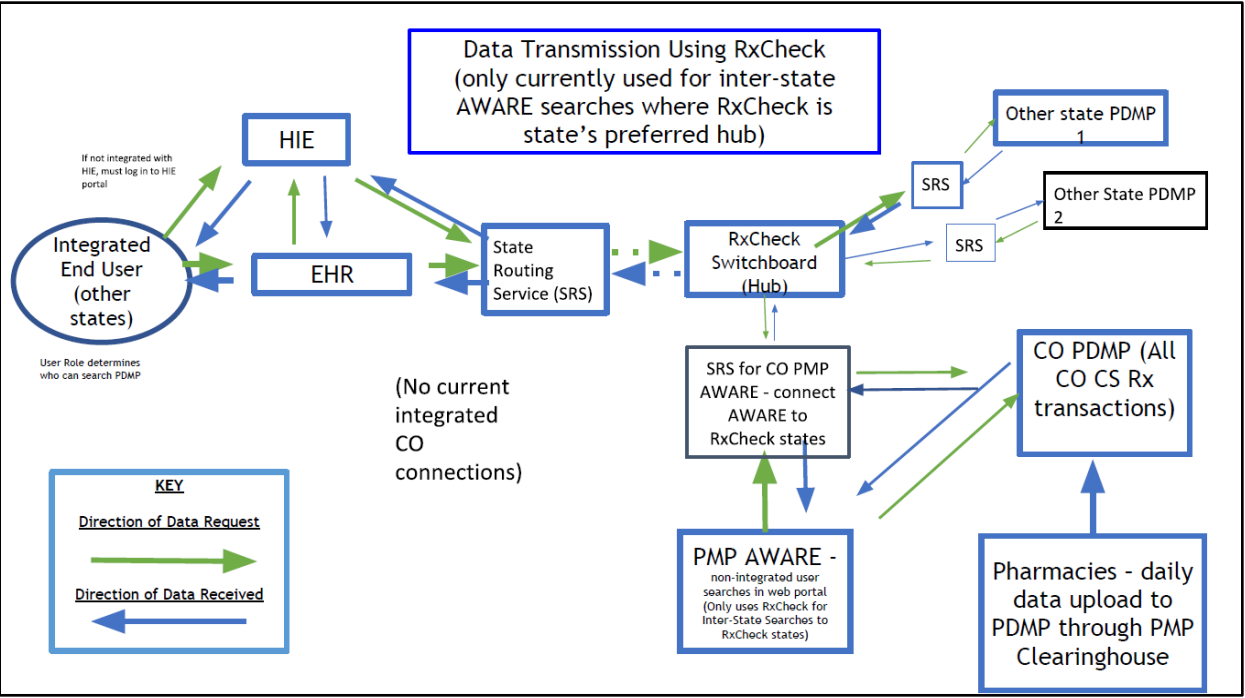


Figure 10: Data Transmission Using PMP Interconnect

PDMP Hub Nationally

This map illustrates, by state, interstate data sharing functionality by vendor.



Figure 11: PDMP Status July 2020 (Map created by OeHI using data provided by DORA/DPO).

The following Appriss InterConnect states do not share their PDMP data with Colorado. Reasons for this may include contractual terms, state policy limitations, or other requirements limiting data-sharing.

PMP Interconnect States Not Sharing Data With Colorado	
Alaska	New Hampshire
District of Columbia	New Jersey
Georgia	New York
Guam	Oregon
Hawaii	Pennsylvania
Kentucky	Rhode Island
Louisiana	Tennessee
Mississippi	Vermont
Missouri	West Virginia

Table 10: PMP InterConnect States Not Sharing Data with Colorado (Source: DORA/DPO)

Appendix 9: Policy Insights

Experts in PDMP ecosystem policy review have provided additional policy factors that will require consideration. The following will need to be reviewed in greater detail as there are federal policies that Colorado will have to align with. It is recommended that a policy analyst review Colorado specific legislation/policy in detail to capture additional insights.

