

# A QUICK GUIDE TO SUCCESSFUL DATA PARTNERSHIPS

Feb 2021



**BRIEF**

Amanda Latimore, PhD  
[alatimore@air.org](mailto:alatimore@air.org)  
[alatimore@jhu.edu](mailto:alatimore@jhu.edu)

Sara Whaley, MPH, MSW

## Background

Surveillance is an essential part of public health. Data should be used to track progress on initiatives, improve transparency and accountability, mobilize partners, effectively steward resources, and identify emerging issues. Public agencies are increasingly recognizing that the visualization of data across multiple sectors is an effective strategy for targeting complex problems such as the overdose crisis.

Public agencies accumulate large quantities of complex data but often have limited resources to effectively summarize and communicate data for decision-making. In an attempt to draw out insights and democratize data, dashboards have emerged in many jurisdictions, with varying levels of impact. Some of these initiatives stall from a poorly focused vision, unsustainable engagement, insufficient resources, and/or make little or no impact on decision-making. Despite these challenges, successful data initiatives do exist across the country which can serve as guideposts for public sector leaders determined to marshal resources for data.

This memo outlines the key features of a successful data initiative and provides examples of effective data dashboards, with a focus on overcoming common challenges associated with data partnerships.

## Key Features of Successful Data Partnerships

Initiatives that successfully use data for decision-making share several key features: *strategic partnerships, sustainability, links to action, and effective data communication.*

**Strategic partnerships.** Successful data initiatives have multisectoral champions at various levels of leadership. Multilevel engagement can address both the political and practical challenges of data sharing initiatives and sets the stage for taking action on findings. For each data source, the initiative must involve individuals who have the technical understanding what data are available, the features of those data, and what inferences can (and cannot) be made from the data. Program staff help contextualize data and provide insights on the practical application of the data activities, and they are likely to be able to immediately act on the knowledge gained from data analyses. Participation at the leadership level can remove barriers for data sharing and can guide data activities towards what is needed for high-level change. Partnering departments should ensure that they are informed and abiding by all policies to clarify adequate data sharing and disclosure policies. The community and/or those with lived experience also provide a valuable source of input. Involving the community should be authentic and approached with an understanding that community engagement is not just about “checking the box;” it is an essential component to understanding the problem and developing solutions.

**Sustainability.** Sustainable data initiatives have clear goals, sufficient dedicated technical and financial resources, and effective processes that support the transfer of timely data. Defining responsibility and ownership of tasks related to the dashboard can be a difficult task when many entities are sharing data. However, clear roles help to ensure sustainability of the project. At

least one technical staff person should serve as the point of contact and ensure the completion of essential data-related tasks. Sufficient technical resources should be reserved to support the review of data for quality, timeliness, and accuracy. The appropriate level of financial investment varies depending on the existing infrastructure, but seed money should be accompanied by plans for diversified, multi-year investment to support long-term infrastructure and engagement. Demonstrating a long-term commitment also has the added benefit of signaling to partners that sustainable processes should be established for the transfer of data.

**Links to action.** Metrics should be linked to strategic priorities. Without real-world implications, data analyses could be viewed by partners as, at best, an interesting thought experiment, and at worst, a waste of time and resources. The engagement of partners around data is more likely when shared goals are established, data capture activities or progress towards those shared goals, and partners are regularly convened to discuss these data. Accountability partners can ensure the delivery of data as well as facilitate the use of data for decision-making in their respective organizations. The inclusion of partners early and at multiple levels (e.g., policymakers, programs, and community) generates a diversity in thought and contextualized solutions, and fosters needed buy-in as data-informed initiatives are implemented.

**Effective data communication.** Successful data initiatives communicate findings clearly, concisely, and in plain language. Involving data visualization and communication experts can ensure that the right message gets to the right audience. Data dashboards are a primary method for illustrating data in a succinct way and for a diverse audience. In the midst of an overdose epidemic, an effective data dashboard can keep individuals, policy makers, and the public, informed while also mitigating information overload.

