



## **Key Findings Report**

# **Local Public Health Agency Interviews**

June 15th, 2023

Report funded by the Office of eHealth Innovation and  
completed in partnership with the Colorado Association of

Local Public Health Officials

# **CALPHO**

Colorado Association of Local Public Health Officials



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## Introduction

In partnership with the Colorado Association of Local Public Health Officials (CALPHO) and the Office of eHealth Innovation (OeHI), Colorado Community Managed Care Network (CCMCN) conducted stakeholder interviews with Local Public Health Agencies (LPHAs) across Colorado to understand and document LPHAs' data strategies, needs, and gaps, and provide an analysis of findings to inform needed system-level improvements. This process included 5 interviews completed prior to the execution of this contract (during July 2022) followed by the identification and approval of 14 additional LPHAs with whom to conduct key informant interviews based on geographical location and size in order to provide the best possible representation of Colorado's statewide ecosystem. The following LPHAs were interviewed as part of this process:

### **Initial LPHAs interviewed (circled in green on map):**

1. Broomfield Public Health (Urban)
2. Clear Creek County Public Health (Densely-settled Rural)
3. Delta County Public Health (Densely-settled Rural)
4. Mesa County Public Health (Urban)
5. Northeast County Health Department (Rural)

### **Additional LPHAs interviewed (circled in yellow on map):**

1. Adams County Health Department (Urban)
2. Boulder County Public Health (Urban)
3. Eagle County Public Health and Environment (Rural)
4. Gunnison County Department of Health (Frontier)
5. Jefferson County Public Health (Urban)
6. Larimer County Department of Health and Environment (Urban)



## **Background**

The CDC Data Modernization Initiative has allocated \$1 billion to a national strategy addressing public health data systems since 2020. At the national level there are five different components to this strategy:

1. Building out the technology and the systems while striving towards better quality data collection and interoperability
2. Workforce development
3. Building partnerships to improve data sharing amongst community partners
4. Improving analytics on public health data
5. Managing the governance of data

At the State level, the Colorado Department of Public Health and Environment (CDPHE) has been working on ways to modernize data systems that align with these national efforts including the creation of a “Data Lake”. The Colorado Association of Local Public Health Officials (CALPHO) has been working to understand how these efforts will affect Colorado’s LPHAs and how they can leverage this model and these investments to ensure the needs of LPHAs are being met. This led to the creation of a framework to approach LPHAs and learn about their current needs. This framework divides LPHAs into three “buckets”: 1) LPHAs as Data System Users, 2) LPHAs as Data Owners, and 3) LPHAs as individual care providers. This framework helped to lay the foundation for the key informant interview questions and the partnership between CCMCN, CALPHO, and OeHI to conduct these interviews to better understand how LPHAs can “have a seat at the table” and have their needs addressed and met during this process.

## **Interview Guide**

Each Local Public Health Agency that participated in an interview were asked a series of questions that were written and approved first as part of the scope of this contract. The Interview Guide served as the template to enable the illumination and illustration of data strategy, capacity, and infrastructure needs of numerous LPHAs throughout Colorado. Each interview focused on questions in three categories: 1)



Existing data collection strategies and priorities, 2) Barriers and “Pain Points”, and 3) Ideal State. The complete Interview Guide can be found in [Appendix 2](#).

The “Existing data collection strategies and priorities” section included questions seeking to understand more about each LPHAs community health assessment (sometimes called a CHA), also known as a community health needs assessment (sometimes called a CHNA) and community health improvement plan (sometimes called a CHIP), also known as a public health improvement plan (sometimes called a PHIP). The Centers for Disease Control and Prevention define a community health assessment as a state, tribal, local, or territorial health assessment that identifies key health needs and issues through systematic, comprehensive data collection and analysis.<sup>1</sup> The results of a community health assessment are used to inform the creation of a community health improvement plan which is a long-term, systematic effort to address public health problems.<sup>2</sup> The plan is typically updated every three to five years.<sup>2</sup> The CHIP is used by health and other governmental, education and human service agencies, in collaboration with community partners, to set priorities and coordinate resources.<sup>2</sup> A CHIP is critical for developing policies and defining actions to target efforts that promote health.<sup>2</sup> The CHIP should define the vision for the health of the community through a collaborative process and should address the multitude of strengths, weaknesses, challenges, and opportunities that exist to improve the health status of that community.<sup>2</sup>

## **Key Findings Summary**

The following Key Findings Summary provides some high-level trends that were found throughout the 19 Key Informant interviews.

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<sup>1</sup> Centers for Disease Control & Prevention. “Community Health Assessments & Health Improvement Plans.” Accessed June 1st, 2023. <https://www.cdc.gov/publichealthgateway/cha/plan.html>

<sup>2</sup> Centers for Disease Control & Prevention. “What is a Community Health Improvement Plan?” Accessed June 1st, 2023. <https://www.cdc.gov/publichealthgateway/cha/plan.html#three>

## Current LPHA Priorities and Goals

Each LPHA has its own set of priorities and goals that align with the unique needs of their respective communities. However, there were some commonalities found among interview participants, including:

**79%** are prioritizing addressing mental health in their community

**79%** are prioritizing addressing Substance Use Disorder in their community

**79%** are prioritizing addressing environmental health factors in their community

**74%** are prioritizing improving access to care in their community

**53%** are prioritizing including community voice in their data collection processes

## Data-related Issues and Barriers

LPHAs are faced with many data-related issues and barriers as they work to improve health metrics and provide services inside an increasingly complex system. The following were the most noted during our interviews.

### Data Governance

- **90%** of LPHA interview participants stated that there is no clear data governance structure or framework in place to inform the sharing and exchanging of data with the State, with community partners, or even internally within their own organization. This refers to data being entered into State-owned systems and data being requested and extracted from State-owned systems.

### Data Quality

- **90%** of interview participants mentioned that there needs to be a standardization of data elements to improve the process of inputting and extracting data from State systems. It is challenging or impossible to consume

data in an efficient and standardized way and/or combine data in different formats in order to complete a meaningful analysis.

- The suppression of data due to sample size was noted as a barrier from every Rural or Frontier LPHA that we interviewed (**63% of total participating LPHAs**).

### Funding

- **84%** noted a lack of sustainable funding as a barrier to support data collection, management and analysis

### Staff Support

- **90%** noted staff capacity to support data collection, management and analysis as a barrier
- **90%** noted workforce availability as a barrier to managing, interpreting, and analyzing public health data
- **90%** noted staff data literacy as a barrier to managing, interpreting and analyzing public health data

## Specific Data and Technology-related Needs

Numerous data and technology-related needs were identified by the LPHA representatives we interviewed. Below are some of the most commonly cited.

### Data Access

- **90%** need better access to Social Determinants of Health data to inform strategy and program development for the populations they serve.
- **90%** of participants noted that they would like to see social, economic, and physical determinants of health and any other available data for shared populations of clients to decrease duplication and enable more effective coordination, planning and interventions.

- **90%** of LPHAs interviewed described a need for granular data sets (e.g. by census tract) to be able to accurately understand health indicators for their communities and develop appropriate interventions to address them.
- **84%** need better access to behavioral health, Substance Use Disorder, and overdose data (including reversals and deaths) to inform strategy and program development.
- **84%** of participants stated that real-time data to assist in identifying emerging health issues, existing health issues, and communicable diseases would be extremely beneficial to mobilizing and improving outcomes.

### Data Sharing

- **95%** of participants desire a method to share meaningful data across State-owned systems that are external to LPHAs. There is a desire to meaningfully search State data systems efficiently to understand what data exists and generate comprehensive reports.
- **84%** note the need to improve infrastructure or interoperability between internal systems.

### Data Storage

- **95%** of LPHAs mentioned the need for a centralized data storage and analysis system.

### Staff Support and Involvement

- **84%** of LPHAs mentioned that they would like to have access to ongoing data literacy training for their staff. This training would be facilitated (or contracted out) by the State and would also include topics related to updates or changes to State-owned data systems and allow ample time for questions and answers.
- **53%** of participants would like to have the opportunity for more regular convenings with other LPHAs to share best practices, give updates on projects and programs, and collaborate to share ideas as needed.

- **53%** of LPHAs interviewed mentioned that it is imperative for the State to incorporate feedback from LPHA end-users during system or product development (especially pertaining to systems that will be required for use by LPHAs).

## **Recommendations for Areas of Improvement**

The following are recommendations for State agencies to consider based on the Key Findings Summary.

### **Communication**

- Increased communication regarding State data sources and how to access them
- Increased communication regarding upcoming changes to State-owned technology products

### **Data**

- Ensuring that LPHAs are able to access data for smaller population sizes
- Establishing or reviewing a data governance framework for data living inside State-owned systems
- Standardized Data Sharing Agreements for data that lives inside State-owned systems. This pertains to data sharing between state agencies and from state agencies to local agencies.

### **Technology**

- Collaborative systems development between State agencies and local end-users
- Increased State technical assistance and training for existing platforms
- Increased interoperability between State and local data system

The following are recommendations for CALPHO to consider based on the Key Findings Summary:

- The facilitation of increased LPHA collaboration meetings
- Increased professional development opportunities for LPHA staff related to data

The following are recommendations for State agencies and CALPHO to both consider supporting based on the Key Findings Summary:

- A regional or statewide approach and framework for LPHAs to manage, store, and analyze data
  - Ability to review aggregated data at Local and State levels via data visualization tools
  - Ability to easily share aggregated data from the local level to the State level to inform strategy and forecasting internally and among community partners
- Support for LPHAs in acquiring data sets to meet their needs

## **Other Actionable Feedback**

### *Jefferson County Public Health*

Timely communication from the State regarding reports that have been re-coded since often they are sent without notice of the change which causes the recipient to have to rebuild the download format to accept the data into their system.

### *San Miguel County Public Health*

It's challenging to keep up with multiple "piecemeal" data request forms. For example, Covid warranted the creation of many forms that have been helpful to assist with data requests, but it seems like "there is some unwritten instruction manual or codebook that we [San Miguel County] don't have, so we are constantly asking for help to know where to go outside of the larger systems like CEDRS and

CIIS.” The issue is not accessing the forms themselves, but knowing what form to request because there are various separate forms correlating to needed data from siloed systems. There isn’t a way to search for each specific form, which has necessitated work-arounds such as bookmarking the form or requesting it specifically.

### *Summit County Public Health*

There is a need for local contact information versus international corporation contact information inside the State system for tracking restaurant data. For example, Vail Resorts is a corporation that owns numerous restaurants, but there is only an international contact listed, which is not helpful when trying to reach someone locally.

## **Interview Summaries: At a Glance**

The following sections contain a summary table for each LPHA interview, providing a snapshot of each entity’s priority areas mentioned, data systems/data sources used, barriers related to data or technology, and identified needs specific to data or technology. The summary tables are meant to be comprehensive but may not be exhaustive lists. Detailed narratives from each interview can be found in [Appendix I: Interview Summaries Narrative](#).

# Adams County Health Department

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Climate change	Air quality data	County-specific data suppression due to sample size	Access to claims data
Environmental health	American Community Survey data	Data elements are not standardized across systems	Centralized comprehensive data storage and analysis system
Food security	CDPHE Data Portal	No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems	Collaborative systems development between State agencies and local end-users
Housing	CEDRS	State-owned systems don't "talk" to local systems	Consulting services for strategic planning related to technology and data infrastructure
Mental health	CIIS	Staff capacity	Granular data sets
Substance use disorder	Environmental data from Colorado Oil & Gas Commission	Staff skill sets	Improve access to longitudinal data about youth
	Geographic Information System (GIS) data	Sustainable funding	Improve LPHAs infrastructure to consume data
	HealthSpace	Workforce availability	Method to share data across State-owned systems that are external to LPHAs
	Hospitalization data		Ongoing data literacy training for staff
	Patagonia (EHR)		Real-time data for current events such as environmental health threats
	SharePoint		Standardized data sharing agreements
	SmartSheet		
	State Demographer		
	Tableau		
	Temperature data		



# Boulder County Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	Accela	Data elements are not standardized across systems	Centralized comprehensive data storage and analysis system
Behavioral health	CIIS		Collaborative systems development between State agencies and local end-users
Substance use	CoHID	No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems	Data on shared populations
	COMPASS (used for WIC)		Improve access to SDoH data
	Compass (State application used by Vital records)	Staff capacity	Improve access to behavioral health or SUD data
	Crystal Reports	Staff expertise	Improve access to youth data and judicial data
	Dr. Justina	Sustainable funding	
	EpiInfo	Workforce availability	Improve infrastructure or interoperability between internal systems
	FileNet		Increased LPHA collaboration meetings
	Flo		Method to share data across State-owned systems that are external to LPHAs
	Tableau		Ongoing data literacy training for staff
	Power BI		Standardized data sharing agreements

## Broomfield Department of Public Health & Environment

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	BRFSS data	Collecting and reporting data into various siloed systems	Access to a Social Health Information Exchange network to see a community member's longitudinal health and social record
Behavioral health	CEDRS		
Community connectedness	CHAS data	Data elements are not standardized across systems	Centralized comprehensive data storage and analysis system
	CIIS		
Covid surveillance	CoHID	No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems	Dashboarding to monitor program measures of core services
Health impacts of oil and gas production	Compass		
	CureMD (EHR)		
Substance use disorder	Dr. Justina	State-owned systems don't "talk" to local systems	Data on shared populations
	HealthSpace		Improve access to SDoH data
	iCare		Improve access to behavioral health or SUD data
			Improve infrastructure or interoperability between internal systems
			Method to share data across State-owned systems that are external to LPHAs
			Ongoing data literacy training for staff
			Real-time data to inform decision making
			Standardized data sharing agreements

## Clear Creek County Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	CIIS	Collecting and reporting data into various siloed systems	Centralized comprehensive data storage and analysis system
Air and water quality	Contexture		Collaborative systems development between State agencies and local end-users
Cancer	CureMD (EHR)	County-specific data suppression due to sample size	Data on shared populations
Diabetes		Data elements are not standardized across systems	Granular data sets
		Inability to meaningfully search state data systems	Improve access to SDoH data, access to care data, youth data, and chronic disease data
		Medically underserved community (lack of physical and behavioral health services)	Improve infrastructure or interoperability between internal systems
		Staff capacity	Method to share data across State-owned systems that are external to LPHAs
		Staff expertise	Ongoing data literacy training for staff
		State-owned systems don't "talk" to local systems	Real-time data for communicable disease prevalence
		Sustainable funding	Regional data sets
		Workforce availability	Standardized data sharing agreements

## Delta County Health Department

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	CEDRS	Community distrust of data	Centralized comprehensive data storage and analysis system
Behavioral health	CureMD (EHR)	County-specific data suppression due to sample size	Data on shared populations
Environmental health	Dr. Justina		Granular data sets
Substance use disorder	Google Data Studio	Data elements are not standardized across systems	Improve access to behavioral health data, health and human services data, service utilization data, insured/underinsured rates, SUD data, SDoH data, and youth data
	HealthSpace		
	Lab online	Lack of data to inform strategy and prevention efforts	Improve infrastructure or interoperability between internal systems
		Staff capacity	
		Staff expertise	Method to share data across State-owned systems that are external to LPHAs
		Sustainable funding	
		Workforce availability	Ongoing data literacy training for staff
			Real-time data for communicable disease prevalence
			Standardized data sharing agreements

