# LexisNexis® RISK SOLUTIONS

# Homelessness is a Public Health Issue

Western State Medicaid Program Leverages Real-world Data to Accurately Identify At-risk Individuals

## AT A GLANCE

### CUSTOMER

**Western State Medicaid Program**

### REQUIREMENTS

- Predict the risk of homelessness through a more longitudinal and holistic insight into housing instability

- Source, match and link Social Determinants of Health (SDOH) data to individuals who possess varying amounts of data

- Refresh the data on an ongoing basis to obtain accurate and updated information

### SOLUTION

To mitigate the challenge of identifying people experiencing homelessness, a western state Medicaid program partnered with LexisNexis® Risk Solutions to access extensive SDOH data. The initiative benefited enormously from advanced data linking technology and the collection of public, proprietary and credit-based identity data. The result was the creation of a Housing Stability Score to prioritize those who are homeless or are most likely to experience housing instability.

### BOTTOM LINE

- Significantly increased the accurate identification of individuals at risk for homelessness

- Gained a more holistic view of the person, including clinical and social risk

- Aligned population with preventive interventions to reduce housing insecurity

- Integrated with state data to yield the best results

## Background

Homelessness is a critical and growing public health issue, as people experiencing homelessness face higher rates of infectious disease, substance abuse, behavioral health conditions and premature death. Homelessness has a direct impact not only on health outcomes, but on an individual's ability to access healthcare. In particular, these populations face overlapping challenges of complex health conditions, often complicated by mental health and substance abuse issues and further exacerbated by frequent emergency department visits, disruptive hospitalizations and encounters with the criminal justice system. Addressing homelessness requires a data-driven approach to identify this high-needs population — prior to crisis settings whenever possible — and connect them to care coordination and supportive housing initiatives.
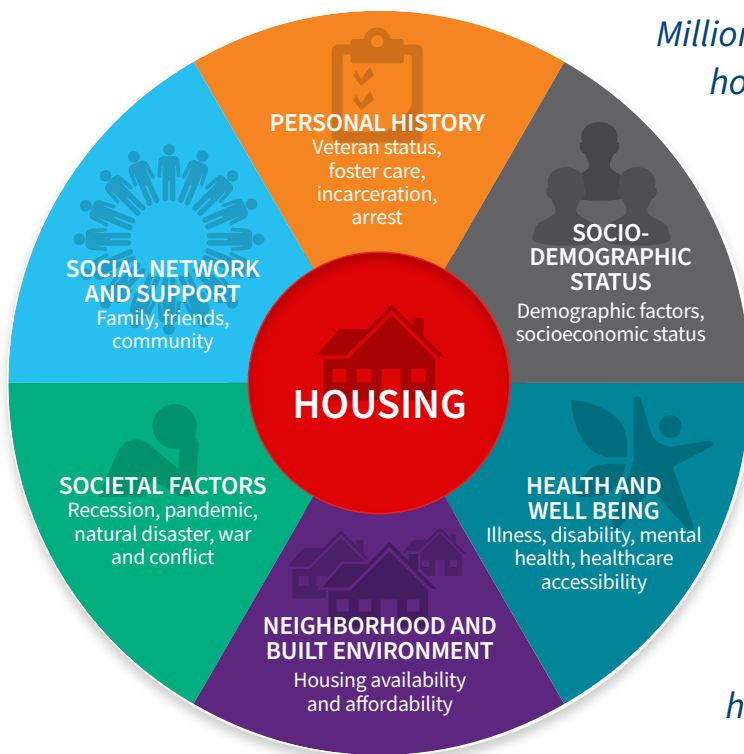
*Millions of dollars have been invested in homelessness initiatives and supportive housing programs nationwide. However, public health, Medicaid and homelessness leaders continue to face challenges in the prevention and early identification of people experiencing housing instability. Outreach to this population before they reach a crisis setting, such as emergency departments or homeless shelters, is critical to turning the tide of homelessness in the U.S.*

PERSONAL HISTORY
Veteran status, foster care, incarceration, arrest

SOCIO-DEMOGRAPHIC STATUS
Demographic factors, socioeconomic status

SOCIAL NETWORK AND SUPPORT
Family, friends, community

HOUSING

SOCIETAL FACTORS
Recession, pandemic, natural disaster, war and conflict

HEALTH AND WELL BEING
Illness, disability, mental health, healthcare accessibility

NEIGHBORHOOD AND BUILT ENVIRONMENT
Housing availability and affordability

## Social Risk Factors Influence Housing Stability

## Challenge

The program's goal is to reduce associated healthcare costs by connecting individuals experiencing homelessness to permanent supportive housing. A collaborative multi-stakeholder initiative helped develop a methodology to identify individuals who may be homeless, facing housing instability, or in need of future housing assistance.

*A major challenge of housing programs is identification of and outreach to people experiencing homelessness and ideally connecting them to services before they are in crisis. People experiencing homelessness are often highly transient and may cycle on/off program rosters or Medicaid benefits.*

The program and county partners collected county specific data from the Homeless Management Information System (HMIS), hospital interactions, arrests and incarcerations to combine with the Medicaid and Foster Care data provided by the state Medicaid program. The data and insights from community advocates and leaders were leveraged to compute a Housing Stability Score that identifies individuals who are most likely to experience housing instability.

