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FUSE: People with Frequent Utilization of Public Services in Clackamas County, Oregon: Potential Service Enhancements

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CLACKAMAS COUNTY

Portland State UNIVERSITY

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This research was conducted by Portland State University (PSU) at the request of Clackamas County Department of Health, Housing, and Human Services (H3S). It was a joint effort by the PSU Regional Research Institute for Human Services and the PSU Toulan School of Urban Studies and Planning, including members of the PSU Homelessness Research & Action Collaborative. The authors of this report are:

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For more information about this study, contact the researchers identified above. For more information about housing efforts in Clackamas County, contact Vahid Brown, Clackamas County Housing Policy Coordinator, vbrown@co.clackamas.or.us.

A note about the term *FUSE*

FUSE is the common terminology for programs designed to reduce the needs of individuals with high utilization of public services. These public services are most commonly in the healthcare realm, but can include primary and behavioral healthcare, housing (shelters and permanent supportive housing), law enforcement (police and sheriffs), and criminal justice (courts and jails). The acronym FUSE has been used to describe Frequent Users Service Enhancements or Frequent Users System Engagement. Either way, it has been explained to us that defining someone as a "user" or a "frequent utilizer" does not present a full picture of what is going on with individuals who find themselves returning to the same short term fixes again and again. People with high service utilization have complex needs that often exceed their own ability to manage. High utilization is a system issue and should be addressed as such. For this reason, we avoid the term FUSE in this report, even though it was the original name for our study and continues to be used as a search term.

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Executive Summary

The Regional Research Institute for Human Services and the Toulan School of Urban Studies and Planning at Portland State University conducted this one-time study on the feasibility of reducing the use of high-cost public services by providing permanent supportive housing to the individuals with the highest utilization of those services. Interventions targeting individuals with frequent utilization are commonly known as FUSE: Frequent Utilization System Engagement. The FUSE model has been piloted in other cities around the country and is based on the "Housing First" concept that secure housing is the first essential step to stabilizing the personal and financial lives of individuals. This study focuses on the service system in Clackamas County, Oregon, including jails, EDs, and emergency response. It was commissioned by the Clackamas County Department of Health, Housing, and Human Services. The study was conducted between September 2018 and June 2019.

Research Methodology

The goal of this study was to answer five very specific questions about individuals with high service utilization and the systems that serve them. The data for this study comes from administrative system data, informational conversations and meetings with community partners, formal interviews with service providers, and interviews with consumers with frequent service utilization.

Limitations: The rates of mental illness, addiction and homelessness are likely to be higher than they appear in this report due to the way these characteristics were gathered or recorded in system databases. Historically marginalized populations are increasingly underrepresented in datasets.

Findings

What are the characteristics and needs of people who frequently access emergency rooms, ambulances, jails or courts?

Common characteristics include psychiatric disorders and insecure housing. High ED usage is associated with schizophrenia, opioid dependence, and heart failure, as well as with a higher prevalence of multiple diagnoses and comorbidities. People experiencing homelessness

have higher ED utilization rates and are more likely to arrive by ambulance than people who are housed. African Americans are over-represented in the high user category for total healthcare claims. Jails are often used to house people with mental health needs when lower cost community resources are not available. Systems data shows that persons in Clackamas County with high rates of jail bookings and/or medical claims were more likely than those with low utilization to be male, white, and to have experienced housing instability. In 2018, the primary charges identified in booking data were *driving under the influence of alcohol or another intoxicant* (13.3%), *possession of a controlled substance* (methamphetamine/heroin, 11.1%), and *parole violations* (10.1%). Almost half (47.2%) of the arrests were made in Oregon City. Two thirds were made by the Clackamas County Sheriff's Office. The consumers we interviewed occasionally used services in Multnomah County but proudly identified themselves as Clackamas County residents, separating themselves from the homeless population in Multnomah County.

What are the characteristics of the systems that serve people with high utilization?

The systems in Clackamas County fall into the categories of housing, healthcare, law enforcement, and human services. The county's H3S department is formally organized around three of these four service types (Health, Housing and Human Services) and has lines of communication with law enforcement through the County's Sheriff's and District Attorney's Offices. External providers across Clackamas, Multnomah, and Washington County coordinate services and collaborate across these systems through informal monthly meetings and one-on-one communication around their clients' needs and available resources. Addressing the needs of people with high utilization within their systems is a common goal for all.

What are the costs to the systems that serve people with high utilization?

Jails: The estimated cost per night in Clackamas County jail is $111. Nationally, the average length of stay in city or county jail was 25 days in 2016. In Oregon, 9% of individuals booked into county jail accounted for 29% of all booking events. On average, persons with a high number of bookings in Clackamas County in 2018 were booked 7.5 times, compared to an average of 1.4 times for persons with a lower number of bookings.

ED/EMS: In 2018, a total of 195,512 claims totaling $745 million were made to Medicaid for OHP members residing in Clackamas County. The

1% of persons with the highest utilization of emergency departments had a much higher number of healthcare claims (43.6 versus 3.7) that year as well as higher average per person costs ($10,621 versus $807). One contributing factor is that, due to the high rate of psychiatric disorders among this population, patients may be kept longer at the ED than medically necessary if community behavioral health resources are at capacity. Finally, the 1% of persons with high utilization of medical transportation in Clackamas County also had a higher number of claims (634 versus 46.2) as well as higher annual healthcare costs ($12,761 versus $1,172) than the 99% with lower utilization.

What is currently being done to improve the well-being of individuals with high utilization and reduce the overall system costs of serving them?

Interventions targeting individuals with frequent utilization of EDs, emergency response, and jails interventions are underway or have been completed in over 30 cities in the United States. They are commonly known as FUSE: Frequent Utilization System Enhancements. Some FUSE programs focus only on criminal justice involvement, healthcare costs, or homelessness; others focus on both justice involvement and healthcare. Some are statewide initiatives. Full descriptions of the most relevant FUSE studies are included in this report, including programs in the counties surrounding Eugene, Seattle, Las Vegas, New York, and San Diego. A nationwide standard of “frequent utilization” does not exist, and each FUSE project reviewed defined frequent utilization differently.

Clackamas County does not yet have a formal FUSE program. However, a variety of supports within Clackamas County and across the Portland metro area are available to people with high service utilization, including emergency response, community outreach, addiction and mental health services, housing supports, and law enforcement. The entities that provide these services acknowledge that the supply, especially housing, does not meet the demand, and work to identify additional supports to meet a complex set of needs. Limited data sharing is already being used to coordinate care across systems. However, information systems vary by provider and service sector, and there are still significant barriers to data sharing that need to be addressed. Despite these efforts, frequent utilization of high cost services persists.

What system changes or program structures could best reduce the need to frequently come in contact with high-cost public systems?

High utilization is a system issue and should be addressed as such. The literature, local providers, system experts, and consumers all tell us that affordable housing is the most impactful intervention, followed by intensive case management and behavioral health supports. Evaluations of FUSE programs around the country have documented reductions in utilization of jails and emergency services. The majority follow a "Housing First" model with added case management and wraparound supports. Communication needs to expand across systems with an emphasis on data sharing to coordinate care. Successful interventions for individuals with high jail utilization include outpatient mental health services following 24 hours in jail or in lieu of jail. Consumers tell us that short-term quality of life fixes are essential to facilitate the next steps to stabilization and housing, and that long-term system supports will allow them to retain their housing and increase their quality of life. People with high service utilization have complex needs that often exceed their own ability to manage. For people of color, services must be delivered in a culturally competent and anti-racist manner.

Recommendations

Concentrate services on individuals with high utilization. By moving the top 1% of individuals with high jail utilization into the low utilization category, an estimated $1.7 million dollars per year could be saved Similarly, by moving 100 individuals in the high ED/EMS utilization category into the lower utilization category, the healthcare system could save an estimated $2.5 million dollars per year.

As Clackamas County and its stakeholders review this report, they may want to consider what information can be incorporated into their own design for reducing high utilization of emergency and law enforcement services within their borders. As this report shows, those solutions may involve planning and resource sharing across county lines. Concentrate on addressing the ongoing and emerging needs that cause individuals to seek emergency services or have increased contact with law enforcement. Build on the data-sharing methods and agreements developed for this study to make them permanent. Continue analyzing the data obtained for this study, and evaluate any intervention developed.

Background

Clackamas County, shown in Figure 1, is one of the three Oregon counties (along with Clark County, Washington) that make up the metropolitan area in and around Portland, Oregon. And it is much more than that: Clackamas County is a unique blend of urban and rural settings with services and transportation options clustered around a few central population areas. The county has robust partnerships with its community and neighboring counties as well as its state and federal partners.

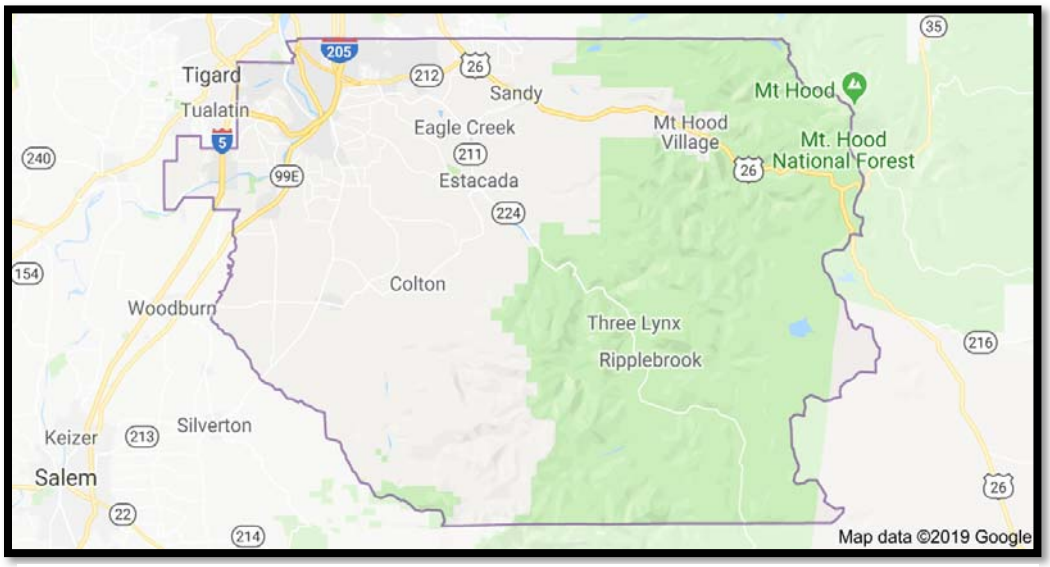

Figure 1. Clackamas County

Research Methodology

Summary

The goal of this study was to answer five very specific questions about individuals with high service utilization and the systems that serve them. The data for this study comes from administrative system data, informational conversations and meetings with community partners, formal interviews with service providers, and interviews with consumers with frequent service utilization.

This study was designed to answer the following questions related to service utilization in Clackamas County:

1. What are the characteristics and needs of people who frequently access emergency rooms, ambulances, jails, or courts?
2. What are the characteristics of the systems that serve them?
3. What are the costs to the systems that serve them?
4. What is currently being done to improve the well-being of those individuals and reduce the overall system costs of serving them?
5. What system changes or program structures could best reduce the subjects' need to frequently come in contact with high-cost public systems?

The study was conducted between September 2018 and June 2019. This report is a synopsis of the research PSU conducted to answer these questions.

Historically marginalized populations are increasingly underrepresented in datasets. Due to the way that data was gathered or recorded in the electronic datasets examined, the prevalence of homelessness, mental illness and addiction among Clackamas County jail and ED/EMS populations as well as gender identity, sexual orientation, and race may be underrepresented.

Qualitative Methods and Data Sources

Semi-structured interviews were conducted with Clackamas County consumers and service providers. Participants in the consumer interviews received $20 cash as a token of our appreciation for their time.

Systems and provider interviews were not recorded, but extensive notes were taken during the interviews and sent to service providers for confirmation of accuracy.

The qualitative sources include:

- In-person interviews with 14 adults who were identified and referred by Clackamas County providers as those who frequently utilize their services.
- In-person and telephone interviews with 20 program providers and administrators.
- Informal conversations and meeting observations with cross-system workgroups and system representatives.

Consumer interviews

Researchers from Portland State University interviewed 14 Clackamas County residents. Those interviewed were identified through the following processes:

PSU researchers worked with service providers at the following agencies to recruit participants:

- Clackamas County Transition Center
- Clackamas County Service Center
- The Father's Heart Street Ministry
- Clackamas County Community Paramedicine

We conducted outreach at all of the neighborhood hospitals (Providence Milwaukie, Providence Willamette Falls, Kaiser Sunnyside, and Legacy Meridian Park) but, as included in the limitations section, we were only able to interview one Emergency room visitor on site.

Providers were instructed to identify program clients who frequently utilized their services and who self-identified as residents of Clackamas County. PSU researchers asked providers to refer only those clients who demonstrated the highest service utilization. Interviews were in person, either at the service centers or in participants' homes. Interviews were semi-structured and focused on service use, service needs, and understanding how or why participants made decisions regarding their service usage.

The interview guide was developed in collaboration with community partners and considered a review of the literature, including FUSE projects in other regions, and the research questions.

Interview notes were developed from the audio recordings and notes taken during the interviews. Researchers reviewed the notes and

conducted a thematic analysis. Additionally, demographic data was collected for all but one interviewee.

System/Provider Interviews

Researchers conducted in-person or telephonic interviews with over 20 service providers, program administrators, and other key informants. Stakeholders were identified by County staff, suggestions from providers in the community, and by asking each interviewee who else we should speak with (snowball sampling). Organizations included:

- Clackamas County (Behavioral Health, Community Corrections, District Attorney's Office, Fire and Community Paramedics, Veterans Services)
- Emergency Medicine (Tri-County 911, Metro West, Providence, Legacy, and Kaiser ED staff)
- Community Services (My Father's Heart Street Ministry, Clackamas County Service Center)
- Medical Community (Unity, CareOregon, OHSU Street Medicine, PACE Centers)

Questions focused on the role of the service or program for people with patterns of high utilization, the history of the program, and data systems utilized. Researchers also asked providers to reflect on key successes, challenges, and goals for the program or service.

Researchers attended various community meetings and events, including a monthly Community Outreach Meeting, the monthly Managing High ED/EMS Utilization workgroup meeting, and a Safe Overnight Shelter Open House. In addition, researchers spoke with four key informants highly involved in previous FUSE projects. Their locations were King County, San Diego, Clark County, and Lane County.

Interview notes from phone calls and meetings were thematically analyzed.

Quantitative Methods and Data Sources

The study team sought data from several service agencies, including: Clackamas County District Attorney's Office, Clackamas County Sheriff's Office, Clackamas County Social Services, Clackamas County Public Health Division (Clackamas Fire District #1 and American Medical Response), Health Share of Oregon, and TriMet. Due to the complexity of agreeing on data security and data sharing protocols with each individual data

source, we were not able to obtain data from all sources in time for this report. Each data source and its status is briefly described below.