## Eagle County Public Health & Environment

Priority Areas	Data Systems/ Sources	Barriers	Needs
Access to care	Archaic	County-specific data suppression due to sample size	Centralized comprehensive data storage and analysis system
Advancing minority literacy	CEDRS		
	COMPASS	Staff capacity	Data on shared populations
Data equity	Dr. Justina	Sustainable funding	Delivery location data for babies born to Eagle County residents
Environmental health	Google Drive	Workforce availability	
	HIE data		Granular data sets
Including community voice in data collection	Nurse Family Partnership portal		Improve access to real-time data for communicable disease and vital statistics
Inclusion for under-represented populations	Patagonia (EHR)		
	Salesforce		Improve access to SDoH data
SDoH: living conditions and social inequities	TBdb		
	Vital records		Improve infrastructure or interoperability between internal systems
			Increased LPHA collaboration meetings
			Method to share data across State-owned systems that are external to LPHAs
			Ongoing data literacy training for staff
			Standardized data sharing agreements

## Gunnison County Health and Human Services

Priority Areas	Data Systems/ Sources	Barriers	Needs
Access to healthcare	CIIS	County-specific data suppression due to sample size	Centralized comprehensive data storage and analysis system
Behavioral health	ClearPoint		
Including community voice	CureMD (EHR)	Data elements are not standardized across systems	Collaborative systems development between State agencies and local end-users
	TRAILS		
Healthy Housing (radon, lead, and well water testing)	Food bank data	Staff capacity	Data on shared populations
	Faith-based program data	State-owned systems don't "talk" to local systems	Granular data sets
Substance use disorder		Sustainable funding	Improve access to behavioral health or SUD data
Social determinants of health		Workforce availability	Improve access to youth and criminal justice system data
			Improve access to SDoH data
			Improve infrastructure or interoperability between internal systems
			Increased LPHA collaboration meetings
			Method to share data across State-owned systems that are external to LPHAs
			Ongoing data literacy training for staff
			Standardized data sharing agreements

## Jefferson County Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Behavioral health	Amanda (environmental health services)	Data elements are not standardized across systems	Access to claims data
Chronic disease	CEDRS	No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems	Access to a Social Health Information Exchange network to see a community member's longitudinal health and social record
Environmental justice	CIIS		Centralized comprehensive data storage and analysis system
Food policy	CureMD (EHR)		Collaborative systems development between State agencies and local end-users
Harm reduction	Dr. Justina	State-owned systems don't "talk" to local systems	Data on shared populations
Including community voice	Geographic Information System (GIS) data		Health outcome data filtered by demographics
Substance use disorder	Google Survey	Excessive pricing for external data sets (such as APCD data)	Improve access to SDoH data
	Internal-facing reportable conditions dashboard	Taxpayer's Bill of Rights (TABOR) spending restrictions	Improve access to behavioral health or SUD data
	Monday.com	Colorado Hospital Association data sharing restrictions	Method to share data across State-owned systems that are external to LPHAs
	Nurse Family Partnership program platform		Ongoing data literacy training for staff
	Vital records		Real-time data for communicable disease prevalence
	Women, Infants, Children program platform		Reliable data on prevalence of health conditions and related factors
	Zoonotic database for animal-related disease reporting		Standardized data sharing agreements

## Larimer County Department of Health and Environment

Priority Areas	Data Systems/ Sources	Barriers	Needs
Access to care	CEDRS	Data elements are not standardized across systems	Centralized comprehensive data storage and analysis system
Air quality	Child fatality data		Communicable disease enterprise system to avoid reporting into disparate systems
Childcare availability	CIIS	No clear data governance structure or framework to inform sharing or exchanging data from state-owned systems	Customer Relationship Management (CRM) tool
Including community voice	Contexture		Data on shared populations
Increase SNAP enrollment	Covid wastewater monitoring		Granular data sets
Increase WIC enrollment	Emergency Department data	Population health data time-lag	Improve access to behavioral health or SUD data
LGBTQ health	HealthSpace	Staff capacity	Improve access to real-time data such as: historical hospital data, communicable disease data, DHS program enrollment and capacity data, youth data, law enforcement data, and payer data
Mental health	Hospitalization data	Sustainable funding	
Substance use disorder	Max QDA	Workforce availability	Improve access to SDoH data
	Patagonia (EHR)		Improve infrastructure or interoperability between internal systems
	Prescription monitoring		Method to share data across State-owned systems that are external to LPHAs
	Redcap		Ongoing data literacy training for staff
	Salesforce		
	SUD prevention and recovery service data		
	Syndromic data		
	Tableau		
	TBdb		Standardized data sharing agreements



## Las Animas-Huerfano Counties District Health Department

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to health services	CEDRS	Collecting and reporting data into various siloed systems	Centralized comprehensive data storage and analysis system
Environmental quality	CIIS		Collaborative systems development between State agencies and local end-users
Maternal and child health	Colorado School of Public Health	County-specific data suppression due to sample size	Data on shared populations
Mental health	County coroner	Data elements are not standardized across systems	Granular data sets
Obesity	HealthSpace		Improve access to SDoH data, youth data, and substance use data
Oral health	OneHealth Insights	Lack of resources and amenities is a barrier to staff recruitment and retention (child care, food desert, no safe parks)	Improve access to hospital data to support CHIP priority areas
Sexual and reproductive health	Survey data		Improve infrastructure or interoperability between internal systems
Substance abuse		Medically underserved community (lack of physical and behavioral health services)	Increased LPHA collaboration meetings
Youth marijuana use		State-owned systems don't "talk" to local systems	Method to share data across State-owned systems that are external to LPHAs
		Staff capacity	Ongoing data literacy training for staff specifically for required State-owned technology platforms
		Staff expertise	Real-time data for communicable disease prevalence
		Sustainable funding	Standardized data sharing agreements
		Workforce availability	

# Mesa County Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
<p>Access to care</p> <p>Community relationships and trust building</p> <p>Economic stability</p> <p>Education</p> <p>Risk factors of those involved with the child welfare system</p> <p>Recidivism reduction in county jails</p> <p>Substance use disorder</p>	<p>CEDRS</p> <p>CIIS</p> <p>CoHID</p> <p>CBO partner data</p> <p>Census data</p> <p>Community mental health center data</p> <p>Dr. Justina</p> <p>HealthSpace</p> <p>Hospital data</p>	<p>Collecting and reporting data into various siloed systems</p> <p>Community distrust of sharing personal information for data collection</p> <p>Data bias</p> <p>Data elements are not standardized across CHAs</p> <p>Data elements are not standardized across systems</p> <p>Staff turnover at partner organizations</p>	<p>Access to a Social Health Information Exchange network to see a community member's longitudinal health and social record</p> <p>Centralized comprehensive data storage and analysis system</p> <p>Collaborative systems development between State agencies and local end-users</p> <p>Data on shared populations</p> <p>Improve access to behavioral health data, SUD data, cancer data, vital records including death data, human services enrollment data, SDOH data, judicial data, and pediatric vaccine data.</p> <p>Improve infrastructure or interoperability between internal systems</p> <p>Method to share data across State-owned systems that are external to LPHAs</p> <p>Ongoing data literacy training for staff</p> <p>Real-time data for communicable disease prevalence</p> <p>Regional data sets</p> <p>Standardized data sharing agreements</p>

# Northeast Colorado Health Department

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	CDPHE Data Portal	Change management	Centralized comprehensive data storage and analysis system
Built environment	CEDRS	Community distrust of data	Data on shared populations
Transportation	CIIS	Data elements are not standardized across systems	Granular data sets
	Census data		
	Dr. Justina	Staff capacity	Improve access to behavioral health data, chronic disease data, hospitalization data, immunization data, SUD data, SDOH data, and youth data
	My Sidewalk	Staff expertise	
	PrepMod (EHR)	Survey bias concerns	Improve infrastructure or interoperability between internal systems
	Survey data	Sustainable funding	Inventory management system
	Tableau	Variability in data sets	Method to share data across State-owned systems that are external to LPHAs
		Workforce availability	Real-time data for communicable disease and other emerging health issues
			Regional data sets
			Standardized data sharing agreements
			Translation services for survey tool creation and analysis

# Otero & Crowley Counties Health Department

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
<p>Addressing youth suicide</p> <p>Chronic disease prevention</p> <p>Behavioral risk factors</p> <p>Substance use disorder</p>	<p>CEDRS</p> <p>CIIS</p> <p>CHED</p> <p>CDPHE Data Portal</p> <p>CoHID</p> <p>Tyler Technologies</p> <p>VaxCare</p>	<p>County-specific data suppression due to sample size</p> <p>Data elements are not standardized across systems</p> <p>“HIPPA-noia” causing under sharing of needed data to support public health and safety</p> <p>No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems</p> <p>Staff capacity</p> <p>Sustainable funding</p> <p>Workforce availability</p>	<p>Ability to search vital records death certificates by “cause of death”</p> <p>Centralized comprehensive data storage and analysis system</p> <p>Data on shared populations</p> <p>Granular data sets</p> <p>Improve access to SDoH data</p> <p>Improve access to behavioral health or SUD data</p> <p>Improve access to data about youth</p> <p>Improve infrastructure or interoperability between internal systems</p> <p>Method to share data across State-owned systems that are external to LPHAs</p> <p>Ongoing data literacy training for staff</p> <p>Real-time data for communicable disease prevalence</p> <p>Standardized data sharing agreements</p>

## Prowers County Public Health and Kiowa County Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Behavioral health	CEDRS	Inability to track data over the long-term	Centralized comprehensive data storage and analysis system
Overdose reduction	Census data	County-specific data suppression due to sample size	Data on shared populations
Access to care	CIIS		
Substance use	Colorado School of Public Health	Data elements are not standardized across systems	Granular data sets
	CureMD (EHR)		Improve access to behavioral health or SUD data
	Google Sheets	Staff capacity	
	RedCap	Staff expertise	Improve access to youth judicial system data
	Springbrook	Sustainable funding	
	Nurse Family Partnership program platform	Workforce availability	Improve infrastructure or interoperability between internal systems
	Women, Infants, Children program platform		Method to share data across State-owned systems that are external to LPHAs
			Ongoing data literacy training for staff
			Real-time data for communicable disease prevalence
			Standardized data sharing agreements
			Tableau access

## Pueblo Department of Public Health and Environment

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Obesity	ADP	Data elements are not standardized across systems	Centralized comprehensive data storage and analysis system
Mental health	CEDRS		
Air quality	CIIS	No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems	Data on shared populations
Overdose reduction	CHADS		
Data integration	CoHID	State-owned systems don't "talk" to local systems	Granular data sets
Access to care	Compass		
	Constant Contact	Staff capacity	Health outcome data filtered by demographics
	Contexture	Sustainable funding	Improve access to SDoH data
	Financial Edge		
	HealthSpace	Workforce availability	Improve access to behavioral health or SUD data
	LPHA Portal	Workforce availability	Improve infrastructure or interoperability between internal systems
	NextGen (EHR)		
	PDMP	Workforce availability	Method to share data across State-owned systems that are external to LPHAs
	PrepMod		
	Tableau	Workforce availability	Ongoing data literacy training for staff
Vital Records			
			Real-time data for communicable disease prevalence
			Standardized data sharing agreements

## San Juan Basin Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
<p>Environmental risk factors</p> <p>Including community voice</p> <p>Client care coordination and referrals</p> <p>Gaps in care</p>	<p>CDPHE Data Portal</p> <p>CIIS</p> <p>Communicable disease reporting</p> <p>CureMD (EHR)</p> <p>State restaurant reporting</p> <p>STI reporting</p>	<p>County-specific data suppression due to sample size</p> <p>Data bias</p> <p>Data collection is driven by process measures instead of outcome measures</p> <p>Data elements are not standardized across systems</p> <p>No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems</p> <p>State-owned systems don't "talk" to local systems</p> <p>Staff capacity</p> <p>Staff expertise</p> <p>Sustainable funding</p> <p>Workforce availability</p>	<p>Centralized comprehensive data storage and analysis system</p> <p>Collaborative systems development between State agencies and local end-users</p> <p>Data on shared populations</p> <p>Granular data sets</p> <p>Improve access to SDoH data</p> <p>Improve infrastructure or interoperability between internal systems</p> <p>Increased LPHA collaboration meetings</p> <p>Method to share data across State-owned systems that are external to LPHAs</p> <p>Standardized data sharing agreements</p> <p>Support to coordinate and facilitate data sharing with large health systems and community partners</p>

## San Luis Valley Public Health Partnership

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	CDPHE Website	County-specific data suppression due to sample size	Centralized comprehensive data storage and analysis system
Cardiovascular health	CIIS		
Health ethics	Emergency preparedness tools	Data elements are not standardized across systems	Data on shared populations
Health equity	Healthy Kids Colorado Survey	Program-specific siloed data collection	Granular data sets
Including community voice	State Demographer	Staff capacity	Improve access to SDoH data
Increasing capacity	Survey Monkey	Staff expertise	Improve access to behavioral health or SUD data
Mental health	Tobacco retailers	Sustainable funding	
Obesity		Workforce availability	Improve access to data about youth
Opioid use			Ongoing data literacy training for staff
Suicide			Real-time data for communicable disease prevalence and emergency supply access
Tobacco use and cessation			Standardized data sharing agreements



# San Miguel County Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	CEDRS	Collecting and reporting data into various siloed systems	Collaborative systems development between State agencies and local end-users
Behavioral health	CIIS		
Healthy Eating Active Living (HEAL)	Google Suite	County-specific data suppression due to sample size	Centralized comprehensive data storage and analysis system
	Vital records		
Health equity	Patagonia (EHR)	Data elements are not standardized across systems	County-specific data suppression due to sample size
	Quality Health Network (QHN)		
Healthy Housing		Data request forms for State-owned systems are difficult to locate and the process is cumbersome	Data on shared populations
Include community voice		No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems	Granular data sets
Substance use		State-owned systems don't "talk" to local systems	Improve access to behavioral health or SUD data and SDoH data
		Staff capacity	Improve infrastructure or interoperability between internal systems
		Staff expertise	Increased LPHA collaboration meetings
		Sustainable funding	Method to share data across State-owned systems that are external to LPHAs
		Workforce availability	Ongoing data literacy training for staff
			Real-time data for communicable disease prevalence including data from other States
			Referral platform to promote better care coordination
			Standardized data sharing agreements
			Timely updates from the State related to State-owned system changes, data sources, and workflows

## Summit County Public Health

Priority Areas	Data Systems/ Data Sources	Barriers	Needs
Access to care	Building Hope	County-specific data suppression due to sample size	Ability to readily track longitudinal chronic disease prevalence
Behavioral health	CDPHE Data Portal		Bi-lingual staff support
Harm reduction	CEDRS	High cost of living is a barrier to staff recruitment and retention	Centralized comprehensive data storage and analysis system
Environmental health	CIIS		Collaborative systems development between State agencies and local end-users
Include community voice	CoHID	Large population fluctuation as a “resort community” hinders accurate data collection	Community facing data dashboard
Livability (housing, food security, wages, childcare)	County Health Rankings		Granular data sets
Substance use	Patagonia (EHR)	No clear data governance structure or framework to inform sharing or exchanging data from State-owned systems	Improve access to SDoH data, judicial data, and substance use data
	Summit Community Care Clinic		Improve infrastructure or interoperability between internal systems
	Community Resource Center	State-owned systems don’t “talk” to local systems	Increased LPHA collaboration meetings
	Early Childhood Options		Method to share data across State-owned systems that are external to LPHAs
	Nurse Family Partnership program platform	Staff capacity	Ongoing data literacy training for staff specifically for required State-owned technology platforms
	Municy		Real-time data for communicable disease prevalence, hospital data, death data with cause of death listed, and air quality data with associated acute health issues
	OpiRescue		
	TBdb		

# **Appendix 1: Interview Summaries Narrative**

## **Adams County Health Department**

### **Current Data State (priority areas and data collection)**

Adams County Health Department is a newly formed health department that began operations in January 2023. Prior to that, Adams County was part of the Tri-County Health Department. Currently, they are building out their IT infrastructure to support integrating data across programs and conceptualizing the logistics and analytics of collecting, storing, and managing this data. They envision a self-service portal that will enable role-based access for different users, (both within the county and public-facing), with the overarching goal to be able to view and access health data that analyzes the community impact of different health outcomes and identifies needs and gaps to inform interventions to address them. The most recent Community Health Assessment was completed by Tri-County on behalf of Adams County, and they are now “in the middle of” their Community Health Improvement Plan. Their established priority areas include: food security, mental health, housing, and SUD. Additionally, Adams County is prioritizing accountability metrics based on reducing disparities in identified communities of need. Having the ability to house data internally is important for Adams County, as doing so allows them to effectively understand and proactively engage their community to address changes or issues.

