COLORADO
Behavioral Health Administration

Administrative Burden

CCAR/DACODS Modernization at the BHA

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Authors: Abigail Fisher, Chris Pimlott, Mark Gammon

Contributors: Riya Singh, Justin Man, Jordan Bass, Troy Evatt, Sharon Pawlak, Jackie Urioste

We want to express our deep thanks to the providers and other stakeholders who participated in this research. We know that every hour spent with us is an hour away from supporting clients. We take this responsibility seriously, and promise to live our value of co-creation. We have expressed the truth as we heard it and credit the recommendations in this report as solutions from those closest to the problem.

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Executive Summary

[1-2 page synopsis of findings and recommendations]

From March through July of 2023, the Behavioral Health Administration's technology team conducted primary and secondary research on the administrative burden created through CCAR/DACODS reporting requirements and technology systems.

Our Hypothesis | Outdated and inefficient state reporting processes create undue administrative burden on behavioral health providers and ultimately negatively impact the experience of people seeking care in Colorado.

Our Goals

- Increased understanding of how BHA reporting requirements (specifically CCAR/DACODS) influence provider processes and operations, and how that carries over into client experience.
- Improvement of data quality and reduction of administrative burden on providers.

We engaged with 16 providers and service organizations in Colorado across a variety of tech setups, geographies, behavioral health settings, services offerings, and population expertise. We conducted hour-long interviews and virtual site visits with this group of providers.

We also did extensive secondary research on policy, legislation, and past modernization efforts.

Top Insights
The data model for CCAR/DACODS is clinically and culturally out of date, especially for data elements like gender, race, and ethnicity.
Providers are losing out on payment and accurate counts towards contractual requirements due to inflexible data intake into BHA systems and inefficient error resolution processes.
The distinction between CCAR (mental health) and DACODS (substance use) perpetuates siloing of behavioral healthcare and creates high levels of data duplication for the rising population of dual diagnosis clients.

Basic usability issues (ex. account management, system time outs, copy/paste functionality) with BHA systems increase the time, effort, and cost required to submit compliant data.
Today, the data generated by CCAR/DACODS provides limited benefit to the state's behavioral health ecosystem at large. The data is currently only in active use for contract and funding requirements, not any larger data analysis that is publicly shared.
CCAR/DACODS requirements are directly and negatively impacting how people experience behavioral healthcare in Colorado, especially for intake appointments.

These insights bolster our key recommendations detailed below. Our approach to building these recommendations into a roadmap favors iteration and trust-building, critical elements to the long-term success of this modernization effort.

Key Recommendations

- Update Data Model: Update the data model for CCAR/DACODS through relevant stakeholdering and federal review processes. Map data model to culturally competent best practices for front-end presentation.
- Select Data Entry System: Perform an analysis of existing internal and external technology systems based on recommended design parameters in order to select a new front-facing data entry system.
- Build for Episodic Reporting: Build a reporting environment where we can collect data episodically; aggregating encounters into "Episodes of Care".
- Create Data Analysis Dashboards: Create standard and customizable data analysis dashboards so providers can track progress towards contractual requirements as well as measures of equity.
- Prioritize Engagement: Create a robust external communication and engagement plan for providers and other stakeholders to foster trust and transparency.

The Big Picture

If you can't read the report in full, we want you to walk away understanding the following:

Currently, the BHA is very strict about the format in which it will accept CCAR/DACODS data. It requires a customized file format that is not supported by electronic health record systems (EHRs) without customization. It is up to each provider to create unique processes and systems in order to successfully create and submit this file type.

Also if providers' files are not completely error-free (for example, addresses not matching between admission and discharge reports for the same service), they are rejected. Providers

can only see that their files have errors after submitting the data to the BHA, making the resolution process laborious.

What if the BHA could alleviate some of this burden by being more flexible about the format of the data we can intake? What if we were able to signal errors to providers prior to submission, thereby shortening the error resolution process? What if providers were able to see the entire whole-person picture of a client, not just the "moment in time" snapshot currently captured by CCAR/DACODS? The recommendations in this report detail what technological environment we would need to build in order to make that vision a reality.

Consequences of Inaction

If we don't act on the recommendations detailed in this report, there will be direct and negative impact on providers and people seeking behavioral healthcare in Colorado. These consequences may include, but are not limited to:

- The continued depersonalization and re-traumatization of people in behavioral healthcare settings through imprecise and harmful data element options for demographic information.
- The destabilization of clinical trust before it can even be built through the repetitive, intrusive questioning that clinicians have to engage clients in for reporting purposes.
- Data inaccuracy stemming from outdated data elements used to describe people that are substance users, specifically for data elements detailing drug type and administration method.
- Disincentivizing new providers from entering the public behavioral health workforce due to the high and inequitable administrative burden they experience when compared to the private sector.

Executive Summary

[1-2 page synopsis of findings and recommendations]

General

What is Administrative Burden?

We define *Administrative Burden* in this context as the time, effort, and resources required by behavioral health providers to comply with state-mandated reporting, rules, and regulations. These activities can also dictate how and when providers are paid. Reducing administrative

burden is an important priority for the Behavioral Health Administration (BHA), and was emphasized in recommendations from the Behavioral Health Task Force.

Why Does It Matter?

Administrative burden forces providers to spend more time on paperwork than with their clients. The behavioral health staffing crisis in Colorado further exacerbates the impact of this imbalance. Providers that accept medicaid and other public funding for services experience even higher administrative burden than those in the private sector.

History | COMPASS and the Data Integration Initiative (DII) were past projects to consolidate and modernize CCAR/DACODS. COMPASS did not progress due to a technology vendor partnership that didn't "meet the goals of making data collection simple, update measures collected, and still meet state and federal reporting needs." - COMPASS Press Release

The recommendations detailed in this report build on learnings from these efforts, while augmenting past strategies with new understandings of civic technology best practices.