- **Health Share of Oregon:** The largest Coordinated Care Organization (CCO) serving Oregon Health Plan (OHP/Medicaid) members in Clackamas, Multnomah, and Washington counties. They provided claims data for those enrolled in Medicaid, including ED and medical transportation claims. Importantly, these data included information collected through the Emergency Department Information Exchange (EDIE) and PreManage (a non-hospital complement to EDIE), as described by staff from HIT Commons (a health information technology organization co-sponsored by Oregon Health Leadership Council and Oregon Health Authority that oversees EDIE/PreManage). Also importantly, the Health Share data included data from Clackamas County Health Centers, the non-emergency healthcare provider accessed by residents with Oregon Health Plan (Medicaid/Medicare) (received).
- **Clackamas County Sheriff's Office:** Data regarding bookings into jail by all Clackamas County law enforcement agencies within Clackamas County, including local police departments (received).
- **TriMet,** the public transportation network serving Multnomah, Clackamas, and Washington counties. A list of persons who have been excluded from TriMet services due to fare evasion, disruptive behavior, nuisance, committing a serious physical offence against another person on the TriMet system, or posing a serious threat to TriMet employees and passengers (received).
- **Clackamas Fire District #1, American Medical Response, and CareOregon**, among others, reach out to people identified with high ED or EMS utilization to provide support services: These outreach lists can be generated by the individual health systems that serve them (partial).
- **Clackamas County District Attorney's Office:** Data regarding charges and court records, for people charged by the Clackamas County District Attorney's Office (pending).
- **Clackamas County Social Services**: A list of persons accessing warming centers and a list of persons who are on a wait list for permanent supportive housing (pending).

We also approached a few additional sources of health or law enforcement data (Clackamas Health Centers, CareOregon, Unity, Collective Medical Technologies, various local police departments). However, once we discovered that their data was available to us through

a larger, more comprehensive data set, we decided to seek the data though those other sources.

Data sources and security

Along with our research partners for this study, the PSU Office of Research Integrity (ORI) and Office of Information Technology (OIT) provided guidance in the development of a Data Security Plan and individual Data Use Agreements (DUAs) to ensure the confidentiality of the systems data analyzed for this project. DUAs were signed by PSU and the entity that shared data, with the exception of TriMet, whose exclusion data is publicly available. The study team also pursued several other possible data sources, which turned out to be non-relevant to the study, already included in the data sources above, or unavailable prior to completion of the study. Data from Unity Center for Behavioral Health, for example, was not available at the time of this writing. However, Unity indicated that approximately two thirds of the persons they served from Clackamas County appear in the Health Share data that we obtained.

Secure file transfer

Data was transferred from the agencies to PSU using Citrix ShareFile, a secure HIPAA-compliant file transfer service. Data was stored on a secure server at PSU, accessible only by study team members who needed access.

Quantitative analysis and matching

Data cleaning and analysis were conducted using R statistical software, with an approach favoring replication and future research. Initial analyses focused on identifying and describing persons who frequently accessed services within each system. Once people were identified within each system, fuzzy matching was applied to allow identification of persons across systems. To match people found in the two data sets we created a string variable ID based on First Name, Last Name, Date of Birth (converted to POSIX time format to ensure consistency), and Gender. A restricted Damerau-Levenshtein distance algorithm was then used to match the IDs between the jail and health data. The creation of this string ID had the added advantage of allowing use of records that were missing an ID variable(s) specific to a data set. For example, some booking records in the CCSO data were missing the individual's state identification number.

Creation of high utilization lists

In order to help the county identify individuals with the most frequent utilization of emergency and jail services for outreach and services, we created a variety of FUSE lists based on specific types of high utilization:

First, we created four lists of **people with the highest utilization by data source**. The jail data resulted in a list of the 330 people who had six or more bookings in at least one year (2016-2018). For health data, people fell into three categories of high utilization: (1) all claims, (2) ED only claims, and (3) medical transportation only claims. When ranked in descending order by number of total claims in 2018, a total of 1,951 individuals had more than 368 claims which places them in the top 1% of individuals by number of OHP claims in 2018. When ranked in descending order by number of ED claims in 2018, a total of 707 individuals had more than 368 ED claims placing them in the top 1% of individuals based on ED claims alone. Anyone with fewer claims than the ones listed were considered to have low utilization in that category.

Next, we created three lists of **people with 6 or more bookings in a year who also appeared in the health data set**. Perhaps the most useful list to the county is the one that connects anyone who had 6 or more bookings in a year between 2016 and 2018 with any Health Share claims that we were able to match to them (n=221 individuals). We also created several lists that match **people with a variety of high healthcare utilization** to people with the 6 or more law enforcement bookings. The two lists include (1) people who had 6 or more bookings in a year between 2016-2018 and fell into the top 1% of people with the highest number of health claims in a year between 2016-2018 (n=6 individuals), and (2) people who had 6 or more bookings in a year between 2016-2018 and fell into the top 1% of people with the highest number of ED claims in a year between 2016-2018 (n=8 individuals). We also attempted to match individuals with 6 or more bookings in a year (2016-2018) to the top 1% of people with the highest number of medical transportation claims in a year, but no one appears to be on both of those lists. This lack of overlap is not surprising, given that the individuals with high medical transportation needs tend to be much older than individuals with 6 or more bookings in a year.

Finally, each high utilization list identifies which individuals are also excluded from TriMet public transportation and/or have already been targeted for outreach (but have not necessarily been served yet) by community paramedics.

These lists and/or the syntax needed to recreate them from their own data sets were securely transmitted to Clackamas County using HIPAA compliant Citrix file transfer protocol software in July of 2019.

Purpose and Method of Equity Analysis

To analyze equity, we focused on race and gender, as those demographic characteristics are the most consistently collected. For race, we created two comparative groups: non-Whites and Whites. Hispanics or Latinos were included in the non-White category. People with multiple racial identities were counted as people of color. We dis-aggregated between communities of color where possible. For gender, our overarching analyses distinguished between male-identified people and not-male-identified people. Through our analyses we sought to identify disproportionate rates in high utilizer groups, and to identify whether people from historically marginalized communities might appear differently on aggregate lists.

Limitations

Consumer and System Perspectives

This report and its findings offer insight into the experiences of providers and consumers in Clackamas County. There exist, however, a number of limitations to the qualitative study, including:

- While we attempted to interview consumers with high utilization on location at Emergency Departments, we were ultimately not able to do so. Despite acknowledging the importance of gathering this information from diverse locations, health systems were concerned about the privacy of their patients even if the patients were given the choice to self-identify themselves to us. Interviewers were referred to people with high utilization who were waiting for transport to the ED, but in four of the five cases, the individual had already been transported and we could not conduct the interview.
- Due to human subjects protections, we were not allowed to interview consumers while they were being held in a jail cell. We did attempt to interview people who had been newly released through the Clackamas County Transition Center, but our target population did not tend to go there immediately upon release.

- Although researchers asked emergency responders and community service providers to refer potential interview respondents who demonstrated the highest ED/EMS utilization; there was some variance between highest utilization in any given service and highest cost overall. For instance, a provider at a food pantry might refer consumers who frequently utilized their services, but didn't necessarily visit emergency departments frequently or experience repeated episodes of incarceration.
- The designation between a Clackamas County resident and a Multnomah County resident, when referring to people experiencing homelessness, can be fluid. Some interviewees described themselves as only residing in Clackamas County and rarely, if ever, used services in Multnomah County. Others, however, crossed county borders with some frequency, although all those interviewed referred to themselves as residing in Clackamas County.

Service Utilization Data

Healthcare received during an ED visit may not all be provided by the ED or flagged as an ED claim. Thus, the actual costs of ED visits among Clackamas county residents are not fully represented in the estimates derived from this data.

Although we attempted to request data from all providers coming in contact with our target population, we did not succeed in contacting all of them. Entities with the most comprehensive data sets and services areas were prioritized, especially those who were already providing targeted outreach to this community. For example, we could not request data from all the Fire Districts that serve Clackamas County, so we concentrated on those that serve the parts of the county with the highest population densities.

The prevalence of homelessness, mental illness and addiction among Clackamas County jail and ED/EMS populations may be underrepresented in this report.

While the connection of homelessness, mental illness and addiction to frequent utilization of high cost services is evident throughout this report, the prevalence of these conditions among Clackamas County jail and ED/EMS populations may be underrepresented. Reasons for this underrepresentation include:

- While variables for housing status existed in the jail and health data we received, they were often left blank or recorded as "unknown". (This is not unusual: A July 2019 independent review of the Portland Police Bureau found that their data system did not have a variable specifically related to housing status and that no written or verbal guidance was given to officers in how to otherwise record it (Portland City Auditor, 2019)).
- Due to the complexity of federal regulations around the sharing of housing specific (HMIS) data, we were unable to determine which individuals were on housing waitlists at the time of their arrest or ED visit.
- We were only able to review the primary charge at the time of an arrest, rather than the final set of multiple charges that is established later on in the case, potentially resulting in an undercount of the prevalence of drug involved crimes among people with high jail utilization.

Despite communicating with Tualatin Valley Fire and Rescue representatives at the tri-county High ED/EMS workgroup, we were unaware until June that Clackamas County fell into its service area, and did not request data from them. However, the perspectives they voiced at those meetings are included in our information from service providers, and the Health Share claims data we analyzed includes transportation claims for the entire county.

The Health Share data included some negative claims (possibly corrections or refunds) that may affect the accuracy of the estimated health services costs.

An issue with creating a study ID for individuals based on open-ended data fields may occur when this data is not consistent for each booking or health claim due to data entry errors. If an individual has multiple records but their name or date of birth is not consistent among those records, they would be considered different people. In reviewing the data for this project, the study team decided that this issue had little effect on the results of the analysis. However, future replication of this study might find slightly different results depending on: 1) the ID used for aggregation (within data sets) and matching (across data sets), and 2) the extent of data cleaning and verification done for the analysis.

Historically marginalized populations are increasingly underrepresented in datasets.

Historically marginalized populations are increasingly underrepresented in datasets. In our study, people of color were a relatively small portion of the total Clackamas County population, making statistical comparisons challenging. Further, some marginalized sub-populations, including Native Americans and people who identify as gender non-binary, have limited representation in the obtained data sets. In the Health Share data, race was self-reported, resulting in multiple categories that made accurate disaggregation for some populations unachievable in the timeframe in the report.

Lists of Clackamas County Residents with High Service Utilization

Clackamas County asked us to provide identified lists of residents with high service utilization so they could be offered any interventions developed for this population. However, due to HIPAA regulations identifying individuals as Medicaid recipients, we were not able to transmit the lists of people with high ED utilization directly. However, because these individuals were already clients of Clackamas County Health Centers, we were able to provide them with the syntax that enables them to identify those individuals within their own system data.

Findings

What are the characteristics and needs of people who frequently access emergency rooms, ambulances, jails or courts?

Summary

Characteristics common to people with frequent law enforcement contact and emergency services utilization include psychiatric disorders and insecure housing. High ED usage is associated with schizophrenia, opioid dependence, and heart failure, as well as with a higher prevalence of multiple diagnoses and comorbidities. Persons with high rates of jail bookings as well as those with frequent medical claims in Clackamas County were more likely than those with low utilization to be male, to be white, and to have experienced housing instability.

Persons in Clackamas County were most commonly booked for driving under the influence of alcohol or another intoxicant (13.3%), possession of a controlled substance (methamphetamine/heroin, 11.1%), and parole violations (10.1%). Almost half (47.2%) of arrests in 2018 were made in Oregon City. Two thirds (67.8%) of arrests were made by the Clackamas County Sheriff's Office, followed by the Oregon City Police Department (7.5%). The consumers we interviewed occasionally used services in Multnomah County but proudly identified themselves as Clackamas County residents. They separated themselves from the homeless population in Multnomah County, describing that population as "stressful," "violent," or "dangerous." Those who had been in jail described how they would quickly relapse back to drug use, resulting in skipped meetings with their parole or probation officer, a violation that could land them back in jail.

What the literature tells us:

The literature on high utilization identifies characteristics common to people who find themselves in this situation, including psychiatric disorders, a bimodal age distribution (age groups of 25-44 and 64-and-over), and insecure housing. Literature also supports claims that health care delivery accounts for a very small percentage, perhaps as low as 10%, of overall health; the remaining 90% is determined by social and environmental factors such as education, housing status, and nutrition (Asch & Volpp, 2012).

Homelessness is associated with a higher utilization of the emergency department (Chang et al, 2014, Doran et al, 2013, Oates et al, 2009, Sadowski et al, 2009). Characteristics that people with high utilization of EDs have in common include basic demographics like age (25-44 and 64+), sex (mainly male-identifying), and medical diagnosis including schizophrenia, opioid dependency, and heart failure (Doran et al, 2013). Higher ED usage is constantly related to higher prevalence of multiple medical diagnoses and comorbidities (Doran et al, 2013).

Mental health and recidivism are linked repeatedly in literature (Bonta et al, 1998, Cottle et al, 2001); 60% of jail inmates have documented mental health conditions (Katsiyannis et al, 2018). Of this population, 77% were re-arrested within 5 years (ibid). The recent Council of State Governments study of Frequent Criminal Justice Involved individuals corroborates this in their findings that those who are frequently involved with the criminal justice system are three times as likely to also stay at the Oregon State Hospital (CSG Justice Center, 2019).

As stated, recidivism rates are disproportionately high among individuals with mental illnesses who are arrested for a criminal offense (Alarid & Rubin, 2018). Those with dual diagnosis or co-occurring mental health and substance use disorders are not often the target population for mental health institutions, and a current criminal history often excludes additional treatment options (Alarid & Rubin, 2018). Because of this, jails are often a place where individuals with mental illnesses are kept for lack of treatment options.

What Clackamas County consumers tell us:

The consumers we interviewed described characteristics and experiences similar to our other data sources. **Most were currently experiencing homelessness or insecure housing arrangements.** One of the respondents, a 23-year old-male, said he had more than ten separate jail stays in the past six months, and self-identified as abusing methamphetamines and having a number of psychological disorders. **Many of those interviewed had a history of substance abuse** and some acknowledged current usage. Several of those interviewed said they did not misuse drugs or alcohol, but advocated for their peers who did, saying, "I guarantee you if you put anybody on the street for a month, they would start drinking and drugging just to survive." One respondent said she did not use drugs, but only because her severe medical issues made it infinitely more dangerous to do so.

"I guarantee you if you put anybody on the street for a month, they would start drinking and drugging just to survive."
—Clackamas County resident

Most of the consumers we interviewed had high rates of ED utilization. The majority reported several visits to the ED in the last year, and we

spoke with three people who were on the "frequent flyer" list, meaning they had been transported to the ED six or more times in the past month. Respondents reported that they could not choose where they were transported. The hospitals mentioned specifically as visited by respondents include Providence Willamette Falls Medical Center, Providence Milwaukie Hospital, Portland Providence Medical Center, OHSU Hospital, and Kaiser Sunnyside Medical Center.

Although their experiences as people with high utilization were similar to those described in other data sources, our 14 interview respondents had somewhat different demographics. The majority identified as white (64%). An equal number of people self-identifying as male and female responded, and we spoke with a range of ages, although most people interviewed were in their 40s. The youngest participant was a 23-year-old male and the oldest was a 60-year-old male. Table 1 displays the demographic breakdown of the Clackamas County residents we interviewed.

Table 1:	Demographics of consumers interviewed (n=14 adults with high service utilization, interviewed in Clackamas County)
Average Age	46.5 years old (Range: 23-60)
Gender Identity	50% Male, 43% Female, 7% unspecified
Race	57% White, 28% African American, 28% Native American, 7% unspecified (includes 14% mixed race)
Health Insurance Status	79% OHP (includes one person who also had private insurance and one who also had VA healthcare, but both chose to use only OHP), 7% working on getting OHP, and 14% unspecified
Main county of residence	100% Clackamas County (57% were born or raised there)

Note: Percentages can total more than 100% due to individuals falling into more than one category.