Adams County collects a lot of data for various grants, programs and priorities and often expands the scope of their collection to be more impactful. They spend a lot of time analyzing American Community Survey data and often re-aggregate the data for specific geographic areas and combinations of census tracts for a more robust understanding of their community. Additionally, they utilize data from the State Demographer’s Office and environmental data related to oil and gas operations from the Colorado Oil and Gas Conservation Commission. Understanding climate change, how climate change affects our health, and how to communicate this information to the public is also a priority area of focus for Adams County. They have been collecting daily temperature data for the past 30 years and correlating that data with related health issues and hospitalizations. They also collect and correlate

air quality data with acute health symptoms such as asthma. Adams County has a compelling interest in completing additional analyses around climate change, as climate change presents a major threat to public health.

Currently, their GIS environment is used as a database solution to move data between programs internally and create visualizations such as maps or dashboards to provide feedback to internal environmental health leadership. This is used to understand oil and gas data, food inspections, and domestic water wells. They also have an internal Tableau server that allows their nursing program staff to access stored data and eliminate administrative burden. Additionally, they utilize SharePoint and SmartSheet to create visual management boards to triage and manage data requests and create custom dashboards enabling each staff to manage their own projects that then inform reporting on larger performance measures for different departments. This allows them to monitor internal data activity and share with upper management and the Board of Health to understand successes and challenges.

The State data portal has been helpful and they are “cautiously optimistic” about the transition to EpiTrax which “will be good for LPHAs without a lot of data capacity.” They have recently implemented Patagonia as their Electronic Health Record and are still “working out the kinks” but looking forward to how it will be useful. As a brand new entity, Adams County Health Department is taking an “all hands-on deck” approach to staffing and plans to utilize a workforce development staff person to create longer-term staffing strategies. Additionally, they have a program dedicated to organizational management which has centralized some administrative support functions such as operations and accreditation. They are integrated with the county's finance systems and have policies and procedures that dictate much of their grant and contract management (such as approval by the county commissioners and the Board of Health).

During the time that Adams County was part of the Tri-County Health Department, they took the lead on engaging public health agencies around the Denver Metro area to talk about health issues and data analytics. They worked closely with Denver Health on projects related to increasing immunization rates and reducing infant mortality. Additionally, they developed a Syndromic State Monitoring program as

part of Tri-County that eventually was absorbed by CDPHE. They also participated in the Colorado Health Observation Regional Data Service (CHORDS) and assisted in data mapping to address issues related to understanding LPHAs' CHORDS data penetration rates and usage.

## **Barriers**

One described barrier is the perception that many State-owned technology products are antiquated and not as efficient as they could be. It was recognized that CDPHE might not have the capacity to address this issue quickly considering the resources needed to do so. Many State systems provide data, but there is no standard way among them to access the data. Most of the time they use Google to search where to find it. It is difficult to locate the updated website for the right data set and describe it taking "a lot of weeding through Tableau reports" to do so. Additionally, there is a perception that many State-owned technology systems were not developed with LPHA use cases in mind. As new systems are being developed and deployed, they need to include input from LPHAs. It may take some strategic facilitation from the State to engage LPHAs to elicit their valuable feedback.

The ability to consume data in an efficient and standardized way is another perceived barrier. Additionally, the capacity of each individual staff person can also be seen as a barrier as many LPHAs have staff who "wear many hats" due to the scope of project-specific funding streams. Many data-centric positions require specialized skill sets, and it's often difficult to maintain or develop these positions, especially for smaller LPHAs with less resources.

It is difficult to track many youth characteristics over the long term. Sample sizes from schools change yearly and are not consistent.

Finally, data use agreements were also mentioned as a common barrier that impacts LPHAs in partnering and sharing or exchanging data. For example, an infant mortality project with Denver Health involved an extensive process of getting the agreements in place to actually do the work and develop the project scope. It was proposed that this process could be streamlined if it were standardized by CDPHE for health data.

## **Ideal State**

It would be ideal for there to be better infrastructure for LPHAs to consume data such as a direct API connection to feed data into their systems in a stable way. Many systems are propagated inside CDPHE (such as CIIS, CEDRS, and HealthSpace) and each have their own way of sending data (some in a file and others in a spreadsheet). Data access needs to be more streamlined to avoid the constant changes in each separate system that make database replication such a challenge.

Additionally, it would be ideal to receive real-time data related to current events in order to be nimble and respond quickly. For example, a system to analyze heat and heat-related hospitalizations that triggers alerts with information about portable cooling system locations. Immediate and easy-to-win concerns are an area of focus versus larger ideas. Access to claims data could also be an interesting asset to pursue but has seemed cost-prohibitive, so they are currently not receiving it. It would also be ideal to receive long-term youth characteristic data.

Access to facilitated strategic planning and consulting from an outside agency around technology and data infrastructure would also be a very useful tool for Adams County. Working with a consultant to conceptualize the entire process with needed staff and IT infrastructure would help immensely.

## **Boulder County Public Health**

### **Current Data State (priority areas and data collection)**

The Boulder County IT department is leading an Enterprise Data and Analytics Discovery project to identify data support needs across the county and develop a multi-year plan to meet those needs. The goal is to understand how to better support each department/office within the County in using data to achieve their top priorities, whether that's helping manage data, supporting sharing data between departments or outside agencies, building tools or reports, supporting technical staff, or additional identified needs. The Public Health Department is really looking forward

to this effort, as they have been struggling in these areas. One hope of this project is that the need for a County-wide data warehouse that would allow staff to access internal and external data sets will be discovered.

Boulder County Public Health is currently in the middle of their Community Health Assessment which will inform and align with their public health strategic plan. Behavioral Health is a top priority, and it would be great for the State to partner more with LPHAs to find out strategic plan commonalities.

There are several national, regional, and State data systems utilized by Boulder County Public Health. This includes COMPASS (the WIC regional database), Flo (a national database for the NFP program), the Colorado Health Informatics Data Systems (for the Children with Special Needs program), and the Family Connects International database. They are possibly looking at replacing this product with Penelope and using the Department of Health and Human Services system called Community Connects to do closed loop referrals. Additionally, they are using the CIIS and have had the vendor re-write their instance of the CIIS module so they have the ability to complete Medicaid billing inside the system. They are also using Dr Justina and EpiInfo (soon to be replaced with EpiTrax), the State application called Compass (used by vital records), and another Air Quality application. They utilize Accela for permit and inspection activities.

To move forward technology infrastructure projects, each department has their own business analyst. They utilize a cost analysis worksheet that is scored on value to the county and some additional variables. Once this is complete, the worksheet is presented for approval by the Technical Resource Advisory Committee (department heads, commissioners, and business analyst). It typically takes one year for this approval process, although off-cycle requests may be considered dependent upon resources.

Boulder County Public Health collaborates often with other community partners including Broomfield County and the Metro Denver Partnership. They are always willing to help others if they have the capacity. Boulder County used to participate in a State IT group that created a shared inventory of equipment and resources. Then they created agreements that defined how they could help each other in the event

of an emergency with equipment and resources. This group ended, but it would be great to start this again. It would be very beneficial for the State to meet with LPHAs to discuss pain points and strategy together.

## **Barriers**

A common barrier shared by LPHAs is that there is no clear data governance structure or framework in place to inform the sharing and exchanging of data with the State, with other community partners, and even internally. WIC is one example of a program that has very strict guidelines where data cannot be shared with anyone. It would be great to have a State consent form or data sharing agreement that would cover all the data that lives within State-owned technology platforms that LPHAs encounter.

An additional barrier that impacts many LPHAs in data collection, storage, and analysis efforts is a lack of resources in both staffing and reporting tools. Boulder County Public Health is hoping that the Enterprise Data and Analytics Discovery project will address some of the short falls and help to guide the plan to move forward. Often, they will employ temporary staff or utilize volunteers to assist with Records Management and the IT Help Desk. To support systems improvement, they hired a vendor to help with process mapping to ensure that their processes are efficient. They would greatly benefit from additional business analysts, program support staff, grant writers, and additional IT staff. Although staffing is a challenge, BCPH is progressive when it comes to technology in that every user has a laptop so that they are able to mobilize during a crisis.

Managing general administrative support at Boulder County Public Health is described as “tough”. Currently, the entire County utilizes a Content Management System called FileNet for contract management and the storage of personnel files. However, they are struggling with records management and the capacity to upload paper files into the system which is a process that was slowed down by the Covid Pandemic response. Additionally, there is no staff dedicated to grant writing or managing grants, and program managers apply for and manage grants on their own. It was noted that if a grant will be too resource-intensive to manage, then it is often not worth applying for. They really have to determine whether the benefit to the



community (from the grant) will outweigh the internal staff resource needed to manage it.

They have access to Tableau (3 licenses), Power BI, and Crystal Reports for different reporting tools, but they are unable to compare generated reports in a meaningful way. Even if an agency is able to obtain a tool such as GIS, they need to have the knowledge and staff resources to use that tool. Many software programs have their own ad-hoc tools, but in order to use them you must be knowledgeable about the database structure. "Not enough staff to do meaningful work for the agency [means] we are always working on low level fruit."

### **Ideal State**

Boulder County Public Health is hoping that the result of their CHA will allow their County IT team to develop a dashboard with external and internal data sets accessible by staff to inform program development. It would be great to get real time WIC, SNAP and Medicaid eligibility information for clients when they are seeking assistance with medical coverage, housing, and food insecurity. Additionally, it would be ideal to have access to internal data such as jail data from other departments for shared clients.

To improve the process for LPHAs of inputting and extracting data from State systems there needs to be standardization of data elements such as gender, race and ethnicity. This would allow data interchange among data systems. Data mapping is usually a long and tedious process. It would be helpful to have a standardized tool set to benefit the entire county so that they aren't "comparing apples to oranges". If the State is able to standardize their systems, LPHAs could use that as a guideline to inform their systems as well.

Additionally, it would be very beneficial for the State to meet with LPHAs all together to discuss pain points, challenges, and strategies. There is a perception that the State doesn't always incorporate LPHAs' feedback into systems and process improvements, and it would be best if they worked together because they "all want the same things." LPHAs reinvent the wheel because they don't know what other

LPHAs are doing programmatically and what systems everyone is using including software applications, databases, and equipment.

## **Broomfield Department of Public Health & Environment**

### **Current Data State (priority areas and data collection)**

Broomfield Public Health (BPH) currently uses data in multiple ways to contribute to their organizational needs, reporting, and strategies. Primarily, they are using data for surveillance and disease control. Data greatly informs their Community Health Needs Assessment and Community Health Improvement Plan. They use data to provide direction for program performance and to help other partners within the city and county of Broomfield know what health needs should be prioritized. They also collect data for performance management through their State-run data platforms such as the Compass system.

Currently, Covid surveillance is a priority measure both in the short and long term that is used to illustrate changes in population health. Morbidity and mortality data, hospitalizations, case rates, and positivity rates are all being monitored with crosstabs by age, gender, race, ethnicity, and various socioeconomic status indicators. BPH wants to collect vaccination data for Covid and other vaccines. However, this is currently on hold until additional guidance is available from the State. Other priority measures they are currently addressing have been defined by their Community Needs Assessment and supplemental data found through community surveys, Behavioral Risk Factor Surveillance System (BRFSS) data, and Colorado Health Access Survey (CHAS) data. They have been especially focused on reducing stigma around behavioral health service utilization and their Community Health Improvement Plan has focused on improving community connectedness and other protective factors such as pro-social involvement, youth engagement, and volunteering. They have also had an environmental epidemiologist focused on collecting and analyzing data through a random sampling to better understand health impacts of Oil and Gas production. Results of this study are to be published in the near future.

Lastly, Broomfield Public Health is focused on achieving outcome measures as defined by Colorado Health Indicators (COHID). They look specifically at which of their programs are touching those measures and what objectives they are trying to achieve. Each division of the health department has program-specific metrics tied to program deliverables and process metrics. They also have numerous grant funded programs with their own specific deliverables and metrics. Most data that they collect is secondary in nature, but they also collect primary data which is mostly qualitative. A challenge that they perceive with regards to data access is that there are different documentation systems used for many of the data sets and measures and each of these systems do not “talk to each other” and it makes it very difficult to match that data together at a local level. There are often multiple logins to get to one data point versus getting one source of truth in a single space. This is a barrier because it is difficult to compare these across systems in a meaningful way. They currently utilize HealthSpace, Colorado Electronic Disease Reporting System (CEDRS), Compass, Colorado Immunization Information System (CIIS), and iCare among others.

The biggest need is access to real-time data that can inform county and regional decision making. Much of the data is secondary and is being received through methodologies from the early 2000’s (including phone calls and paper surveys). This data is often very dated (over two years old) and does not help to inform decisions based on the current state of the County. This has caused a large confidence interval in the existing data, suggesting that the sample size does not provide an accurate representation of their population. Therefore, they are unable to pin-point specific regions to understand accurate numbers and inform decision making.

Additionally, it would be incredibly helpful to tie in data for Health First Colorado (Medicaid) members and other Key Performance Indicators as defined by the Regional Accountable Entities (RAEs) and data from Department of Human Services program recipients. Being able to see a longitudinal health record for shared clients would enable more effective planning and interventions. Interoperability between any and all State systems back to LPHAs would be extremely beneficial to all parties involved.

## **Barriers**

There are numerous barriers that hinder the ability to readily share data with the State and other entities. First, there is not one blanket data sharing agreement and each must be completed on a case-by-case basis. Second, there is no funding provided by the State for data planning or data service and analysis and it is felt that many LPHAs could benefit from resources to manage and store data. Right now they are needing to identify alternate funding sources and do not have a platform or data warehouse that has a central storage and sharing mechanism. A regional or statewide approach and framework to accomplishing this may be more effective than a county-by-county approach because they would have greater capacity and resource base.

## **Ideal State**

The data dashboards that were created by the State to monitor Covid metrics were very beneficial. It would be helpful to have those same kinds of dashboards to be able to monitor other program measures of core services. Locally, they are accountable for showing how their work supports the broader indicators defined by the State and it is difficult to do this without a longitudinal record of a person. They need to be able to show impact over a short period of time with indicators that show some movement so that they can continue to secure additional funding.

The shared approach of a Social Health Information Exchange (SHIE) is also something that would be helpful where hospital systems and community-based organization data can be brought in to contribute to the longitudinal view of a person in order to support different outcome measures.