## Five Qualities of Effective Dashboards

The [PreventOverdoseRI.org](https://www.PreventOverdoseRI.org) initiative is an example of a public-facing dashboard that displays 13 key metrics and a one-pager that provides monthly and quarterly snapshots of progress on strategic priorities for decision-makers. Data are generally presented in aggregate form, but estimates can be generated from integrated datasets. Other data initiatives in several states, such as [Maryland](#), [Colorado](#), and [DC](#), have linked individual-level records from medical, criminal justice, behavioral health, and other sources to capture the encounters across systems and across time of those engaged in public service agencies. Ultimately, the primary goals and target audience should dictate the structure and function of the initiative. Below are five qualities of effective dashboards, followed by examples from five states.

**1. Concise, Organized, and Uses Design Principles.** Overall, the dashboard should have 3 to 5 clear and concise takeaways. This is the most essential - and challenging - as it involves condensing a significant quantity of complex data. Engaging with stakeholders to identify these key messages is an effective approach to ensuring important messages are communicated. Limiting the number of metrics prevents dashboard users from being overwhelmed with excessive information. Many states choose metrics that align the data dashboard with their goals and strategic plans. This allows the general public, as well as policy makers, to track the success of the intervention. Avoid common data visualization mistakes by considering design

elements such as white space, colors, chart selection, and simplicity and consider consulting a data visualization expert. Having a logical layout, with the most important data towards the top is crucial. Fast facts that “pop” on the page or simple graphics that represent the main points of the data set allow users to have a quick understanding of the data. This is especially important if users don’t read through the rest of the page, which many may not.

**2. Timely.** To make dashboards useful to the audience, data needs to be accurate and timely. Utilizing technology and experts to organize, analyze, and interpret data regularly allows for episodic insights and more informed interventions. Real-time or near-time data platforms quickly and effectively disseminate this data. As a result, interventions can easily be monitored for effectiveness and adapted as needed. This is especially crucial for newly emerging threats (i.e., fentanyl). The prompt delivery of information, in addition to multiple interactive elements, enables stakeholder and public engagement. Dashboards can also display static data (e.g., point-in-time) for values that are of historical relevance or are not likely to fluctuate in an impactful manner.

**3. Interactive and Contextualized.** Metrics and visual tools are often more effective when shown in reference to something else and placed in context. Comparing quarters, years, or populations in the data can help put it into context for users. Consider your audience as you design interactive elements that can allow the user to contextualize the data in a way that is meaningful to them. For example, in the context of opioid data dashboards, the interface can allow users to hover and click on visuals to explore the geographical distribution of opioid prescriptions or overdoses, use by different demographic groups, and the variation in the type of drug. This prevents clusters of all the information in one place and encourages user interaction. Dashboards should also highlight variability in hard-hit communities. Displaying data disaggregated by race/ethnicity facilitate discussion about addressing disparities and demonstrates to the audience that equity matters.

**4. Tell a Compelling Story.** Effective dashboards are ones that take the structure and visuals and combine them to tell a story. This can be done by connecting the past, present, and future of the data to show users context and to show progression overtime, i.e. “this is where we were; this is what we did; this is where we’re going.” Different types of data should be displayed in a way that makes logical sense. For example, spatial data is best illustrated on a map, while data over a certain period of time is frequently shown using line graphs. Involving communications experts and testing different strategies will help identify the most effective way to communicate the right message to the right audience.

**5. Inform and Connect.** Public facing dashboards give an opportunity for leaders to show users the effectiveness of their strategies. They also allow for opportunities to give policy makers targeted actions by tying data to priorities and benchmarks. Dashboards can link users to other materials. The data dashboard can show what’s missing in the public discourse and inform new interventions. Effective dashboards serve an information hub to answer questions related to the topic and should allow users to walk away with insights rather than more questions.

## State Examples

**Rhode Island:** [www.PreventOverdoseRI.org](http://www.PreventOverdoseRI.org)

The Rhode Island Prevent Overdose RI dashboard is linked to the Overdose Prevention and Intervention Task Force strategic plan. This allows individuals from the community to track the progress of the initiative and encourages public engagement. The dashboard is organized, has an effective use of white space, and provides a key message at the top of the page. The data for each metric are interactive and is disaggregated by various specifications. For example, dashboard users can hover over a map to find overdose values in their community and explore naloxone distribution by year, vendor, and administrator. Bar graphs and line graphs are used effectively to communicate the data and colors draw the eye to a key message. Dashboard images can be downloaded in multiple formats, facilitating dissemination and use by decision-makers. The link, [www.PreventOverdoseRI.org](http://www.PreventOverdoseRI.org), reinforces the initiative's message and assists the audience in accessing the site.