"We *are* residents of Clackamas County."

"I do just as much for society and the community as anybody who lives in a house does. Maybe more. I've known these people since I was a child."

The consumers we interviewed identified strongly as Clackamas County residents and wanted to be seen as good people who were a benefit to their community. Over half (n=8) of those we interviewed answered "Where are you from?" with Clackamas County specifically or the Portland Metro region. Others not from Clackamas County noted that this is where they live now and referred to their current place of residence as their home and neighborhood. Clackamas was seen as a safer environment than the more urban areas of Multnomah County. However, respondents were concerned with the number of people migrating from Multnomah to Clackamas County and subsequently using their services.

"Why should I use their services [Multnomah County]? I don't want them to come here and take my shower slot. [Clackamas County] residents should be able to get in and take showers before Multnomah County."

Those we interviewed occasionally used services in Multnomah County but often proudly identified themselves as Clackamas County residents. They spoke about their longtime ties to their community and other residents, their childhoods growing up in the area, and their connections to services and service providers in Clackamas County. Additionally, they separated themselves from the homeless population in Multnomah County, describing that population as "stressful," "violent," or "dangerous." Others had less alarming reasons for avoiding Portland, including unfamiliarity with the service array, a stronger connection to services and service providers in Clackamas, and a smaller homeless population which created a greater sense of comfort. A number of respondents we spoke to described concerns about the growing homeless population in Clackamas County, noting that they were starting to see people from Portland crossing over to Clackamas County.

One theme that fell outside the focus on service usage and needs, related to identity, was participants' discourse about the deserving and undeserving poor. Countless times interviewees would explain to researchers that theirs was a group that was beneficial to society, indicating that there was another type of homeless group (sometimes they juxtaposed themselves with the homeless in Portland, or the camps along the Springwater Corridor) that was a burden or dangerous to society. Respondents spoke about the ways they picked up their trash; their ethical codes of conduct that included not stealing; some avoided using certain public services as much as possible, citing the burden on taxpayers; a number of respondents, apropos of nothing, spoke about belief in and quest for gainful employment as a marker of their respectability; and most frequently, their investment in their community (sometimes referring to a homeless camp and sometimes referring to a neighborhood or city).

"Clients don't care about county lines, but programs do."

When those interviewed did enter Portland, it was primarily to use food services or showers, when Clackamas services were closed. Another reason, though less frequent, was to use the emergency room at OHSU. Finally, we interviewed one couple who stayed at a shelter in Portland, explaining that it was the only shelter that allowed couples to stay. These two stayed at this shelter but would commute almost daily to Clackamas to use services.

Homelessness elevates visibility to law enforcement officers.

All of the respondents described frequent interaction with law enforcement, but none were incarcerated for violent crimes. Many respondents expressed a lack of successful interactions with law enforcement when they needed help.

"I just have a van. And it starts, barely. So I don't really run around in it much. I leave it up the street. I have to move it a lot because the rules in Clackamas County – you're not allowed to sleep in your vehicle. Period….In Multnomah County, it's not allowed to have a classified RV vehicle. PBOT was going to tow me." – Clackamas County resident

A minority of those we interviewed had frequent bouts of incarceration. Of the rest, several revealed they had been in jail or prison once or twice, but not in recent years.

Those with frequent jail stays described a similar pattern. These individuals had been arrested and convicted of a crime in the past few years, most often possession of a controlled substance. After their release from county jail, they would relapse and use drugs (those we interviewed who admitted to using drugs claimed a history of methamphetamine usage; we did not interview anyone who acknowledged an opioid or heroin addiction, but one person claimed abusing both methamphetamine and alcohol). Once they relapsed, they would skip the required meetings with their probation officer. Multiple participants mentioned that homelessness elevates their visibility to law enforcement, thus they would eventually be picked up on a probation violation and returned to jail. Those who fell into this group reported dozens of jail stays in the past year or two. Notably, not one respondent revealed an arrest for a violent crime. Additionally, all respondents revealed that repeated jail stays were solely due to probation violations. One respondent said that their repeated stays in jail, for a failure to appear, lasted anywhere from 29 hours to 63 days over the past few years.

Multiple respondents described their interaction with law enforcement as "crimes of visibility," being in the wrong place at the wrong time, and experiencing profiling because of the way they presented themselves. This extended to TriMet safety officers. One person we spoke with (male, age 60) was banned from TriMet for not having a fare at one time—his Hop card had been stolen along with his wallet. (Hop cards are reloadable cards, purchased for $3 at local stores, which are now used in place of a

ticket on TriMet public transportation.) This respondent nevertheless rides the bus with his grandson to visit the Zoo or OMSI. He spoke at length of the difference in treatment he feels when riding by himself compared to riding with his animated young grandson. When asked about camp sweeps, all respondents with direct experience described them as detrimental to survival and spoke about belongings like stoves, tents, and sleeping bags they lost due to sweeps.

Case Vignette: Mary Ellen, age 51, has experienced frequent interactions with police and sheriff's deputies. She owns a small RV, where she sleeps on all but the coldest nights. Her vehicle ("It's a van, but it's technically an RV") can only be legally parked in a public street for a maximum of 24 hours. Lacking financial resources, the van is barely running and is often low on gasoline. Mary Ellen's primary interaction with law enforcement is regularly being told that she needs to move her van to another site, as she has already overstayed her 24 hour time limit. In addition to these regular interactions with law enforcement, she herself has called 911 twice in the last several months. Both times she called, she reported being harassed by security guards at retail locations. Both times, police told her that she had to leave the premises. Due to her history of trauma (possibly related to a decades long abusive relationship), each interaction with law enforcement and the security guards traumatizes her all over again.

Case Vignette: Susan, age undisclosed, describes multiple attempts with local law enforcement to resolve an identity theft where her interaction with law enforcement was confusing and "always results in a dead end". She experiences difficulty navigating the medical system as a result of her identify theft and avoids medical care for this reason.

A primary reason respondents used the ED was pain-related.

One respondent revealed that she had severe arthritis in her knee; another talked about her chronic back pain; another talked about deformation in her spine.

Case Vignette: Florence, a woman with severe arthritis, explained that she went to the ED multiple times for pain. Finally, at her last ED visit, they gave her a referral to a PCP and she actually followed up and really likes her. At the time of the interview, Florence had been nicotine-free for one day. Her knee surgery required it, and she was determined to have surgery because of the pain she experienced.

What providers and systems experts tell us:

Definitions of Frequent Utilization vary across systems and providers.

A system should identify at least three times the population that it can ultimately serve.

Development of a cutoff point to define frequent utilization is a factor of natural groupings that service utilization can fall into and also of an individual provider's capacity to serve the defined population. That said, if it is based solely on the number of people who can be served at any one time, the recruitment experiences of FUSE program around the country imply that a system should identify at least three times the population that it can ultimately serve. Table 2 shows selected definitions of frequent utilization across systems.

Table 2: Local Definitions of Frequent Utilization Across Systems

Program	*Definition:* Individuals with…..
Better Outcomes thru Bridges (BOB)	Six emergency department (ED) visits in a 6-week period, or 20 times in a one-year period.
TC911	Six emergency medical service (EMS) incidents in a 6-month period.
OHSU New Directions	Three ED visits in an 8-week period, or 5 times in a 12-month period (can be any emergency department, not just OHSU).
EDIE	Five ED visits or an inpatient admission in a 12-month period (Criteria for inclusion in EDIE. Not an indicator of high utilization.)

Residents use services in both Clackamas and Multnomah Counties.

Service providers reinforced the consumers' statements that some services are available only in Multnomah County, forcing individuals to go to the services and cross county lines. Because some programs, like shelter beds, are not available in Clackamas County, individuals utilized services in other counties as a result of their engagement with shelter bed programs. Service providers expressed a need for cross-county coordination to benefit individuals who preferred to live in Clackamas County but traveled to Multnomah County for specific services unavailable to them in their home county, or who experienced an emergency while in a neighboring county. According to multiple service providers, the cross-system communication in Clackamas County is an asset to programs, but cross-county communication within systems is a major challenge.

Case vignette: John lives in Clackamas County but gives plasma in Multnomah County. One day, while giving plasma on SE 82nd in Portland, he experienced a heart attack and was transported to the nearest Multnomah County emergency room. After rehabilitation, John returned to Clackamas County and continues to utilize services there for people experiencing homelessness.

Consumer involvement with criminal justice, mental health, and healthcare are interconnected.

Key informants in the justice and first responder environments shared a sense of the interconnectedness and domino effect of involvement in criminal justice, mental health, and healthcare.

Mental health crises and law enforcement contacts are more prevalent for people who are not housed.

Clackamas Service Center serves 700-800 unique households each month. Of these, according to service providers, half of the people they serve are housed. Of the half that are not housed (n=350-400), about 20% (=70-80) are consistently interacting with law enforcement agents and have mental health crises that require frequent utilization of emergency healthcare services. The folks who are currently unhoused utilize all of the available services, while the housed folk tend to more commonly utilize the food bank (provided by St. Vincent de Paul next door).

Transportation is a major barrier for delivering and accessing services.

Providers told us that TriMet does not serve this population sufficiently. Public transportation does not reach many of Clackamas County's rural areas. Medical ride programs do not give rides to food banks or other services and are often difficult to coordinate. County funds are spent on taxis or emergency medical transportation for this population. One respondent reported that

Those experiencing a medical emergency in rural areas of the county still call 911 and are transported to the nearest emergency department, but may have difficulty returning home. Service centers in Estacada, Sandy, and Canby enhance the services available through rural outreach workers based in the "close-in," or more urban, parts of the county. The rural outreach workers bring services otherwise unavailable to individuals without their own transportation. This is especially important for older residents who can no longer drive.

Multiple service providers stressed the importance of flexible fares and retaining single-trip vouchers and day passes. Respondents voiced frustration about the Hop card system, because requiring a Hop card adds an extra $3.00 to each transportation aid they disperse, thus decreasing how far their funds can stretch.

What Clackamas County service utilization data tells us:

The study team examined data from each agency to identify people with the highest level of public service utilization in Clackamas County, using two approaches. First, the study team examined frequency of service access within each system to identify individuals with the highest utilization of services by considering their frequency of access. Second, the study team identified all persons with high utilization based on the various definitions of frequent utilization, as previously discussed. Once individuals were identified, the study team then examined their characteristics, including their demographics and the nature of their service utilization.

Clackamas County Booking Data across Three Years (2016, 2017, 2018)

(Source: Clackamas County Sheriff's Office)

In 2018, 9,410 individuals accounted for 13,744 bookings into Clackamas County jails.

According to booking data from Clackamas County Sheriff's Office, 9,410 individuals accounted for the 13,744 bookings that occurred in Clackamas County during 2018. The number of bookings per person ranged from 1 to 19 per individual (see Table 3). Of these individuals, 73.3% were booked only once during the year and 16.8% were booked twice. On average, persons were booked 1.5 times during the year. Almost 10% (n=934) of those booked in 2018 were booked three times or more during that same year.

Table 3: Count of Clackamas County bookings per individual in 2018 (n=9,410 individuals)

Number of times booked in 2018	*Count of individuals*	*Percent*	*Utilization Group*
1	6893	73.3%	LOW UTILIZATION
2	1583	16.8%	
3	511	5.4%	
4	212	2.3%	
5	112	1.2%	
6	46	0.5%	HIGH UTILIZATION
8	16	0.2%	

Table 3:	Count of Clackamas County bookings per individual in 2018 (n=9,410 individuals)		
Number of times booked in 2018	*Count of individuals*	*Percent*	*Utilization Group*
7	14	0.1%	
9	9	0.1%	
10	6	0.1%	
11	3	0.0%	
12	3	0.0%	
13	1	0.0%	
19	1	0.0%	

Based in part on the methodology and number served by other FUSE projects, the study team divided the total population booked into two groups: "high utilization" and "low utilization." Persons booked six or more times during the year were considered to have a *high* number of bookings (n=99, 1.1%), and those booked five or fewer times (n= 9,311, 98.9%) were considered to have a *low* number of bookings. As Table 4 shows, persons in the high group represent the top one percent (approximately) of persons booked in 2018.

Table 4:	Total population booked in 2018 by utilization level (low = 1-5 bookings, high = 6+ bookings) (n=9,410 individuals)		
	Level of Jail Utilization	*n*	*Percent*
	Low	9,311	98.9%
	High	99	1.1%

Of the entire population booked in Clackamas County in 2018, 74.0% were male and 7.5% were African American, compared to 49.3% and 1.2% respectively of the county population overall.

The demographic distribution of the population booked during 2018 is similar to the demographic distribution of the total population in Clackamas County with the exception of males, and, to a lesser extent, African Americans. Both of those groups appear to be over-represented in the law enforcement data. Of the entire population booked in Clackamas County in 2018, 74.0% were male compared to approximately 49.3% of the county population overall, and 7.5% were African American, compared to 1.2% of the county overall (https://www.census.gov/quickfacts/clackamascountyoregon, downloaded July 2019). The self-reported booking data also indicates that 82.9% of people booked in Clackamas in 2018 were white, less than 1% identified as LGBTQIA, less than 1% reported a disability, 33.1% were employed, and 4.7% were veterans. Housing status was collected during

bookings in 2018, but is considered to be inaccurate and is therefore not included in this report.

Table 5 below lists the top ten primary charges for people in the total study population. Readers are reminded that this is based on the number of bookings rather than the number of people booked. As may be seen in the table, persons were most commonly booked for parole violation, possession of a controlled substance (methamphetamine), driving under the influence of an intoxicant (alcohol), and theft. The next most common charges were similar in nature.

Table 5: Top 10 charges in 2018
(n=13,744 bookings in 2018)

	Charge	n	*Percent*
1	PAROLE VIOLATION	1,388	10.1%
2	PCS-METH	1,105	8.0%
3	DUII - ALCOHOL	1,101	8.0%
4	THEFT II	988	7.2%
5	DRIVING UNDER INFL OF INTOX	731	5.3%
6	DRIVING WHILE SUSPENDED/REVOKE	593	4.3%
7	THEFT III	540	3.9%
8	CRIM TRESPASS II	500	3.6%
9	ASSAULT IV	488	3.6%
10	PCS-HEROIN	428	3.1%

At the time they were booked, most persons lived in Clackamas County (39.8 percent), in an unknown county (26.8 percent), or in Multnomah County. Other persons who were booked resided in counties across Oregon. See Table 6.

Almost half (47.2 percent) of arrests were made in Oregon City, though other arrests were made in locations across Oregon, as shown in Table 7. Two thirds (67.8 percent) of the arrests were made by CCSO (see Table 8).

Table 6:	County of residence at the time of each booking (n=13,744 bookings in 2018)		
Rank	*County of Residence*	*n*	*Percent*
1	Clackamas	5,473	39.8%
2	Unknown	3,688	26.8%
3	Multnomah	3,321	24.2%
4	Washington	516	3.8%
5	Marion	282	2.1%
6	Yamhill	81	0.6%
7	Lane	65	0.5%
8	Deschutes	51	0.4%
9	Linn	35	0.3%
10	Columbia	24	0.2%
11	Clatsop	22	0.2%
12	Jackson	21	0.2%
13	Polk	21	0.2%
14	Douglas	19	0.1%
15	Lincoln	19	0.1%
16	Wasco	12	0.1%
17	Coos	11	0.1%
18	Crook	10	0.1%
19	Jefferson	10	0.1%
20	Josephine	10	0.1%
21	Tillamook	10	0.1%
22	Benton	8	0.1%
23	Umatilla	8	0.1%

Counties where less than 0.1% of population resided are not listed.