Overall, there are many factors that could contribute to more meaningful use of data. LPHAs need to be aware of the data sets that exist and are currently being collected across the State, why it's being collected, how it can be used, and how it can be accessed for additional analysis on the county level. This data needs to be housed in an accessible data warehouse with additional training given to staff at each LPHA so that they have the expertise to maximize its usage and benefits. This

would help ameliorate administrative burden felt by LPHAs who are spending staff resources trying to understand how to effectively mine for and utilize new data.

## **Clear Creek County Public Health**

### **Current Data State (priority areas and data collection)**

Clear Creek County Public Health does not currently have access to data that comprehensively supports their needs, reporting, and strategy. They are heavily dependent on the State for data collection and even though they can collect their own data at the local level, it is much less informative without being able to pair it with what the State is collecting. Many of the existing State data systems weren't designed to function as they are needed to. This became apparent during the last two years amid the Covid-19 pandemic. For example, CIIIS is not able to do a rapid assessment on children to show their vaccine status.

The inability to meaningfully search State data systems greatly hampers the ability to have an accurate picture of the overall health status of the county. Many times, data requests to the State are fulfilled but there is a significant delay due to internal capacity making the data obsolete due to their need for immediate use and subsequent action. This happened during the height of the Covid pandemic when the counties needed access to school district data which took three weeks for Clear Creek County to receive.

A current and largest priority area of focus for Clear Creek County is working to get an Electronic Medical Record (EMR) implemented (CureMD). They chose CureMD based on the size of the county, the services they provide, and affordability. It should be noted that there is no State assistance or strategy related to what and if EMRs are adopted and used by LPHAs. They were previously managing many of their programs "on paper" and transferring information into computer systems which is not efficient. One advantage of purchasing and implementing an EMR is that they will be able to more readily bill for services that their nursing staff provide. Making this process electronic eliminates the need for a human to do the billing which is cost

prohibitive. They are currently in a place of great financial strain (“on the brink of financial collapse”) and are working to recoup resources where they can.

## **Barriers**

Clear Creek County is unique in that they do not have any primary care facilities, specialty care facilities, or hospitals within the county. Many of their residents are transient in their care, meaning they are seeking care in other counties. This is a barrier because the county has no insight into what services people are seeking and why, making it difficult to understand the needs of their residents. They are currently contracting with CORHIO which will help fill in some of the gaps but is by no means a comprehensive view of what is happening. They need a common infrastructure and way to share meaningful data across systems. However, there is no system and no resources to build the infrastructure currently. Depending on where you are in the State, oftentimes the commissioners may have different priorities.

The county is currently doing their Community Health Needs Assessment, but it is hard to know what questions to ask related to what data already exists because they do not have readily available access to State data. Therefore, they have staff calling around to different contacts at the State and are getting varied answers about what exists that they can gain access to. It would also be helpful knowing what is going on in the Region versus the County since so many of their residents are seeking services outside of the county.

## **Ideal State**

The planning process for State data collection should start at the grassroots level with input from each Colorado county. This would ensure that the data will be actionable and meet the needs of those who are to be accessing and utilizing it. It would be ideal to also have a glossary or index of the data that is out there and available. There is so much administrative burden on smaller LPHAs who are just trying to figure out how to access data and also might not have the bandwidth to analyze it once they get it. The top measures Clear Creek County would like to have comprehensive data on are infection/communicable diseases, air and water quality, diabetes, and cancer. They need real time access to all the available data for their

county so they can make informed decisions and act on things quickly. If it is important enough for someone to collect, then it should be shared with LPHAs. It is impossible to know what will happen tomorrow so it is impossible to identify what access is needed today, therefore, LPHAs should have access to everything (with State legal governance and established guidelines).

## **Delta County Health Department**

### **Current Data State (priority areas and data collection)**

Prior to the Covid-19 pandemic, all data collection and record keeping in Delta County was done via paper documentation or they would “work backwards” to utilize their finance system to get data. For example, to find out how many septic permits they issued during a set time period they would run a query by “project code” and count how many were billed. This same process was also followed to understand immunization metrics and others as needed. Currently, they have adopted the CureMD platform and are also using HealthSpace, CEDRS, Dr Justina, Lab Online, and Google Data Studio and Analytics in order to capture and view data. They are focusing their attention to hire, train, and retain staff in many key positions throughout the organization. The Environmental Health Director is in the process of setting environmental health metrics for the county that can then be utilized to inform further decision making and resource allocation in the future.

### **Barriers**

One of the largest barriers regarding data is having access to staff that are able to understand how to interpret and use data to inform strategic goal planning. As a rural community, it has been difficult to hire and retain key staff with specific skill sets, which was then exacerbated by the Covid-19 pandemic. Anytime there is staff turnover in a small organization, the “trickle down” effect is more apparent because oftentimes one staff has numerous roles and responsibilities, so it is that much more complex and time consuming to train someone new.

Additionally, at an administrative level, those in leadership are not always backgrounded in health and therefore do not necessarily prioritize data adoption and usage. There is a shared perception amongst leadership and various community partners that data cannot always be trusted. Although the region has a history of working well together, oftentimes the suspicion of the validity of data makes community collaboration within the health care delivery system difficult. There needs to be more emphasis on planning and prevention, but many organizations are needing to focus on continuing daily operations as they do not have the capacity for the former.

The State has focused attention on addressing health inequities which is extremely important. However, it is felt that if there was the ability to allocate more resources to prevention and infrastructure in smaller rural counties then they would be able to receive and interpret data more readily to really understand and address the inequities and needs of the county and region. Delta County emphasized that equity should be considered when supporting the smaller LPHAs.

### **Ideal State**

The most important factors for an ideal state of improving operations within the data sphere in Delta County are more staff and more training for existing staff to learn key skills such as how to interpret data and look for discrepancies in data sets. If they are going to receive any sort of data it needs to be “already digested” and, therefore, usable and in a dashboard format to easily draw conclusions and action upon. It would be very helpful to have access to health and human services data, data to help understand the frequency of illness in the county, service utilization inside and outside of the region, insured/underinsured rates, and other demographic information to understand different populations of residents. Integrated data systems that leverage a single sign on feature would be ideal for widespread adoption and successful use amongst staff.



## **Eagle County Public Health & Environment**

### **Current Data State (priority areas and data collection)**

As they have continued to “dig out of” their focused Covid-19 Pandemic response, Eagle County Public Health has been strategizing how they can shift data collection methods to be more inclusive of community voice. They want to center the community in their data collection, analysis, and dissemination process. Currently, they are assessing how this can be accomplished within their capacity. Eagle County has been awarded part of a multi-county federal grant through the Office of Minority Health that is focused on advancing minority literacy. This has led to the piloting of various workflow changes with input from community participatory research. They are using the learnings from this process to inform their Community Health Assessment with a focus on highlighting populations that have been historically underrepresented in traditional data sets. By putting more energy into these conversations of lived experience, they hope to better understand where gaps exist that affect health disparities.

It was noted that it takes time, intentional effort, and expertise to understand what metrics should be prioritized in a culturally- and socially-relevant way. Eagle County strives to maintain transparency in their motivational touch points as they engage the community. This has included a thorough review of their current equity model as they work to understand more about living conditions and social needs, which are metrics with the largest data gaps. They have recently filled a new Data Equity Coordinator position to support this work and are excited about the impact this staff person will have. However, it was noted that “one person can’t do it all”, and it is important that they continue to build capacity and provide training necessary for everyone to contribute to data equity across the organization.

During the pandemic response of the last three years, Eagle County Public Health have worked diligently to support local agencies and partner organizations with needed data. There have been requests from smaller community-based organizations in the county for more data support and they are hoping that their new

Data Equity Coordinator will be able to provide more support with reporting outcomes and completing evaluation analyses.

Eagle County receives federal and State grants to support their work. Although these serve a purpose, it was noted that sometimes it is difficult to find the meaningful impact at a local level for some of these initiatives. To promote better program coordination and quality improvement activities, it would be ideal to have the ability to overlay data from various programs that are serving similar populations. For example, Eagle County administers three programs that serve pregnant and/or parenting people and/or families: Nurse Family Partnership (NFP), Women, Infants, and Children (WIC), and Family Connects. Being able to identify themes among these three programs to guide actions would be more impactful if it could be done for the entirety of program recipients.

Eagle County is currently using many State-owned data systems including CEDRS, TBdb (Tuberculosis surveillance), Archaic, Dr Justina, COMPASS, and the NFP Portal. They are also using a system to manage vital records, various emergency management systems, and another "gazillion" platforms and portals to access the data they need to function. They currently do not have an Electronic Health Record (EHR) but are in the process of implementing Patagonia to serve as a scheduling and billing platform. They are also going to implement the Family Connects program which runs on an instance of Salesforce. It was mentioned that cost is a prohibiting factor for an LPHA their size to implement an EHR because the volume of billing has to sustain the cost and it does not always do that.

Many positions within Eagle County Public Health handle their own administrative tasks. However, there are varying program support specialists answering "main phone lines" that serve as the first touch point for community members seeking direct services. Additionally, they have a fiscal team overseeing budgets, accounts payable and receivable, and other positions to cover tobacco/restaurant licensing and grant/contract management. Scope of work management for grants and contracts is typically up to the lead for that project; however, many LPHA staff members may not have training in grant and contract management. This can be a challenge for the capacity of project leads. They are always cognizant of how to

manage contracts through to completion because they do not want to negatively impact the community by ending a program or service prematurely.

## **Barriers**

Time and capacity are seen as the two most challenging factors in continuing to innovate and create new programs or initiatives. Many positions within Eagle County are funded by restrictive funding so it is difficult to carve out additional capacity for activities that can't be directly tied to the defined scope of the position.

Eagle County currently feels like they are collecting more data than they need or have a plan to use. This is in part due to them not having a great process or central location to store and readily share data or easily knowing exactly what data has been collected and put it to use. This manual process also carries over to exchanging data internally. Currently they use a shared Google Drive and email to communicate and share data internally. Having the ability to collect, store, analyze, and share data to inform community level decisions organization-wide would be extremely beneficial.

They are currently "learning as they go" when it comes to their new vision of centering the community in their data collection. It was noted that their priority metrics of living conditions and social inequities are difficult to measure, but they are striving to create a system that can track meaningful benchmarks that are influenced by community voice. Currently, this is seen as a gap because no one is an expert. They would welcome a collaborative opportunity to learn from others on a regular basis who share similar goals.

The acquisition of meaningful population health data continues to be a large barrier for Eagle County. There are many great State-sponsored surveillance tools for communicable disease, but they only provide robust data to metro areas and not to rural, frontier, or "resort" communities. The burden is put on LPHAs to mine for this data on their own, and it's difficult for them to communicate and meet the needs of the community in (or close to) real time. They receive data from both of the large

HIEs in the State but need it on more of a population level. They receive population level data about diabetes management from BRFSS, but it underrepresents their community. There is also a large delay in vital statistics data, which makes it difficult for them to understand if they are reaching their program's target populations and associated outcomes. Ideally, they want to know what hospitals Eagle County residents are delivering babies in and seeking other services so they can track their progress for home visitation programs.

### **Ideal State**

Ideally, Eagle County would love to have access to organization-wide data visualization tools and associated training to use them. They would love to have the ability to overlay quantitative data with community stories (qualitative data) to inform strategy and secure additional funding.

As LPHAs are asked to input and extract data from various systems, it would be ideal to know what the purpose is for each activity. Sometimes it seems LPHAs are asked to input data into a system but do not know what the final purpose is for that data. Additionally, LPHAs should have the ability to extract and manipulate raw data from State systems or at least understand the process that was taken to create a report because it seems often that reports are created by the State, but they don't "jive with the needs of the community".

## **Gunnison County Health and Human Services**

### **Current Data State (priority areas and data collection)**

Gunnison County Health and Humans Services is a unique model in that they combine their health and human services functions and programming with public health. They currently collect data to support various funders' program requirements and also collect data in alignment with their strategic planning process. Their Community Health Assessment and Community Health Improvement Plan covers a 6-county region referred to as the West Central Public Health Partnership. They are

currently focusing on behavioral health, access to health care, and “healthy housing” (radon, lead, and well water testing) as their priority areas. They have adopted a regional approach out of necessity due to no statistically significant data available to support their assessment and planning at a county level. Additionally, staffing and capacity were also mentioned as prohibiting factors to a county-level approach.

Having a better understanding of how community members meet their basic needs and where gaps exist related to Social Determinants of Health such as food, housing, and access to health care is a priority.

Gunnison County is currently using ClearPoint for project management, strategic planning, and data storage. They also have community partners who are tracking and reporting data back to them such as the food bank (who is tracking SNAP benefits and other emergency assistance programs utilization) and other faith-based entities who are tracking program utilization data. Additionally, they utilize many State-owned technology products such as TRAILS. Last year, they began using CureMD as their electronic health record. The adoption of this platform has been both challenging and beneficial. Having an overall clinical picture of a patient with historical and current data is helpful, however, it is still a labor-intensive process for clinical staff who are completing extensive data entry into this system.

Gunnison County has various staff handling administrative tasks within their organization. There are finance and human resources staff completing centralized functions at a county level and then other administrative staff completing tasks at a departmental level which includes on-site reception duties, phone management, data entry, and the handling of birth and death certificate requests.

Gunnison County works diligently to focus on staff retention and satisfaction strategies that include principles of equity and inclusion. Additionally, they have formed a partnership with other healthcare entities and the local university to recruit and retain nursing staff in the community after graduation. Gunnison County also leads a healthcare coalition composed of different local community-based nonprofit organizations and other health care entities. They serve as the main data contributor for this group to review and discuss emerging health trends or disparities. Recently, there have been more frequent requests from community partners for data

that they may or may not have, including data related to substance use, including overdose rates, and other mental health issues, including suicide.

## **Barriers**

Staff are often working part-time in numerous programs to patch together funding sources to support full-time positions. This requires each person to learn to log into each unique system, as there are no interfaces between any of them, which can be time-consuming and onerous for staff.

Grant and contract management is a challenge due to the nature of varying renewal dates. For example, there is a 3-year master contract and a 5-year master contract, and each gets task orders periodically which necessitates approval by the Board of Health and their legal counsel. This is a manual process that has no automation for tracking submissions, execution dates, and signatures, which is burdensome to executive leadership who is overseeing and managing this process.

The largest perceived barriers that impact LPHAs in partnering and exchanging data are 1) that the county systems don't communicate with the State systems and 2) there isn't a centralized data system to store, pull, and analyze data. There are some "isolated pockets" where systems interface such as CIIS and CureMD, but these are the exception. Additionally, there is the potential to have valuable data to inform programming and decision making but often the sample size at the county level isn't representative, and there are no resources to conduct further sampling. Another barrier related to data acquisition and analysis is that it takes a specific skill set to do this, which existing staff may lack. There are minimal opportunities to connect with State staff regarding data, and it is challenging for leadership to be able to relay the information they learn in a way that staff will be able to comprehend and apply back to their workflows due to the complexity of the information and existing capacity of leadership staff. It would be beneficial to have representation from each county (and capacity for each county to provide staff to do this) to participate in regular conversations with the State about what data is available to them and how it can be shared.

## **Ideal State**

For Gunnison County, having a community health system that provides a holistic picture of the health of the community is something that would be of great benefit to not only LPHAs but all other organizations working to support the health of the community. They need to accurately understand what is causing morbidity and mortality and other health impacts among their community members. Even beyond the county, it was mentioned that to be impactful, there is a need to understand the health status of the Nation, State, and counties with the ability to filter down to the neighborhood level. Strategic systems thinking and resources are necessary to understand health needs and gaps. This starts with building systems that are interoperable and easily modifiable that include broad access to data and support for end-users. This also includes the ability to understand the Social Determinant of Health impacts for vulnerable community members.

