

2021 NASCIO State IT Recognition Awards Project Narrative: California's Homeless Data Integration System

Submitting State	California
Agency	Homeless Coordinating and Financing Council Business, Consumer Services and Housing Agency
Award Category	Cross-Boundary Collaboration & Partnerships
Project Title	Homeless Data Integration System
Project Dates	November 2021 – March 2021
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EXECUTIVE SUMMARY

IDEA

- **Problem that HDIS Addresses:** Public systems are grappling with how to optimally use data to promote system coordination, improve data accuracy, and establish comprehensive sources of information to create more effective, efficient, and impactful systems. The opportunity that the Homeless Data Integration System (HDIS) addresses centers on the need to have one central data warehouse where data is available to inform the state's policymaking and strategic decisions to prevent and end homelessness by measuring and understanding critical information about homelessness in California. Prior to the development of HDIS, data from local homelessness systems across the state were maintained separately.
- **How HDIS is Different:** The HDIS is distinct because (1) its data findings have been made publicly available, (2) the sheer size and breadth of services offered across California makes the HDIS one of the largest repositories of homelessness data in the world, and (3) HDIS was launched with the support of California's leadership at the highest level, in accordance with the State's commitment to preventing, reducing, and ending homelessness thus reducing the known risk to IT projects of low institutional support for implementing and sustaining such endeavors.
- **What Makes HDIS Universal?** California's success in launching HDIS addresses universal needs that entities in the public sector share for quality data that promotes collaboration across boundaries to inform our policy decisions and help us improve policy making and planning at the state and local level.

IMPLEMENTATION

- **Roadmap for a Successful Implementation:** HDIS supports the Homeless Coordinating and Financing Council's (HCFC's) ability to draw from data to inform its practices across a broad range key principles and practices. Successful implementation of HDIS required strong stakeholder involvement and engagement, accessible and visually informative data visualizations, and transparency around the underlying data to promote widespread adoption and trust.
- **Key Player and Stakeholders:** HCFC and the Business, Consumer Services and Housing Agency (BCSH) collaborated with the U.S. Department of Housing and Urban Development (HUD) and its national technical assistance providers, the California Governor's Office, Government Operations Agency, Department of Technology, Department of Consumer Affairs, and local Continuums of Care. Notably, user testing occurred during the build with representatives from state departments, leading homelessness thought leaders and researchers, and representatives from local CoCs.
- **Resources & Technology:** Internally, the project team used an agile development process and devoted HCFC staff with a range of expertise to the project. This was key to addressing a plurality of needs that IT projects have which are outside the technical aspects of deploying software and hardware. The project also required staff who understood homelessness services principles, graphic design, and communication principles, for examples.

The one-time vendor cost of \$1.2 million included building the following components: (1) system interfaces, (2) data preparation, (3) data storage, (4) access control, (5) data provisioning, (6) system connectors, (7) reporting, (8) training, and (9) maintenance and support. The solution was designed as a secure, cloud based and secure environment with software to access, analyze, and visualize data stacked on. The vendor and state each designated a project team and multiple leads on varying workstreams.

IMPACT

- **What did the project make better?** The homelessness data landscape is now more robust than prior to the launch of HDIS because of the insights HDIS is uniquely able to produce. HDIS has opened up new avenues to research, communicate, develop solutions, and act upon California's successes to house people experiencing homelessness and it provides critical insights into where we can strengthen California's homeless response system.
- **HDIS is a Worthy Investment:** The path towards ending homelessness requires clarity to understand the dynamic nature of those we serve, and the full diversity of services that people experiencing homelessness rely on. The state's investment in HDIS continues to be a worthy one and tied inextricably to actions the state can take towards assuring that homelessness is rare, brief, and one-time for all Californians.

Project Narrative

IDEA

Public systems are grappling with the **problems related to the optimal use of data to promote system coordination, improved data accuracy**, and to establish comprehensive sources of information towards more effective, efficient, and impactful systems. This is especially important to address in California which has an outsized population of people experiencing homelessness relative to the US – people experiencing unsheltered homelessness account for roughly half (51%) of all unsheltered homelessness in the US, for example. In response to this crisis, the state of California pursues a vision that ensures homelessness is rare, because it is prevented whenever possible; brief, ended quickly whenever it does occur, through a focus on Housing First approaches and housing outcomes; and a one-time experience, ended successfully the first time, so that no Californians experience homelessness repeatedly.

