BRIDGING DATA ISLANDS TO REDUCE HOMELESSNESS

FedScoop Report

How Amazon Web Services (AWS) and its partners are helping federal, state and community organizations harness data and the cloud to reduce homelessness in America.

On any given night across America, more than half a million people are *experiencing homelessness*. One in five of them are children. Efforts to prevent and combat homelessness are driven by a wide range of national, state and local organizations. However, significant strides in the battle against homelessness will only come as a result of comprehensive and coordinated efforts on the parts of federal, state, and local governments, non-profits, and the private sector.

While people experiencing housing instability frequently engage with many different agencies and organizations, the information and case management systems currently used by a majority of these entities don't have processes to coordinate that information.

This puts the burden on people in crisis to repeat their stories, duplicate efforts and navigate multiple systems. Case managers struggle to coordinate care for their clients. Without real time comprehensive data about who is experiencing housing instability, leaders and advocates struggle to identify trends

and emerging needs or make data-driven decisions about the effective deployment of resources.

What's needed are ways to help communities connect data across siloed systems, according to Jessie Metcalf, who heads up strategic programs for U.S. state and local government, health and human services at Amazon Web Services. Working with federal, state and local governments, nonprofits, and philanthropists, the nation's leading cloud services provider and its network of partners and developers are helping communities build bridges between digital divides.

Texas' homeless data sharing network

The *Texas Homeless Network (THN)*, a nonprofit that focuses on preventing homelessness across the state of Texas, saw the need for connecting databases across multiple organizations. During the fall of 2017, Hurricane Harvey forced thousands of families out of their homes to relocate inland across Texas. Crisis responders were not prepared to share information region to region about available shelter

and service opportunities; and those who were displaced were often stranded from the information they needed to get help.

"The data systems which tracked personal information, level of need and approvals for services, were all left behind in the community they were forced to depart [leaving them effectively] anonymous where they arrived," said Ben King, Clinical Assistant Professor of Public Health at the University of Texas at Austin and THN board member.

THN worked with AWS to develop a vision and define the protocols for a statewide data-sharing *Homelessness Crisis Response Data System*. THN then collaborated with AWS Partner *Green River* to build and deploy a platform that connected Texas's 11 homeless crisis response systems together using Amazon *Elastic Container Service (ECS)*, Amazon *CloudWatch*, Amazon *Relational Database Service (RDS)*, AWS *Secrets Manager*, Amazon *QuickSight*, Amazon *Simple Storage Service (S3)*, AWS *Lambda, Amazon S3 Glacier* and Amazon *Elastic Compute Cloud EC2)*.

Similar statewide and regional data-sharing initiatives to combat homelessness are running on AWS in *Massachusetts, Boston, and Virginia* through *Green River* and in *California* through AWS Partner *Plante Moran*.

The HUD Exchange

At a federal level, the U.S. Department of Housing and Urban Development (HUD) distributes $2 billion dollars a year to more than 400 regional and local organizations working to address homelessness. Unlike other federal programs, where states are responsible for administering the funds, these funds go directly to county, municipal or other local community organizations — called "Continuums of Care" (CoC) — to triage homelessness locally.

Those organizations must file reports to demonstrate they're using these funds properly. That's often been a cumbersome process, as many organizations lack the resources or tools to easily submit and fully analyze that information. That was until *Abt Associates* developed *Stella*, a *data analytics and visualization tool* that runs on AWS now in use at HUD.

Stella pulls information from a comprehensive dataset that all CoCs contribute to and measures, for instance, the days an individual is homeless, exits to permanent housing, and returns to the system within a six-month period. Since its debut in 2019, those capabilities have been expanded with a modeling tool, so that CoCs can better understand how changes in resources affect performance.

Brett McMillen, director of U.S. federal at Amazon Web Services, points to HUD's data gathering solution as an example of how "it's not just what AWS brings to the table, but it's what all of our partners and everybody that builds on top of AWS are able to bring to the table."