It seems duplicative that often LPHAs are required to pull data from State systems to report back to the State. There is a need to enact legislation at the local level that would prioritize the State to update and improve the automation of some of these reports and the way that things are configured. It is challenging when smaller counties are relying on one staff member to access and understand all systems and complete data entry. LPHAs would benefit from having a portal that could help with ongoing training and support for each of these systems and some sort of standardization that could improve the ease of data entry processes.

## **Jefferson County Public Health**

### **Current Data State (priority areas and data collection)**

Jefferson County Public Health (JCPH) describes data collection in their organization as “somewhat disparate” with various tools and programs collecting and storing data in a variety of ways to support their Community Health Assessment (CHA) and subsequent Community Health Improvement Plan (CHIP). Most data used to support their CHA is described as “secondary”, however, they have a qualitative

epidemiologist on staff dedicated to analyzing qualitative data through a partnership with five local Community Based Organizations (CBOs) to enhance and bolster their CHA. They also partner with local hospitals to inform their CHA.

Current priority areas for Jefferson County Public Health include chronic disease and other general health indicators, behavioral health (they are working towards better quantifying this), and food policy-related data (which was identified by the community as an area of focus). Their data sciences division and food policy teams are currently collaborating on a project to address this and have utilized GIS mapping and other qualitative data to understand the gaps and needs related to food policy. Jefferson County Public Health has also been selected as a site to participate in the Council of State and Territorial Epidemiologists' data science program, which entails one year of training for the data science team and the development of a dashboard that will allow responsiveness to emergent events (syndromic surveillance) and a "one stop shop" to understand the status of mental health, chronic disease, and environmental justice indicators in Jefferson County. The goal is for this dashboard to eventually feed directly into their CHA. Additionally, they have a harm reduction program that utilizes metrics pulled from CureMD (their Electronic Health Record) and other data tracked inside an Excel spreadsheet, to track and report deliverables.

JCPH currently collects and analyzes infectious disease data that feeds into an internal-facing reportable conditions dashboard to enable infectious disease trend monitoring. Additionally, they have data that feeds into their family services programs (Nurse Family Partnership and the Women, Infants, Children (WIC) program). Their environmental health division utilizes a stand-alone system called Amanda, which is a SQL server database to manage permitting and inspections for retail food outlets, child care facilities, and onsite wastewater treatment data.

Additional State-owned technology systems that JCPH currently utilizes include the zoonotic database for animal-related disease reporting, CIIS, CEDRS (being sunsetted for EpiTrax), Dr. Justina, vital records, and Google Surveys. Currently, they are having issues accessing the STI database. They utilize CureMD, but feel like it is not very user-friendly and struggle to align their clinic services with the platform. Additionally,



the Emergency Preparedness department has been using Monday.com and is finding success with its functionality.

JCPH has an administrative services division with various administrative professionals spread throughout that support various programs within the health department. Additionally, they have a contract manager and a grant writer on staff. Employee satisfaction is integral to the workforce strategy at JCPH. They have utilized monies from a CDPHE workforce development grant to send staff to the Public Health in the Rockies conference and have also offered additional training and educational opportunities to staff.

JCPH utilizes a “bottom-up” approach to decision making within the organization characterized by the RAPID (recommend, agree, perform, input, decide) framework. This allows for shared decision making that ensures staff feel valued and heard by upper management. This includes a strategic wellness support group, a cultural quality group, an equity in hiring group, and a rapid implementation group. They also use an Intranet homepage to improve employee communications with employee spotlights, engagement activities, and access to the org chart.

## **Barriers**

The most common perceived barriers to accessing additional data sets to promote better program coordination and quality improvement are excessive prices and current restrictions. For example, Colorado Hospital Association data for Jefferson County alone is \$8,000 annually, and All Payers Claims Database data was quoted at over \$10,000. Jefferson County is one of two counties in the State that are still restricted by the Taxpayer’s Bill of Rights (TABOR), which limits excess spending in their budget, thus making it difficult to purchase products and services that support advancement of work with data. It was also mentioned that the Colorado Hospital Association has placed restrictions on CDPHE for sharing certain information back to LPHAs, which has greatly limited what data they can access. JCPH explained that this data use agreement restriction posed by the Colorado Hospital Association also has impacted the Colorado Health Observation Regional Data Service (CHORDS) project. It is felt that it would make sense for the State to provide claims data to all LPHAs at no cost to support strategy and improvement planning.

A challenge related to collecting and reporting data for grants is that sometimes grant language does not include metric specifications. This can become problematic because there is a desire to accurately measure and complete analysis efficiently and effectively immediately following contract execution. JCPH mentioned that they do not want to complete work “just because we are getting paid”, but would rather like to know that the work they are completing is having an impact. If the grant doesn’t include defined metrics, JCPH defaults to qualitative data collection.

Another perceived barrier is found in the siloed nature of each State data system. Even if an entity is able to get “through the red tape” to have access to the data, it is time intensive and sometimes impossible to combine data in different formats in order to complete a meaningful analysis. Additionally, competing priorities among LPHAs and community partners also may limit partnerships and data sharing. LPHAs need reliable data on prevalence of health conditions and related factors, as the issues facing BRFSS data (response rates, self-selection bias, limited sample size, expecting people to provide data without compensating them for their time) are expected to continue to worsen.

### **Ideal State**

For JCPH, the most useful asset to them would be the ability to receive primary data on priority metrics at no cost such as clean insurance claims data to paint an unbiased picture of the health of their community. It is difficult for JCPH to be “forward leaning” when there is pushback to accessing needed data. It would be extremely beneficial to have human service data, law enforcement data, and local public health all connected in one system so that when a client enrolls in a program (such as NFP), the home visitor is able to pull up information to understand how that individual is connected into the system.

One of JCPHs’ key strategies is to use readily available data to inform decision making. They need access to real time Community Needs Assessment data, not just a snapshot every three years. This data needs to be available for everyone in the community to access in a holistic, understandable way. The development of a holistic knowledge of data correlates to JCPH’s workforce development plan. They

have many skilled staff but are continuing to build ongoing content knowledge within the agency.

Data systems that are tailorable and intuitive for the end user to be able to extract data in a meaningful way are also very important. Timely communication from the State would also be helpful when it comes to reports that have been re-coded since often they are sent without notice of the change which causes the recipient to have to rebuild the download format to accept the data into their system.

## **Larimer County Department of Health and Environment**

### **Current Data State (priority areas and data collection)**

Data is at the forefront of Larimer County's mission and vision as an organization. They strive to be health strategists and community conveners, utilizing data to drive discussions and identify solutions. Currently, their Office of Population Epidemiology is focusing heavily on Social Determinants of Health in their county. Syndromic data is driving much of their work including emergency department data that recently identified a trend in rising mental health concerns, including suicidal ideation, among youth. This prompted the organization of a youth mental health summit in partnership with the local school district and other community organizations. Additionally, they are in the process of creating a strategy to open a youth center.

Some priority metrics that Larimer County is currently monitoring and addressing include mental health, substance use disorder including opioid use and overdose, LGBTQ health, air quality, and health care access (including among uninsured and underinsured individuals). For those community members experiencing substance use disorder, Larimer County is seeking to use data to understand the spectrum of prevention services to recovery services and what gaps exist. This work is partially funded by the Colorado Opioid Abatement Fund. The Environmental Protection Agency (EPA) recently increased the severity of Larimer County's Air Quality from "serious" to "severe", which has prompted the need to monitor hospital visits related to acute respiratory distress and create strategies to mitigate harm. They have also

received EPA funding to monitor Volatile Organic Compound (VOC) sources that are contributing to ground level ozone. Additionally, it is known that currently 5-6% of Larimer County residents do not have health insurance, and they are partnering with the Federally Qualified Health Centers (FQHCs) in their county to better understand expanding access to care.

Larimer County is currently working with their county commissioners to develop a health and wellbeing dashboard that will pull together various data sources to give a comprehensive view of environmental health and childcare affordability and access. They want to involve the community more to rally around these various topics and understand how they can “move the needle” on health outcomes. For example, 40% of parents in the county are reporting that they don’t have access to affordable childcare, but there are gaps with individuals accessing the Child Care Assistance Program (CCAP), so they are trying to determine what the root cause of this is. They are currently working to get a subcontractor to help evaluate their Community Health Improvement Plan efforts and move forward with creating some measurable activities to complete with community partners (such as schools and local hospitals) to show an improvement.

Larimer County is currently utilizing many State-owned (and not State-owned) data systems. These include CEDRS, Covid wastewater monitoring, child fatality data, prescription monitoring, HealthSpace, Salesforce (for contact tracing), and Patagonia Health Systems (this is a Public Health Electronic Health Record that they use for their reproductive health programs, immunizations, maternal and child health, scheduling and inventory). Patagonia can interface with the CIIS and ingest data from Contexture which has helped their organization with reporting. The State database for tuberculosis, however, was unable to interface so they are still accessing that manually. They also utilize Tableau, Max QDA, and Redcap for managing and analyzing data.

Larimer County currently has a travel clinic that is very popular, and they work closely with Medical Assistants, Providers, and billing to do administrative work for this. Additionally, they have received CDC Workforce Development dollars to improve programmatic administrative oversight, which has been extremely beneficial to the

entire organization, as it freed up the capacity of managers who were previously doing administrative work for their respective programs.

When it comes to workforce needs and capacity, Larimer County prioritizes “investing in their people.” Their Board of Health has implemented professional development programs, soft-skills training programs, and a recognition program called Nectar, which incentivizes staff for various activities. They have also supported salary increases for 2023 and provide many opportunities for staff to provide input regarding areas for improvement.

Larimer County currently has an MOU in place and a “pick up the phone” relationship with Colorado State University’s Environmental Health Program faculty. This has allowed for internship opportunities at the Health Department for students and training opportunities for the Health Department’s executive leadership to go into the classroom for ongoing education. This partnership also allows the Health Department to have access to CSU’s electronic library and research journals.

## **Barriers**

Larimer County feels that the largest perceived barriers that impact LPHAs in their data collection efforts is collaboration and standardization between entities. For example, some LPHAs are implementing 3-year Community Health Improvement Plans and others are implementing 5-year plans. This may lead to duplication throughout a region and even within the same agency depending on their program structure. Staff time and capacity also greatly affect the ability for LPHAs to formalize partnerships and establish data sharing agreements. Additionally, there is a lot of “gray area” and overall lack of expertise in the field when it comes to exchanging data. It is recommended that the State creates or adopts a process or system to share data among LPHAs and community partners with privacy issues already addressed for the end user.

Population health data often has a significant time-lag between the event happening and when LPHAs actually receive it, and this is a barrier to creating strategies and programs. It would be helpful to have access to historical hospital data (beyond the 6 months of ED data they currently receive), data about

community members accessing Department of Human Services (DHS) programs and current program capacity, more youth data, law enforcement data related to substance use and overdoses (including syringe exchange programs and Narcan distribution/usage/reversals), payer data, and any other granular regional data sets that allow for more specified analyses related to Social Determinants of Health.

Financial resources and capacity are also a barrier. Currently, Larimer County has a Finance and Business Process Department that is delegated to grant and contract management. It was noted that 55% of their \$14 million budget is received through grant funding. This makes their funding “unstable and unsustainable”. Senate Bill 21-243 provided additional funding for public health for three years but Larimer County is worried about supporting their 101 permanent staff and programming when this funding ends in 2024.

### **Ideal State**

Larimer County wants to continue to support community partners with analyses of data that can aid in decision making for programming and policy change. Ideally, they would love to visit various municipalities to talk about what they do and show them their data dashboard to elicit feedback and understand the unique needs of each partner they meet with. Ultimately, they want to get as many data sets as they can from partners to provide comprehensive regional data in one place for easy access by decision makers.

A communicable disease enterprise system that could easily communicate with the State would be ideal to eliminate the need to report each out individually in so many disparate systems - “more data sharing possibilities is what we need”.

It would also be helpful for them to have a Customer Relationship Management (CRM) tool so that they could easily track engagement and outcomes with partners but adopting this type of software has been cost-prohibitive. However, they plan to continue to explore the possibility of obtaining one.

## **Las Animas–Huerfano Counties District Health Department**

### **Current Data State (priority areas and data collection)**

Las Animas–Huerfano Counties Health District serves a frontier community of 21,000 people in Southern Colorado. Their current Community Health Improvement Plan’s priority metrics include obesity, SUD, and mental health. Las Animas–Huerfano Counties Health District has a large network of community partners that they are always seeking to expand to discover new collaboration opportunities to supplement their limited resources. To inform their Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP) they work with local hospitals that they also support for the Hospital Transformation Program. Current data collection methods include conducting surveys, using spreadsheets, and partnering with the Colorado School of Public Health. Las Animas–Huerfano Counties Health District serves as the fiscal sponsor for the Early Childhood Council, and partners with Pueblo County Health District for WIC, with Otero and Crowley Counties for tobacco cessation, and with Custer County for some environmental health services.

They have also used OneHealth insights and other subcontractors to assist in data collection and analysis for numerous programs and grants. OneHealth insights have supported data analysis specific to Covid, hypertension, and diabetes, and are also helping to “rebrand public health” for the Las Animas–Huerfano Counties Health District.

Currently, Las Animas–Huerfano Counties Health District utilizes many State–owned data systems including CIIS, CEDRS, and HealthSpace. Previously they used Genesis for vital statistics and an additional platform for retail food and childcare. They currently do not have an Electronic Health Record to manage their clinical services (including immunizations, STI testing, and TB testing) and use paper files. General administrative support is handled internally (separate from the county) between the Public Health Director and Business Manager who also handle grant writing and contract management.

There are numerous indicators that Las Animas–Huerfano Counties Health District would like to track over the long–term to understand how to better serve their

community including access to health services (to improve clinical prevention services), environmental quality, maternal and child health, nutrition and physical activity tied to obesity, oral health, and sexual and reproductive health. Additional data that would be helpful to have access to in real-time that is currently difficult to find includes substance use (specifically youth marijuana use) and mental health data. Currently, they receive overdose fatality data from the County coroner. Additionally, they use survey data to understand attitudes and outcomes of school-based health programming.

## **Barriers**

Barriers that impact LPHAs in their data collection, storage, and analysis efforts are time, available or attainable software and technology systems, and workforce availability and skill sets. There are no existing strategies to address improving information technology infrastructure but they have been in contact with an EHR company to see if this is a sustainable option for them after Covid dollars are spent. They are also thinking through staffing to support the implementation of an EHR and the time needed to input all the existing paper records. It was also mentioned that having the time to sit and listen to available technology solutions to find the right tool to meet the needs of their organization would be helpful in addition to meeting with similar counties to understand what they are using and what is and is not working. Additionally, as a frontier LPHA, Las Animas–Huerfano Counties Health District struggles with capturing data from State-owned data sources because the data has been redacted due to a small sample size.

With adequate training and technical assistance they would be able to embark on a major systems change. Due to staff turnover, there is a need for more back-end support to utilize State-owned data systems accurately. For example, there was a State meeting to provide training on HealthSpace, but the platform wasn't completely finished yet, and Las Animas–Huerfano Counties Health District staff were told to imagine what it would look like without actually seeing it, which felt like a barrier to understanding how to use it. They also have had to utilize the RedCap



system which was described as “a nightmare”, and the associated RedCap training they received was not sufficient.