COMPASS Recommendations	Current Recommendations
• Unify CCAR/DACODS into one report type • Remove clinical scales from the data model • Select and customize a technology platform for front-facing data entry built for episodic, longitudinal data *(ultimately couldn't be accomplished by the selected vendor)* • Improve report update process and move to APIs	• Unify CCAR/DACODS into one report type • **Create data mapping options so that providers are able to use culturally competent language with clients** • Remove clinical scales and any **non-federally mandated fields** from the data model • Select and customize a technology platform for front-facing data entry built for episodic, longitudinal data • **Select and customize a technology platform build for data intake flexibility** • Improve report update process and move to APIs

Key Definitions

Colorado Client Assessment Record (CCAR)

Definition: A data collection instrument that captures demographic and outcome measures required for *publicly funded mental health and crisis clients.*
Who has to fill them out? All mental health programs and facilities licensed or designated by the BHA, as well as the Colorado Mental Health Institutes (Pueblo and Ft. Logan), are required to submit CCAR data as specified in their annual contract and/or by BHA Rule.
For which clients? Medication/psychiatric service only clients (Rule 21.190.7) and all *publicly funded clients* whose services are paid for with any amount of public funds.
Technology System: CCAR (the technology system is the same name as the data collection instrument, yes it is confusing! 🙂)
How are they submitted? CCARs can be submitted into the CCAR system through manual entry into the web application and/or batch uploads (records received in bulk flat files).

Drug and Alcohol Coordinated Data System (DACODS)
Definition: A data collection instrument that captures federally mandated demographic and outcome measures on *substance use disorder (SUD) clients regardless of payer source.*
Who has to fill them out? All substance use treatment facilities and programs operating with public funds.
For which clients? • Anyone who uses or who has used drugs or alcohol and is in a BHA-licensed substance use treatment, detoxification or DUI program, regardless of payer source (including private pay, self pay providers) for these services. • Anyone who is being differentially assessed for a substance use problem by a substance use treatment or detoxification program, regardless of whether or not the client is determined to have a substance use problem, and regardless of payer source. • Anyone court-ordered to attend a substance use treatment, detoxification or DUI education and/or therapy program, regardless of payer source. • Anyone required by Child Welfare to be in a substance use treatment, detoxification or DUI education and/or therapy program regardless of payer source.

• Each and every substance use treatment, detoxification or DUI education and/or therapy client at each admission to and discharge from each modality, regardless of payer source. • Adolescents enrolled in Minors In Possession (MIP) Treatment Programs.
Technology System: The Treatment Management System (TMS) houses the DRS (DUI/DWAI Reporting System), ADDSCODS (Alcohol Drug/Driving Safety Coordinated Data System), detox services and DACODS reporting.
How are they submitted? DACODS can be submitted into the TMS system through manual entry into the web application. MSOs and ASOs are the only organizations authorized to submit DACODS using batch uploads.

837 Encounters
Definition: A data collection instrument that captures service and payment level data on *all publicly funded behavioral health clients.* • File Type: 837 P • Data Instrument: 837 Colloquially, people also refer to 837s as “encounters” or “837 encounters”.
Who has to fill them out? All providers that serve Health First Colorado Members (Medicaid) in addition to providers using BHA funding (tracked through Special Studies Codes, including all crisis modalities) are required to submit 837 Encounter data.
For which clients? Medicaid and BHA funded program participants
Technology System: CCAR (for both MH and SUD clients)
How are they submitted? Providers must submit 837 Encounters to both the BHA and HCPF separately (yes that means they are in essence submitting the same data twice). For the BHA, 837 Encounters are submitted via batch upload to the CCAR system.

Why is this data collected?

Apart from facilitating the flow of funding streams (outlined in detail in the next section), the data generated from CCAR/DACODS flows into the federal SAMHSA data source TEDS.

> *"This reporting framework supports SAMHSA's initiative to build a national behavioral health data set accessible (with appropriate confidentiality protection) by the public; local, state, and federal policymakers; researchers; and many others for comparisons and trends on the characteristics of persons receiving substance use and/or mental health treatment services." - TEDS State Instruction Manual*

We'll detail later in this report how CCAR/DACODS data is and isn't being used at a state-level for data analysis, and what recommendations surfaced through research regarding how providers want that data to be used.

Budgets & Funding

Key Definitions

Publicly-Funded	Private Pay
Any behavioral health treatment or service that uses government funds (Medicaid, BHA Programs, Judicial, County, etc.)	Any behavioral health treatment that is entirely self paid or paid through private insurance.

Block Grants & Medicaid

The BHA administers state-specific programs for mental health and substance use disorder treatment through funding provided by SAMHSA (Substance Use and Mental Health Services Administration) block grants. In order to maintain the block grants, the BHA must submit data on program participation, utilization of block grant funds, and client-level data to SAMHSA annually. **This federal funding stream and the associated contractual requirements are the primary reason why CCAR / DACODS exist for providers.** Until we do a better job of publicly sharing data analysis, these reports will continue to exist solely as an administrative task, releasing no additional value to providers or the state.

A similar relationship exists between Medicaid funding and the Colorado Department of Health Care Policy & Financing (HCPF). In order to receive federal Medicaid funding, providers must submit 837 Encounters files to HCPF. HCPF then reports that data to the Centers for Medicare & Medicaid Services (CMS) as part of their contractual requirements to administer Medicaid.

Reasons providers would use both BHA program funding and Medicaid can include:

- Utilizing the BHA as a payer of last resort when Medicaid can't cover the cost of treatment or service.

- Providing payment support to those not eligible or not enrolled in Medicaid but still in need of financial assistance.
- Accessing the benefit of the BHA's state-specific programs to address unique needs for priority populations.