### Key Metrics:

- Overdose Deaths
- Emergency Department Visits
- MAT Treatment
- Naloxone
- Opioid Prescribing

### Informational Links:

- Department of Health
- Governors Strategic Plan
- SUD prevention and treatment resources

### Visuals:

- Clear and easy to read
- Interactive elements
- Line graphs to show changes over time

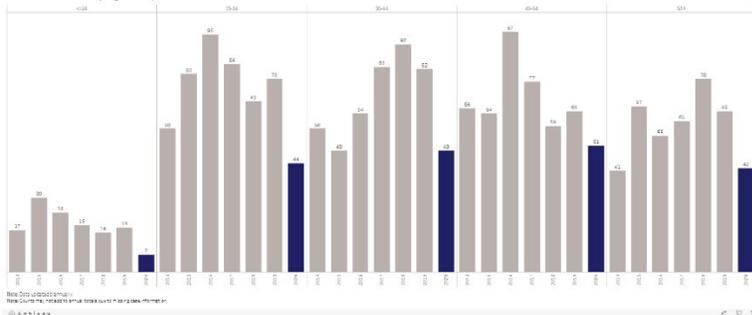
### Strengths:

- Key messages are prominent
- The Track Our Action Plan feature connects to state priorities
- Progress tracking of key interventions over time
- Links to timely source data
- Dashboard link reinforces a message

All age groups are affected, but most overdoses occur among adults

Source: DRG

Overdose Deaths by Age Group, 2014 to June 2020



Accessed 2/20/21

**South Carolina:** <http://justplainkillers.com/data>

South Carolina’s dashboard focuses on county level data via an interactive map. Dashboard users select their county on an interactive map that sends them to a view of county-specific metrics which are displayed clearly and contextualized with an arrow that indicates whether the indicator increasing or decreasing in comparison to the previous year. The dashboard informs and connects through links to opioid education, pain management information, and other opioid resources. The dashboard link ([www.justplainkillers.com](http://www.justplainkillers.com)) reinforces a public awareness campaign on “pain killers” and over-prescribing.

**Key Metrics:**

- Mortality
- Prescription data
- EMS/Hospital visits
- State-funded treatment data
- Medicaid utilization

**Informational Links:**

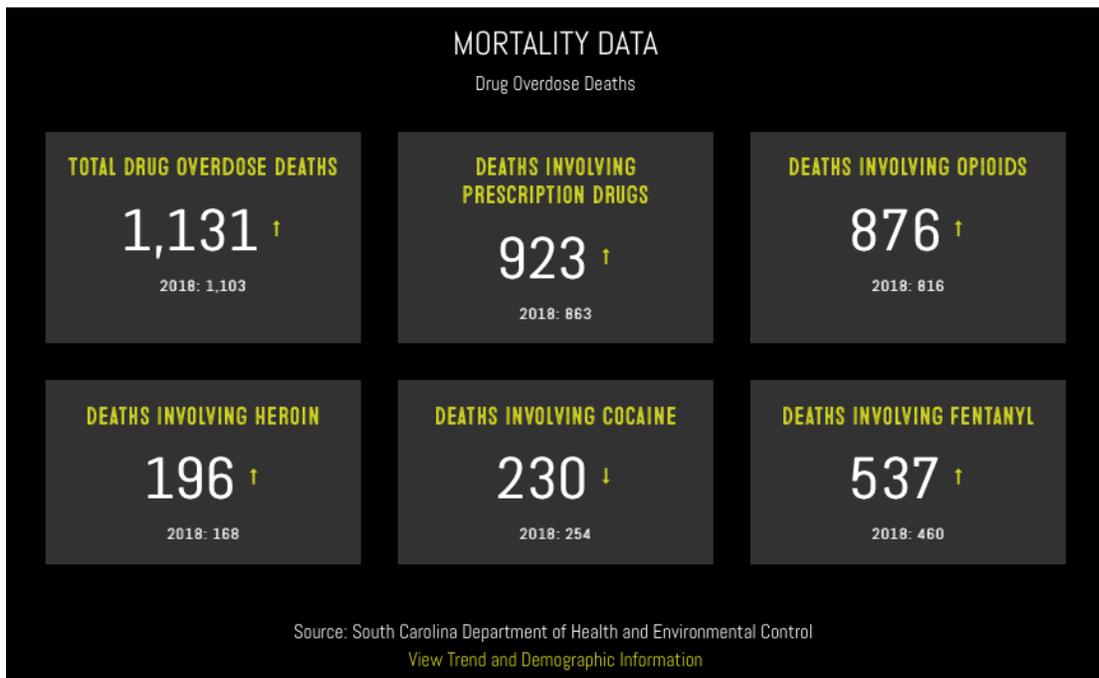
- Opioid education
- Pain management education
- Drug safety
- Overdose education