Table 7:	Location of arrest for each booking (n=13,744 bookings in 2018)		
Rank	*Arrest Location*	*n*	*Percent*
1	Oregon City	6,483	47.2%
2	Milwaukie	1,354	9.9%
3	Happy Valley	1,264	9.2%
4	Clackamas	770	5.6%
5	Canby	536	3.9%
6	Portland	475	3.5%
7	Wilsonville	400	2.9%
8	Gladstone	374	2.7%
9	West Linn	311	2.3%
10	Molalla	308	2.2%
11	Sandy	279	2.0%
12	Lake Oswego	254	1.8%
13	Estacada	199	1.4%
14	Boring	101	0.7%
15	Damascus	99	0.7%
16	Tualatin	67	0.5%
17	Oak Grove	65	0.5%
18	Eagle Creek	56	0.4%
19	Aurora	52	0.4%
20	Mulino	43	0.3%
21	Welches	43	0.3%
22	Beavercreek	32	0.2%
23	Gresham	18	0.1%
24	Government Camp	17	0.1%
25	Colton	16	0.1%
26	Rhododendron	14	0.1%
27	Brightwood	12	0.1%
28	Jennings Lodge	11	0.1%
29	Tigard	11	0.1%
30	Woodburn	9	0.1%
31	Hubbard	8	0.1%
32	Oatfield	7	0.1%

Locations where less than 0.1% of bookings occurred are not listed.

Table 8:	Agency that conducted arrest for each booking (n=13,744 bookings in 2018)		
Rank	*Arresting Agency*	*n*	*Percent*
1	CCSO	9,320	67.8%
2	OCPD	1,030	7.5%
3	OSP	591	4.3%
4	CPD	545	4.0%
5	MIPD	461	3.4%
6	GPD	351	2.6%
7	CCCC	321	2.3%
8	WLPD	300	2.2%
9	SPD	291	2.1%
10	LOPD	247	1.8%
11	MOPD	202	1.5%
12	USFS	22	0.2%
13	PPB	13	0.1%
14	TPD	10	0.1%
15	TRAN	10	0.1%
16	TUPD	8	0.1%

Agencies making less than 0.1% of the arrests occurred are not listed.

Tables 9-12, below, compare demographic characteristics of persons with high and low number of bookings during 2018. On average, persons with a high number of bookings were booked 7.5 times, compared to an average of 1.4 times for persons with a low number of bookings. This is consistent with having set the cutoff point between the low and high groups at 6 or more bookings during the year.

Table 9:	Average number of bookings by utilization level (n=9,410 individuals booked in 2018)		
Utilization Level	*Mean*	*Median*	*Standard Deviation*
High (6+ bookings)	7.5	7	2.1
Low (1 to 5 bookings)	1.4	1	0.8

Table 10:	Age by utilization level (n=9,410 individuals booked in 2018)		
Utilization Level	*Mean*	*Median*	*Standard Deviation*
High (6+ bookings)	34 years	32 years	10.3
Low (1 to 5 bookings)	36 years	34 years	11.6

When comparing persons with high and low numbers of bookings, those who had high utilization were more likely to be male (83.8% versus

73.9%, p < .05) and white (90.0% v 82.8%, p < .05) than those who did not have high utilization. Readers are cautioned about drawing conclusions from these data, given the low number of persons in some cells of the table (for example, only 9 persons had high utilization and were non-white).

Table 11: Gender by utilization level
(n=9,410 individuals booked in 2018)

Gender	High (6+ bookings)	Low (1 to 5 bookings)	Overall
Male	83.8% (83)	73.9% (6,885)	74.0% (6,968)
Non-male	16.2% (16)	26.1% (2,426)	26.0% (2,442)

Table 12: Race (White, non-White) by utilization level
(n=9,410 individuals booked in 2018)

Race	High	Low	Total
White	90.9% (90)	82.8% (7,709)	82.9% (7,799)
Non-white	9.1% (9)	17.2% (1,602)	17.1% (1,611)

Calculation of utilization by racial sub-groups is not included in this report due to the low number of consumers that fall into some race categories.

The most frequent charges for persons with a high number of bookings are listed below in Table 13. The most common charges were for parole violation (21.1 percent), criminal trespass II (11.4 percent), possession of a controlled substance (methamphetamine) (9.5 percent), and theft II and III (7.9 percent and 6.9 percent respectively).

Table 13:	Top 19 charges of people with 6 or more bookings in 2018 (n=744 Individuals booked 6 or more times)		
Rank	*Charge*	*n*	*Percent*
1	PAROLE VIOLATION	157	21.1%
2	CRIM TRESPASS II	85	11.4%
3	PCS-METH	71	9.5%
4	THEFT II	59	7.9%
5	THEFT III	45	6.0%
6	INTERFERING WITH PEACE OFFICER	24	3.2%
7	CRIM TRESPASS I	23	3.1%
8	CRIM MISCHIEF II	22	3.0%
9	DISORDERLY CONDUCT II	22	3.0%
10	DRIVING UNDER INFL OF INTOX	19	2.6%
11	PCS-HEROIN	17	2.3%
12	DRIVING WHILE SUSPENDED/REVOKE	16	2.2%
13	HARASSMENT	16	2.2%
14	ASSAULT IV	12	1.6%
15	UNAUTH USE OF VEHICLE	10	1.3%
16	CONTEMPT - PUNITIVE	8	1.1%
17	MENACING	8	1.1%
18	THEFT I	8	1.1%
19	CRIM MISCHIEF III	7	0.9%

There was a high association between individuals with the highest number of medical claims and individuals identified as having unstable housing.

Housing

Among all persons who had a medical claim in 2018, 4.1% were identified as having housing instability. Among those persons who had ED claims, 8.4 percent experienced housing instability; among those who had EMS claims, 13.6 percent experienced housing instability; and among those who had emergency department and/or medical transportation claims, 7.9 percent experienced housing instability. However, these percentages are likely to be an undercount. The “housing instability” variable in the claims data identifies a person as having unstable housing or having an “unknown” housing status. It is not known what portion of those with an “unknown” housing status are in unstable or no housing. Despite the underreporting of housing status in the claims data, there was a high association between individuals with the highest number of medical claims and the few individuals who were identified as having unstable housing.

Gender and Race

Persons with high utilization across all types of Medicaid claims were more likely than those with low utilization to be male (44.7 percent

versus 41.7 percent, p < .01), white (66.1 percent versus 53.5 percent, p < .001) and to have experienced housing instability (19.9 percent versus 3.9 percent, p < .001). Persons with high utilization of ED claims were more likely than those with low utilization to be male (46.3 percent versus 40.6 percent, p < .002), white (65.3 percent versus 55.4 percent, p < .001) and to have experienced housing instability (50.1 percent versus 8.0 percent, p < .001). Persons with high utilization of transportation claims had no statistically significant difference in being male or white but were more likely to have been identified as having housing instability (17.8% percent versus 13.6 percent, p < .02). While people with high utilization overall were more likely to be white when compared to all communities of color, African Americans are disproportionately represented in the high utilization group (11.4% versus 16.5%) when compared with whites (88.6% versus 83.5%, p<0.00). Note that the statistical tests for specific communities of color may indicate statistical significance for irrelevant reasons.

Age

The average age of individuals across all claim types fell between 41 and 50 years old, as shown in Table 14. Persons with high utilization of any services were, on average, older than those with low utilization across all services. The range was similar by level of ED utilization, but slightly reversed for medical transportation.

Table 14: Average Age by Healthcare Claim Type and Utilization Level

	Utilization Level	
Claim Type	*High*	*Low*
All claims	48 years	41 years
ED claims	43 years	41 years
Medical transportation	48 years	50 years

What are the characteristics of the systems that serve people with high utilization?

Summary

The systems that serve people with high utilization in Clackamas County fall into the categories of housing, healthcare, law enforcement, and human services. The county's H3S department is formally organized around three of these four service types (Health, Housing and Human Services), and has lines of communication with law enforcement through the County's Sheriff's and District Attorney's Offices. External providers across Clackamas, Multnomah, and Washington County coordinate services and collaborate across these systems through informal monthly meetings and one-on-one communication around their clients' needs and available resources. Addressing the needs of people with high utilization within their systems is a common goal for all.

What providers and systems experts tell us:

Multiple systems serve this population and what we learned is that, in addition to providing the service in their category, they are also working to serve the people with highest utilization. They have different programs just for those individuals. These systems included:

Housing

Clackamas County Coordinated Housing Access (CHA) is the central list maintained by Clackamas County Social Services that connects available housing with individuals on the waiting list. Community-based services in Clackamas County connect clients who are currently homeless to the list by calling the access phone number, the client is then assessed for vulnerability and their name is added to the waiting list for housing. **Veterans Services** of Clackamas County works closely with CHA to connect veterans with housing, in part through their "**Vets by Name**" program, which aims to know by name all veterans who are homeless in Clackamas County and connect them with appropriate services. Rent assistance vouchers exist for **Domestic Violence Survivors** to access housing, but these are very limited. **Project Access NOW** connects discharging patients and Medicaid members with housing, among other services, through their C3 Assistance Program (C3CAP). **Providence's Better Outcomes Thru Bridges** is a key stakeholder in the **Safe Overnight Shelter** program which is seeking to open local parking lots to Conestoga Huts in which patients discharged from medical procedures may recover with case management provided by BOB's social workers.

Ambulance

American Medical Response (AMR) is the main emergency transportation company operating within Clackamas County. Two **Community Paramedics**, one funded through AMR and the other through Clackamas County Fire, collaborate on projects to reduce 911 call volume within the county. Projects include coordinating resource fairs, house calls, community outreach, and individual resource connection. Community Paramedics receive client referral lists from their medic staff and from ambulance transport data, and coordinate client lists with Tri-County 911 to avoid client overlap. The Clackamas County Police's **Homeless Liaison Officer** works closely with the Community Paramedics to provide front-line resource connection to individuals experiencing homelessness and utilizing emergency medical services frequently. Metro West Ambulance also operates within Clackamas County but does not run a program within Clackamas County that targets people with frequent utilization.

Emergency Department

Providence Milwaukie and Providence Willamette Falls operate emergency departments in Clackamas County and run the Better Outcomes Thru Bridges program (BOB). BOB is a group of programs and projects that operate under Providence Regional Behavioral Health aimed to match clients with patterns of frequent utilization with appropriate services. Medical staff refer clients to BOB from Providence EDs. **Kaiser Sunnyside** once ran a program to connect people with patterns of frequent utilization with social services, called Nurse Navigators, but no longer operates this program. **Legacy Meridian Park** operates an Emergency Room as well but do not run a program for those with patterns of frequent utilization.

Mental Healthcare

Unity Center for Behavioral Health is the main psychiatric emergency service provider for adults in the greater Portland metropolitan area. It is located in Multnomah County and is open 24 hours per day, 7 days per week. Adults experiencing a mental health crisis in Clackamas County are transported directly to Unity or transferred from surrounding Emergency Departments. Unity social workers coordinate closely with Clackamas County social services to provide ongoing support. The facility has 50 short-term-stay beds and about 100 inpatient beds total for those ranging in age from nine to adult. Adolescents experiencing a psychiatric emergency are referred to the **OHSU Doernbecher Pediatric Emergency Department** or the **Children's ED at Randall Children's Hospital at Legacy Emanuel**. The **Oregon State Hospital** in Salem is the state's inpatient

psychiatric hospital for individuals who require intensive treatment for severe and persistent mental illness. Clackamas County Jail coordinates with Oregon State Hospital for the care of patients.

Non-Emergency Physical Healthcare/Follow-up

Clackamas County Health Centers conducts follow up phone calls and other outreach to people discharged from the Emergency Department in Clackamas County to connect them with follow-up services and less expensive urgent care options. . The interventions are is conducted in coordination with Zero Suicide efforts and Providence Navigators. These outreach efforts are funded by a grant from CareOregon that is scheduled to end on June 30, 2019. **Providence Elder Care** program seeks to provide clinical care, care coordination, and case management for Medicaid-eligible Providence members at their Milwaukie Healing Place.

Criminal Justice/Courts

Clackamas County Transition Center is across the street from the **Clackamas County Jail**; staff at the Transition Center collaborates closely to reduce recidivism rates. Upon release, individuals walk across the parking lot from the jail to the transition center to receive bus passes, re-enroll in OHP, join the CHA waiting list, and connect with a wide variety of services such as GED courses, resume workshops, and peer mentoring programs. Another effort to reduce recidivism in Clackamas County is the **Law Enforcement Assisted Diversion Program (LEAD)**. LEAD is a recent partnership of the Clackamas County District Attorney, Sheriff, and Health, Housing and Human Services departments to divert individuals found to be in possession of small amounts of controlled substances to social workers and treatment programs. Central City Concern is contracted to provide follow-up and addiction treatment services.

What Clackamas County consumers tell us:

Consumers have a general service base, often where they receive mail, migrating to other services as needed.

In addition to asking about emergency department visits and jail stays, researchers asked consumers about other services they used. In part because the interviews took places at these locations, respondents frequently reported using services at The Father's Heart, the Clackamas County Service Center, and the Clackamas County Transition Center. In addition, respondents named other services they used regularly. The following services and locations were named in multiple consumer interviews:

- The Father's Heart

- Clackamas County Service Center
- Clackamas County Transition Center
- Outside In mobile health clinic
- Laundry Love
- NARA (for mental health services)
- Peer mentors (referred to through the Transition Center)
- CODA, De Paul Treatment Center, and other substance abuse treatment facilities
- Shelters and warming centers
- Housing supports
- St. Vincent De Paul, the Union Gospel Mission, and other soup kitchens and/or Oregon Food Bank distribution centers (for food)
- TriMet transit vouchers

Nine of the 14 consumer interview participants used **The Father's Heart Street Ministry** or the **Clackamas Service Center** on an almost daily basis. Both agencies provide similar services and resources for clients. Our respondents spoke about the importance of having a place to shower, receive mail, have meals, and pick up clean clothing. Some residents used services at both places. Several Father's Heart clients preferred that organization because they could easily remember the schedule, whereas Clackamas Service Center has a more varied schedule of operations. Respondents additionally spoke about the warmth and kindness of the providers and volunteers at both agencies. They noted this as a key factor in their decision to use these services. It should be noted that a number of people used Father's Heart as a place to "relax," not just to get material needs met.

Interviews conducted at the **Clackamas County Transition Center** were no less favorable on the topic of staff, but the respondents' relationship with the organization was qualitatively different. As the Transition Center's purpose is primarily to give referrals, respondents spoke more about the logistics and types of services they received there and less about the quality of their time spent utilizing those services.

The **Outside In mobile health clinic** was used by those who were interviewed at Clackamas Service Center, where the van is parked on certain days. When asked what types of services they received at the health van, respondents gave a variety of answers, including: STI tests; bloodwork for other tests; referrals to other health care providers; mental health services including prescription medications; and overall general healthcare.

Respondents rarely utilized shelters. We interviewed two, a male and female couple, who always tried to use shelters and worked hard to not sleep on the streets, but often faced barriers to being allowed to stay together. The only other time a shelter was used by those in our study was during the winter on the very coldest nights—and then only if respondents could not afford to purchase propane to heat their vehicles and/or tents.