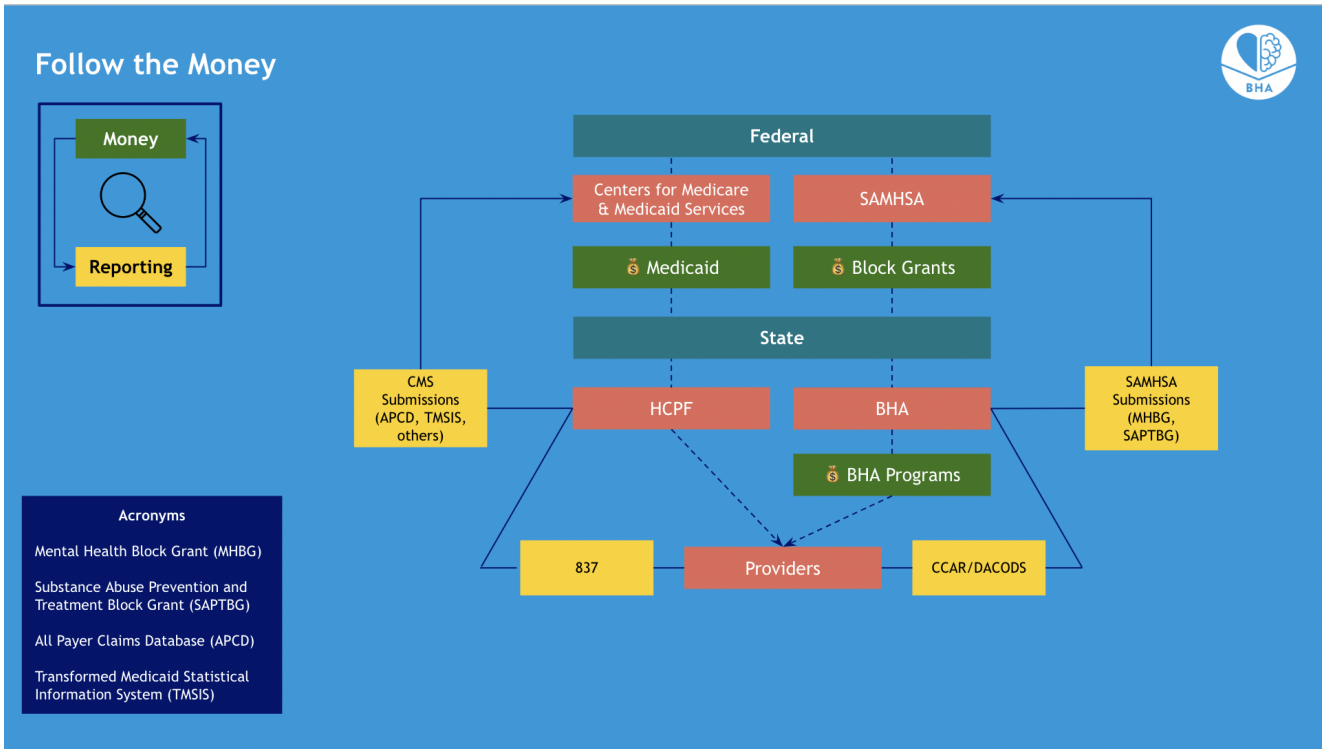


Diagram showing how money flows between federal and state agencies to providers, and corresponding reporting requirements.

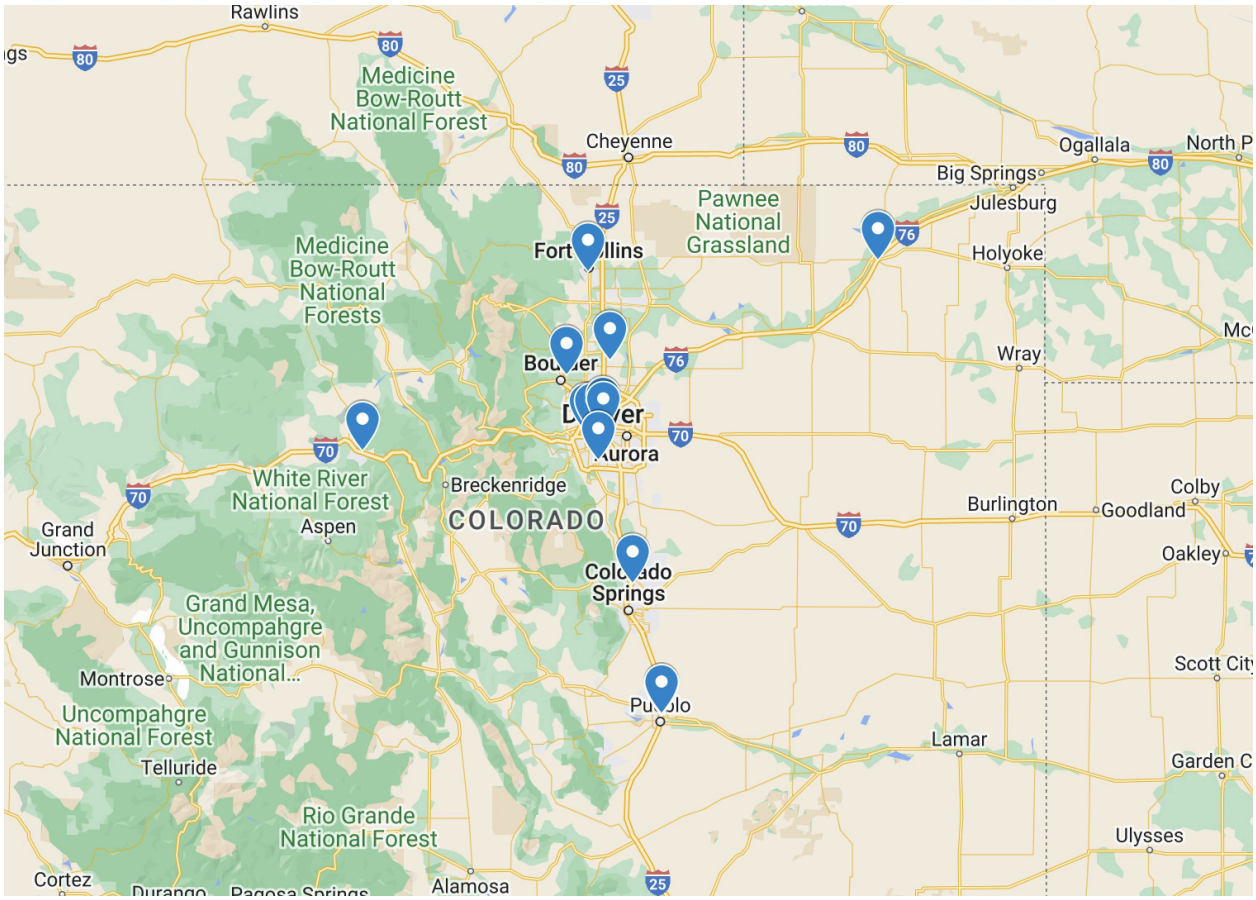
Research Findings

[Details on what research we conducted, how we conducted it, and major themes / insights]

Methodology & Representation

We engaged with 16 provider organizations across Colorado, which included representation of a variety of tech setups, geographies, mental health settings, services offerings, and population expertise. We conducted hour-long interviews and virtual site visits with over 60 individuals from those 16 provider organizations, representing a range of roles including clinicians, administrative staff, data/tech teams, managers, and executive leadership. Virtual site visits

focused on deep dives into technology systems and processes, while interviews were focused on resourcing, roles, pain points, and opportunities.



Map of provider's main locations that we engaged in research.

