COLORADO
Governor's Office of
Information Technology

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2020 ANNUAL REPORT

Government Data Advisory Board

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March 10, 2021

Dear Chief Information Officer Anthony Neal-Graves,

It is my pleasure to deliver the 2020 Government Date Advisory Board (GDAB) Annual Report in accordance with C.R. S. §24-37.5-701 et seq.

This report reflects ongoing work by the GDAB to improve data governance and interagency data sharing and promote a state data strategy. It has relied on significant contributions by GDAB members and has continued activities that will expedite data sharing while enhancing data privacy and security.

This past year presented two unique challenges and opportunities for the Board. The COVID-19 emergency highlighted the importance and critical need for interagency data sharing to deliver urgently needed state services, and our recommendations were, in part, informed by the pandemic. Additionally, the departure of the Chief Data Officer allowed GDAB to take a fresh look at the key characteristics needed to continue to move our important work forward.

Ultimately, it should be recognized that the GDAB success was due to its members who continued to work collaboratively to create momentum within the data space, emphasizing the importance of interagency coordination within the State of Colorado. I look forward to any comments you may have about this work or report.

Best regards,

Alex Pettit
Chief Technology Officer

2020 GDAB Report

INTRODUCTION

The Governor's Data Advisory Board (GDAB) was established in 2009 to support the development and implementation of policies and initiatives to facilitate the sharing of state data while continuing to preserve the privacy of Coloradans. The output of this workgroup is to advise the Governor and the Colorado General Assembly on data initiatives that will improve the State's ability to deliver critical services, invest intelligently, and to reduce inefficiencies through data analytics and data sharing. Since 2009, the GDAB has provided annual guidance in a report detailing accomplishments and recommendations to further the State's data initiatives.

The Chief Data Officer within the Governor's Office of Information Technology (OIT) is tasked with overseeing the GDAB. When the position became vacant at the end of 2020, OIT involved the GDAB in identifying key qualities and characteristics needed for this role. This highlighted the numerous data initiatives happening throughout the state, which include:

1. Governor Initiatives: Governor Polis has initiatives on data privacy, data sharing standardization, and Equity, Diversity & Inclusion (EDI) data collection
2. Interoperability Program (formerly called Joint Agency Interoperability): Making the right data available, at the right time, to help provide services in a timely manner to individuals in crisis.
3. Legislative Directives: Some agencies have legislative mandates around data. For example, SB20-037 directs the Colorado State Patrol to develop a strategic plan to implement a platform for the secure exchange of information amongst certain entities and systems.
4. Agency Clarification: Agencies have been consulting with their respective Attorney General representatives on data sharing and privacy legal concerns due to increased requests for interagency data sharing.

Additionally, OIT is working with the Joint Technology Committee on a statute clean up effort that includes clarification of GDAB roles and responsibilities among other initiatives.

RECOMMENDATIONS

The COVID-19 emergency declaration highlighted the critical need for agencies to be able to share and analyze data to help mobilize resources to fight the pandemic. From the various 2020 activities, the GDAB has identified recommendations to improve and strengthen the State's data sharing objectives.

● Hire and re-establish the Chief Data Officer position. Evolve GDAB activities to reflect leadership and further the vision for 2021.