This past April, California debuted the Homeless Data Integration System (HDIS), a data warehouse that integrates data from the state's 44 homelessness Continuums of Care (CoCs), dating back four years. CoCs are regional planning and funding entities that operate homelessness systems of care in local jurisdictions across the state. **The opportunity that HDIS addresses is centered on the need to have one central data warehouse where data is available to inform the state's policymaking and strategic decisions to prevent and end homelessness by measuring and understanding critical information**, such as how many people were permanently housed, so that we can effectively track our progress towards ending this crisis. By collecting this information from California's CoCs in one statewide system, California continues to broaden its understanding of the full range of services offered across the state - including whether there are regional, service level, or subpopulation level differences in services that lead to more people becoming permanently housed. This level of detail is central to meaningfully addressing the homelessness crisis. The HDIS launch took shape in three forms:

- **Public Data Site:** The emphasis of the public pages was to develop accessible narratives to inform the public at-large. The public site launched with data visualizations that prioritize a focus on permanent housing and on pursuing racial equity and justice across four key themes: (1) how California has responded to the homelessness crises and how many people received help; (2) the diversity of people served by the homelessness response system; (3) the range of services provided in 2020 in response to the COVID-19 crises; and finally, (4) to depict how people seek services in one or more areas; broadly (<https://www.bcsd.ca.gov/hcfc/hdis.html>);
- **HDIS Academy Learning Community for CoC staff:** In its role as the state's coordinating entity, HCFC's charge includes providing technical assistance to the state's local CoC partners and offers monthly learning sessions with CoC staff to promote ongoing system improvements, data use, and cross-sector, cross-jurisdictional collaboration and coordination.

- HCFC Staff Access to Data for Analysis and Servicing Entities within the State: Prior to the release of HDIS, the state did not have a central database comprising homelessness services across the state to illuminate how local systems are serving people experiencing homelessness, or how many people access those services over the course of a year. Moreover, the number of people experiencing homelessness is not a static one - people become homeless and others are being rehoused daily. Understanding the drivers of the successes and barriers in relation to these systems must be understood in order to provide the right solutions to people as their challenges arise. HDIS allows the state to better understand the dynamic nature of homelessness, and how the state's homelessness response system is serving people.

HDIS was built on-time, in a remarkably fast 15-week build after nearly two years of planning, and at-cost, with the capability to eventually integrate other state-level data to better understand other social benefits and services being accessed by people experiencing homelessness. Its speed and reasonable cost (\$1.2 million) were in large part due to integrating already existing data being collected by local jurisdictions for federal grants.

While several other states across the US have similar databases, **the HDIS is distinct in the following ways:**

- The state opted to launch HDIS publicly and provided unprecedented access to the public about homelessness services.
- The sheer size and breadth of services offered across California's vast landscape makes the HDIS one of the largest repositories of homelessness data in the world.
- HDIS was launched with the support of California's leadership at the highest level, in accordance with the State's commitment to preventing, reducing, and ending homelessness thus reducing the known risk to IT projects of low institutional support for implementing and sustaining such endeavors.

California's success in launching HDIS addresses a universal need that public sector entities share for quality data that promotes collaboration across boundaries, and informs and improves policy making and planning at the state and local level.

IMPLEMENTATION

HDIS is central to supporting HCFC's charge to assure statewide implementation of Housing First principles which recognize that safe and stable housing enables individuals to focus on and achieve other longer-term aspirations. **HDIS improves HCFC's ability to use data to inform its practices across a broad range key principles and practices** which include enabling the state to focus on pursuing racial equity and justice to address the historic – and very current – causes of racial injustice and inequities in housing and homelessness have resulted in racially disparate impacts of homelessness. **Successful implementation of HDIS required strong stakeholder involvement and engagement, accessible and informative data visualizations, and transparency around the underlying data to promote widespread adoption and trust.** After all, the ultimate success of any data system is widespread use based on trust.