Respondents used various **free meals** and **food pantries**, but almost all those interviewed received **SNAP benefits to purchase food**. Outside of these benefits, a few of our participants received **SSI or SSDI**, two of the 14 were employed at the time of our interview, and the rest earned income through **collecting and returning cans for cash deposits**.

Another service that respondents relied on heavily were TriMet **transit vouchers**. There were a number of places they could be picked up, but their availability was irregular regardless of location. One respondent said that with TriMet's move towards the Hop cards, bus vouchers were increasingly scarce. Only one participant mentioned a TriMet sponsored program that loaded his Hop card to allow a month's worth of transit usage.

Clackamas County does not have enough shelter beds or accessible food to meet consumers' needs.

Lack of available shelter beds in Clackamas County is a major theme. A community paramedic we spoke with utilizes grant funds to pay for hotels for clients with a specific housing plan, as a stopgap measure. The grant funds are tenuous and not year-round, meaning clients who need a place to stay for a brief time when funds are unavailable will not have access to this service. The most common need for brief hotel stays is upon discharge from a medical emergency, as a place to recover in peace. Programs exist to mitigate housing loss during this transition, but housing options, especially single-occupancy rooms, are severely limited. When asked to name the most impactful intervention, service providers constantly cited affordable housing.

The intermittent nature of food accessibility and food pantries affected service providers as well.

Provider Vignette: Flexible grant funding allowed John, a community paramedic, to deliver a food box to a client in need on a day no nearby food pantry was open. St. Vincent de Paul food pantry used to be open on that day, so they drove to the pantry, but discovered it was closed. They then created a custom food box from a discount grocery.

Multiple families asked about a closed food pantry while researchers were visiting. They had been turned away without a food box. A local community paramedic was able to give them gift cards to national fast food chain in this one case.

Consumer respondents were insured by the Oregon Health Plan (OHP).

Nearly all our respondents were insured by the Oregon Health Plan (OHP). One participant recently acquired OHP, although he continued to be eligible to be insured under his parent's insurance plan. Another respondent was insured through Veterans Affairs, but refuses to use VA services:

> I'm trying to establish myself by my own means as much as possible, because it's not going to be right unless I do it myself…. With VA there are strings attached.

This respondent did not provide explicit details about what those strings were, but did say that he had challenges with all forms of authority and had recently left a clean and sober housing facility for this reason.

Individuals need to be connected with a primary care provider whom they trust and like.

"That's why the cops tell me I'm possessed and tell me I'm a witch. Because of my seizures. I'm not insane. It's a neurological disorder" – Clackamas County resident

For individuals to utilize primary care in lieu of Emergency Departments, they need to be connected with a provider whom they trust and like. A trusting connection with a specific doctor was the most common reason given for a continued relationship with a primary care provider. Respondents spoke of interactions at emergency rooms with nurses and medical professionals who were "mean," "rude," and who "treated and streeted" them. Those participants tried to avoid the emergency room because they felt labeled as drug-seeking and were not heard. Participants with a primary care doctor they liked described the connection as personal and trusting, and the doctor as understanding.

For ED usage, the only respondent who explained her choice of hospitals chose to go to Providence Milwaukie because it was "tucked in a corner" (more isolated from the main center of towns) and therefore there was rarely a long wait. Other respondents voiced desires to go to hospitals with "friendly staff" and "good doctors" but, again, they could not choose where they were transported.

Case Vignette: Dave, age 49, is currently camping by the river with his minor son describes both of their primary care doctors as "amazing" although his primary care doctor is in Estacada, which is difficult for him to reach by bus. He recently suffered a heart attack and was transported by ambulance and spoke at length of the importance of having OHP and a primary care doctor with whom he felt comfortable to continue his rehabilitation.

What are the costs to the systems that serve people with high utilization?

Summary:

Jails: The estimated cost per night in Clackamas County jail is $111. Nationally, the average length of stay in city or county jail was 25 days in 2016. In Oregon, 9% of individuals booked into county jail accounted for 29% of all booking events. In 2018, of the 9,410 individuals booked into Clackamas County jail, 99 of them (1.1%) were booked an average of 7.5 times (classified in this report as "high utilization"), compared to an average of 1.4 times (classified as "low utilization"). Using the figures of $111 per night and 25 nights per booking, an estimated $1.7 million dollars per year could be saved by moving those 99 individuals with high utilization into the low utilization category. By moving the top 1% of individuals with high jail utilization into the low utilization category, an estimated $1.7 million dollars per year could be saved.

ED/EMS: In 2018, a total of 195,512 claims totaling $745 million were made to Medicaid for OHP members residing in Clackamas County. The 1% of persons with the highest utilization of EDs had a much higher number of healthcare claims (43.6 versus 3.7) that year, as well as higher average per-person costs ($10,621 versus $807). One contributing factor is that, due to the high rate of psychiatric disorders among this population, patients may be kept longer at the ED than medically necessary if community behavioral health resources are at capacity. Finally, the 1% of persons with high utilization of medical transportation (EMS) in Clackamas County also had a higher number of claims (634 versus 46.2), as well as higher annual healthcare costs ($12,761 versus $1,172) than the 99% with lower utilization. By moving 100 individuals in the high ED/EMS utilization category into the low utilization category, the healthcare system could save an estimated $2.5 million dollars per year.

What the literature tells us:

The literature reflects how the high costs of emergency and criminal justice services represent funds that could be used elsewhere in more cost efficient ways and reach larger segments of the Clackamas County community. These high-cost services include ambulance rides, ED visits, jail stays, missed court dates, and short-term housing and shelter.

Visits to emergency medical departments are rising in most high-income countries (Van den Heede & Van de Voorde, 2016). A pattern of utilizing the ED as a place for medical care for other than life-threatening circumstances has accompanied this increase in visit numbers, and hospitals have categorized some visits as "appropriate" and "inappropriate" or life-threatening and less-than-life-threatening. Individuals with patterns of utilizing the ED frequently as a place for non-life-threatening circumstances are the target of some studies, while frequent utilization of the ED for any cause is the focus of others. A nationwide standard of "frequent utilization" does not exist, although Doupe et al (2012) attempted to standardize the cutoff for frequent utilization at 7-17 visits in 12 months and highly frequent as more than 18 visits in 12 months. It does not seem to serve a purpose to standardize beyond local context; each FUSE project reviewed defined frequent utilization differently.

People currently experiencing homelessness are more likely to arrive by ambulance than housed people (Oates et al, 2009). Additional costs to the system are incurred by extended hospital stays. It is noted in literature that visits to EDs are sometimes extended to longer, more expensive visits because of lack of services for behavioral and mental health in the hospital and the community. If community behavioral health resources are at capacity, patients presenting at the ED may be kept there longer than medically needed, in a practice called 'boarding' (Chang et al, 2014). Prolonged ED stays are associated with patient characteristics that are similar to frequent utilization characteristics: homelessness, public insurance, and recent substance abuse (Chang et al, 2014). A 2016 study of Oregon ED visits found that 2.1% of all ED visits were psychiatric boarding episodes, and the rate of psychiatric ED boarding increased with the severity of psychiatric conditions (Yoon et al, 2016).

In 2014, the average daily cost per inmate in a county jail was $128. 92.

In 2016, the average length of stay in city or county jail was 25 days.

In 2014, the average daily cost per inmate in jail was $128. 92 (Vera Price of Jails survey, FY 2014). The Bureau of Justice Statistics reports that the average length of stay in city or county jail was 25 days in 2016 (Zeng, Zhen, 2018). The Vera Institute found that rising inmate populations have led to rising costs because more inmates mean more jail employees, and that on average, there is one jail employee for every 3.3 inmates. It posits that the only way to substantially lower costs is to reduce the number of inmates in the system (Henrichson et al, 2015). In 2014, one in thirty-six adults were under some form of correctional supervision (2.8% of the population) (Katsiyannis et. al., 2018). Recidivism, or the likelihood of a person being re-arrested after their release from jail or prison, is costly to the system. Of inmates released from incarceration in 2005, over 70% were re-arrested within 5 years (Durose et al, 2015). In Oregon, the Council of State Governments found a similar pattern: 9% of those booked into County Jail accounted for 29% of all booking events (CSG Justice Center, 2019). Those frequently involved with the criminal justice system are 150% more likely than the overall adult population to have been to an emergency department as well (CSG Justice Center, 2019).

Of course, cost savings generated by reducing utilization levels would need to go to the services designed to impact the factors that contribute to high utilization. Permanent supportive housing (PSH) is often suggested as the service that could have the greatest impact. In a 2018 review of PSH outcome studies, the National Academies of Sciences, Engineering, and Medicine found mixed results related to cost savings from this type of intervention. The differences in cost savings from PSH were due largely to variations in how costs and benefits were identified and measured. Once outcomes in six PSH studies with comparison groups were adjusted for inflation, the Academy identified three with large *savings* ranging from $6,875 to $33,502 per person per year and three with small net *increases* of $250 to $3,093 per person per year. These studies did not specifically target people with frequent utilization of high cost services. Logically, programs targeting that demographic would have larger cost savings than those enrolling anyone meeting the single criteria of chronic homelessness.

What providers and systems experts tell us:

People with high service utilization are known personally to those who staff the EDs, jails, and emergency response services because they have such frequent contact. During the winter months, the EDs fill up with people experiencing homelessness because being outside makes them more susceptible to injury or illness. Others come in repeatedly simply to get warm. Without a safe place to recuperate from illness or surgery,

these individuals return to the ED after a recurrence of the illness or failure to heal. Costly ambulance rides and other forms of medical transportation are frequently utilized by individuals who do not have the financial means or social supports to get them there by taxi or bus. Due to the multiple systems that a single event impacts, quantifying the cost of a single incident can be a challenge. For example, Clackamas County has been trying to quantify the cost of a single missed court date, but has yet to come up with a concrete estimate. Table 15 includes a sampling of system costs identified for Clackamas County.

Table 15: System costs that could be reduced by providing targeted supports to Clackamas County residents with high ED/EMS/Jail utilization

Service	*Cost*	*Data source*
Ambulance Transport	$1,800	Clackamas County Community Paramedic
One day in State Hospital (Salem)	$1,100	Clackamas County Transition Center
911 Response (Fire, Ambulance, Police)	$1,000	Clackamas County Community Paramedic
Average Cost of ED visit	$617	CORE TC911 Report (2014)
Average Cost of Primary Care Visit	$120	CORE TC911 Report (2014)
One night in county jail	$111	Clackamas County Transition Center

What Clackamas County service utilization data tells us:

In order to assess the cost of frequent utilization of emergency response and jail services, we compared the costs incurred by people with high utilization to those incurred by people with lower utilization.

Clackamas County Jail Booking Data

(Source: Clackamas County Sheriff's Office)

Between 2016 and 2018, eight people were booked 6 or more times during all three years, including one person who was booked a total of 35 times across all three years.

The research team counted the number of times persons were booked 6 or more times during the year, across the three years included in the study (i.e., 2016, 2017, and 2018). As Table 16 shows, a total of 330 persons were booked 6 or more times in at least one of these three years. Of those, 8 persons (2.4 percent) were booked 6 or more times in all three years, and 37 persons (11.2 percent) were booked 6 or more times in two of the three years. On average, these 330 persons were booked 8.5 times during the three-year period, while the 8 persons booked 6 or more times in all three years were booked an average of 26.6 times across the three years. About three fourths (76.0 percent) of these persons were booked 6, 7, or 8 times. The rest were booked 9 or more times during the three year period, with one person booked 35 times.

Table 16:	Count of Years in which people had 6 or more bookings (2016-2018) (n=330 individuals booked at booked 6 or more times in at least one of these three years)		
	Number of years in past 3 with 6 or more bookings	***n***	***Percent***
	One year	285	86.4%
	Two years	37	11.2%
	Three years	8	2.4%

The team also looked at 2018 booking data to determine the number of bookings per person. Those individuals were then categorized into utilization levels based on the number of bookings they had that year. In 2018, the top 1% of individuals (n=99) accounted for the top 5% of bookings (n=744) that year by being booked six or more times each (7.5 times on average). These individuals were classified into the "high utilization" category. The remaining 9,311 individuals were classified as "low utilization" with one to five times each in 2018 (1.4 times on average). The majority in this category (n=8,476) were booked only one or two times. See Table 17.

Table 17:	Count of individuals by number of times booked in 2018 (n=9,410)		
a. Number of times booked in 2018	***b. Count of individuals***	***c. Total bookings (a x b)***	***d. Average bookings per individual (c/d)***
1	6,893	6,893	
2	1,583	3,166	
Subtotal of people with 1 or 2 bookings in 2018	8,476 *(90.1% of individuals booked)*	10,059 *(73.2% of total bookings)*	1.2
3	511	1,533	
4	212	8,48	
5	112	5,60	
Subtotal of people with 3 to 5 bookings in 2018	835 *(8.9% of individuals booked)*	2,941 *(21.4% of total bookings)*	3.5
Subtotal of people with 1-5 bookings	**9,311** *(98.9% of individuals booked)*	**13,000** *(94.6% of total bookings)*	**1.4**
6	46	276	
8	16	128	
7	14	98	

Table 17:	Count of individuals by number of times booked in 2018 (n=9,410)		
a. Number of times booked in 2018	*b. Count of individuals*	*c. Total bookings (a x b)*	*d. Average bookings per individual (c/d)*
9	9	81	
10	6	60	
11	3	33	
12	3	36	
13	1	13	
19	1	19	
Subtotal of people with 6 or more bookings	**99** *(1.1% of individuals booked)*	**744** *(5.4% of total bookings)*	**7.5**
2018 Total	**9,410 individuals**	**13,744 bookings**	**1.5 bookings per person**

An estimated $1.7 million dollars per year could be saved by moving 100 individuals in the high jail utilization category into the low utilization category.

Jail Cost Calculations

Without taking court or booking costs into account, the Clackamas County Transition Center estimates the cost of one overnight in jail to be $111. This figure is less than the previously stated national estimate of $128.92 in 2014. To make a conservative estimate of the annual cost per person, we took the national average of 25 days in jail per booking and the county estimate of $111 per night. Using these figures, an estimated $1.7 million dollars per year could be saved by moving 100 individuals in the high jail utilization category into the low utilization category. These savings could be even higher with court and booking costs taken into account. See Table 18.

Table 18:	Potential reductions in annual jail overnight obtained by moving individuals from high jail utilization to low jail utilization			
	Average number of bookings in 2018	*Cost per booking (25 days/ $111 per day)*	*Annual Cost*	
Utilization Level			*Per person (rounded)*	*For 99 individuals*
High (6+ bookings)	7.5	$2,775	$20,813	$2,060,487
Low (1-5 bookings)	1.4	$2,775	$3,885	$384,615
			Potential annual cost savings:	***$1,675,872***

Another way to look at costs is to consider the number of people with a random level of jail utilization who need to be served in order to achieve the same booking reductions based on serving people based on jail utilization level. In order to achieve the same 5.4% reduction in bookings achieved by targeting the 99 people with the highest number of bookings in 2018, the system would have to provide services to 496 individuals. See Table 19.

Table 19: Count of individuals needed in order to reduce booking counts by 5.4% by utilization level
(n=9,410 individuals booked in 2018)

Level of utilization	*a. Average number of bookings per person in 2018*	*b. Reduction goal*	*c. Count of individuals needed to meet goal (=b/c)*
High utilization (6 or more/year)	7.5	744 bookings (5.4%)	99 (744/7.5)
All	1.5	744 bookings (5.4%)	496 (744/1.5)

By targeting the 99 individuals with the highest numbers of jail bookings, the number of bookings could be reduced by 744 (the cumulative number of bookings they incurred in 2018), as shown in Table 18. By providing interventions to random individuals, regardless of how many times they were booked, the number of bookings would be closer to 148 (99 individuals x 1.5 mean number of bookings per person). Thus, basing our calculations on the top 99 people by mean number of bookings (7.5 per year), the cost to the system could be reduced by 5.4% (744/13,744 bookings per year).