For many communities which lacked resources, this was incredibly powerful for them, according to McMillen. "It's a great example of a partner, leveraging the power of AWS for the benefit of a public agency." Those efforts also cascade into downstream benefits, he adds, noting how HUD has incorporated that data into its *Annual Homeless Assessment Report to Congress*.

HUD is also seeing significant benefits working with AWS at its Federal Housing Administration (FHA) unit, according to Olivia Peterson, who leads the U.S. Federal Financial Services business at AWS. FHA is responsible for providing mortgage insurance on loans made by FHA-approved lenders.

It's not just what AWS brings to the table, but it's what all of our partners and everybody that builds on top of AWS are able to bring to the table."

BRETT MCMILLEN, AWS, U.S. FEDERAL

"They've been able to automate the collection of data," through the FHA Catalyst platform, which streamlines the submission of case binders and supplemental claims, she says.

FHA is one of a growing number of federal financial and regulatory agencies that use AWS not only to improve data collection, "but also be able to forecast… and get ahead in identifying some of the risk that they have in their lender profiles," says Peterson.

Spreading technology's impact

With so many Americans cut off from work during the pandemic, the need to focus attention on housing and rental assistance has grown significantly, especially for low-income families and individuals. A Columbia University analysis in 2020 estimated the pandemic's economic displacement would contribute to a *40-45% increase* in homelessness. That's set against a longer-term backdrop in which the nonprofit National Law Center on Homelessness and Poverty found foreclosures led to a *61% rise* in homeless since 2008.

According to Kim Majerus, who leads AWS's U.S. education, state and local government business, "State and local governments are on the forefront of battling homelessness. Their ability to create a seamless citizen experience, increase data sharing, and impact outcomes through informed decision-making is critical to solving homelessness. AWS is supporting initiatives in all of these areas."

She cited AWS efforts helping communities leverage technology to quickly distribute the $47 billion in Emergency Rental Assistance Program funds from the Department of Treasury to people in need under the Coronavirus Aid, Relief and Economic Security (CARES) and American Rescue Plan Acts.

AWS and its partners have also supported community organizations like *Wildfire*, an Arizona state association for Community Action Agencies. Working with AWS partner *Prefix Health Technologies*, they developed a cloud-based solution that in a matter of weeks, was able to deliver rental and utility financial assistance with CARES Act funding.

> " Agencies like FHA have been able to automate the collection of data [working with AWS} … to forecast … and get ahead in identifying some of the risk that they have in their lender profiles."
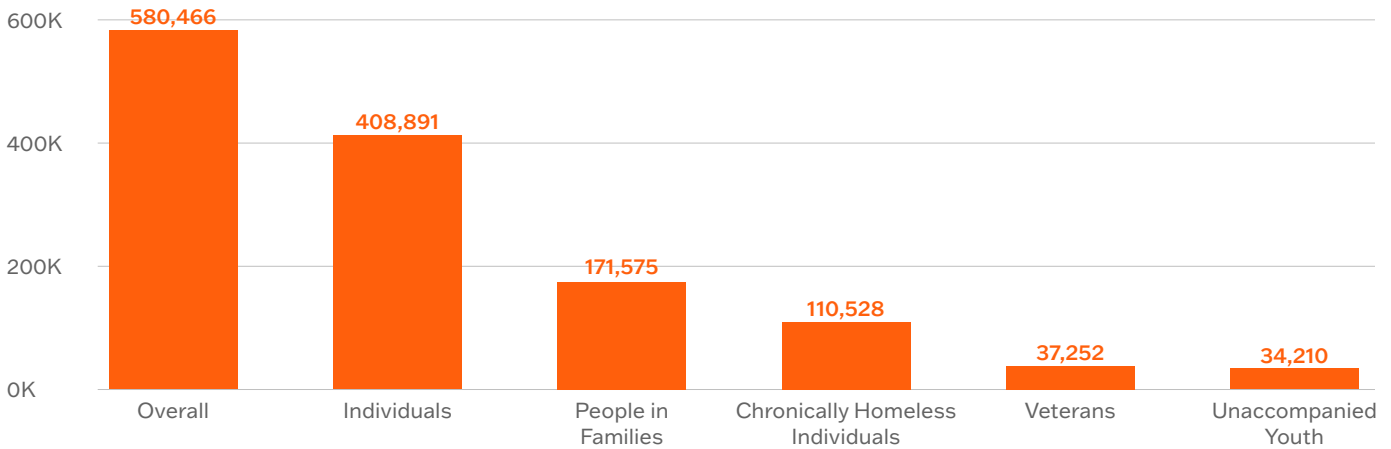>
> **OLIVIA PETERSON**, AWS, FEDERAL FINANCIAL SERVICES