Coordination and collaboration with stakeholders at the national, state, and local level were not just present, it was the key factor and ultimate purpose of launching HDIS. **These include collaborations among HUD and its national technical assistance providers, California Governor's Office, Government Operations Agency, Department of Technology, Department of Consumer Affairs, and local homelessness Continuums of Care.** Awareness, approval, and buy-in was cultivated through dozens of input and preview sessions at all stages of the build -- including in the early planning stages in the year prior to approving a vendor and commencing work. **Notably, user testing occurred during the build with representatives from state departments, leading homelessness thought leaders and researchers, and representatives from local CoCs.** BCSH's legislative team worked in lock step to brief state lawmakers of HDIS' use and progress throughout much of 2020 and early 2021. Partnerships and collaborative work addressed a range of subjects including data privacy and security, for which the State's Chief Data Officer acted as an advisor, assuring that the work underway with HDIS would produce actionable learnings for the state at large, and vice versa – to

enable the HDIS team to benefit from already established lessons from the state's wealth of technology projects.

Internally, the project team used an agile development process and devoted HCFC staff with a range of expertise to the project. This was key to addressing a plurality of needs that IT projects have which are outside the technical aspects of deploying software and hardware. The project also required staff who understood homelessness services principles, graphic design, and communication principles, for examples.

The vendor cost of \$1.2 million included managing the following components: (1) Interfaces, (2) Data Preparation, (3) data storage, (4) access control, (5) data provisioning, (6) connector, (7) reporting, (8) training, and (9) maintenance and support. The solution was designed as a secure, cloud based environment with software to access, analyze, and visualize data. The vendor and state each designated a project team and multiple leads on varying workstreams. For example, one segment of the team was responsible for requesting and monitoring the secure file transfer from each CoC, which involved multiple rounds communication with CoCs to assure the most effective approach to securing the data. Similarly, daily and weekly data governance meetings took place throughout the course of 12 weeks to hammer out data issues and the development of analysis ready data. The HDIS team prepared the data for analysis and visualization after sequential rounds of data cleansing and master data management. The system matched and deduplicated hundreds of thousands of records based on over a dozen exact and probabilistic matched rules. The system then placed the data into a statewide data warehouse, which allows creating visualization dashboards and reporting tools, and conducting data analysis. Figure 1 depicts each step, comprising dozens of steps by multiple people complete, in the data architecture.