A Sample of Participant's Roles/Titles	
Role Type	**Titles**
Executive Leadership	Chief Clinical Officer Chief Information Officer Chief Marketing Officer Chief Operating Officer
Clinical Manager	Director of Residential Services Director of Co-Occurring Outpatient Clinical Director Clinical Services Manager Youth Services Manager

	Director of Public Health & Community Engagement
IT/Data	IT Support Director of IT IT Specialist Senior IT Specialist IT/EHR Administrator EMR/Data Reporting Director Manager of Enterprise Applications Senior Director of Behavioral Health Senior Data Architect manager
Quality Assurance	Director of Quality Safety & Compliance Officer Quality Improvement Coordinator Medicaid QA Specialist Supervisor Vice President of Quality Improvement and Project Management Quality Manager Director of Quality Improvement & Compliance BHQA Director QA Specialist
Finance	Billing Coordinator Revenue Cycle Manager

A Breakdown of Facility-Level Representation	
Size / Setting	• Large Organization (multiple locations): **8 orgs** • Medium Organization: **5 orgs** • Small Organization (single location): **1 org** • Hospital: **2 orgs** • CMHC: **6 orgs** • FQHC/Safety Net: **2 orgs** • Walk-In: **4 orgs** • Crisis Stabilization Unit: **3 orgs**

	• Residential SUD: **8 orgs** • Outpatient SUD: **10 orgs** • DUI/DWI: **3 orgs** • Residential BH: **5 orgs** • Outpatient BH: **9 orgs**
Population Served	• Multi-Lingual Practice: **4 orgs** • Children, Youth & Family: **5 orgs** • Geriatric Care: **3 orgs** • Veterans Care: **3 orgs** • Civic/Criminal/Forensic Services: **7 orgs** • LGBTQIA+: **1 org** • Disability Accommodation: **1 org**

Tech Resourcing Definitions	
High Tech-Resourced	**Low Tech-Resourced**
• Full EHR • Customized EHR modules for state reporting • Budget for APIs • Dedicated data/tech team • Dedicated finance/contract • High speed wifi	• Basic EHR, if any • No EHR customizations • No budget for tech infrastructure • Clinicians/front desk staff take on data/tech duties • Finance/contract management responsibilities tacked on to someone's job • Some reporting/paperwork still completed by hand • Potential for limited wifi and broadband

User Stories

User stories are a framework used as a best practice in product management and civic design to ground teams in the experience of various stakeholders.

> *"User stories are short, simple descriptions of a feature told from the perspective of the person who desires the new capability, usually a user or customer of the system." - United States Digital Service*

These user stories represent the current state for a variety of actors involved in CCAR/DACODS reporting. These user stories are meant to be representative, not comprehensive of every role, scenario, or tech setup.

Role	User Story
Clinicians	As a clinician, I need to have state-specific reporting requirements in the back of my mind during a client appointment so I can mentally check off the information I need to complete paperwork after they leave. At the end of my conversation with a client, sometimes I have to pull out a CCAR/DACODS cheat sheet to make sure I am not missing any information. CCAR/DACODS reporting requirements have small but impactful differences from the information I collect in our EHR anyway as part of a standard client appointment process. After the appointment, I have to complete the paperwork my organization requires for internal processes, and then duplicate much of that information into CCAR/DACODS reports. This full paperwork process can take 1-2 hours for one appointment for one client, and the CCAR/DACODS portion of that time can take anywhere from 45 minutes to an hour depending on my organization's tech setup. The process I use to create CCAR/DACODS files varies depending on my organizations' tech setup. Some **larger, high-tech resourced organizations** build EHR modules specifically for CCAR/DACODS, and in that case the information I enter into our EHR is automatically translated into a CCAR/DACODS report so I only end up having to enter in a few additional fields that are unique to those report types. Those files are then uploaded in batches (batch uploads) to the CCAR or TMS system by our data/tech teams. Other **smaller, low-tech resourced organizations** have to enter CCAR/DACODS manually into CCAR or TMS, one entry at a time. The final step I take to submit a CCAR/DACODS successfully is the error resolution process. If I submit files **manually**, I can see immediately if a report needs to be corrected. If my organization submits **batch files** however, my data/tech team might get back to me months later for a correction because they can only see errors once they upload into CCAR or TMS, and typically they are doing

	uploads monthly, not daily or weekly. **Estimated Time Spent on CCAR/DACODS for <u>1 Client Intake Appointment*</u>** • High Tech-Resourced: 30-45 min • Low Tech-Resourced: 45 min-1 hour
Front Desk / Administrative Staff	As a front desk and administrative support staff at **a small, low-tech resourced organization**, I help out with data entry of CCAR/DACODS into CCAR and TMS. Whenever I have down time, I have a stack of CCAR/DACODS in front of me that I have to manually enter in the state systems. I also assist with the errors resolution process, emailing or talking to clinicians when there is an error that I can't fix as a non-clinician (think diagnosis codes or admission dates). Errors that I can resolve on my own include when addresses or spellings don't match. **Estimated Time Spent on CCAR/DACODS for <u>1 Client Intake Appointment*</u>** • Low Tech-Resourced: ~10-20 min
Data / Tech Team	As a data / tech staff member at a **large, high tech-resourced organization** (smaller organizations don't have dedicated data/tech teams), I take the files generated by clinicians in our EHR CCAR/DACODS module, create batch files, and submit those files on a bi-weekly or monthly basis to the state's CCAR and TMS systems. I am also responsible for facilitating the error resolution process. That means I pull reports and either make updates myself if there are basic errors, or get in contact with the reporting clinician if it is something only a clinician can resolve (ex. diagnosis code). I also sometimes help clinicians manage their task lists, creating processes and systems so our EHR automatically triggers when a CCAR or DACODS is necessary. I also make sure our organization's internal records match the state's records in coordination with our finance/contract teams to make sure that we're getting paid appropriately and that we're accurately tracking towards our contractual requirements.

	Estimated Time Spent on CCAR/DACODS <u>Monthly Uploads & Error Resolution</u> • High Tech Resourced: 20+ hours <u>(this is some people's full time jobs)</u>
Finance / Contracting Team	As a finance/contracting staff member at a large, high tech-resourced organization (smaller organizations don't have dedicated finance/contract teams), I monitor what we report to the state because it directly impacts what and when we get paid, and how we're tracking towards contract requirements. Depending on the organization, I am responsible for entering in special studies codes (codes that earmark certain services and clients for specific BHA-funding streams) on reports because it's too confusing for clinicians. Mislabeling a special studies code on a CCAR/DACODS report can result in that service not being paid for by the BHA and my organization having to eat the cost. I generate reports from either CCAR or TMS to track how our internal records compare to what the state's records show. Sometimes I do this in collaboration with our data/tech team. There are often discrepancies between what our system and the state system shows, which means either we didn't catch errors, there are data intake problems on the state's end, or we as an organization didn't precisely understand which clients and services quality for payment from the BHA. Regardless of origin, these discrepancies mean that the state doesn't have an accurate picture of the services we provided, leading to undercounting contractual requirements and/or not getting paid. **Estimated Time Spent on CCAR/DACODS for <u>1 Client Intake Appointment*</u>** • High Tech-Resourced: Unclear, we didn't speak to enough finance/contract staff directly
Intermediaries (ASO/MSO)	Intermediary organizations are responsible for managing substance use and mental health services for people who are uninsured or underinsured in a specific region of the state. It is a part of their contract with the BHA that ASO/MSOs help organizations under their purview with reporting requirements. Different ASO/MSOs manage this in different ways through different tech systems and processes.