- Support the proposed legislation that modifies OIT statute and that includes changes to Interoperability Data Protocol in C.R.S. §24-37.5-701 et seq.
- Consider authorization of data sharing from the legislative or executive level in order to establish data sharing as a directive rather than simple permissions.
- Identify and promote innovative technologies that foster data sharing, data governance, and privacy across the state domain. Examples include, but are not limited to, blockchain, data warehouse technology, artificial intelligence, and machine learning.
- GDAB should coordinate the work required to meet the mandate in [Senate Bill 20-037](#) to establish a trusted interoperability platform.
  - OIT will be responsible for creating a model framework for access to data, interoperability of data across agencies, and prioritize enterprise data governance and protection across agencies.
  - GDAB will be given greater responsibility in developing standard lexicon, collecting feedback from agencies that inform policies, creating standard templates, best practices, and finding solutions to barriers.
  - Coordinate with the Governor's Operations team who desire to provide consistent state services and support Equity, Diversity, and Inclusion in delivering those services. GDAB will support the collection of demographic data to provide services to all groups in a consistent manner, regardless of gender, race, sexuality, creed or nationality.
- Coordinate and partner with the Governor's Office and state agencies to identify in-person services and processes that could be automated and thereby enable individuals to virtually interface and receive government services rather than visiting a government office. The outcome is to automate processes, deliver services more quickly, reducing overall transaction time, costs and overhead, and saving time both for the Coloradan and the state worker.
  - GDAB should begin promoting the secure process of establishing a single identity across applications for Coloradans while maintaining privacy. This "collect once, use many" approach creates efficiencies including reducing overall transaction time for both state government and Coloradans,
  - As an initial step, each state agency should identify all of the systems where they collect an individual's information, for example, name and address, and determine processes to reconcile the information for matching across systems.
  - Once this information is gathered, each new application or other initiative that requires commonly used fields (e.g., name, address, etc.) reuse existing databases where technically possible. This will further eliminate the propagation of multiple sources for the same information.
    - Identify opportunities to reconcile an individual's identity across various agencies either through the individual's self-service transaction or programmatically across the enterprise.

HIGHLIGHTS

Even as the State of Colorado has been focused on the COVID-19 pandemic, agencies were able to make achievements with data sharing and data governance through multiple initiatives during calendar year 2020.

- **Colorado Department of Transportation (CDOT)** established the Enterprise Data Management Advisory Committee, which shows promise of being an effective, lasting data governance committee for CDOT.
- **Colorado Department of Human Services (CDHS)** hired a Data Governance Manager to lead the Interoperability Program (formerly JAI) workgroup and established a program data governance roadmap and data change management plan. See Appendix A for additional highlights.
- **Colorado Department of Education (CDE)** applied for and received a grant from the U.S. Department of Education to continue work on a State Longitudinal Data System (SLDS). The grant enables CDE to continue to create a more comprehensive data governance structure that will guide interagency sharing between CDE, CDLE, and CDHE, enabling reporting on Concurrent Education and Adult Education students across the course of their schooling and entry into the workforce. The grant will also fund technology upgrades, including the conversion to a standardized database model that will facilitate required federal data reporting.
- **Colorado Department of Public Safety (CDPS)** convened a workgroup to support Senate Bill 20-037's mandate to establish a Trusted Interoperability Platform Advisory Committee. In addition, CDPS has received a Bureau of Justice Assistance grant to begin connecting Jail Management Systems (JMS) to the Colorado Integrated Criminal Justice Information System (CICJIS) for criminal justice management and programming needs information exchange.
- **Office of eHealth Innovation (OeHI)** has been advancing information and data sharing initiatives as part of Colorado's Health IT Roadmap efforts to accelerate the Polis administration's bold health priorities. This work advances both state and community efforts to get the right information to the right individual, in real-time, to ensure ALL Coloradans have access to affordable and highest quality care. OeHI worked actively to address state and community needs in response to COVID-19. A few notable examples of OeHI's efforts include: supporting CDPHE with information sharing to local public health agencies; advancing equitable use of health information by requiring contracted entities to develop health equity policies; and continuing to advance information sharing and infrastructure projects. OeHI continues to accelerate both information and data sharing initiatives in close partnership with OIT and health and human service agencies. See Appendix B for additional highlights.
- **Colorado Department of Labor and Employment (CDLE)** continued their work from 2019 where a data governance committee composed of data owners from each division and/or unit is charged with the role of establishing a formal data governance framework and management of day-to-day data best practices. In 2020, the agency created and adopted a data governance strategy in alignment with GDAB, determined

sharing policies and procedures to streamline process through a flow, evaluated risks to create a risk assessment matrix, streamlined and centralized intake process including automated initial risk assessment for decision-making, published an internal department-wide policy and procedure on data sharing requests with collaboration of Attorney General's Office, and kicked off a data asset inventory