**Visuals:**

- Map aggregated by county
- Downloadable county fact sheets
- Easily shows changes from year to year
- Links to demographic comparisons

**Strengths:**

- Link to Governor’s strategic plan
- Clear display of trends for key interventions
- Interactive and contextualized elements



Accessed 2/20/21

**Minnesota:** <http://www.health.state.mn.us/opioiddashboard>

The Minnesota Department of Health Opioid Dashboard provides a key message at the top of each figure to assist the audience in interpreting the data. The data are displayed in a format that matches the message and white space is used effectively. Visuals are interactive to increase audience engagement and downloadable for convenience, which improves use for decision-making and dissemination. Data are disaggregated by race/ethnicity to support discussions of equity. The site contains links to prevention resources and more in-depth analyses and highlights demographic information specific to Minnesota's opioid crisis.

**Key Metrics:**

- Overdose deaths
- Prescriptions dispensed
- Youth misuse and neonatal outcomes
- Treatment admissions
- Drug seizures

**Informational Links:**

- Overdose prevention resources
- Prevention practices resources
- More in depth data analysis

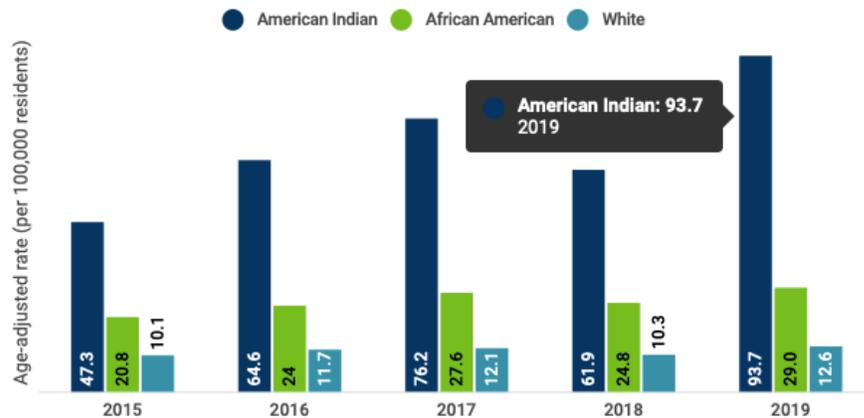
**Visuals:**

- Unique graphics for each metric specific to the data type
- All visuals are downloadable
- Offer comparisons
- Graphics to show statistical representations

**Strengths:**

- Data are disaggregated by race/ethnicity to promote equity
- Key message prominently displayed
- Trends on progress for key interventions
- Transparent data sources
- Interactive elements

**In Minnesota, American Indians are seven times as likely to die from a drug overdose as whites, and African Americans are twice as likely to die from a drug overdose as whites.**



[Download data](#) [Drug Overdose Data Sources](#)  
Source: Minnesota death certificates

Accessed 2/20/21

**Pennsylvania:** <https://data.pa.gov/stories/s/Pennsylvania-Opioids/9q45-nckt/>

The Pennsylvania dashboard provides a concise picture of the state of the opioid epidemic in Pennsylvania using quick stats and maps. Interactive maps show drug overdose deaths by county. The audience can drill down through data vignettes on how the opioid epidemic impacts families, co-morbidities, the economy, and the criminal justice system. This method of framing the data is an effective way to contextualize information to humanize the overdose epidemic and destigmatize those impacted by substance use disorder. The dashboard links to the OpendataPA data portal and provides downloads of individual-level data on overdose incidents. The data offers an impressive level of detail such as response times, suspected substance, post-overdose action taken (e.g., hospital, arrest), fatal vs non-fatal overdose, and patient demographics. This exceptional level of transparency can assist with public health response and accountability.