- **DEA EPCS rule**
 - Rules - 2020:Drug Scheduling Actions:
https://www.deadiversion.usdoj.gov/fed_regs/rules/2020/
- **SUPPORT Act**
 - Section 1005(a) requires states to share best practices on developing interventions to address Neonatal Abstinence Syndrome. Section 1005(a)(4) specifically charges HHS to provide guidance to states on technical approaches to developing coding and standards guidance for screening, prevention and post discharge services.
 - Section 1001 requires State Medicaid agencies to change their policies and associated systems to maintain Medicaid eligibility for juveniles who are inmates of public institutions in some instances.
 - Section 1002 requires State Medicaid agencies to update Medicaid eligibility policies and associated systems for former foster children
 - Section 1004 required system changes to add drug utilization review edits to state systems.
 - Section 1006 requires payment and reporting changes for Medical homes for substance use disorders
 - Section 1012 requires adjustment to reimbursement and eligibility systems for pregnant women in institutions for mental diseases
 - Section 1016 requires improved data sharing of Prescription Drug Monitoring data between states which should be aligned with best practices around patient matching for patient safety and support the testing of such data sharing
 - Throughout the SUPPORT Act, states are asked to be compliant with Jessie’s Law in Section 7051, regarding age-appropriate consent for data sharing
 - Section 5042 requires states to establish a **mandate for Medicaid providers** to query qualified prescription drug monitoring programs. This also requires specific Medicaid reporting requirements by 2023
- **Substance Abuse and Mental Health Service Administration (SAMHSA) final rule on the regulation 42 CFR Part 2**
 - Allows opioid treatment programs to put patient information into prescription drug monitoring programs (PDMPs).
- **Disclosures to Central Registries and PDMP**
 - What Changed: Non-OTP (opioid treatment program) and non-central registry treating providers are now eligible to query a central registry, in order to determine whether their patients are already receiving opioid treatment through a member program.
 - Why Was This Changed: OTPs are permitted to enroll in a state prescription drug monitoring program (PDMP), and permitted to report data into the PDMP when prescribing or dispensing medications on Schedules II to V, consistent with applicable state

law. To prevent duplicative enrollments in SUD care, duplicative prescriptions for SUD treatment, and adverse drug events related to SUD treatment.

Colorado policy items provided by DORA/DPO:

- Pharmacy Rule 23.00.30 requires pharmacies to report controlled substance prescriptions after the dispensing transaction is complete no later than one business day
- Patient level information is routinely available only to the prescriber or delegate and population level data is provided to Colorado's Department of Public Health and Environment (CDPHE) for the purpose of creating Opioid data profiles
- Senate Bill 17-146 allows prescribers and pharmacists to check the PDMP for reasons apart from controlled substance prescription considerations, including drug-drug interactions, dangerous side effects, and possible abuse or diversion issues. State law allows:
 - Prescribers to query the PDMP to the extent the query relates to a current patient of the prescriber
 - Pharmacists to query the PDMP when considering dispensing any prescription drug to a specific patient
 - Veterinarians to query the PDMP when they suspect a client (person responsible for the animal) is diverting the patient's (animal) controlled substance(s) or when they suspect a client is purposely abusing the animal to obtain a controlled substance
- Senate Bill 18-022 states that a prescriber shall not prescribe more than a seven-day supply of an opioid to a patient who has not had an opioid prescription in the last 12 months by that prescriber, with exceptions for chronic pain, cancer pain, post-surgical pain, or transfer of care from another prescriber who had prescribed an opioid to the patient.
 - The law also restricts a second fill to a seven-day limit with a requirement that prescribers query the PDMP prior to prescribing a second seven-day fill
- Senate Bill 19-228 expands PDMP access to Colorado medical examiners and elected coroners for patients whose death occurred under unusual, suspicious, or unnatural circumstances and are the subject of an autopsy
- Senate Bill 19-079, will require electronic prescribing of Schedule II, III, or IV controlled substances by July 1, 2021 (with certain exceptions, and a delayed requirement for Dentists)