Las Animas-Huerfano Counties Health District employs 20 staff between both counties that does not include an epidemiologist or data analyst. It has been very difficult for them to find individuals with public health skill sets, so they have had to contract out work to meet requirements for grants and programs. To address workforce needs and capacity they have hired staff through a temp agency out of Pueblo (which is a 90-minute commute from their location), engaged with the local workforce center, advertised in the newspaper, and advertised on social media; these efforts have not been successful. Las Animas-Huerfano counties “are not an attractive rural community” due to a lack of basic resources and amenities including: no infant care in their two counties and limited slots for older child care, no safe parks, limited or no youth engagement activities, lack of affordable housing, no large grocery stores, and limited healthy food options. Additionally, there are more marijuana shops per capita (1 shop per 393 people) than any other Region in the State of Colorado, which is reportedly an additional barrier to attracting candidates.

Las Animas-Huerfano Counties Health District refer to themselves as a medically underserved community in which there is a lack of physicians, behavioral health services, and other treatment options. Additionally, an overall lack of resident health data hinders grant opportunities to bring more resources to their community. They also struggle with how to adequately train the existing workforce, as it is a “constant revolving door”, and it is difficult to secure big trainers for such a small group of staff.

### **Ideal State**

Ideally, Las Animas-Huerfano Counties Health District needs to be able to see redacted health data to adequately serve their community. Just recently they were searching data for Huerfano County to track indicators over the past 3 years tied to their CHIP priority areas, and they couldn’t find anything. They would like to have access to more data that is collected by local hospitals to support this. They have partnered with the hospital on many projects and have been given access to their EMR to input blood pressure data in the past. Exploring the opportunity for a better way to share data among community partners would be ideal.

To support systems improvement and data operations, Las Animas–Huerfano Counties Health District needs a data analyst, an epidemiologist, and more administrative staff. Additionally, the ability to exchange data efficiently between programs internally and externally is also described as a huge need.

Access to software systems that are user–friendly for public health staff would be helpful. Additionally, direct State support (or funding to support) data analysis would also be ideal. State data entry processes and workflows need to be more streamlined so that LPHAs with limited capacity don't have to enter into so many different siloed databases and systems.

## **Mesa County Public Health**

### **Current Data State (priority areas and data collection)**

Mesa County Public Health feels like they have “90%” of the data they need. They currently staff three data analysts and four health planners under the same manager. They collect a large amount of data and do a lot of mapping and facilitate various community stakeholder groups to make sure they're aligned with logic models to address the needs identified within the data. They produce data and special reports throughout the year based on topics of interest from the Community Needs Assessment. There are various community coalitions (such as the mental health steering committee and SUD steering committee) which Mesa County provides data analyst support for. It is difficult for them to get access to cancer data, vital records, death data, and Human Services data (including WIC, SNAP, and Medicaid enrollment details). Also, it would benefit them to see pediatric vaccine data for the county– not all providers take the time to enter this information into CIIS. They would also like to better understand risk factors and characteristics of those in the county who end up involved with the child welfare system. They began a project related to this but had to stop it due to their inability to access the data.

Current priority measures are mental health, education, economic stability, and recidivism reduction in their county jail. They are currently underway with a county resident satisfaction survey to better understand attitudes about public safety and

other general topics. They are also in discussions with CCMCN for a pilot project to reduce recidivism. It has taken a long time for them to build trust in the community as an entity that wishes to empower residents versus taking something away from them and they intend to continue and foster those community relationships. They currently use many State systems including HealthSpace, COHID, Census data, Dr Justina, CIIS, and CEDRS. Seeing data beyond just their county and at more of a regional level would be helpful to understanding trends and health needs.

## **Barriers**

Mesa County Public Health currently relies on the county servers for their data storage and IT infrastructure. This has been difficult because there are many new requirements and safeguards for the data, and they are not their own entity- they are part of the larger county structure. They currently receive real time Emergency Department data from all hospitals in the county, three different non-profits, and Mind Springs. When there is a turnover in staff at these facilities MCPH must re-enter conversations with them so that they understand the importance of sending the data to Mesa County Public Health. Other entities like the School District also do not understand the importance of sharing data with public health officials. There is little participation from county residents when it comes to data collection for children and youth. Therefore, there is a perceived indication that the community has a non-favorable attitude toward this. It is felt that they are worried about the possible legal ramifications of sharing data. It was also noted that much of the collaboration in the area is relationship-based; if someone doesn't trust you for any reason then they will not collaborate with you.

## **Ideal State**

A standardized Community Health Needs Assessment would be extremely beneficial for all counties in the State. If they collected the same data, then they would be able to compare it across each county. The non-standardized way that these are completed leads to further fragmentation inside specific organizations. For example, if there is a hospital system that is in various counties then they will create their own needs assessment so that it is consistent for them. So now each county has a

separate needs assessment on top of the hospitals doing one as well. Right now, the perception is that organizations create programs based off of what they are interested in versus data because the data doesn't exist for an actual statewide program. Standardization would build capacity and allow counties to put funding more easily into areas of need.

Interoperability between programs is the ultimate goal. An agency needs to have the ability to make referrals for services to "complete the person", meaning that they have to address different needs across multiple agencies. This involves the need to know how their clients overlap even within their own organization and technology systems. Relationship building is very important, and there is a need to work together at the local county level to feed information up to the State (versus a top-down approach). It would be invaluable to understand their network profiles, who they interact with, who provides what resources, and how they fit into the network ecosystem. Mesa County Public Health is interested in participating more to create interoperability and standardization. Additionally, the work of Visual Network Labs seems to be very fitting for what is needed. They would like to continue to participate in these types of conversations to help move the strategy forward.

## **Northeast Colorado Health Department**

### **Current Data State (priority areas and data collection)**

Primary data collection is mainly completed via surveys such as their Community Health Needs Assessment. They compile feedback on services (does what is being offered meet expectations and needs), the built environment, access, and transportation among other feedback. For secondary data, they use national sources for chronic disease to support grant writing, the CDPHE website, and the Census. The counties within their district are very small so that's a big challenge to implement and sustain programming. They typically look at the district level to analyze various trends. The data they pull for Covid is from CEDRS and use the State Portal and CIIS for vaccinations. They often pull reports from the State portal and then try and compare them to their numbers. Having access to data is very important and can make a big difference in how you can affect health outcomes. Currently, they don't

have an internal database to store anything and subsequently must do data cleaning and analyzing manually. There is no coding- the analyst is generating reports and summarizing them manually through exporting from Microsoft Excel. They want to get more current and actionable data on chronic disease since the census is older data and it takes so much time for it to get to them. They want to be able to collect more data but typically have a low response rate for their surveys- this makes it difficult to report on trends and areas of need for the counties they serve. They need actionable, real-time data to support programming. They would welcome the opportunity to partner with hospitals and community-based organizations in the area to receive data on their shared populations. They currently use CEDRS, PrepMod (EMR), Census data, other CDC data, and My Sidewalk. The Dr Justina case investigation software was imperative to their functioning during the height of the Covid-19 pandemic.

## **Barriers**

One barrier is the difficulty Northeastern Colorado Health Department has in comparing data to inform decision making. For example, they will try to compare HCPF data to CDPHE data to Census data and there is so much variability it is hard to draw conclusions. It is also difficult because many times the data that is self-reported gives a very unequal representation of the various counties in the region. Additionally, they need access to translation services for the survey tools they are disseminating and the responses they are getting back to be inclusive of their entire population.

Currently, they do not have an internal database, nor do they have a process for data storage and dissemination (besides Covid data). There is no "data team" other than one data analyst position that they are looking to secure funding to sustain past next year. Training and retaining staff to help store and make sense of data is a challenge. Staff are often reluctant to learn new things and their capacity to change is often influenced by program requirements which are typically for smaller grants that can be managed using Excel spreadsheets and manual entry without a common infrastructure. There is an existing communication gap within the IT team's understanding of safe data storage- they are fearful of data not being stored

appropriately. It would be incredibly helpful to shed some light on this barrier of understanding. It would be ideal to have a process for data storage that is simple and easily accessible by all staff. As far as networking and sharing data there is a low level of understanding and distrust of data in the community overall. It is difficult to make programming decisions and oftentimes there are no questions or feedback from the audience following data presentations to stakeholders and partners.

### **Ideal State**

Northeast Colorado Health Department needs a centralized data dashboard where LPHA staff login to and see data for all counties statewide. They need to be able to choose the categories they want to see and get stable static reports for all metrics that are available. They need to be able to see hospitalizations, immunization data, and other priority areas of consideration in their community. They need to be able to communicate to their partners the challenges they are facing– but it is very difficult for them to get the data they need to support writing grants and securing funding to improve their infrastructure. They are currently trying to utilize a platform called My Sidewalk to help pinpoint regional level data in a meaningful way to gain support for programming. Funding received following the Covid-19 pandemic has enabled them to purchase PrepMod and Tableau. Three of their staff have access to Tableau and they are hoping to utilize this program to create dashboards and reports for dissemination to stakeholders. Ideally, they would also like to get access to an inventory management system and demonstrate agency-wide how technology is needed for modernization and increasing efficiency and capacity among their various departments.

## **Otero & Crowley Counties Health Department**

### **Current Data State (priority areas and data collection)**

The Otero County Health Department serves both Otero and Crowley counties in southeast rural Colorado. They describe their public health model as a three-step process including: 1) gathering data to understand risk factors for individuals in the

community, 2) finding evidence-based interventions to address these risk factors, and 3) ensuring widespread implementation of interventions to improve outcomes. Their current priority areas as defined in their Community Health Assessment (CHA) include behavioral risk factors and addressing youth suicide and Substance Use Disorder.

Otero County relies on multiple methods of data collection and data systems to inform strategy and program development. Primarily, they use CoHID and CDPHE data but have also created and implemented their own surveys to spearhead initiatives that meet the needs of their community. For example, they worked to “protect youth from tobacco” by gathering jurisdictional-specific data that helped support the passing of Amendment 35, which is a tax increase on cigarettes and other tobacco products with revenue designated for health care services and tobacco education.<sup>3</sup> Additionally, they utilized data from their CHA related to behavioral health risk factors of youth to support receiving funding from the Communities that Care program (CTC). Communities that Care is a coalition-based community prevention program that aims to prevent youth problem behaviors including underage drinking, tobacco use, violence, delinquency, school dropout, and substance abuse.<sup>4</sup> CTC works through a community board to assess risk and protective factors among the youth in their community using a population-based survey of young people. Additionally, Otero County has also worked alongside their Regional Health Connector (RHC) on many projects, including a chronic disease prevention program, where they completed biometric screenings to find people at risk for heart disease. Pre-Covid, the RHC was “doing a lot with data” but since then, priorities have shifted. Additionally, they have a regional epidemiology program that will sunset on July 1st, 2023.

Workforce development is important to Otero County. Covid “ravaged” their workforce, and their nursing program went from three FTE to one FTE. They don’t offer many clinical services other than vaccinations at this time and utilize both VaxCare

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<sup>3</sup>Colorado Department of Public Health & Environment. “About Amendment 35.” Accessed May 1st, 2023. <https://cdphe.colorado.gov/prevention-and-wellness/smoking-and-tobacco/tobacco-education-prevention-and-cessation-grant-0#:~:text=In%202004%20Colorado%20voters%20approved,the%20health%20of%20all%20Coloradans>

<sup>4</sup>Social Development Research Group, School of Social Work, University of Washington. “The Center for Communities that Care.” Accessed May 1st, 2023. <https://www.communitiesthatcare.net/>

and the CIIS to manage this work. Their Human Resources department is managed through Otero County, who utilizes Tyler Technologies. Typically, most grant deliverables and associated budgets are managed by program directors. The Board of Health meets 6 times a year with a consent agenda that is published on their website. They recently worked to get all staff a competitive wage increase and will hopefully be able to extend staffing in the near future; however, this is dependent upon extending existing contracts or executing new contracts.

It is felt that internally, staff do a great job of communicating and readily sharing information amongst each other. Communication, collaboration, and cooperation between programs is essential for the success of a small county health department like Otero.

## **Barriers**

One barrier that is described as “ubiquitous with rural and frontier LPHAs” is the suppression of data due to sample size, which seems inequitable compared to their urban counterparts. Also described as “HIPPA-noia”, it is felt that there is undersharing of data that might actually be a violation of the need for public health to have access to this data in order to safely serve the community. It is known that extra caution should be taken with sensitive information in small communities, but Otero County expresses needing access to that data to secure grant funding and create interventions, as regional data is often useless to them.

Two other interrelated barriers are funding and staff capacity. Otero County describes public health’s primary goal as prioritizing prevention with programs and services to improve health outcomes. Additionally, public health has the responsibility of addressing communicable diseases with appropriate interventions. It is challenging to sustain long-term public health programming due to a lack of sustainable funding and staffing. The “public health funding rollercoaster” includes a ramp up phase followed by the need to cut or re-allocate resources due to an emergency. “That is the biggest problem to maintain capacity: sustainable, predictable, sufficient funding.”



## **Ideal State**

At the top of Otero County's "wish list" is to have better access to their data, which is often redacted due to sample size. Additionally, the ability to search the vital records system death certificates by cause of death is a "huge need". Being able to do this could assist public health leadership at the local level because it would enable the ability to communicate trends to the appropriate audiences and create interventions, such as addressing youth dying by suicide at an accelerated rate.

The State Covid system was extremely helpful, as it includes case rates, hospitalizations, vaccinations, testing information, variants, and incidence rates. This same level of data is needed for other issues and trends. "When people are threatening our lives if we tell them to put on a mask," there is data to support the decisions made at a local level. It is understood that it takes time to collect, clean, and publish data, but in a communicable disease emergency, this data must be readily available.

The Center for Health and Environmental Data (CHED) at CDPHE is a great resource, but sometimes the systems and data sets can be cumbersome for staff to access. Otero County would appreciate training on how to use this better, as well as training on data analysis and statistics or someone with expertise in these areas to assist across programs to gather and analyze data. A solution to address this is "CO Train" adding a CHED course on data analysis.

## **Prowers County Public Health and Kiowa County Public Health**

### **Current Data State (priority areas and data collection)**

Prowers and Kiowa County are home to 13,200 residents in Southeast rural Colorado. Currently, Prowers County Public Health is contracted to complete and provide all of Kiowa County's Public Health Services. Like all public health departments, it is necessary for them to utilize data in some capacity to support their Community Health Assessment and to apply for grants. However, they "do not do a great job with

data " because they are not well resourced and oftentimes only have access to data that has been suppressed due to sample size. They have to use more "story-telling" or qualitative data and have to "get creative" to do so, which is perceived as a challenge. They currently do not have a data manager or data collection software other than some free options available online. They also refer to Census tract data and use support from the Colorado School of Public Health or reach out to staff at the State to help them collect, report, and/or identify usable data.

Their current Community Health Assessment (CHA) is in progress and includes the areas of behavioral health engagement and SUD treatment with the goal of reducing overdoses. They also are working to track youth engagement in the judicial system. To support better program coordination and quality improvement, Prowers County Public Health would love to have access to Tableau for internal use. Additionally, it would also be helpful to have some sort of basic data for Prowers and Kiowa County, even if it has been identified as not statistically significant. It is recognized that this data could not be shared externally, but it could help tremendously to have a baseline for internal goals for child fatality review and community behavioral health engagement.

In regards to State-owned technology products, Prowers County Public Health uses CIIS and CEDRS and occasionally RedCap. Additionally, they just contracted for an Electronic Health Record, CureMD, and are very excited to get off of paper documentation methods. Many other LPHAs of similar size are using CureMD successfully, and they are looking forward to seeing how it will benefit their organization. General administrative support is a poorly-funded area, and most program managers do their own administrative support.