**Key Metrics:**

- ER visits for opioid overdose
- Naloxone administered by EMS
- Get Help Hotline calls and intakes
- Cases of neonatal abstinence syndrome

**Informational Links:**

- Prevention
- Help lines

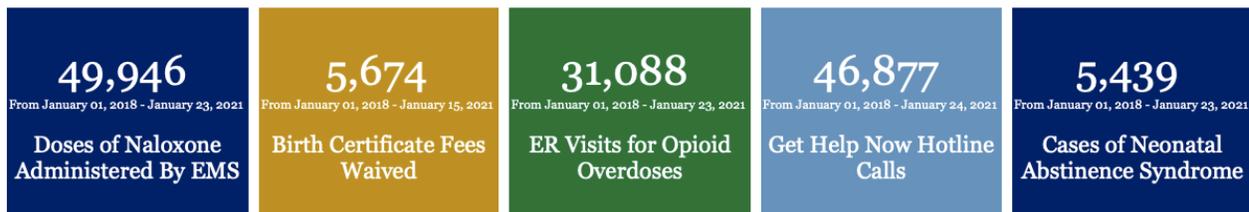
**Visuals:**

- County maps with accompanying graphs
- Quick stat boxes

**Strengths:**

- Links to detailed timely source data
- Stories of community impacts
- Links to important policies and the strategic plan
- Interactive elements
- Quick stats

**Pennsylvania Quick Stats**



Accessed 2/20/21

## Oregon:

<https://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SUBSTANCEUSE/OPIOIDS/Pages/data.aspx>

Oregon's dashboard is an extensive collection of indicators, with an emphasis on opioid prescribing. The dashboard is organized with a table of contents that allows the audience to further explore the metrics that matter to them. Many of the metrics are further separated by drug class, county, and age. One notable aspect from in the Oregon dashboard is the timeliness of the displayed Prescription Drug Monitoring Program (PDMP) data, which is updated quarterly. The ability to display timely data can be facilitated by state policies requiring submission of data and a database infrastructure that streamlines and automates the linkage between the submitted data and the dashboard.

### Key Metrics:

- Statewide opioid prescribing
- Overdose deaths
- EMS Naloxone administration
- Fentanyl related deaths

### Informational Links:

- Connected to other state initiative sites

### Visuals:

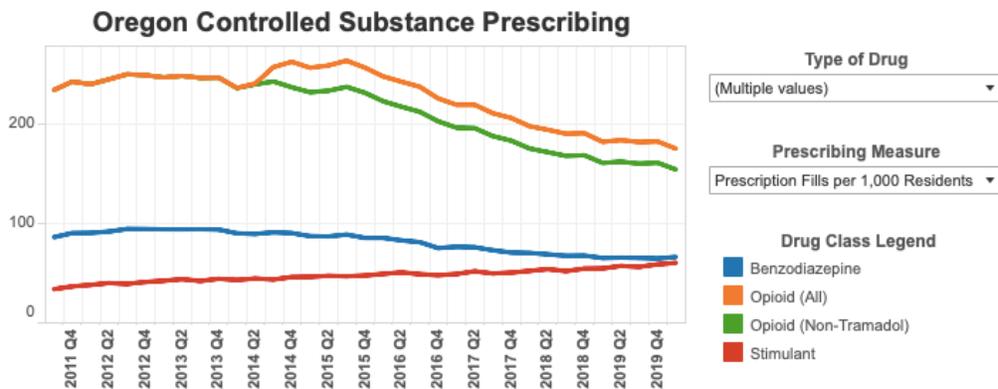
- Interactive table of contents
- Line graphs to show trends over time
- County maps that are interactive

### Strengths:

- Transparent data sources
- Some metrics with frequently updated data

Table of Contents Statewide Measures Prescribing by Drug Class Risky Prescribing Measures P >

## Statewide Drug Prescribing and Overdoses



Accessed 2/20/21