In California, the *Orange County United Way* worked with AWS to build a mobile app in response to the COVID-19 pandemic that similarly connected more than 5,000 families in need with emergency funds for rental and utility payments.

In New York City, nonprofit *Streetlives* uses AWS technology to host *GoGetta*, a mobile website that enables people who are homeless or in poverty to easily locate up to date, verified, NYC social service information. The website makes use of several innovative AWS services, including *Amazon Lex*, *Amazon Polly*, and *Amazon Transcribe* to enable users to interact with applications through voice instead of text. That allows GoGetta to collect information about a user's unique needs and eligibility, in their own words rather than having to fill out structured forms, making the platform inclusive for all.

Meanwhile, Baltimore launched an innovative solution for the chronically homeless, called My Digital Data Locker. The service gives individuals a secure place to manage and store digital copies of vital documents like birth certificates, proof of disability which are required to apply for housing. The concept took shape when city officials, working with an AWS Envision Engineering team, identified lack of documentation as a key barrier to housing for people experiencing homelessness.

TOTAL NUMBER OF PEOPLE EXPERIENCING HOMELESSNESS BY TYPE, 2020

Overall	580,466
Individuals	408,891
People in Families	171,575
Chronically Homeless Individuals	110,528
Veterans	37,252
Unaccompanied Youth	34,210

Source: endhomelessness.org

"Documents are frequently lost, stolen, or destroyed during a housing crisis. Now, by snapping a photo with a cell phone and uploading it to a secure account, these documents will be more easily maintained," said Tisha S. Edwards, acting director of the Mayor's Office of Homeless Services.

AWS 'envision engineering'

"Homelessness is complex problem and it's not always obvious how technology can help. In those situations we roll up our sleeves with customers to work backwards from their challenge to explore the art of the possible, inspire them to keep going, and help them define a path forward," says Metcalf, who helped Baltimore build their Digital Locker program.

Although many organizations still look at AWS primarily as a technology service provider, behind the scenes, it has assembled the world's leading cloud engineers and industry specialists who help customers leverage cloud, explains McMillen.

As part of that community, AWS has assembled what it calls its Envision Engineering team. They specialize in helping customers build and explore foundational cloud-based solutions to help them reimagine what's possible — as they look to better deliver on their mission, he says.

Even though homelessness remains a complex challenge at both the local and national level, the ability to address it in new and more innovative ways, using the power of the cloud, is part of AWS's vision as well.

Whether it's supporting the work of HUD and the FHA, state organizations like the Texas Homeless Network, or locally led initiatives, AWS and its partners are putting powerful new data gathering and analytics tools into the hands of public, private and non-profit organizations to help in the battle to reduce homelessness.

Learn more how AWS can help your agency discover the art of the possible.

" State and local governments are on the forefront of battling homelessness. Their ability to … increase data sharing and impact outcomes through informed decision-making [with support from AWS] is critical to solving homelessness."

KIM MAJERUS, AWS, U.S. EDUCATION, STATE AND LOCAL GOVERNMENT

FEDSCOOP

aws