	As an intermediary, I sometimes have a tech system for organizations under my management to submit CCAR/DACODS data into which we then pass through to the state. For example, Signal (which is both an ASO and MSO) uses a platform called Beacon which collects CCAR/DACODS information from providers. Beacon then transforms the data into an acceptable format for the state's CCAR and TMS systems for official submission. Intermediaries sometimes facilitate the error resolution process the same way data/tech teams do internally, especially in the case described above where organizations are using an intermediary system to submit their CCAR/DACODS data. Intermediaries sometimes provide reporting dashboards so their organizations can see how they are tracking toward contract requirements. The data intermediaries submit to the state through their systems (like Beacon) takes about 30 days to show up in the state's system, so organization's sometimes check both intermediary dashboards and pull state reports (from CCAR and TMS) to make sure their internal records are matching both the intermediary and state's records. **Estimated Time Spent on CCAR/DACODS Monthly Uploads & Error Resolution** • Unclear, we didn't speak to enough intermediary front-line staff
BHA Staff Data / Tech Team	As the BHA data/tech team, I assist various individuals and roles at provider organizations with reporting requirements. I pull customized reports, offer trainings, and field communications to resolve various reporting issues. I am also responsible for the BHA's federal reporting requirements, so I input CCAR/DACODS data into various federal systems. **Estimated Time Spent on CCAR/DACODS Monthly Uploads & Error Resolution** • Multiple full time staff

*Intake appointments are used for time estimates because they are typically the most involved appointment types. Time spent reporting for subsequent appointment types likely requires less time spent on paperwork.

Other Contextual Insights

Additional anecdotal insights we heard from provider organizations:

- When a provider organization can expect payment for service from BHA funds directly correlates to when they enter their CCAR/DACODS report for that client and service.
    - In a previous effort to address administrative burden, the BHA allows for providers to wait until the 6th client encounter until they have to enter all of their CCAR/DACODS reporting to the state. This rule doesn't get to the root of the problem however. Providers don't want to wait to submit reporting because that means they're also waiting on payment.
    - Also, clients often don't come back after an initial appointment, making the individual impossible to "count" towards contractual requirements if a provider waited until future encounters to collect relevant information for CCAR/DACODS reporting.

- The more funding streams, licenses, and certifications a provider organization has, the more reporting requirements they are beholden to. The data required by these funding streams and regulations are often the same or similar data sets, meaning providers organizations have to enter the same data over and over again into different systems and formats.

    - Some organizations are so large they cover multiple MSO, ASO and RAE regions, adding to reporting complexities. These organizations sometimes have to use different EHRs/tech systems (think Beacon) at different facility locations within the SAME ORGANIZATION to be in compliance with the corresponding intermediary.

- Legacy staff retirement poses a high risk for provider organizations due to the loss of institutional and word-of-mouth knowledge transfer on how to navigate the complexities of BHA contracting and reporting. As people currently supporting these reporting systems and processes retire, there will likely be a huge knowledge gap unless we modernize and better document these processes.

Recommendations & Roadmap

[Tactical recommendations and proposed plan for implementation]

Overview

Scope & Philosophy

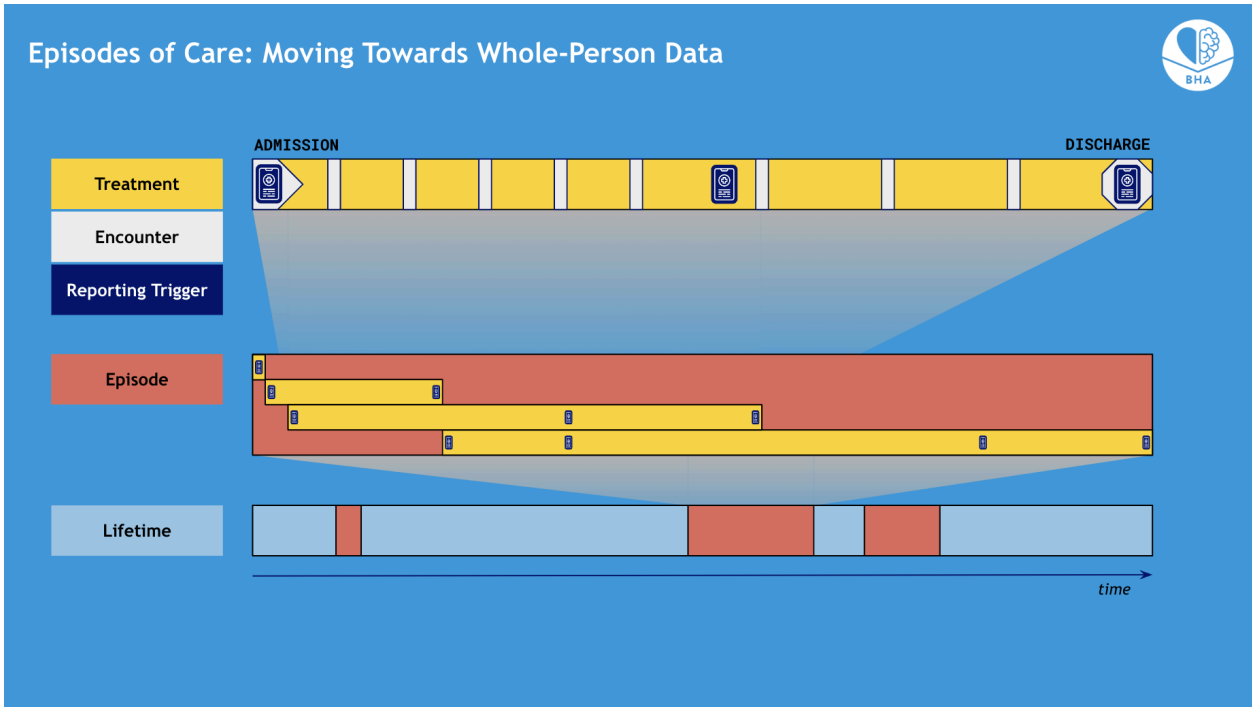
Tracing the impact of CCAR/DACODS and the related administrative burden touches nearly every department at the BHA and multiple state/federal agencies. Our approach to this report and our recommendations is to anchor an MVP strategy within our sphere of influence in order to avoid analysis paralysis. There is a larger vision, not yet realized, that could connect technology and data strategies across state agencies. We need to acknowledge and plan for that future without halting work and waiting for someone else to put all the pieces together. These recommendations will require additional refinement through research, policy analysis, and inter-agency collaboration.