Appendix 10: Data Governance

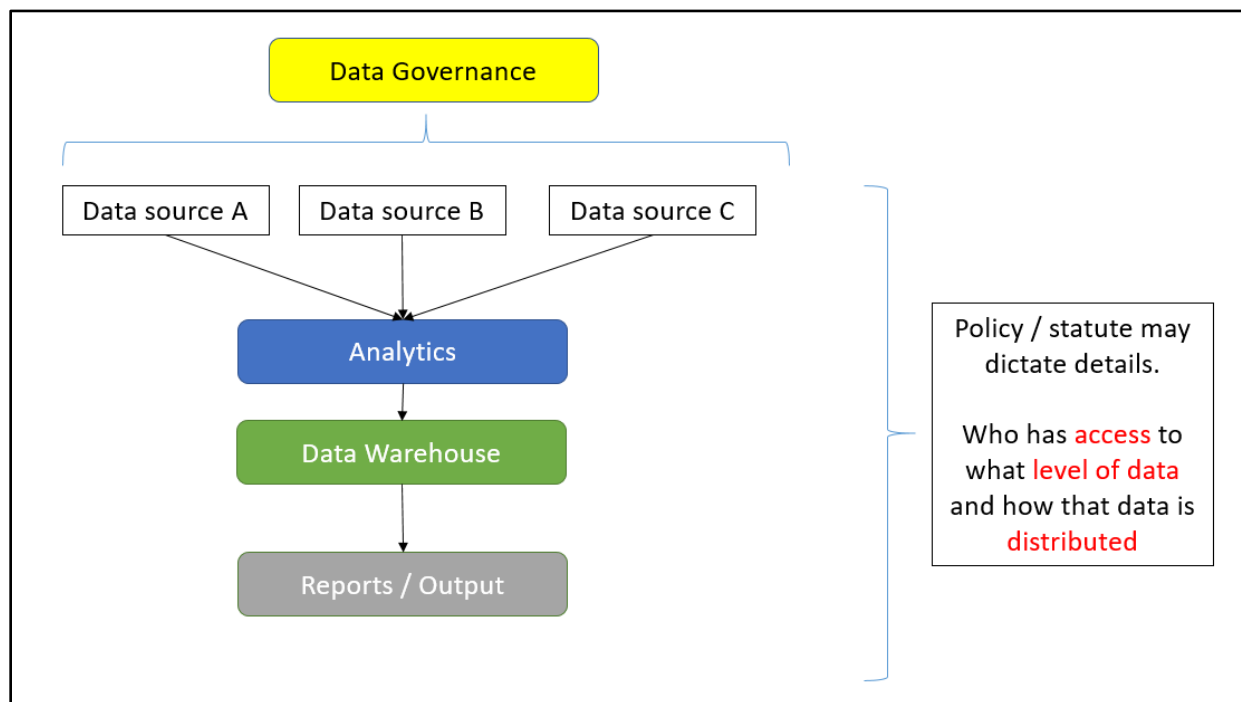


Figure 12: Data Governance Schematic

When creating the data governance committee, the State will need to consider a variety of details, including:

- How would non-state entities, such as a hospital or technology vendor, access and/or participate in the data governance committee?
- Once approved to participate, what is the “*approval*” duration?
- What is the removal process?
- Confidentiality and conflict of interest statement
- Committee member composition/representation. Examples include a certain number of State employees, individuals from private sector (nonprofit and for profit), legislative representation
- Formal voting process including a process that resolves tie-vote scenarios