- **Colorado Department of Higher Education (CDHE)** worked collaboratively with CWDC, CDLE, CCCS (Colorado Community College System), and others (including their vendor partner) on the development of a Data Trust to power My Colorado Journey (MCJ), the state's free platform that connects Coloradans to career, education, and support resources. The Data Trust allows CDHE to share data in well-governed, responsible ways that help Coloradans of all ages obtain information on planning for education/training and workforce opportunities.

- **Colorado Department of Public Health & Environment (CDPHE)** executed over 40 data use agreements to memorialize and protect the sharing of sensitive CDPHE data with internal and external partners for both public health purposes and human subjects research. In support of the state's COVID-19 response, CDPHE implemented CO Exposure Notifications, a mobile app to facilitate the anonymous and secure sharing of information of potential exposure to the virus. As of February 2021, this app is in use by over 1.6 million Coloradans. CDPHE facilitated coordination between state and local public health staff on COVID case investigation and contact tracing through centralized technology (the Dr. Justina system) that provides for the secure exchange of information between disease control systems. Previously this information was stored in a series of separate systems and distributed via spreadsheets increasing risk of sharing private information. Additional efforts are cited in Appendix C.

Appendix A: Colorado Department of Human Services

2020 Work Activities

Data Workgroup
- CDHS added a Data Governance Manager and directed them to lead the Interoperability Program Data Workgroup.
- The inherited data workgroup team learned core data governance principles during the first half of the year and they participated in developing the data workgroup charter.

Data Intelligence Suite
- CDHS and OIT implemented the erwin Data Intelligence Suite (DIS) data governance tool in the year 2019. User guides and training were provided for the business users community in July 2020. Databases and their schemas continue to be added to CDHS' erwin DIS environment so that developers and business contributors can begin to add metadata for their respective technical environments.
  - A hierarchy of catalog work folders were created for CDHS within erwin DIS, and some progress was made through the addition of metadata into these folders (e.g., glossaries of business terminology, subject matter expertise, and data dictionary supporting the API key data in support of state county data sharing). Analysis has also been performed in parallel to the identification of database, schema, tables, and columns, which identified underlying database table structure issues. This information has been communicated to all relevant stakeholders in effort to contribute to the work that is needed in 2021.

Data Governance
- A data governance roadmap along with a change management plan were developed in support of the Interoperability Program and CDHS. This document has been made available to other agencies via a Google shared drive hosted by the Chief Data Officer.
- We continue to participate and collaborate with other stakeholders from those agencies that are participating in the Interoperability Program and beyond. This coupled with the CDHS core Data Sharing Agreement (DSA) template and legal guide documents have also been shared with participating agency stakeholders.

Appendix B: Office of eHealth Innovation

Additional 2020 Projects & Initiatives

Identity Resolution
- Data Cataloging of As-Is State Identity Infrastructure
- Implementation Roadmap for transitioning from the As-Is mainframe environment to a vendor hosted, cloud-based environment
- Identification of additional demographic data elements to improve quality and accuracy of Identity Resolution services
- Coordinated Data Sharing Agreements for Member/Client Demographic Data
    - WIC/SNAP/Medicaid to support Household Identification analysis
    - Interoperability Program/Medicaid to support the move of SIDMOD from the mainframe to the cloud environment

Information Governance
- State Health Information Guidance (SHIG): The Office of eHealth Innovation assembled a small sub-task force from the eHealth Commission Consent Workgroup to begin stakeholding and researching use cases for a Colorado SHIG. The CO SHIG will begin with five use cases centered around sharing behavioral health data when clinically necessary with appropriate health care and behavioral health care providers.
- The Office of eHealth Innovation's Statewide Information Governance on Health Committee, in partnership with the Colorado Health Institute (CHI), compiled a resource intended to support Local Public Health Agency (LPHA) COVID-19 "investigation and control" and "isolation and quarantine" activities as defined within the CDPHE Public Health Authority Fact Sheet. This memorandum is focused on the specific use case of data sharing, which includes sharing protected health information (PHI), between LPHAs and external partners to support local case investigation and contact tracing efforts.