Early in the initiative, the state Medicaid program staff and data analysts recognized the challenge of collecting timely data for at-risk populations from a diverse set of data providers with limited available technical resources. Phase 1 aimed to leverage data from the Medicaid Management Information System (MMIS), HMIS, foster care, criminal justice, local government and census data. However, combining data from these varied, multiple data sets was difficult and time consuming. Furthermore, each system captured individuals at a moment in time, lacking the longitudinal and comprehensive approach necessary to identify social risk patterns over time.

### Approach

The state Medicaid program leveraged the Medicaid Data Warehouse as a data hub to collect claims and clinical data for Medicaid beneficiaries. In addition, they pulled in data from electronic health records from the six largest hospital systems, as well as social services program utilization from foster care, homelessness and criminal justice data systems.

**Two key insights shaped the state Medicaid program's approach to modeling housing instability:**

1. **Housing is Healthcare views homelessness as a spectrum ranging from an individual being homeless to an individual acquiring permanent supportive housing.** Consequently, housing instability must be approached as a dynamic risk factor across a wide spectrum of factors for the entire at-risk population. Developing a Housing Stability Score that supports this vision enables case managers and community organizations supporting this population to align services based on the level of risk and person-specific circumstances and determine the appropriate level of intervention.

2. **Housing instability is shaped by social risk factors, which may not always be clear in a clinically focused model.** Literature review and discussions with public health practitioners confirmed the critical role of sociodemographic, personal history, social networks and neighborhood in shaping individuals' risk for housing instability.

Data scientists identified several clinical factors that strongly contributed to and impacted housing instability, including substance abuse disorders, schizophrenia and bipolar diagnosis among others.

However, clinical data warehouses often lack the social risk factors, such as prior experiences with criminal justice systems or access to nearby social networks. Incorporating data on SDOH provides a more longitudinal and holistic insight into housing instability.

*" We knew that we had to look at a variety of factors to identify individuals most at risk for housing instability,"* said the state program Medicaid Systems Operations Manager. *"Our analysis and analytics led to the creation of a Housing Stability Score to identify and prioritize individuals that are homeless or most likely to experience housing instability."*

### Solution: LexisNexis® Socioeconomic Attributes of Health Data

Much of the data needed to accurately predict the risk of homelessness exists only in independent systems that do not communicate with each other — or does not exist at the individual-level in a way that can identify a high-risk individual for follow-up services.

Initially, the state Medicaid program collected social risk data through zip-code level Census data and local social services programs. However, the level of effort to collect and manage this data, as well as the limited coverage for high-risk and transient populations continued to be a challenge. The state Medicaid program recognized the need for additional data sets to provide a consistent and longitudinal view of individuals' social risks — and partnered with LexisNexis® Risk Solutions to incorporate SDOH data.

An additional benefit of the LexisNexis Risk Solutions data set was the ability to source, match and link SDOH data to individuals with very limited data.

The initial data collection was longer than expected and would not scale to support a statewide initiative that requires frequently refreshed data to update the Housing Stability Score to accurately prioritize individuals on the precipice of homelessness.

## Social Determinants of Health are the X factor needed to identify who needs help

**SOCIAL AND COMMUNITY CONTEXT**
Accidents, Crimes, Weapons & Sporting Licenses, Voter Registration, Relatives/Associates

**ECONOMIC STABILITY**
Address Stability, Assets, Income, Liens, Professional Licenses, Bankruptcies

**NEIGHBORHOOD AND BUILT ENVIRONMENT**
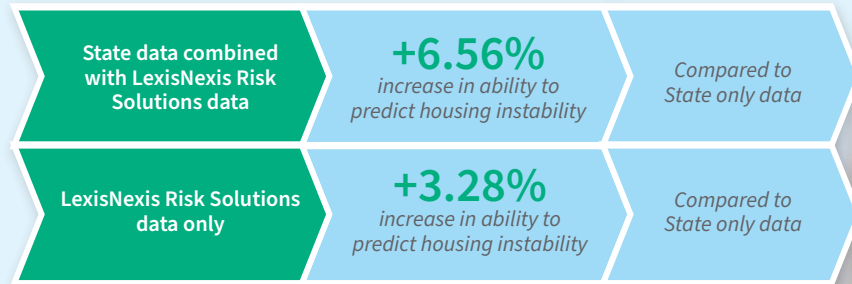Household Demographics, Housing Types, Crime and Income Indexes

**EDUCATION**
Level, Quality, Area of Study

## Results

The initiative benefited immensely from the LexisNexis Risk Solutions advanced data linking technology and its collection of public, proprietary and credit-based identity data. The largest such database available for such a project, it processes 2.5 million new public records daily. The coalition discovered that its model yielded the best results when fed frequently updated data from LexisNexis Risk Solutions, the HMIS solution, the state Medicaid and Foster Care solutions, and data from local partners. Using this data collection significantly increased the accurate identification of at-risk individuals.

| State data combined with LexisNexis Risk Solutions data | **+6.56%** increase in ability to predict housing instability | *Compared to State only data* |
| --- | --- | --- |
| LexisNexis Risk Solutions data only | **+3.28%** increase in ability to predict housing instability | *Compared to State only data* |

## What's next

The project, now in Phase 2, demonstrated that integration of different data sets allows for a more holistic view of person data, enabling interventions that reduce the risk of homelessness and negative health outcomes. State leaders concluded that this model could easily be replicated by others.

For more information, call 888.579.7638
or visit risk.lexisnexis.com/government

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