Figure 1. Data Flow and Process

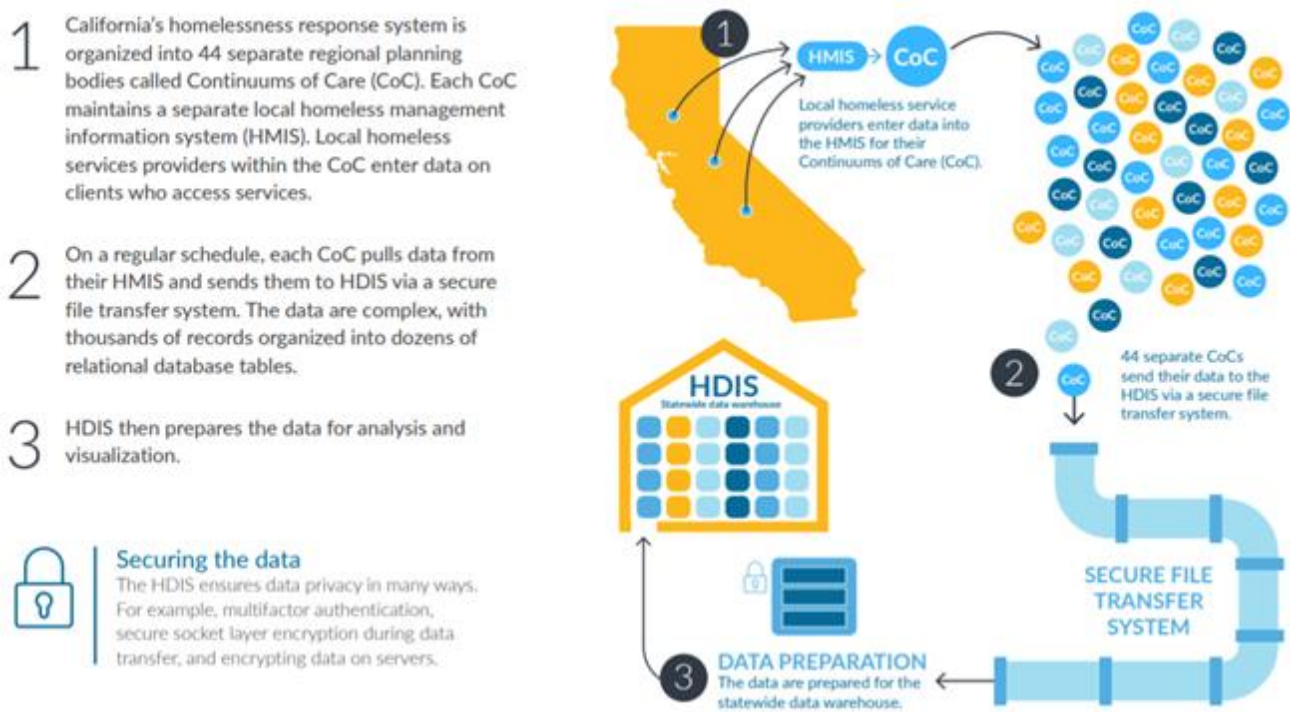


Figure 2 is an example of a data visualization (sample version with placeholders to meet privacy of actual data) developed which depicts the extent to which individuals experiencing homelessness were permanently housed throughout the course of a calendar year.