Our recommendations favor small bets (i.e., iterative pilots and testing plans) rather than a magic bullet vendor partnership due to the complexity of this initiative and the risk involved with making definitive decisions too early with too little validation. This approach also builds trust and momentum with internal and external stakeholders, a critical element ensuring success and buy-in.

From Encounters to Episodes of Care

Today, when the BHA analyzes CCAR/DACODS data, it's hard to understand an individual's holistic care journey and what impact behavioral health services have had on their lives. CCAR and DACODS are moments in time, snapshots captured at someone's admission and discharge to a particular service. If we liken this to someone's highschool education, this would be like looking at an individual's grade for a single class rather than the transcript for their full four-year career. There's only so many inferences we can make about service and program efficacy through data if we're only looking at a small piece of the puzzle. It would also be useful to providers to know which interventions have and have not worked for someone in the past.

One way recommendations in this report begin to address these concerns is by defining what an "Episode of Care" might look like in a new BHA reporting ecosystem. Stated simply, this means linking together different service-level reports (including CCAR, DACODS and 837 Encounters) for an individual into a holistic data story of their past treatments so that providers can get that more whole-person picture. The "Episodes of Care" model was explored and validated by past modernization work. These refreshed recommendations will set a foundation for a future where we can explore additional care coordination possibilities, for both behavioral health and broader state services.



Visualization of episodes of care.

Technical Recommendations

The following recommendations are based on primary research done with provider organizations, civic technology best practices, and are bucketed by topic.

Reporting Process

Recommendation	Problem	Provider User Story	Next Steps
Explore State & Federal Reporting Interoperability	We don't fully understand all of the reporting (outside of BHA requirements) that other state and federal agencies ask of behavioral health providers.	I have a lot less duplicative reporting to do because the BHA has worked across state and federal agencies to ensure appropriate interoperability.	Future research should explore the full breadth of state and federal reporting requirements for behavioral health providers with an eye towards shared data and interoperability.
Review & Streamline Report Types	Because reporting today is anchored in report types (ex. admit, update, discharge) there is a lot of data duplication, for example someone in SUD	I want to be able to update my client's level of care in DACODS (and other minor changes in both CCAR and DACODS) without having to create new admit and	Create a reporting environment where previously entered data can be used to prepopulate the reports necessary to capture changes in care.

	treatment changes care levels often which means that each level of care change requires an admit and discharge. All or most of the information included in those admit/discharge reports stays the same except for the level of care.	discharge reports each time.	Make the process for updating fluid demographic information (ex. address, pregnancy, income) less complicated and duplicative.
Improve Error Resolution	The error resolution process is laborious because providers aren't alerted to issues until data is fully submitted.	I want to see what errors are flagging that I need to resolve as I am entering my data, not after submission.	Create error resolution features and processes that allow providers to correct data earlier and more efficiently. Evaluate where more data entry flexibility (optional fields, "declined to answer" entry options) can be added and how that impacts federal guidelines.

Data Analysis

Recommendation	Problem	Provider User Story	Next Steps
Codify Data Collection Values & Principles	We don't have specific values or working principles for how we think about data collection at the BHA. That means we lack strategy around when to push back on new data requirements and how we think about the mandates that currently exist from the perspective of administrative burden.	I know that when the BHA asks for data from me it's for a good reason, and that they have done their due diligence to make sure that the information isn't being collected anywhere else.	Create core data collection values and principles for the BHA.
Explore State & Federal Reporting Interoperability	Providers find that when they pull state records, they don't match their internal systems which causes problems with billing and contractual requirements.	I want to be able to compare my records with the State's records to ensure that clients are counting towards contract requirements and payment streams in the same way our records show.	Work with providers to ensure that there are easy ways for them to pull and validate information back from State systems.
Explore Colorado-Specific Outcome Measures	Today, there isn't Colorado-specific behavioral health information and/or public	I know where to go for insights and data on the state of behavioral health in Colorado, and I understand	Begin a working group within the BHA to explore how we can share back our data to the public.

	dashboards to share with providers, advocates, people seeking care etc.	how the data my organization submits supports that analysis.	

Data Model

Recommendation	Problem	Provider User Story	Next Steps
Unify CCAR/DACODS	Clients increasingly receive both mental health and substance use services, so separating these report types adds to siloing of behavioral health care.	I don't need to submit two separate reports for my client with a dual diagnosis, it's all handled with one instrument.	Finalize unified CCAR/DACDOS data model through relevant stakeholdering and tests into federal systems.
Minimize Data Fields	Today, CCAR/DACODS include many non-federally mandated data fields. Some of these fields are assessments that are clinically antiquated, not used in BHA data analysis today, and generally loathed by providers.	I understand why the state is collecting each data element included in their reporting data model, and trust that they are not asking for anything more than what the state absolutely needs.	We need to engage providers in the creation of a minimum data model and the potential for optional fields beyond federal mandates. There are some fields that providers said they wanted us to collect in past modernization efforts (disability, sexual orientation) that aren't federally mandated because they want the state to have data on priority populations. At the end of the engagement process we should be left with only data entries that we can solidly defend.
Map Data Model to Culturally Competent Data Presentation	Because the federal government takes so long to change their data collection policies, their approved data model for CCAR/DACODS uses antiquated and sometimes offensive language for demographic and other data elements For instance, because	I use culturally competent language when talking to clients and fulfilling reporting requirements because the front-facing data presentation I see meets those best practices, while the state does the work behind the scenes to map my data to the federally mandated data model.	Create a front-facing data presentation that uses culturally competent language.

	methods of using drugs change quickly, today's CCAR/DACODS don't include options to record if someone vapes or uses smokable fentanyl. This impacts how providers get paid because contract requirements are sometimes tied to drug administration methods (you must serve X amount of IV drug users).		
Explore Data Model Standardization	The BHA and other state agencies use slight variations in how they collect demographic information and other standard data elements.	I know that the state collects client demographic information in a standardized data model.	Share updated data model with other agencies as an advocacy tool to support/enable standardization for common data elements. Consider the creation of a working group or another mode of collaboration on data model standardization with other divisions, state agencies, providers, and people seeking behavioral health care.
Develop Process Documentation	As culturally competent language changes, the front-facing data presentation should change. We need to build this new reporting ecosystem with the understanding that this data presentation should be evaluated on a consistent basis.	I know that the data presentation I have to use for BHA reporting has been recently reviewed and updated to meet our clients changing needs and best practices.	Align and document how we should go about updating and implementing a refreshed data presentation.