Medicaid Claims Data for Clackamas County Residents (2018)

(Source: Health Share of Oregon)

Our key informants told us that individuals with chronic high ED and EMS utilization tend to have OHP as their payer. People with private insurance do not tend to have chronic high ED and EMS utilization. For those who do, the costs are paid by private payers and do not accrue to the public system. The rare ED visitor with no insurance tends to be someone who doesn't live in the area and declines to be signed up for OHP. Thus, Health Share claims data was determined to be the most relevant and comprehensive data set for this study. Health Share of Oregon is a coordinated care organization (CCO) that serves Oregon Health Plan

(Medicaid) members in Clackamas, Multnomah and Washington counties. Health Share holds data on all medical claims (bills) submitted to Medicaid for OHP members by healthcare service providers. The following analysis details results for Medicaid claims made through Health Share in 2018 for adults who are members and reside in Clackamas County. The Health Share data was examined in three ways: 1) all claims taken together, 2) claims for just the emergency department, and 3) claims for just medical transportation.

In 2018, a total of 195,512 claims totaling $745 million were made to Medicaid for OHP members residing in Clackamas County.

In 2018, a total of 195,512 claims totaling $745,685,246 were made to Medicaid for OHP members residing in Clackamas County. The smallest number of total Medicaid claims by an individual was one, and the greatest number of claims was 1,382. The average number of claims was 28.8 and the median number of claims was 11.0 (thus, the average number was influenced by people who were outliers with a high number of claims). Similarly, among all Clackamas County OHP members, the average total cost of claims in 2018 was $3,814 and the median cost was $1,059 (thus, the average was again influenced by outliers with high costs). For emergency department claims, the average cost was $902 and the median cost was $450. For medical transportation claims, the average cost was $1,287 and the median cost was $421.

Ranking individuals by utilization level: Following the methodology for analyzing the booking data, the study team again divided the total population with OHP claims in 2018 into two groups: “high utilization” and “low utilization” for three types of utilization: total claims, ED only claims, and medical transportation only claims. When ranked in descending order by number of total claims in 2018, a total of 1,951 individuals (approximately 1% of the 195,512 Clackamas County residents with claims in 2018) accounted for 368 to 1,382 claims each. When ranked in descending order by number of ED claims in 2018, a total of 707 individuals (1% of the 73,306 Clackamas County residents with ED claims in 2018) accounted for 25 to 353 claims each. Anyone with fewer claims than the ones listed were considered to have low utilization in that category. Table 17 includes the high and low utilization numbers for additional type of claims.

On average, persons with high utilization across all medical services had a much higher number of claims (513.0 versus 23.9) and higher total costs ($26,838 versus $3,582). Similarly, the median number of claims was much higher for persons with high utilization of medical services than with low utilization (489 versus 11), as was the median cost of claims ($11,457 versus $1,039).

On average, persons with high utilization of ED services had a much higher number of claims (43.6 versus 3.7) and higher total costs ($10,621 versus $807). Similarly, the median number of claims was much higher for persons with high ED utilization than with low ED utilization (35 versus 2), as was the median cost of claims ($8,866 versus $444). This cost estimate may be low, due to one visit creating multiple claims, not all of which are marked as ED in the data.

On average, persons with high utilization of medical transportation services had a much higher number of claims (634 versus 46) and higher total costs ($12,761 versus $1,172). Similarly, the median number of claims was much higher for persons with high utilization of medical transportation than with low utilization (611 versus 7), as was the median cost of claims ($9,046 versus $421).

Table 20: 2018 Medicaid claims and associated costs per individual by utilization level and claim type
(n=195,512 Clackamas County residents with at least one claim in 2018)

		Mean annual claims		*Mean annual cost*	
Type of claim	*n*	*High utilization*	*Low utilization*	*High utilization*	*Low utilization*
All claims	195,512	513.0	23.9	$26,838	$1,059
ED claims	73,306	43.6	3.7	$10,621	$807
Medical transportation	37,295	634.0	46.2	$12,761	$1,172

The healthcare system could save an estimated $2.5 million dollars per year by moving 100 Clackamas County residents in the high ED/EMS utilization category into the low utilization category.

ED/EMS Cost Calculations:

By moving 100 individuals in the high ED/EMS utilization category into the low utilization category, the healthcare system could save an estimated $2.5 million dollars per year. These savings could be even higher if the 100 individuals are at the top of the range of costs. See Table 21.

Table 21: Potential reductions in Clackamas County healthcare claims costs obtained by moving individuals from high ED/EMS utilization to low ED/EMS utilization			
Utilization level	*Average annual cost per person in 2018*	*Number of people provided services to reduce their utilization*	*Total annual cost of healthcare claims*
High	$26,838	100	$2,683,800
Low	$1,059	100	$105,900
		Potential annual cost savings:	***$2,577,900***

What is currently being done to improve the well-being of individuals with high utilization and reduce the overall system costs of serving them?

Summary

Interventions targeting individuals with frequent utilization of EDs, emergency response, and jails are underway or have been completed in over 30 cities in the United States. They are commonly known as FUSE: Frequent Utilization System Enhancements. Some FUSE studies focus only on criminal justice involvement, healthcare costs, or homelessness; others focus on both justice involvement and healthcare. Some are statewide initiatives. Full descriptions of the most relevant FUSE studies are included in this report, including programs in the counties surrounding Eugene, Seattle, Las Vegas, New York, and San Diego.

Clackamas County does not yet have a formal FUSE program. However, a variety of supports within Clackamas County and across the Portland metro area are available to people with high service utilization, including emergency response, community outreach, addiction and mental health services, housing supports, and law enforcement. The entities that provide these services acknowledge that the supply, especially housing, does not meet the demand, and work individually and as a group to identify additional supports and come up with the optimal array of services. Data sharing is already being used in some capacities to coordinate care across systems. However, the information systems used by providers vary by service sector, and, there are still significant barriers to data sharing that need to be addressed.

Services within Clackamas County

A variety of supports within Clackamas County and across the Portland metro areas are accessed on a regular basis by people with high service utilization, including emergency responders, community outreach providers, addiction and mental health services, housing supports, and law enforcement. The entities that provide these services acknowledge that the supply does not meet the demand, and work individually and as a group to identify additional supports and come up with the optimal array of services that can help move individuals to a healthier and more stable existence. A partial list of the entities that provide these supports follows; more detailed descriptions of many can be found in Appendix B. For a better idea of the geographic area that these services need to cover, see Figure 2, a map of the Fire Districts that provide fire and

emergency response, and Figure 3, a map of the Clackamas County Health Centers.

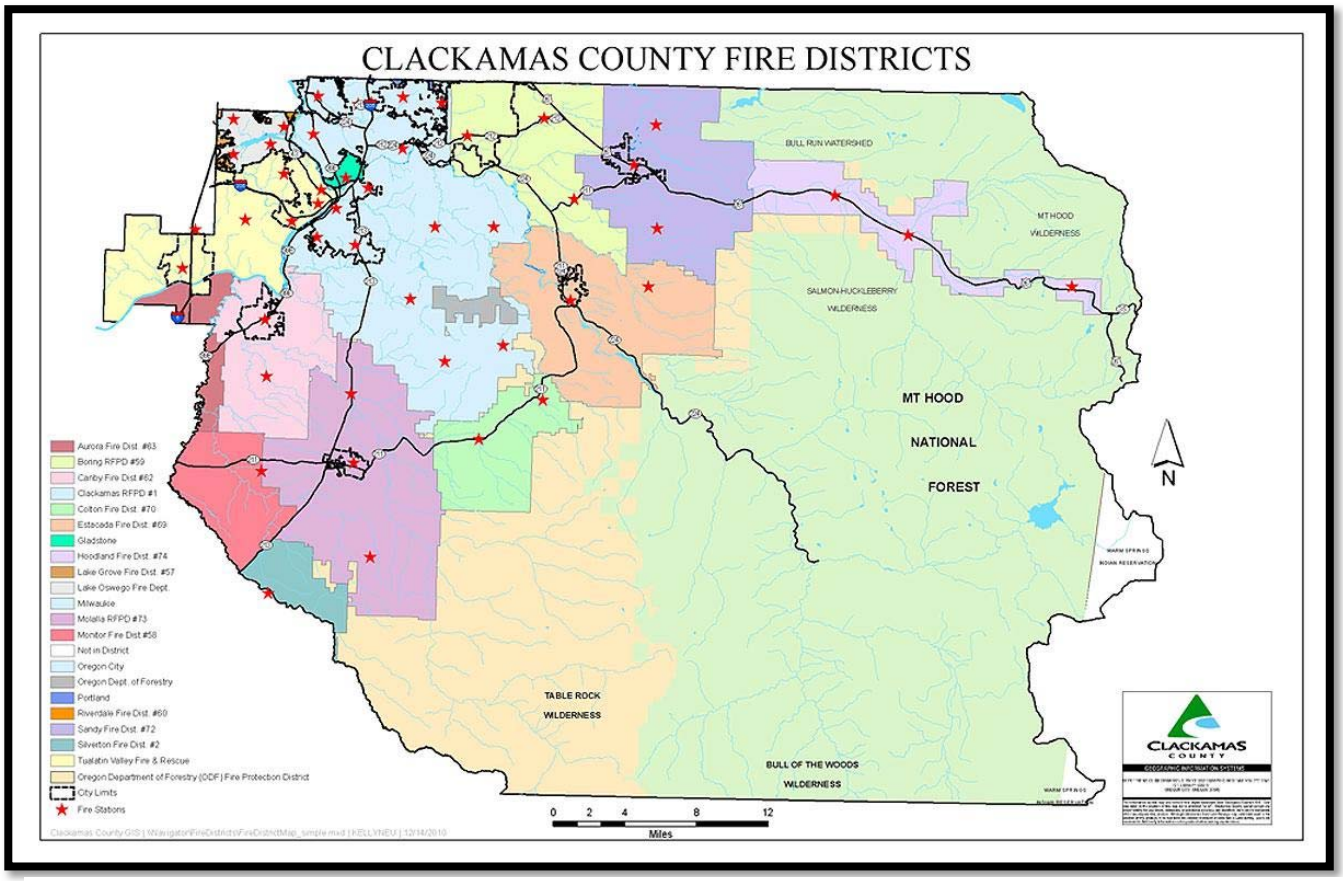

Figure 2. Clackamas County Fire Districts

Existing programs include:

Health centers, Emergency Departments and emergency response

- American Medical Response (AMR)
- Clackamas County Community Paramedics
- Clackamas County Paramedic Community Response
- Clackamas County Volunteers in Medicine Founders Clinic
- Clackamas Fire District #1
- Clackamas County Health Centers
- Founders Clinic (same as) Oregon City Medical Clinic
- Kaiser Sunnyside Medical Center
- Unity Center for Behavioral Health
- Metro West Ambulance

- Project Access NOW (Pharmacy Bridge, C3 Community Assistance Program (C3CAP), Outreach, Enrollment, and Access (OEA))
- Tualatin Valley Fire and Rescue

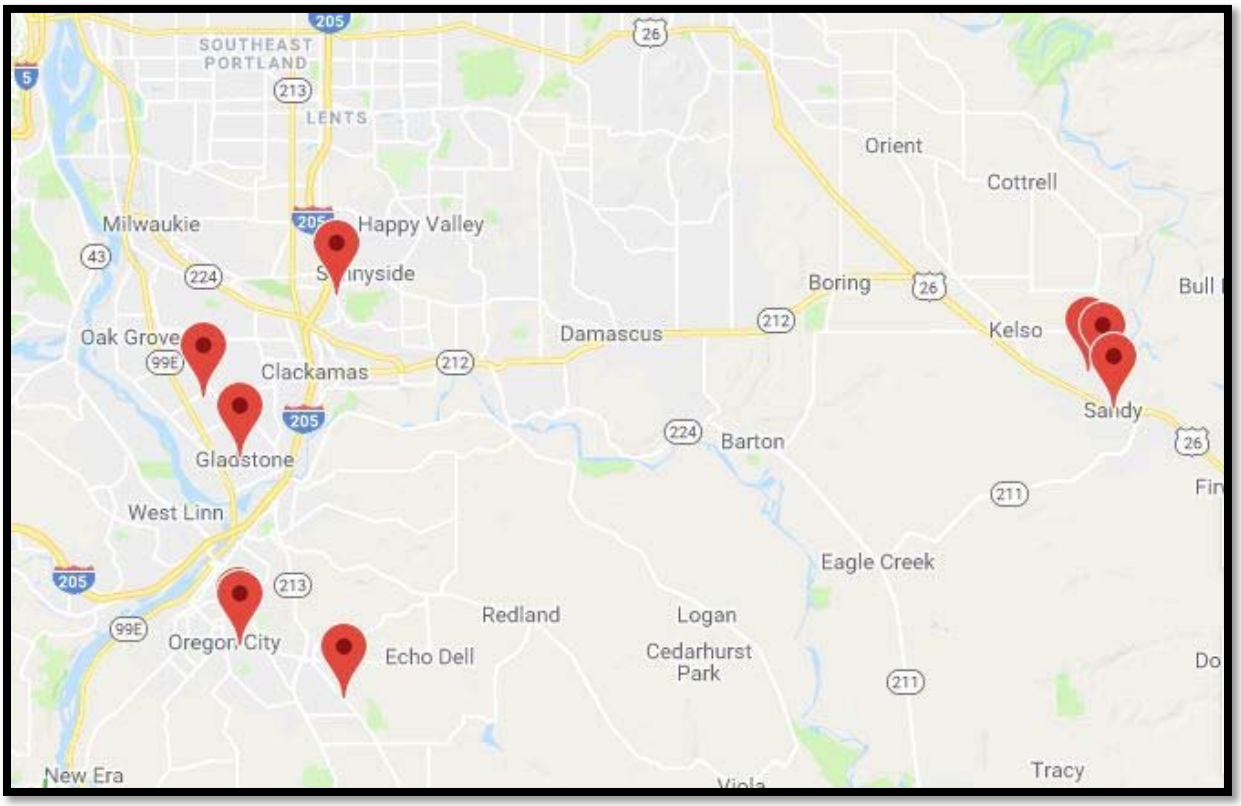

Figure 3. Health Centers in Clackamas County. Map data: Google

Community supports

- Aging and Disability Resource Connection (ADRC) of Oregon (Oregon Department of Human Services)
- Clackamas County Community Solutions (barriers to employment)
- Clackamas County Milwaukie Center
- Clackamas County Veterans Service Office
- Clackamas Service Center
- Community Services Network (DePaul/DPI Group)
- Oregon Food Bank and its distribution centers
- Providence Better Outcomes thru Bridges (BOB)
- Providence ElderPlace (operated out of Milwaukie Healing Place)
- The Father's Heart Street Ministry (faith-based nonprofit)

Addiction and mental health services

- Clackamas County Behavioral Health Crisis Intervention Teams

- Clackamas County/Providence Safe Overnight Shelter Program
- Lifeworks NW

Housing supports

- Clackamas County Housing Authority
- Clackamas County Homeless Veterans Coordination team
- Oregon City Police Department Homeless Liaison Officer

Law enforcement/criminal justice

- Clackamas County Community Corrections
- Clackamas County District Attorney's Office
- Clackamas County Jail
- Clackamas County Justice Court (violations/evictions)
- Clackamas County Juvenile Department
- Clackamas County Parole and Probation
- Clackamas County Sheriff's Office

Service coordination

- Tri-County 911 Service Coordination Program (TC911)
- CareOregon (Clackamas County Care Coordination Team, Housing Case Management Program, New Directions at OHSU ED, Regional and Primary Care Teams)
- Clackamas County Transition Center

Other

- Clackamas County Equity, Diversity and Inclusion
- Clackamas County The ARCHES project
- Cross Systems Transitions Working Group (tri-county, multi-disciplinary team) and its Health Access Across Systems subgroup
- Proactive Outreach Team (Providence)

Selected entities focused on addressing system-level needs of people with high service utilization

The **Greater Portland Metropolitan Area's Emergency Department and Emergency Medical Services (ED/EMS) Leadership Collaborative** meets monthly at the Firehouse on NE Sandy Blvd. in Portland. They share information with each other and invite outside speakers to explain the resources available to the people they serve. The Collaborative's working group on the Management of High EMS and ED Utilization conducted a web survey of EDIE users in early 2019. The final report is expected this

summer. As of June 2019, working group members were also in the process of finalizing a Best Practice Guide on the Management of High Utilization in Portland Area EDs and EMS. We highly recommend their guide to Clackamas County as a companion to our report.