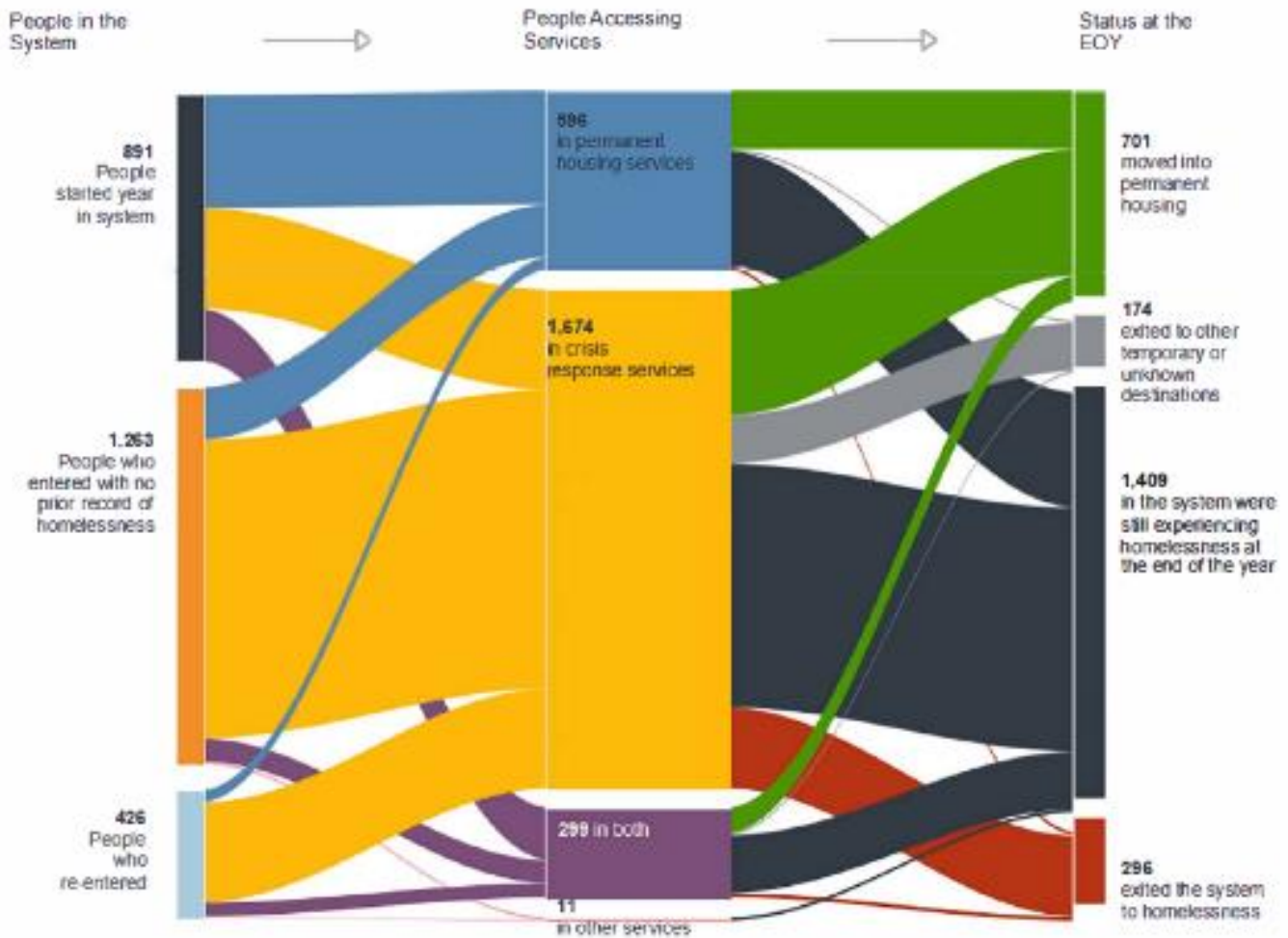
Figure 2. Sample Data Visualization

Annual Snapshot: Progression of People Experiencing Homelessness through CA-XXX

Select a Calendar Year

2020

During 2020, 2,580 people were in CA-XXX experiencing homelessness (People in the System), accessed a variety of services (People Accessing Services) and either continued to access services or exited the CoC at the end of the year (Status at the EOY).



IMPACT

HCFC serves as the State's interagency council on homelessness, providing leadership, coordination, and guidance to strengthen and align efforts across all of State government. The Council's mission is to develop policies and to identify and coordinate resources, benefits, and services to prevent and work toward ending homelessness in California. Cross-boundary collaboration and partnerships are central to HCFC's work. **HDIS has opened up new avenues to research, communicate, develop solutions, and act upon California's successes to house people experiencing homelessness, and it provides critical insights into where we can strengthen California's homeless response system.**

Upon launch, HCFC staff began pursuing research to dive into key questions that are central such as what interventions are most effective, racial and other inequalities exist in the system, and where the state should put a greater focus of state and local resources to create more positive outcomes.

For example, HCFC analyzed data in HCFC and in 2020 nearly 100,000 people moved into permanent housing, representing 37% of people experiencing homelessness served by local Continuums of Care during 2020. However, the COVID-19 crisis spurred a wave of individuals accessing prevention services and over 118,000 people accessed emergency shelters in 2020; another 127,000 people were served through homeless street outreach, with both services increasing by double-digits from the prior year. These are early signs that we continue to have an incoming rate of people experiencing homelessness that is greater than those we are currently serving and able to rehouse.

Having such concrete and specific, nuanced data provides a basis to develop new solutions. Notably, this data is also publicly available to assure that the public has access to data that sheds light on the state's investment of public resources. **The homelessness data landscape is significantly more robust than prior to the launch of HDIS specifically because of the insights HDIS is uniquely able to produce.** According to Chris Pitcher, a HUD Technical Assistance Provider for the HDIS project noted: "With this complex data system, California will have more data and knowledge to fund the right interventions that can actually prevent and end homelessness. These data are critical to alleviate the suffering of our Californian neighbors that are experiencing homelessness."

The launch of HDIS is just the beginning and will be developed on an ongoing basis with feature and data enhancements planned for future releases:

- HCFC will continue to collect quarterly data from CoCs and expand the look-back period of all data over time.
- Through ongoing collaboration with stakeholders, HCFC will continue to zero in on topics and features to expand upon, both in the public webpages and also through releases of in-depth research, white papers, and tools.
- HCFC will also convene monthly data community meetings through the HDIS Academy to build data capacity to providers and CoCs.

The path towards ending homelessness requires clarity to understand the dynamic nature of those we serve, and the full diversity of needs that people experiencing homelessness have. **The state's investment in HDIS continues to be a worthy one and tied inextricably to actions the state can take towards assuring that homelessness is rare, brief, and one-time for all Californians.**