References

- Colorado Electronic Prescription Drug Monitoring program 2018-2019 Task Force Report July 1, 2019
- Colorado Electronic Prescription Drug Monitoring program 2019-2020 Task Force Report July 1, 2020
- CORHIO Prescription Drug Monitoring Query Function Sustainability Plan, April 1, 2019
- 2010 Sunset Review: Electronic Prescription Drug Monitoring Program and the Prescription Controlled Substance Abuse Monitoring Committee, submitted October 15, 2010 by the Office of Policy, Research and Regulatory Reform within DORA/DPO
- DORA/DPO: Deliverable 11: Report of PDMP Interstate Interoperability Barriers Experienced by Colorado Healthcare Entities April 30, 2020
- Usability of the Massachusetts Prescription Drug Monitoring Program in the Emergency Department: A Mixed-methods Study 2016 by the Society for Academic Emergency Medicine
- The Office of the National Coordinator for Health Information Technology (ONC) PDMP FHIR® Implementation Guide and Pilots Overview Project Briefing February 20th, 2019. Source: https://www.pdmpassist.org/pdf/TTAC_webinar_PDMP_FHIR_Pilot_Overview_20190220.pdf
- Integration of the Colorado Prescription Drug Monitoring Program into Prescriber Workflow: Evaluation Report for the Centers for Disease Control and Prevention Grant #1U17CE002719-01, Project Period: 03/01/2016 – 08/31/2019 Funding Opportunity CE15-1501, entitled Prescription Drug Overdose Prevention for States. Colorado Department of Health Care Policy & Financing. HCPF Invitation to Negotiate Solicitation # RFP UHAA 2019000314 Electronic Prescriber Tool.
- Colorado SUPPORT Act PDMP Research, report submitted May 21, 2020 to the Colorado Office of eHealth Innovation. Prepared by: HealthTech Solutions, LLC
- SUPPORT Act Advance Planning Document (APD) version 2, submitted December 6, 2019 by HCPF reflecting all final revisions based on CMS comments on version 1
- Colorado Consortium for Prescription Drug Abuse Prevention Annual Reports
- OpiSafe Prescriber Tool Contract
- Appriss Contract
- CORHIO Policy SOW-SUPPORT Act dollars
- CORHIO Medication History Integration Environmental Scan
- CORHIO Medications History Integration Sustainability Assessment
- CORHIO Medication History Recommendations Report
- Colorado Department Health Care Policy & Financing HCPF Invitation to Negotiate Solicitation # RFP UHAA 2019000314 Electronic Prescriber Tool
- Attachment A - Template for SUD Health Information Technology (IT) Plan
- Colorado's Health IT Roadmap December 2019. https://www.colorado.gov/pacific/sites/default/files/atoms/files/Colorado%20Health%20IT%20Roadmap-19_Web%20%281%29.pdf
- 2016 Prescription Drug Monitoring Program Task Force Report
- 2017 Prescription Drug Monitoring Program Task Force Report
- 2018 Prescription Drug Monitoring Program Task Force Report
- 2020 Prescription Drug Monitoring Program Task Force Report

- Department of Health and Human Services Centers for Medicare & Medicaid Services SMD # 18-006 RE: Leveraging Medicaid Technology to Address the Opioid Crisis
<https://www.drugabuse.gov/drug-topics/opioids/opioid-overdose-crisis>
- <https://www.colorado.gov/pacific/cdhs/opioid-crisis-colorado-office-behavioral-healths-role-research-and-resources>
- Colorado receives \$41.6 million over two years to address opioid crisis.
<https://www.colorado.gov/pacific/cdhs/news/colorado-receives-416-million-over-two-years-address-opioid-crisis>
- National Governors Association Center: State Strategies to Improve the Use of Prescription Drug Monitoring Programs to Address Opioid and other Substance Use Disorders
https://www.nga.org/wp-content/uploads/2020/07/NGA_PDMP_Toolkit-July-2020.pdf
- Public Law No: 115-271 (10/24/2018). Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act or the SUPPORT for Patients and Communities Act H.R.6 - SUPPORT for Patients and Communities Act.
<https://www.congress.gov/bill/115th-congress/house-bill/6>
- U.S. Department of Health & Human Services, Fact Sheet: SAMHSA 42 CFR Part 2 Revised Rule.
<https://www.hhs.gov/about/news/2020/07/13/fact-sheet-samhsa-42-cfr-part-2-revised-rule.html>
- Department of Justice, Drug Enforcement Administration, 21 CFR Parts 1300, 1304, 1306, and 1311, Electronic Prescriptions for Controlled Substances
https://www.deadiversion.usdoj.gov/fed_regs/rules/2020/
- H.R.6 - SUPPORT for Patients and Communities Act. H.R.6 - SUPPORT for Patients and Communities Act. Public Law No: 115-271 (10/24/2018). Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act or the SUPPORT for Patients and Communities Act. <https://www.congress.gov/bill/115th-congress/house-bill/6>
- Behavioral Health In Colorado: Putting People First. A Blueprint for Reform. Colorado Behavioral Health Task force.
<https://drive.google.com/file/d/1WVIG3IHPM8OUgVFgLuqWFn8waqgUseZ/view>