Technology System

In order to accomplish the reporting ecosystem detailed in the recommendations above, we will need to evaluate and select a data entry technology system to complement our data lakehouse vendor Snowflake. A successful data entry technology system will, at a high level, be able to accomplish the following requirements:

- **Built for Change:** Tech system must be designed for semi-frequent (at minimum annual) updates to data model and presentation.
- **Accommodate Flexible Intake:** Tech system must be designed for flexible data and multi-file format intake.
- **Enable API Connectivity:** Tech system must allow for real-time APIs.
- **Configured for Episodes of Care:** Tech system needs to be able to paint a more whole-person picture of an individual by linking together report data into “Episodes of Care.
- **Built on Smart Logic:** Tech system should be able to implement the updated data model and streamlined report types through smart logic.
- **Meet Usability Best Practices:** Tech system needs to meet private sector usability standards and be able to connect account management processes to larger BHA tech portfolio strategies.
- **Create Custom Reports:** Tech system needs to have robust and customizable data analysis and dashboard capabilities.

Engagement Recommendations

Redesign Training Materials

Today, training sessions and documentation are created by the BHA’s tech team and provided in an ad hoc nature due to the forthcoming transition away from existing systems. All training and documentation materials should be evaluated with the assistance of a human-centered designer, a trauma-informed content expert, and a clinician with expertise in culturally competent care. A few recommendations included below can serve as a jumping off point for that work:

- Versions of training materials should be created depending on your role in the reporting process, for instance clinicians should have different training than data/tech teams.
- Clinical training materials should detail how reporting should and should not impact clinical flow (ex. how to approach reporting if someone is actively intoxicated).
- Training materials need to specifically address and provide guidance around priority populations, for example: unhoused people, Spanish-speakers, LGBTQIA+, children.
- Training materials should provide sample scripts.
- Training materials should be at minimum translated into Spanish.
- Training materials should provide guidance about how to talk with clients about data privacy (what the data is being used for, who has access to it, how long is it kept).

- Training materials should be easily downloadable and editable, so if providers want to use BHA documentation as a starting point for their internal trainings it's easier to do.
- There should be a set annual schedule for trainings, also recordings and a suite of guides easily accessible on the BHA website.
- Training needs to indicate that clinicians are not the only actors collecting data, and should detail how roles like peer support workers and case managers fit into this process (for example, sometimes clients are more comfortable talking with peer support workers).

Stakeholder Engagement

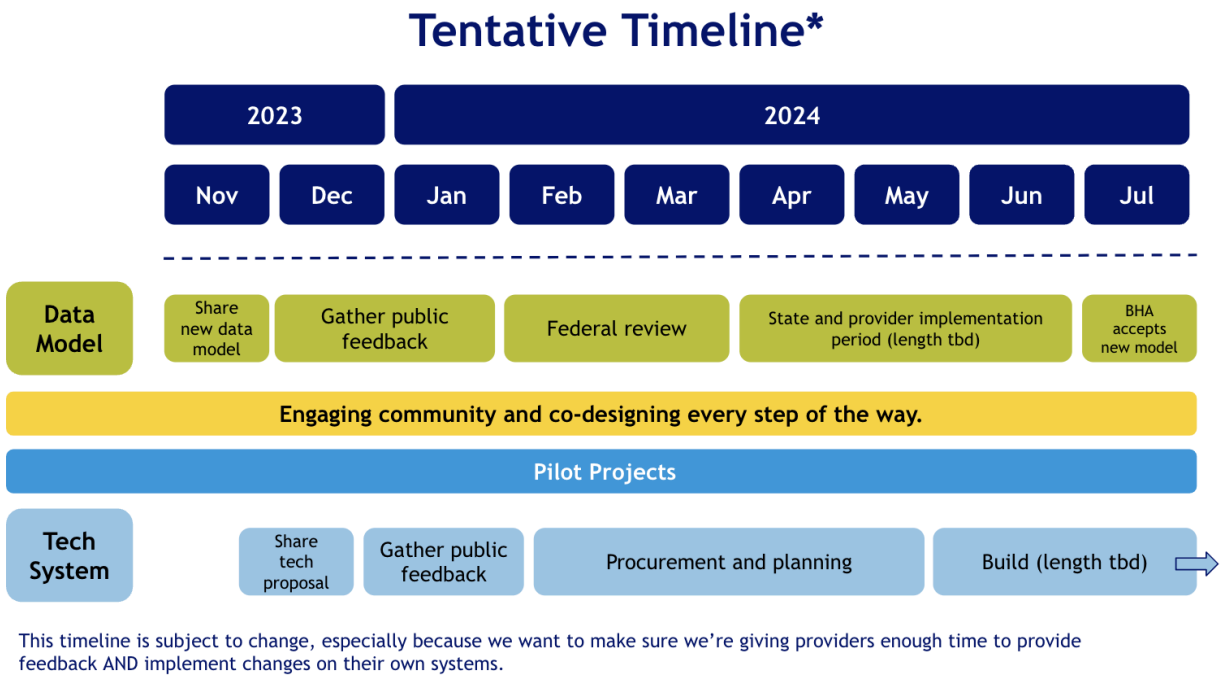
Ultimately, the success of this modernization project hinges on accurate, transparent communication and engagement opportunities for providers, intermediaries, and other stakeholders. We must look beyond a technical solution, and into the principles of co-design to move this body of work forward. This will require a cross-functional effort between all divisions at the BHA. A robust engagement plan should be formulated, including the following considerations:

- Engage the Behavioral Health Administration Advisory Council (BHAAC) around culturally competent data presentation and how they want this (their) data to be used in Colorado (ex. how should we approach granular consent, would they want suggested services based on their care histories).
- We must continue to work with BHA leadership to understand the impact and opportunities that the Behavioral Health Administrative Service Organizations (BHASOs) will have on reporting.
- Engage in cross-agency collaboration with the Colorado Department of Health Care Policy and Financing (HCPF) and the Office of eHealth Innovation (OeHI) to share findings and align future research and implementation work (including but not limited to data interoperability and billing processes).
- Providers need to be kept informed of rollout activities, timelines, EHR guidance, and cost implications for this effort. This should be accomplished at minimum on a dedicated webpage similar to the Payroll Modernization project. Consider a dedicated monthly public meeting on this initiative.
- The public, especially people seeking or engaged in behavioral health care in Colorado, need consistent communication around the BHA's data and privacy policies, this should be built into annual comms plans, website updates, etc.