Care Coordination/S-HIE
- Community level environmental scans for Social-Health Information Exchange (S-HIE) demonstration projects - identification of data sharing use cases:
    - Screening history (timing and results of social needs screening activities)
    - Outbound and inbound electronic referrals across social care networks
    - Outcome history (what happened as a result of the referral)
- Technical architecture design for S-HIE core components (include statewide community resource inventory and data standards for directory)
- Development of Social Determinants of Health (SDoH) Screening Guidance for interoperability (includes guidance on data sharing for SDoH screening information)

Advancing HIE

Twelve projects with Colorado's two Health Information Exchanges (HIE) - CORHIO and QHN - were successfully completed and approved by OeHI. These projects improve health care delivery in the following ways.

- Providers have access to more complete details about medical visits, diagnoses, and care delivered to their patients by other providers and facilities. Improved access was accomplished by two project streams:
  - Terminology services projects standardize medical coding/terminology between organizations so that the care delivery information is included in the patient longitudinal health record, even when different facilities use different care documentation and coding.
  - Data access projects improved the transmittal technologies used to share data between Colorado's two health information exchanges, CORHIO and QHN. Therefore, providers subscribing to only one of the two HIEs can see the health records reported to the other HIE for their patients.
- Providers can now subscribe to receive real-time notifications when their patients receive specific care or events, including COVID-19 testing, hemoglobin A1c testing, hepatitis testing, low density lipoprotein (LDL) testing, mental health care notification, hospice notification, and deceased notification.
- More providers have access to single sign-on, which allows providers to access the HIE longitudinal health record from their organization's electronic medical record without needing an additional log on, making access to health records easier and faster in the care delivery setting.

COVID Public Health Response

- A total of 56 new providers were onboarded to the state's HIEs (CORHIO or QHN). 133 new provider services were implemented across all providers connected to the HIEs.
- Investments in the state's public health infrastructure include the effective transfer of COVID-19 lab test results, improvement of existing notification data, and additional notifications for HCPF and CDPHE.
- Analytics dashboards were created to provide real-time COVID-19 testing data for specific populations, including the FQHC network, the rural health network, CDPHE, and local public health agencies.

Appendix C: Colorado Department of Public Health & Environment

Additional 2020 Projects & Initiatives

Data Sharing

Data sharing between the disease control partners was critical in maximizing speed and efficiency of the state's COVID-19 containment and testing response while protecting privacy of Coloradans. Notable data sharing accomplishments in 2020 include:

- Streamlined and increased data sharing between CDPHE and HIEs:
  - Created a master data sharing agreement between CORHIO and CDPHE.
  - Established process to automate enrichment of COVID cases where insufficient data was available to initiate case investigation using CORHIO data.
  - Established electronic reporting of newborn screening results to QHN.
  - Established electronic reporting of all COVID and Influenza testing to CORHIO and QHN.
- Onboarded over 3,000 users to the lab online electronic test ordering and reporting webportal and implemented DocuSign to electronically collect user agreements.
- CDPHE established SMS Messaging standards for COVID-19 communications to provide access to isolation and quarantine information.
- Utilized the MoveIT portal to allow more than 800 customers to order lab testing
- Migrated all CDPHE laboratory data integration to the MoveIT portal.
- Created bi-directional electronic test ordering and reporting interfaces in partnership with the Department of Corrections (DOC) for COVID-19 testing of DOC staff and offenders,
- Increased percent of electronically ordered testing at the CDPHE laboratory from 4% to 95% in 2020.