To handle grant and contract management, there are policies in both counties that inform the review and contracting processes. In Prowers County, this includes review by the Public Health Director, followed by the county attorney and then to the county commissioners for final approval. In Kiowa County, the process is described as "not as formal." The Public Health Director serves as the human resources touchpoint for her staff and manages most of the hiring through a county-wide financial software called Springbrook (although they are preparing to transition to another platform).

Currently, Google Sheets and Excel are also utilized to share data internally, but a more efficient system would be helpful to streamline internal workflows.

## **Barriers**

Common barriers that impact LPHAs in their data collection, storage, and analysis efforts are a lack of resources including time, money, and people power. Being a rural community impacts the hiring pool, and there is a lack of qualified candidates in the area with formal data training or skills. To address this issue, existing staff are provided with training to learn data management skills, but it is difficult to maintain their skill set and support continued growth with limited resources.

Another perceived limitation is with the data itself, as there is a lack of non-suppressed statistically significant data available for Prowers and Kiowa Counties. Additionally, small changes to numbers often skew data. For example, if Kiowa has two cases of Covid, then they are in the “red zone” for Covid since they have such a small sample size. It is important to track communicable disease data quickly and efficiently. Due to the nature of being a small town, sometimes the health department is notified of cases of communicable diseases locally from hospitals and community members before the State notifies them.

An additional barrier is the process to track data over the long-term. This process is described as “piecemeal” and is mostly done by the local hospital or the Public Health Director. They need access to more population data and an ongoing assessment of what the community needs. Even when they are able to acquire data, values vary between sources, which makes it difficult to understand what is accurate. When describing gaps that exist regarding the capabilities that impact the achievement of the vision and strategy of the health department, it is felt that “everything is a gap.” Before the Covid pandemic there were “big strategic dreams” of having a contract data analyst to assist with data management, but funds were diverted due to the pandemic. If steady funds and capacity can be established going forward, they would like to hire a part-time data analyst at a minimum.

Currently, Prowers County Public Health is able to do some claims data analysis, as they bill internally for some services. The challenge is that they have a fair amount of

uninsured and many undocumented community members, and it is hard to quantify their needs and health status from claims data.

## **Ideal State**

The ideal tools for Prowers County Public Health include a “living database” such as a Tableau dashboard for their region that they could access and search to understand past and current local health indicators in comparison to the State overall. There is also a need for regional reporting and analysis to share locally to inform strategy and forecasting among community partners. Today, it feels like organizations “have to beg each other for data and then it’s not a similar metric” to be able to compare and understand trends readily.

Additionally, the unified system should streamline the process of data entry and data extraction in one place. Smaller counties are “not eligible for CDC funding” and rely on the State to pull data and find funding to support them.

Ideally, Prowers County Public Health needs more flexible and sustainable funding to address their workforce needs and capacity to improve their ability to perform core services. They are “always just putting out fires then trying to fill open positions”. Currently, they administer the Nurse Family Partnership (NFP) program, the Women Infants Children (WIC) program, and other care management programs which are steady but need additional funding to bolster core service functions. It is hoped that ARPA funding is continued and they have sustainable resources to support qualified staff.

## **Pueblo Department of Public Health and Environment**

### **Current Data State (priority areas and data collection)**

The data collection processes of the Pueblo Department of Public Health and Environment aim to support their programs, organization, and community. They utilize data to assess disease prevalence and mitigation strategies and understand gaps or concerns related to health equity. An example of this was illuminated during

the Covid-19 pandemic in which they identified specific neighborhoods with low rates of Covid-19 immunization and higher rates of Covid-19 infection. This data allowed them to drive planning and strategy related to increasing Covid-19 vaccine access and uptake in those areas of their community.

Pueblo County's most recent Community Health Assessment identified two priority areas of focus: obesity and mental health. Specifically, they are working to utilize a Social Determinants of Health lens to understand obesity and mental health, taking into consideration economic stability and access and enrollment rates for both SNAP benefits and the WIC program. They are also aiming to increase referrals for ACES screenings throughout the community to improve targeted clinical interventions and outcomes and equitable health care. Additionally, Pueblo County is aiming to address health outcomes related to STI prevalence, air quality, and the reduction of both fatal and non-fatal overdoses.

Data integration is one of their top identified priorities to address health disparities. Knowing how an individual community member interacts with community systems is key to achieving efficient, appropriate, and effective means to connect them with needed services. Additionally, being able to identify specific zip codes, neighborhoods, and other geographic regions that have residents with specific health indicators is essential for creating interventions to address them. Historically, most of the data sets available to Pueblo County consist of population-level health data. While this type of data serves a purpose, there are various Social Determinants of Health (cultural nuances, environment, etc.) that contribute to health disparities, and without knowledge of specifically where these exist in a community, it is nearly impossible to develop programs and interventions to effectively address them. Currently, Pueblo has staff on the ground attempting to gather data from the community to better understand some of these needs and priorities, but additional supportive data would be very helpful.

Currently they are using many technology products and systems to manage their day-to-day operations. This includes: the "LPHA Portal", the Colorado Electronic Disease Reporting System (CEDRS), the Colorado Immunization Information System (CIIS), Colorado HIV/AIDS Data System (CHADS), CDPHE Wastewater Surveillance,

Colorado Health Information Dataset (CoHID), Air Quality data, the Prescription Drug Monitoring Program (PDMP) portal, NextGen (Electronic Health Record for their clinic), HealthSpace (billing, licensing, data collection, and documentation for environmental health services), PrepMod (vaccine management), vital records, WIC (Compass), Contexture (data for surveillance case reporting), Tableau, Financial Edge (accounting and financial), and Microsoft. Pueblo County also utilizes ADP for payroll and is currently managing staff core competencies and working to create a workforce development plan.

Pueblo County recently assisted Fremont County with completing their Community Health Needs Assessment and hopes to continue assisting other partners as they can. A Pueblo County staff person coordinates regionally, creates visuals in Tableau and presents out to county leadership. Additionally, they have been working to build out their website with various reports and resources for the community and have been utilizing Constant Contact to distribute fact sheets, briefs, and presentations on topics such as Environmental Health Programs, Tobacco Prevention, Recycling, and Covid-19. Constant Contact also allows them to monitor how individuals are interacting with the various publications they distribute (such as “read rates”) and also access the published reports on their website.

They are hoping to become a “data warehouse” for collecting substance use data from their community to ultimately inform strategy across different community partners and organizations. This vision of being a “data hub” would assist other community partners who may not have the capacity to store and analyze data and allow them a safe space to share and access their data.

## **Barriers**

The most common barriers that impact Pueblo County in their data collection, storage, and analysis efforts center around organizational resources and capacity. This is especially illuminated in communities with a smaller hiring pool to fill vacant positions. Varying funding streams tied to varying financial cycles often prohibit consistent and sustainable funding. Data literacy and ongoing support and training for existing staff is also needed but often takes less precedence over other pressing

issues. Because many of the State-owned technology systems do not integrate or “talk” to LPHA systems, coordinating between them is often an arduous process. Additionally, issues with data sharing and community member privacy often slow down the coordination of programs between organizations: “The bureaucracy of HIPAA and FERPA create a lot of challenges. It’s a quick way to kill a project when lawyers can’t agree”. Another perceived limiting factor for sharing and exchanging data with external partners is that no single entity tracks data in the same way, so it is difficult to share due to the time needed for standardizing and cleaning up the data in order to analyze it. Internally they can share data readily via ShareFile.

The acquisition of real time data that could assist in identifying emerging diseases would be very helpful for mitigation efforts. Additionally, health outcome data filtered by demographics or other Social Determinants of Health data in the county with location granularity to inform strategy could also be very useful.

## **Ideal State**

Pueblo Department of Public Health and Environment named a secure data platform storage system as being the most useful tool for improving their daily data-related workflows and operations. Specifically, a technology that would allow all of the data they need to access and store to be in a single place, in a standardized format, that is clean, safe, and protected. Additionally, having standardized data sharing agreements in place for community partners and entities across the State would also be very beneficial.

## **San Juan Basin Public Health**

### **Current Data State (priority areas and data collection)**

San Juan Basin Public Health (SJBPH), comprised of La Plata and Archuleta counties, will be dissolved at the end of 2023. Following that, each respective County will stand up their own separate public health department. Within SJBPH, data collection is described as siloed by program and driven by process measures instead of

outcome measures. Currently, they do not have any priority metrics defined internally nor from the community. They are not sophisticated in designing data collection because data requirements are program-specific, and they have not had a lens to inform how that would translate to larger community outcomes. The methods that inform data collection are each determined by the scope of that program. For example, the WIC program uses the federal database and the care coordination program reports to the RAE. They have recently been interested in addressing more environmental risk factors such as healthy housing and indoor air quality, but these metrics are not integrated with any other programs' data or needs they are collecting. There is a perceived value in being able to do this, but they currently do not have the bandwidth.

SJBPH currently interacts with many State-owned technology products including CIIS, STI reporting, communicable disease reporting, and State restaurant reporting. Each system is described as "siloes and programmatic based." Additionally, they utilize Cure MD, but it has limited functionality to meet the needs of the services they provide. Most Human Resource (HR) functions are currently completed on paper, although they utilize a financial software platform for performance management that does not have all the needed capabilities to hold data, so they supplement with spreadsheets.

Internally, SJBPH are skilled in navigating secondary data sources available to them through CDPHE. If local organizations are seeking data evidence for specific initiatives, SJBPH will help facilitate this by accessing secondary data sources (as long as it aligns with their CHA or CHPA). They do not have a lot of bandwidth to provide this type of support, but if it aligns with their program they are able to complete needs and gaps assessments to collect primary data as well.

## **Barriers**

SJBPH explained that a large barrier related to data-driven programming is that not everything is measured, and this can lead to data-bias. This is problematic because often there is not a holistic picture of the health in a community because the data is only reflective of chosen metrics. If something is not measured, it does not mean that it is not a problem or issue that needs attention.



Additionally, the most common barriers that impact LPHAs in their data collection, storage, and analysis efforts are resources and the expertise it takes to create the infrastructure for a larger system that does this in a holistic way.

A lack of data sharing among community partners is also a barrier to collaboratively addressing community issues such as suicide and overdose prevention. An “out of the box program” for LPHAs to implement that could facilitate community data sharing is ideal. It would need to take into account the size of the community being served by the LPHA because this is especially difficult in rural communities where data has been redacted due to privacy concerns. There also needs to be consideration of bringing large health systems into the conversation so they can also have a vested interest in the benefit of sharing data to improve population health outcomes. SJBPH also needs an easier way to share information more readily between internal programs.

### **Ideal State**

For SJBPH it would be ideal to have more cross referrals of community members to programs both internally and externally. Being able to refer a client with their attached client record would allow for serving people more comprehensively and holistically. Ideally, being able to analyze these relationships could turn into a better understanding of client Social Determinants of Health (such as food and housing insecurity) that could then be pulled in aggregate and presented to leadership and back to the community. Currently, there is no mechanism to provide this kind of data to the community.

In regards to State data systems, consistency among programs and tools would be very helpful. Additionally, as new tools are developed the State needs to incorporate input from end-users and allow for more community-facing data access, which enables people to advocate for themselves as they access services.

It would also be ideal for there to be an overall better understanding of the connection between process measures and long-term outcomes in public health. SJBPH is very interested in understanding ways to “build the bridge” between process

measures and outcome measures to better visualize the impact to the community and where gaps still exist.

## **San Luis Valley Public Health Partnership**

### **Current Data State (priority areas and data collection)**

The San Luis Valley Public Health Partnership (SLVPHP) is comprised of six public health organizations in the San Luis Valley (Alamosa County Public Health Department, Conejos County Public Health and Nursing Service, Costilla County Public Health Agency, Rio Grande Public Health Agency, Saguache County Public Health Department, and Silver Thread Public Health District (Mineral)). The SLVPHP exists to increase LPHA capacity, enhance public health expertise and efficiency, expand access and improve quality of service, and respect the unique needs of individuals and communities<sup>5</sup>. Currently, most data collection happening among the SLVPHP organizations is related to services they provide (such as immunizations) or funded programs (such as data collected by the Tobacco Health Assessment).

Many of the SLVPHP counties collect data at different times for different reasons, which leaves a major gap because they are unable to see trends and changes over time at a population level. Some areas of interest that they are currently tracking but that aren't clearly defined anywhere include: tobacco use, obesity, cardiovascular health, health ethics, opioid use, and suicide rates. They have used data gained from the Healthy Kids Colorado Survey to support prevention coalition work. Additionally, their most recent Community Health Improvement Plan focused on increasing capacity and health equity.

The methods used to collect and report data for grants or programs are dependent on what is defined for the scope of each respective program at a State or national level. It is easiest for SLVPHP agencies to use tools and systems that are already designed to capture data they provide, as they do not have the capacity at many of their smaller LPHAs to create or track data on their own. It has been observed that

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<sup>5</sup> San Luis Valley Public Health Partnership. "About Us". Accessed May 1st, 2023. <https://www.slvphp.com/our-vision>

data is typically organized in siloes tied to specific programs or activities. In the past they have used Survey Monkey to create specific surveys to gather data related to tobacco planning at schools and in youth groups.

Currently, the SLVPHP uses various data resources to inform the priority areas of their community health assessment. This includes pooling data sets from data systems found on CDPHE's website, immunization data in CIIS, Healthy Kids Colorado Survey results, the State Demographer who is able to coordinate other census and population data for them, tobacco retailers, a partnership with a local economic development group, emergency preparedness tools, and healthcare coalition funding resources that have assisted with mapping specific needs in the community. These tools and resources are typically the most useful if they can provide data for the entire region.

Currently, the Rio Grande Public Health Agency is the only entity within the SLVPHP that is considering adopting an Electronic Health Record to support their programs and services. None of the other five SLVPHP agencies provide clinical services (besides immunizations) such as women's health, family planning, or the WIC program.

The structure for general administrative support and grant or contract management is different for each SLVPHP agency. It is not uncommon for administrative support to be pieced together by small pockets of funding from numerous sources. Each county has their own process for applying for grants or hiring contractors. For most of the smaller county health departments, the director is responsible for providing data and programmatic support. However, there are some tasks that are done regionally (typically taken on by Alamosa County Public Health Department as the largest agency in the partnership). This includes the management of tobacco funding, overseeing the healthcare coalition work, and environmental health tasks. Many processes are not "black and white" and can overburden some of the smaller agencies. This is a challenge because it takes a lot of effort and capacity to develop structures that support the partnership, and sometimes changes happen at a State level that trickle down and affect how the SLVPHP are able to operate.

The various counties in the SLVPHP have worked in numerous ways to support other local agencies and partner organizations in their respective communities. They have assisted in the community health assessment processes within the region by leading in developing assessment surveys, facilitating community forums to gather data, completing analyses on past plans, and making recommendations for process improvements. They have also assisted with providing data to organizations and agencies to support the development of a new walking/biking path and to support schools seeking funding opportunities. Additionally, they have acted as a community convener to bring partners to the table to discuss important topics and needs such as improving rates of childhood immunizations.

## **Barriers**

Not having the funding, capacity, and expertise to use and analyze data is seen as an overarching barrier. Oftentimes, there is population-level data available at a State and National level for SLVPHP agencies to access, but there aren't staff available to analyze this data, put it in a dashboard, and track it over time at a local level. Additionally, data is typically tracked within a specific program for a specific activity tied to funding. This is problematic because it keeps data siloed and makes it difficult to see a larger picture of trends and gaps.