Roadmap

In collaboration with the BHA's BeHealth (data) team, we have drafted a detailed roadmap and timeline to implement these recommendations.

At a high level, we suggest using the remainder of 2023 and the whole of 2024 to perform pilot testing, finalize the new data model, and evaluate/select the data entry tech systems. This timeline is subject to change, and we will release more detailed timelines in the near future.



Roadmap timeline, detailing rollout work from 2023-2024

Future Work

[Recommended future research and work plans]

Additional research is needed to further refine the recommendations and roadmap detailed in this report, most importantly the exploration of data interoperability and reporting deduplication with other Colorado state agencies.

Proposed Additional Research

We would recommend engaging the following organizations/individuals in future research.

- *Finance/Contracting Staff:* To better understand payment, billing, and contracting processes within provider organizations, at the BHA, and across other agencies.
- *Intermediaries (current-MSOs, ASOs, future-BHASOs, RAEs)*: To explore data interoperability and to decide how BHASOs should be involved in reporting.
- *Priority Populations:* To perform deeper dives on unique needs and opportunities for legislatively defined priority populations, including but not limited to: children, youth, and families, LGBTQIA+ communities, unhoused people, Spanish-speaking people, and justice-involved individuals.
- *Counties & Tribal Care Providers:* To better understand what reporting requirements and processes they have in place with their providers networks.
- *Rural Providers:* To stress test reporting processes and technology system updates to ensure that they meet the needs of providers with limited wifi and analog processes.
- *Safety Net Providers (integrated behavioral health care):* To understand FQHCs and other primary care settings POV on administrative burden.
- *Other States:* To ensure we're sharing learnings and building on each other's work.
- *Other Agencies:* To ensure that we're collaborating with our partners, including but not limited to: HCPF, OeHI, Office of Children, Youth, and Families, CMS, and SAMHSA.

We would recommend creating the following artifacts through future implementation work.

- *Behavioral Health Provider Burden Maps:* Define and map other reporting requirements and administrative burdens experienced by behavioral health providers in Colorado across state agencies.
- *Data & Consent:* In concert with OeHI, explore granular consent and how it might apply in this context.
- *Ethics Slam:* Take this plan to BHAAC for an unintended harm analysis.
- *Provider Cost Analysis:* An analysis of where costs would fall across providers and intermediaries through the implementation of this plan. Evaluate where funding opportunities exist, especially for lower-resourced providers.
- *EHR Research:* Research should be conducted with EHR vendors to uncover what would be necessary to include in state documentation to facilitate any necessary customizations and automations (including APIs).

- *Measurement Plan:* We need to define and capture KPIs for this initiative, including how we can define baselines and what methodologies we will use to measure success.

Acknowledgements

[Key quotes from providers and other research participants]

The following quotes allow providers to speak on the recommendations included in this report in their own words. All quotes are anonymous.

On Administrative Burden

"[We're] easily spending 10 hours [a week] on a task that I don't think should take me 10 hours, based on how different systems talk to each other. A ton of admin work, sometimes people don't understand how much that takes over our lives. We miss out on actually treating the human. We're losing the people, we're in this field to focus on the human. I've worked in other systems that did not take as much and connected with systems in a more collaborative way, so it's possible."

"We are a small community outpatient clinic, so we don't have a lot of administrative support. [The] burden falls on clinicians and staff. All of our management are also clinicians, that speaks to the lack of support. [We are] funded by lots of different entities, we still have to piece it all together to function."

"Filling out CCAR and DACODS takes about 20-30 minutes for each of those."

On Data Model

"When demographics change we can't change our dictionaries to match. So we are collecting data in 2 different ways because the state system is not flexible."

On Training & Documentation

"Yes I'm the system admin, but my background is Master in Counseling Psychology. So these tech guides come out and I don't know what half of it means. A lot is self taught, reaching out to other agencies and asking them how it works."

"I'm a ['Why'] person. I like to know why things are being asked. It makes it easier to explain to someone I'm teaching. If there was training with thorough info on why specific questions are asked and specific information is collected. Not just, 'this is something we do for the State.' What is the intentionality [for] the CCAR?"

“I mean… as someone newer to the industry, I've been here three years now. But still I am always worrying that you know I'm missing something or that there's something that I should be aware of that I'm not.”

“Bilingual clinicians do so much workaround... It would be better if it [translation] were taken into account. We have made our own translated version [of CCAR/DACODS] in [our] intake paperwork.”

On Error Resolution

“We’re noticing our DACODS are not being counted correctly, we have [them] in our system but they don’t get sent to [Signal] Beacon’s system correctly or appropriately, we have a call to figure that out. [The report] has to go through multiple systems to get to state, we don’t know what gets lost in translation. It looks like we aren’t hitting our goals but our data shows that we are.”

On Data Analysis

"How many community mental health centers are using the DC-05? How many clinicians do they have that are treating this population? How many of our infants have a PTSD diagnosis? How many of our infants have traumatic bereavement because of child welfare involvement? Like, these are questions that the CCAR could answer. But we're not collecting the data and we have a diagnostic system that is close to two decades old. And so it's also really demoralizing to see in real time a state form that makes infants and toddlers invisible in both mental health, policy and healthcare delivery."

On Data Privacy

“There’s hesitation from undocumented population about accessing free services from the State. We’re told information being collected is not used against undocumented people. More information would be good from BHA, particularly to share with patients about how their data is used.”

“Clients want to know, ‘How does this impact my citizenship process, my residency process?’”

Appendix

[Artifacts and deep dives]

- **Key Terms:** *Shared definitions we created / discovered throughout the sprint.*

- **Visuals:** *Present state journey maps and other visuals.*
- **Equity Analysis:** *Review of final recommendations for Priority Population emphasis.*