Community Services Network is a new effort led by De Paul Industries (also known as DPI Group) to improve the wraparound services offered to people in need. The Network is a group of nonprofits, community members, government agencies, and private companies. Cross-system meetings are held monthly to educate providers and share best practices, and CSN hosts a quarterly service fair for individuals seeking services.

Clackamas County's Continuum of Care working group provides recommendations to the Board of County Commissioners on behalf of the unsheltered residents of Clackamas County. The group works closely with community stakeholders to achieve their goal of providing 100 shelter options each year (from 2019 to 2021).

The Clackamas County Affordable Housing and Homelessness Policy Task Force is an advisory body appointed by the Board of County Commissioners to research, recommend, and support new policies and strategies aimed at housing affordability and homelessness in Clackamas County. The Task Force timeframe is May 2018 through June 2019.

The **Coalition of State Governments** is a nonpartisan, nonprofit organization which partners with states on justice reinvestment grant initiatives. In Oregon, the CSG is focused on the intersection of adult criminal justice and behavioral health (Oregon is the only state to focus on this intersection). Clackamas County Jail Commander, Captain Lee Eby, serves on the steering committee, which is co-chaired by the Oregon Health Authority.

Data Systems

Data sharing is already being used in some capacities to coordinate care across systems. However, the information systems used by providers vary by service sector, and, there are still significant barriers to data sharing that need to be addressed. Table 22 shows selected healthcare and public services information systems we examined.

Healthcare systems use electronic health records (EHRs) to manage their data. Local EDs share data through EDIE.

The most commonly used EHR platform in Oregon is *Epic*, a data system whose local instance is managed by OCHIN, a national health IT provider headquartered in Portland. Emergency departments can access a subset of *Epic* data through a data management platform called EDIE

(Emergency Department Information Exchange). Social service providers can access a version of EDIE called PreManage, which contains less medical jargon and more social service-relevant information. Both EDIE and PreManage are maintained by Collective Medical, a medical IT organization headquartered in Salt Lake City with staff in Portland. Collective Medical recently added a PDMP (Prescription Drug Monitoring Program) tab to EDIE, which allows prescribers to look up a complete list of controlled medications, such as opioids, that have been prescribed to an individual, regardless of prescriber. Collective Medical is also piloting a project that allows sharing health data with law enforcement agencies for care coordination.

Law enforcement agencies use various information systems to track bookings, jail stays, and corrections-related data.

Law enforcement information systems vary on the state, county, and local levels. The Clackamas County Sheriff's data system includes bookings into the county jail for any individual, regardless of what law enforcement agency made the arrest. Booking data includes the arresting agency, the booking date, the release date, and the charge. By using booking data we were able to obtain arrest data from all local police departments within Clackamas County.

Housing agencies use the national Housing Management Information System (HMIS) developed by HUD.

All counties have access to HMIS and use it to manage their supply of public housing, tenants, and waitlists. Most people in this system are housed and thus tend to have a lower level of service utilization than the population included in this study.

Table 22:	Healthcare and Public Services Information Systems			
	Epic	***EDIE (Emergency Department Information Exchange)***	***PreManage***	***HMIS (Housing Management Information System)***
What is it?	A national electronic health records system (EHR) managed locally by developed by OCHIN, a non-profit health IT service provider.	A web based communication tool that identifies patients who visit EDs more than five times or have had an inpatient admission in a 12-month period.	Subset of EDIE data designed for a broader range of social service providers, especially mental health	A national housing management information system used by counties and other local governments to coordinate public housing
Content	Medical Chart	A simple view of *Epic* data. Includes information shared by care history, care recommendations, and security and safety notifications. Excludes notes on psychotherapy and Substance Abuse Treatment.	A subset of EDIE data (less medical terminology and data). Includes an alert when someone uses an ED.	Housing resources and waitlists. Entry/Exit portal shows which housing services an individual has accessed.
Who accesses it?	Health Care Systems, Physicians	Emergency Departments	Social Services	Coordinated Housing Access
Host/payer	OCHIN	Collective Medical	Collective Medical	Federal Bureau of Housing and Urban Development (HUD)/Clackamas County
Notes	May be due for an upgrade that will include Social Determinants of Health		More functionality than EDIE (can run aggregated reports).	There are 440 Clackamas County households using the system at a time, and 1,100 on the waiting list.

FUSE projects around the country

The Corporation for Supportive Housing (CSH) reports that, as of 2018, FUSE interventions are underway or have been completed in over 30 cities in the United States, as shown in Figure 4. Some FUSE studies focus only on criminal justice involvement (purple), healthcare costs (orange), or homelessness; others focus on both justice involvement and healthcare (blue). Some are statewide initiatives.

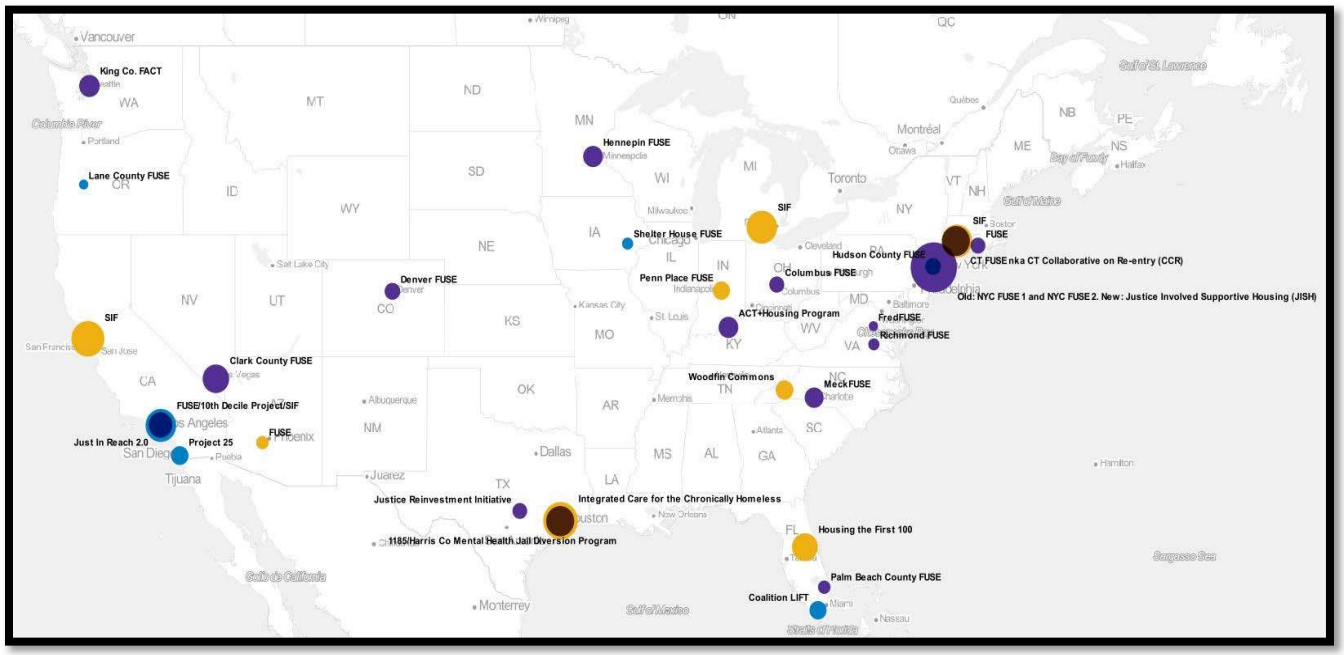

Figure 4. Location of FUSE projects

Source: The FUSE Model of Supportive Housing in Oregon. Presented by the Corporation for Supportive Housing (CSH) at the Housing First Partners Conference, 2018, Denver, CO.

The FUSE model reduces total system cost.

Studies have shown that the FUSE model reduces total system cost. In San Diego, the cost reduction was 67% and the return on investment for the total intervention was 262% (Reaser & Gallagher, 2015). Washington, DC's FUSE project points to a potential cost savings per person of $2,691 (Fontaine et al, 2001), Hennepin County evaluated their program to save $13,000 per person per year (Minneapolis 2009), and in Los Angeles, for each $1 spent on housing and supports for this population, $2 were saved in the first year and $6 in subsequent years (Flaming et al, 2013).

The projects most relevant to Clackamas County are summarized in Table 23. These studies were chosen because they utilized cross-system data matching, were fairly recent, and used a variety of data matching methodologies to identify program participants. Full descriptions of these studies are included in Appendix A.

Table 23:	Five FUSE Programs from counties around the US				
	Lane County FUSE	***Familiar Faces & Very Familiar Faces***	***Clark County FUSE***	***FUSE I & FUSE II***	***Project 25***
Location	Lane County, OR	King County, WA	Clark County, NV	New York City, NY	San Diego County, CA
Model	Street outreach (main intervention); Housing First	Intensive case management + FT prosecutor. Housing supports (housing may be paid by program)	Jail diversion to supportive housing	Scattered-site Housing First approach & supportive permanent housing, including mobile case management or on-site services	Scattered-site Housing First approach & supportive permanent housing, including intensive individualized case management
Eligibility Criteria	Homeless + high service utilization (ED, jail, transit, crisis)	Familiar Faces: Booked into jail 4+/year with concurrent mental health/substance use condition. Very Familiar Faces: Booked into jail 8+ times in 3 years.	Varies by system (Jail: High =2+ bookings in 3 yrs. Super high = 3+ in 3 years)	4 jails stays + 4 shelter stays in 5 years	Costs system more than the cost of a housing voucher + interaction w/2 of 3: (1) Justice/Jail, (2) ED/EMS/ Hospitalization, (3) county Behavioral Health
Number Served	26 (Street Outreach only); 11 (Housing)	60 Very Familiar Faces (Case management + wrap-around); 20 (Housing+ supports)	40	200 total: FUSE I (2006): 100 FUSE II (2008): 100	36
Funding Source	Private, local, and state financing. OR Housing & Community Services	Veterans, Seniors, and Human Services Levy (a 1% sales tax)	Clark County	Housing vouchers and non-profit housing providers	United Way and San Diego County
Outcomes	⇩82% arrests ⇩75% court citations ⇩53% healthcare costs ⇩50% jail intakes ⇩ 26% ED utilization	Report forthcoming in 2019. 83% of cost savings will go to criminal justice costs. Remainder to health and human services. (Phone interview with King County, December 2018)	This project has yet to be evaluated	FUSE II (n=60) vs Services As Usual (SAU) (n=70) at 2 years post: 86% FUSE vs 42% SAU housed; ⇩70% in any shelter usage; ⇩40% incarceration rate; One year cost savings per person: $8, 372	⇩67% public service costs (from $3.5 to $1.1 million); ⇩90% all sector costs (EMS, ED, hospitalizations, arrest, days in jail) (from $111K to $12K per person; ⇧262% net return on investment (Interviews with program coordinators and evaluation reports)
Evaluation Dates	2016-2017	2016-2018	n/a	2008-2013	2010-2013

What system changes or program structures could best reduce the need to frequently come in contact with high-cost public systems?

Summary:

Current service systems are falling short if they continue to treat the same people again and again without having a positive outcome. The literature, local providers, system experts, and consumers all tell us that affordable housing is the most impactful intervention, followed by intensive case management and behavioral health supports. Supports exist in Clackamas County, but they often find themselves serving the same people again and again. Evaluations of FUSE programs around the country have documented reductions in utilization of jails and/or emergency services. The majority center around a Housing First model with case management and wraparound supports. Communication needs to expand across systems with an emphasis on data-sharing to coordinate care. Successful interventions for individuals with high jail utilization include outpatient mental health services following 24 hours in jail or in lieu of jail. Consumers tell us that short-term fixes to quality of life are essential to facilitate the next steps to stabilization and housing, and that long-term system supports allow people to retain their housing and increase their quality of life. As noted at the beginning of this report, people with high service utilization have complex needs that often exceed their own ability to manage. High utilization is a system issue and should be addressed as such.

What the literature tells us:

Target individuals with frequent service utilization (FUSE).

As shown by the descriptions of FUSE interventions around the country, each one has resulted in hard data and/or anecdotal evidence of its impact on the frequent utilization of high-cost public services. The impact on the health and well-being of FUSE participants is also promising. The majority of FUSE programs center around a Housing First model, with case management and wraparound supports to keep people housed and engaged in lower-cost healthcare and social services.

"[Housing] is a vital part of breaking the cycle, especially where addiction is concerned. "
– EMS Community Outreach Provider

Housing is key to reducing ED, EMS, and jail utilization.

Interventions that include **housing** are shown to decrease recidivism among criminally-involved individuals experiencing homelessness (Listwan et al, 2018), and interventions that include housing and **case management** for this population consistently show positive results (Aidala et al, 2013, Flaming et al, 2013, Listwan et al, 2018, Reaser & Gallagher, 2015). Specifically, the FUSE model, which includes a housing first approach to permanent supportive housing with wraparound case management, decreases psychiatric inpatient hospitalization (Aidala et al, 2013), decreases total hospitalization (Flaming et al, 2013), decreases total jail time (Aidala et al, 2013, Minneapolis 2009, Listwan et al, 2018), decreases shelter stays (Aidala et al, 2013), and reduces total service demand (Aidala et al, 2013). Housing and case management seem to be a permanent fix, allowing those housed through the program to remain housed. In New York, 86% of those housed through the FUSE project were stably housed two years after the initial intervention, compared to 42% who did not receive housing (Aidala et al, 2013). In San Diego, all of the participants remained housed at the time of the program evaluation, three years after the initial intervention, and had health care and increased income (Reaser & Gallagher, 2015).

Programs that included a residential component were the most successful overall in reducing recidivism within the criminal justice system (Wright et al, 2014). This could be successful in Clackamas County specifically because, according to the Council of State Governments study, 21% of individuals frequently involved in the criminal justice system were also experiencing homelessness (compared to 9% of those not frequently involved) (CSG Justice Center, 2019).

Mental health services reduce high jail utilization.

Successful interventions for individuals with high jail utilization include outpatient mental health services following 24 hours in jail or in lieu of jail (Alarid & Rubin, 2018) and programs that include a residential component and counseling services, vocational training, and education (Growns et al, 2017).