Three of the SLVPHP counties are frontier or rural and serve small populations. This is also a barrier because often when they receive data for these smaller counties related to sensitive topics such as STI prevalence, it has been redacted because it does not meet the population threshold for viability and has been deemed too easily identifiable. Additionally, an issue has been observed with data gained from the Healthy Kids Colorado Survey prevention coalition work in that they will receive a county-wide report. This report provides population-level data that isn't helpful for guiding targeted interventions because specific schools have very different needs/concerns.

The constantly evolving post-Covid landscape of public health has led to a re-examination of priorities and workforce capabilities within the SLVPHP. The workforce shortage for epidemiologists and nurses has been a barrier to continuing to provide all services and has led to the combining of roles, sharing nurses between

counties, and other ways to “share the burden” across all six counties. Specifically, Alamosa has transitioned to doing a Home Health program and almost all counties in the SLVPHP have discontinued personal care provider services in order to comply with the requirements of Conflict Free Case Management.

## **Ideal State**

The ideal state for the SLVPHP would involve having access to a tracking system tool for health assessment goals that comes from the State and is available for all LPHAs across Colorado. They would love to be able to see their performance in real time for the benchmarks of the goals they have set. It was mentioned that perhaps CALPHO could subsidize this project and then each health department could customize their own dashboard. Additionally, they would love to have access to more consistent real time local data that could inform emergency action if necessary such as communicable disease data, other states’ data, and emergency supply access data. Additionally, it would be helpful to have data use agreements in place that are created at the State level so that everyone at the local level has an easier time adopting those regulations and understanding how to best exchange data with community partners.

## **San Miguel County Public Health**

### **Current Data State (priority areas and data collection)**

San Miguel County Public Health considers themselves a “true frontier community” with six staff persons on their team. They are part of the West Central Public Health Partnership (WCPHP), comprising Delta, Hinsdale, Montrose, Ouray, and San Miguel counties. They complete their Community Health Assessment and Public Health Improvement Project (PHIP) regionally as the WCPHP, and current priority areas are Behavioral Health, Healthy Eating Active Living, and Healthy Housing with a focus on health equity within each area. As a partnership, they are more efficient with data collection, community engagement, and adequate representation with an increased sample size. In San Miguel County, specifically, data collection methods are

described as “old school” and “anecdotal”, although they have recently defined success in their programs and are beginning to track metrics such as community members receiving resources and clinical services.

San Miguel County Public Health utilizes staff timecards and an excel spreadsheet to track process metrics for their State Tobacco Education and Prevention Program (STEPP), such as outreach event attendance and how many cessation resources were provided. Additionally, they use a Google Sheet to track similar metrics for their distribution of Narcan and Fentanyl Test Strips. Many State-owned technology products such as CIIS for tracking immunizations, CEDRS for disease reporting, and vital records for birth and death data, are utilized at a minimum due to lack of staff capacity. San Miguel County Public Health are currently in the process of onboarding the Patagonia EHR after decommissioning Medisoft, as the functions were not supportive of their objectives. San Miguel County Public Health described the shift to normalize and digitize their public health work as being in a “fledgling state”, and they are excited to continue to grow in this area. Currently, the Director of Public Health also writes grants and handles contract management in tandem with the Finance Director.

Regionally, as the WCPHP, they collaborate with Quality Health Network (QHN) and hope to be able to adopt the Community Resource Network (CRN) platform to be able to send and track referrals to partner agencies. However, they will have to log out of their EMR and into CRN, so this is seen as a challenge. WCPHP works closely with Tri-County Health Network, a local non-profit that currently utilizes CRN and will be adopting a program called Pathways. Additionally, Tri-County Health Network administers many different programs locally including Communities that Care and Healthy Kids Colorado Survey work. They also head a workgroup with EMS and two area hospitals to do planning for collaborative funding opportunities to support projects related to addressing disease trends, partnership building, and information sharing.

There has been a concerted effort to increase transparency with staff this year inside San Miguel County Public Health. Although each staff person wears many hats, clear work plans and goal setting for everyone are established with workforce

development opportunities included such as attending training and conferences. San Miguel County Public Health works closely inside the WCPHP to leverage additional staff support as needed in areas such as data management and grant writing and work together on joint communications related to communicable diseases (including Covid specifically).

## **Barriers**

San Miguel County Public Health faces many of the same barriers experienced by other rural and frontier communities, with the most significant being unusable redacted data due to sample size. The State dictates much of how data is collected and entered into proprietary systems, but then it is unusable at a local level because it either cannot be extracted or it has been suppressed. It is important for the WCPHP and San Miguel County Public Health to understand the unique needs of the various geographic areas that comprise their region to incorporate the perspectives and lived experiences of all community members.

Another barrier to data collection, storage, and analysis efforts is not having the in-house staff expertise and capacity to analyze data. Additionally, it is challenging to collect and report data into various siloed systems.

San Miguel County Public Health feels like they “can do the bare minimum to function” and reach out to the State for questions or issues related to data reporting and utilizing the various required systems. However, it’s challenging to keep up with multiple “piecemeal” data request forms. For example, Covid warranted the creation of many forms that have been helpful to assist with data requests, but it seems like “there is some unwritten instruction manual or codebook that we [San Miguel County] don’t have, so we are constantly asking for help to know where to go outside of the larger systems like CEDRS and CIIS.” The issue is not accessing the forms themselves, but knowing what form to request because there are various separate forms correlating to needed data from siloed systems. There isn’t a way to search for each specific form, which has necessitated work-arounds such as bookmarking the form or requesting it specifically. This is a difficult and inefficient process when time-sensitive data is needed and coordination is often difficult due to the size of a large organization such as CDPHE. It was also suggested that there could be better

efficiency and collaboration inside CDPHE to establish some norms or expectations related to sharing updates with LPHAs regarding new systems, data sources, and workflows.

## **Ideal State**

Promoting better program coordination and quality improvement takes capacity and resources, and San Miguel County Public Health describes their current process as “doing the most with less”. A real-time data feed of communicable diseases and emerging issues (included data from other states) is greatly needed. Additionally, having access to quality-of-life data points such as Social Determinants of Health data to inform program development and interventions would also be incredibly valuable.

Foundational quality improvement methods coming from the State that support the entire staff at LPHAs would be helpful due to the large learning curve of training individuals in public health and quality improvement. LPHA work groups would also be a valuable avenue to provide feedback to the State about data systems that can then be incorporated into future iterations of each system.

It would be ideal to have all needed data in one system or a network of interoperable systems to promote efficiency (especially for smaller LPHAs with less capacity). It would also be helpful to have access to a referral platform connected to these systems in order to promote better program coordination. The internal exchange of data at San Miguel County Public Health is mostly done through conversations, and data often does not get captured appropriately, although this has been improving for the past year with the adoption of Google Drive/Google Suite. Currently, community data collection is done on paper and in person, which is time-intensive for staff.

Additionally, having clear data on “money in and money out” from the State would greatly increase efficiency for a small LPHA like San Miguel County Public Health. Many of their funding sources are coming from various places within the State which requires much of the Director of Public Health and the Director of Finance’s time to ensure contracts are being signed correctly and managing the “back and forth” of



each contract. Although these are all coming from the State, they are slightly different and consume a lot of time to manage.

## **Summit County Public Health**

### **Current Data State (priority areas and data collection)**

Summit County (home of Summit County Public Health) is one of the most visited counties in the United States during peak ski season, the population grows from 30,000 to 175,000 on any given day. Summit County Public Health characterizes their use of data as a “patchwork” that informs their Community Health Assessment (CHA). This includes, but is not limited to, data from the CDPHE portal, COHID, County Health Rankings, and other community partners such as Summit Community Care Clinic, the Community Resource Center, Early Childhood Options, and the Department of Human Services who house the WIC program. In 2022, their CHA identified priority areas of livability (including metrics on housing, food security, wages, and childcare), substance use, and behavioral health.

To address substance use and behavioral health, Summit County Public Health is collaborating with the County Sheriff (who is involved at the State level), EMTs, law enforcement, fire departments, and other local first responders. Specifically, they have been focused on gathering data related to opioid reversals from an application called OpiRescue that first responders and others with access can utilize to report overdose reversals from the administration of Naloxone. They have also been working to execute a Data Sharing Agreement with local EMTs on a project to deduplicate Naloxone administration data between the EMTs’ system and law enforcement’s system. This has been a long process, but it is important to have accurate data to support interventions that can address the fentanyl crisis in their community (with 5 of 6 overdoses attributed to it). Additionally, they are working with local ski resorts and high schools to have Naloxone on site, as well as hosting regular training on how to administer it. Summit County Public Health describes a long-standing positive relationship with law enforcement that began in 2015 with other opioid prevention activities (including training for law enforcement from the

harm reduction institute and getting them access and training to administer Naloxone in 2017). This relationship was further bolstered during the onset of Covid when Summit County Public Health regularly attended meetings with the Chief of Police to discuss and work together on Covid response needs. Additionally, Summit County Public Health is working with Building Hope, a behavioral health service and support organization, to get additional data on behavioral health and substance use needs in the community.

Summit County Public Health mostly utilizes Excel spreadsheets and paper to support data collection for their current program management. For example, they are tracking child vision and hearing screenings and Naloxone kit education and distribution on paper. However, they recently purchased Patagonia to utilize as an Electronic Health Record (EHR) and are very excited for how this will streamline existing workflows and support more electronic record keeping and population health reporting. Currently, their nurses don't do much direct care other than immunizations (most other services are provided by their local Federally Qualified Health Center, Summit Community Care Clinic), although they do administer the Nurse Family Partnership program that has its own proprietary documentation system. Additionally, they utilize numerous State-owned data systems for reporting including CIIS, CEDRS, and TBdb. Their environmental health division uses separate databases for air monitoring, water quality, and food services. Grant and contract management are handled through the finance and administration manager who utilizes an additional county platform called Municy.

One large goal for Summit County Public Health is to create a community-facing dashboard that can shed light on all of the programs, services, successes and challenges faced by the health department. They were able to utilize CDC Covid response funding to hire a data analyst who developed a local Covid response dashboard that was well received by the community. Being able to "tell a story" for all other programs and services could be a catalyst to further community support and involvement and "boost public and political will."

## **Barriers**

Due to the small size of Summit County and the large population fluctuation during peak ski season, it is a challenge to find readily available and accurate community data for permanent residents. It is time intensive and difficult to locate data on cancer prevalence and death rates and to correlate other metrics holistically.

A large perceived barrier for Summit County Public Health is the high cost of living in their county and how this translates to hiring and retaining skilled staff. They are understaffed in many departments including nursing and data analysis and currently do not have an epidemiologist or any marketing staff. They have had three nursing positions open for the past two years and attribute this to the difficulty of applicants to find affordable housing in Summit County. Last summer the county did a salary survey and increased wages (the county minimum wage is now \$24 per hour). They will continue to recruit applicants and keep positions open and plan to do another salary survey in the Fall of 2023 to ensure competitive wages.

Lack of vendor support for required existing platforms was mentioned as a common barrier that impacts LPHAs in their data collection, storage, and analysis efforts. There is a lot of data living in separate systems and no dedicated time or staff to pull it all together in a meaningful way. Cost was also mentioned as a barrier that impacts LPHAs in partnering or exchanging data with State or community partners. For example, there is a Summit County Water Quality Committee that has to pay to share data with the United States Geological Survey (USGS) and it is felt that the federal government should have a free system to share this information that is for the benefit of the community.

Another unique barrier experienced by Summit County Public Health has to do with the State system for tracking restaurant data and contact information. There is a need for local contact information versus international corporation contact information inside the system. For example, Vail Resorts is a corporation that owns numerous restaurants, but there is only an international contact listed, which is not helpful when trying to reach someone locally. A national system for food safety reporting would greatly improve efficiency.

## **Ideal State**

It would be valuable for all LPHAs to be involved during the product development process of State-owned technology products to ensure their needs are represented.

Additionally, it would be very beneficial to have State support to coordinate and link systems that have data for their county to support a bigger picture understanding of the health of their residents. The indicators that Summit County would like to understand in real-time include hospital data, death data with cause of death listed, air quality related to wildfires and subsequent acute health issues (such as respiratory visits to EDs), and the ability to more readily track chronic diseases over time. LPHAs also need better funding to enable communication related to emerging issues before they necessitate a reactionary response. Summit County Public Health believes that there is data available on their community unbeknownst to them that could help drive their work forward if they were able to gain access to it.

Ideally, Summit County Public Health would like to hire an additional Public Information Officer (PIO) to manage event promotions on social media, public relations campaigns, and other educational communication outlets. They were able to hire one previously to manage Covid-related communications but were unable to retain them after funding was discontinued, leaving one PIO for the entire county. Additionally, they could use more bilingual staff support, as there are many monolingual Spanish and French speakers in their community. They are able to partner with a local group to assist with interpretation and also utilize a phone-based interpretation service, but this resource is very costly.

# Appendix 2: Interview Guide

## Interview Guide

### Introduction

Thank you for taking the time to meet with us today. We are working on understanding the needs, goals, and priorities of LPHAs throughout the State as it relates to informatics and data strategy to support robust interoperability within both your organization and externally with State agencies and community partners.

Together, Colorado Community Managed Care Network (CCMCN), the Colorado Association of Local Public Health Officials (CALPHO), and the Office of eHealth Innovation (OeHI), have identified a common need to better understand the LPHA data landscape, which is why we've come together to draft these shared questions. Each partner intends to use these learnings to guide future activities to support LPHAs.

We would like to ask you a few questions to help us continuously learn from you and to better form our product concepts in the future.

### Block 1: Existing data collection strategies and priorities

- 1) We know you collect a lot of data. How does your data collection support your current data needs, reporting, and strategies?
- 2) What are the priority metrics that your agency and community have defined (perhaps as part of a Community Health Assessment)?
- 3) What additional methods does your organization use to collect and report data for grants or programs that are required for reporting to funders?
- 4) What types of data do you need or would you like to have to promote better program coordination and quality improvement that you do not currently have access to?

- 5) We know that LPHAs are the end users of many State-owned technology products. Could you please tell us about your use of State Data Systems?
- 6) What about your use of other systems such as an Electronic Health Record?
- 7) How is your organization managing general administrative support?
- 8) How does your organization handle grant and contract management?
- 9) To what extent does your organization have strategies and action steps that address workforce needs and capacity?
  - a. What workforce capacities at your agency are most needed to support data operations and systems improvement?
- 10) To what extent does your agency support other local agencies, partner organizations, or formal partnerships with data “services,” such as provision, analysis, or communication?

## **Block 2: Barriers and “Pain Points”**

- 1) What are common barriers that impact LPHAs in their data collection, storage, and analysis efforts?
- 2) What are common barriers that impact LPHAs in partnering and sharing or exchanging data with the State and other community partners?
- 3) Do you have a method to exchange data between programs internally? If so, please describe that method. If not, do you see this as a need?
- 4) We understand that often there are time lags in the acquisition of population health data (such as BRFSS data). What type of information or data would be helpful to receive in real time if it were possible?
- 5) What indicators would you like to track over the long-term that you are currently unable to?

- 6) Could you please speak to any gaps that exist between needs, assets or capabilities that impact achievement of the vision or strategy of your organization?

### **Block 3: Ideal State**

- 1) Ideally, what specific tools would you find the most useful?
  - a. To what extent does your organization have strategies for addressing information technology infrastructure?
  - b. Would your LPHA, if embarking on a major system change, know where and how to begin that process?
- 2) What are the primary barriers to obtaining these tools?
- 3) As end users, LPHAs are both inputting data into systems and then needing to extract it for various purposes- what would make either process more efficient and/or valuable to LPHAs?