Intensive case management reduces ED visits.

A local evaluation of the Tri-County Service Coordination Program found that the intensive case management program reduced ED visits by an average of 4.2 visits per year, a 35% reduction. The evaluation demonstrated a cost savings of over $836,000 over the 15-month period for the program. This is in line with literature, which repeatedly demonstrates that intensive case management is an effective

intervention, reducing ED cost by more than the cost of the intervention, reducing the total number of days in the ED, reducing homelessness (Althaus et al, 2011a, Sadowski et al, 2009), increasing healthcare coverage (Althaus et al, 2011a), and increasing social security income support (Althaus et al, 2011a). In fact, in their review of literature of all Emergency Department visit reduction programs, Raven et al examined 38 studies, including 13 deemed to be high enough rigor, and determined that case management was the only intervention that consistently reduced ED usage; they found no evidence that case management increased adverse events.

Promote lasting relationships with primary care providers.

The literature is rich with discussion and evaluations of interventions to reduce the increasingly common utilization of emergency departments as primary care facilities. Individuals who do not have a primary care doctor they are satisfied with, or who have experienced disruptions in care, are more likely to utilize the ER for non-life-threatening medical interventions (Enard & Danelin, 2013).

What Clackamas County consumers tell us:

The Clackamas County residents we spoke with who had high service utilization were very savvy about the systems and services available to them. They identified a series of quick fixes that would meet their short-term needs as well as larger, system-level fixes that could prevent those needs from returning.

Short-term quality of life fixes are essential to facilitate the next steps to stabilization and housing.

Consumer respondents told us they need phones to initiate and maintain connections with CHA and other resources. However, the free phones they receive lose their charge quickly. This shortcoming ties individuals to electrical outlets, risks missed connections, and is an added stressor. A week of bus passes could be the link between a job opportunity and a real paycheck, which will lead to an apartment and an exit from current homelessness. Respondents often spoke of the need for a safe, restful place to recover from medical treatment, as well as just having a space to store belongings needed to continue to live. The most commonly named short-term needs include:

Short Term Needs identified by Consumers:

- Phones, and places with electricity to charge phones.

- Hygiene. Respondents stressed the importance of not "looking homeless" to avoid targeting by law enforcement, TriMet safety officers, and others.
- A safe place to keep stuff needed for daily life: sleeping bags, stoves, clean clothing.
- Bus tickets, access to transportation not only to medical care but also to access services and maintain social ties.
- Shelters, including places for couples, older people, and people with children. Day centers and place to be during the day.
- Short-term rental supports, stopgap motel stays.
- Consistent services—daily services at the same place.
- A place to be safe and recover from a medical procedure.

Long-term system supports allow people to retain their housing and increase their quality of life.

Consumers also spoke of system needs that they feel are lacking. These are long-term supports that will help them retain housing when they are housed, and help increase quality of life regardless of housing status. Affordable housing was the most often mentioned barrier to housing. We heard that rent supports to not only obtain, but also to retain, housing would be a major help. Almost all of those we spoke with had OHP; those who had a primary care doctor used their services and avoided the Emergency Room. Connecting with a primary care provider whom individuals trust and feel safe with was the catalyzing factor for avoiding utilizing emergency services as a primary care center.

Long Term Needs identified by Consumers:

- Affordable housing.
- Steady income.
- Connection to primary care providers whom individuals trust to provide good care.

Connecting the target population with primary care providers is needed to improve their health and reduce system costs.

Medical system informants we spoke with continually mentioned the importance of connecting this population with primary care providers to both improve their health outcomes and decrease cost to multiple systems. This theme held steady across insurance providers, emergency room nursing managers, emergency medical transportation services, and others.

Setting individualized personal goals may engage consumers more effectively than a one-size-fits-all approach.

"Our job is to change the way people think." —Healthcare system respondent

Another theme that emerged during our provider interviews is the importance of person-centered care. Multiple medical system informants spoke about meeting clients where they were at and setting personal goals to improve their health incrementally. This is in contrast to program goals like decreasing 30-day readmit rates, or increasing specific social determinants of health relevant to a targeted grant program. For example, one program focuses on the most pressing health outcome for a specific client, determined by the client and care team, and discharges the client from the program when that health outcome is met. Other programs connect service providers across systems to address multiple social determinants of health like income, housing, and healthcare.

Data sharing is necessary to provide coordinated care across systems.

"When people get housed when we are working with them, utilization of the ED almost completely disappears if not fully!" – ED Community Outreach Provider

This population, by definition, is engaged with multiple health care providers and law enforcement systems. A theme that emerged during our conversations with service providers was the need to engage in an effective way for the individual seeking care. Respondents emphasized data sharing as a way to provide this unified care.

What providers and systems experts tell us:

The systems people and service providers we spoke with had clear ideas about how to impact high ED/EMS and jail utilization.

Affordable housing is the most impactful intervention.

The answer given most often to "what would be the most impactful intervention for this population" was affordable housing.

Continue and expand communication mechanisms across systems to coordinate care.

The existing community responder information sharing meetings need to continue due to the constantly changing nature of services and patient needs.

Increase mental and behavioral health services.

Multiple respondents told us that the jail is now the biggest detox and mental health center in the county, and they are not equipped for this usage.

EDIE and the data subset that is available to health clinics and human services providers (PreManage) has been suggested as a venue for sharing this extended information across systems.

Focus on Individuals with rising needs.

We could not find data on studies researching the impact of serving people with "rising needs" compared to those who were already identified as "high need." However, local providers serving people with high service utilization told us they believe this more upstream approach could have a large impact in overall ED usage.

Short-term interventions and their funding sources need to be consistently available.

The grant cycle is detrimental to continuing services in a consistent manner, and gaps in service delivery decrease trust among those utilizing the services. Providers also spoke of the lack of shelter capacity in Clackamas County as detrimental to delivering short-term fixes consistently. Transportation vouchers are also crucial to consistent access to services.

Change the way the healthcare system is conceptualized.

Rather than treating emergencies as crisis events, or a "treat and street" mentality, ED visits should be seen as an opportunity for engagement. Service providers mentioned strong leadership from the top to push through obstacles to sharing data, increasing efficiency across the county, and working through geographic barriers. Cross-system coordination will require strong leadership to maintain.

"We have to think: what is the engageable moment for this population and who can do that?"

Share data across systems to coordinate services and maintain the safety of first responders.

All first responders and systems experts we spoke with agreed that sharing data across systems for service coordination would have a number of benefits: it would increase the efficiency of service coordination while also increasing the odds that a consumer will be linked to the best type of supports to meet their complex needs. Provider safety would be an additional benefit. EDIE has a place for Emergency Department workers to note if a patient has been a danger in their past interactions with them, but this information is not available from other sources, such as law enforcement or other types of providers. Emergency medical service providers have no data to inform care for the person they

are called to treat, other than the personal experience of other ED providers, which may lead to bias.

Work on breaking down barriers to data sharing across systems is already underway in Oregon and elsewhere. The need to do so in a way that allows for the maximum benefit to consumers while also limiting risks to privacy can make it a lengthy but worthwhile process.

EDIE and the subset that is available to health clinics and human services providers (PreManage) has been suggested as a venue for sharing this extended information across systems. Clackamas Health Centers already relies on this data source to identify CHC patients who recently visited an ED, for the purpose of following up with these patients by telephone to see if their needs are being met.

As previously stated, Collective Medical is piloting a project that allows sharing health data with law enforcement agencies for care coordination, but it is too early to know much about it. The tri-county High ED/EMS Utilization Workgroup recently surveyed EDIE users "to assess the current use of EDIE, barriers to its use, and identify regular users in the Portland Metro area." The workgroup found that every EDIE user is trained differently about the system, so its use and function varies across providers. Many hospitals do not write care guidelines nor have processes to edit what has already been written. Survey respondents found that the care team section of EDIE "is often confusing and inaccurate," and, therefore, not often used. The report concluded that formal facility-specific orientations and trainings, including workflows, procedures, and expectations, would facilitate and sustain EDIE use (Goldstein et al, 2019).

Recommendations

Summary:

Concentrating services on individuals with frequent utilization of high cost services can reduce overall system costs. As Clackamas County and its stakeholders review this report, they may want to consider what information can be incorporated into their own design for reducing high utilization of emergency and law enforcement services within their borders. As this report shows, those solutions may involve planning and resource sharing across county lines. Create system supports that address the ongoing and emerging needs that cause individuals to seek emergency services or have increased contact with law enforcement. Build on the data-sharing methods and agreements developed for this study to make them permanent. Continue analyzing the data obtained for this study. Evaluate any intervention developed. As a systems issue, these challenges exist all over the country, but, as other FUSE projects have shown, local solutions can have large local impacts.

Work with community partners across systems to develop an intervention that targets frequent utilization in Clackamas County.

The collection of evidence gathered for this study clearly shows that interventions targeting people with the highest levels of service utilization can reduce the use of high cost services, releasing these funds for prevention, lower cost services, and more equitable distribution across the population. Any additional steps in this direction that Clackamas County can take is likely to have positive financial and personal impacts for its residents. These steps might include creating a prioritization flag for high utilization in certain data systems.

Work with healthcare systems to build on the community outreach efforts that are already occurring for people with high ED/EMS utilization.

Identify any gaps in services and outreach; and work across systems to fill them. Develop stable funding sources for these services. Housing and behavioral health services are key gaps to be addressed.

Review policies and procedures to ensure they are trauma informed.

Providing individualized healthcare plans and trauma-informed care is a key takeaway from consumers and the providers who serve them. A

trauma-informed approach is needed at all levels of the system to build trust in the system and maintain engagement. Consumers who had a primary care doctor spoke about them in terms of "trust", "understanding", and "non-judgmental". Personalized care coordination and cross-system meetings are successful.

Trauma Informed Oregon (TIO) describes trauma informed care as an ongoing process of continuous improvement and monitoring. It includes policies and practices that create a culture and environment that feels safe, empowering, trustworthy, and welcoming. Resources for implementing Trauma Informed Care, including their organizational screening tool and step-by-step Road Map to Trauma Informed Care, are available on the TIO website, traumainformedoregon.org.

"Once housing is provided, individuals drop out of the high service utilization populations."

In addition to considering program-level goals, service providers can work with individuals to identify personal goals through which they can achieve the changes most important to them, incrementally. Because trauma can impact a person's ability to track time, allow multiple missed visits before disenrolling individuals from programs.

Concentrate on addressing the ongoing and emerging needs that cause individuals to seek emergency services or have increased contact with law enforcement.

These needs include stable housing, treatment for mental illness, addiction, chronic pain, and the traumas that contribute to these conditions. A key service gap that appears to exist for people with high utilization is permanent, supportive housing. As providers working with individuals with high utilization tell us, once housing is provided, individuals drop out of the high service utilization populations.

Consider voluntary, long-term opioid replacement injections for people being released from jail.

Focus on the continuum of care for people with high utilization, including post-release services. Consider voluntary, long-term opioid replacement injections for people being released from jail. These injections can reduce cravings that cause people to seek opioids immediately upon release and sustain them while they wait for an available space with a provider that offers medication for opioid use disorder (MOUD), also referred to as Medication Assisted Treatment (MAT).

Incorporate person-centered care.

In addition to considering program-level goals, service providers can work with individuals to identify personal goals through which they can achieve the changes most important to them, incrementally.

Increase coordination of primary and behavioral healthcare, including pathways to addiction treatment and chronic pain management.

Clackamas County and numerous healthcare providers are already working internally toward this goal, and may want to explore additional strategies with their community partners who serve people with high service utilization. Organizational resources for implementing this coordination are available online (https://www.oregonpainguidance.org/six-building-blocks/6-building-blocks-overview/, https://www.integration.samhsa.gov/operations-administration/assessment-tools) and through regional prevention coordinators (https://www.oregonpainguidance.org/regions/).

Build on the data sharing methods and agreements developed for this study to make them permanent.

The data sharing agreements and lines of communication initiated for this study have laid the groundwork for continued data sharing and collaboration. Upon request, PSU can provide the syntax for analyzing the Clackamas County system data (using R data analysis software) developed for this study, so that the analysis can be replicated using future data sets. Clackamas County can build on this foundation to create more permanent pathways for care coordination across these systems that serve the same populations.

Review paper files and data sets for documents, comments and/or open-ended text fields that indicate housing status.

Use this information to develop more accurate and comprehensive ways to track homelessness in existing data systems.

Continue data analysis to better track the prevalence of mental illness, addiction and homelessness.

Upon request, PSU can provide the data analysis syntax developed for this study so the county can update its outreach lists as needed.

The data obtained for this study has more to tell us about the characteristics of and solutions to frequent utilization of high cost services. The data sources and variables for exploring the prevalence of addiction, mental illness, and homelessness among people coming in frequent contact with law enforcement and emergency response in Clackamas County were identified through this study, but not all of them were obtained for this report. For example, data from the District Attorneys' office documents multiple charges rather than a single primary charge. HMIS data contains a vulnerability scale that may be useful in identifying people with rising needs. Although time ran out for

this study, Clackamas County and PSU may want to pursue financial resources for continued analysis.

Further analysis questions include:

- What do additional data sets (HMIS, DA, CHA) tell us about housing status, the prevalence of drug or alcohol-related charges as secondary charges, the nature of parole violations, and missed court appointments?
- What is the prevalence of mental illness and addiction among people with high jail utilization in Clackamas County?
- What are the characteristics and intersections of people with bookings related to methamphetamine versus heroin?

Integrate racial equity

Recognize that some communities of color, such as Latinos, may be under-represented in health care datasets because of their immigration status.

Other communities, such as Asians, may have some sub-groups who are doing comparatively well while others are faring far worse.

In general people of color have a more difficult time accessing health care systems, and have different experiences in the criminal justice system. Data sets obtained from these systems will have biases that limit their representation. Further, in a community with a comparatively small set of people of color, especially when disaggregated by specific communities of color, people of color may be "lost" in the dataset. Consider creating high utilizer lists based on race to ensure all racial groups receive access to increased services, or incorporate race as a prioritizing tool for high utilizer lists that result in more people than can be supported in a given program. Recognize that some communities of color, such as Latinos, may be under-represented in health care datasets because of their immigration status. Other communities, such as Asians, may have some sub-groups who are doing comparatively well while others are faring far worse.

Better identify gender and sexual orientation

People may not be comfortable naming their gender identity or sexual orientation when navigating the criminal justice or health care systems. Additional work with providers and consumers may help Clackamas County ensure they are reaching and supporting those populations in ways that reliance on official system data will not.

Evaluate any intervention developed.

Past evaluations of FUSE interventions around the country have revealed positive impacts for communities and their residents. The knowledge gained from these evaluations have also led to refinements in the FUSE interventions themselves. Any targeted intervention developed by

Clackamas County should be evaluated to understand the cost savings and personal impacts of such a program and guide its further development.

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Appendix A: Selected FUSE Projects in Detail

Multnomah County, Oregon

Multnomah County commissioned a FUSE study to be completed by the Corporation for Supportive Housing (CSH) and the Providence Center for Outcomes Research and Education (CORE) in 2018. The project goals are described as: *(1) To identify people with frequent utilization of multiple systems so they can be connected with needed supports, and to allow systems to better coordinate their efforts to support those with frequent utilization and improve their outcomes; and (2) to better understand how experiences in multiple systems interact to cause someone to frequently utilize services, to assess how outcomes in one sector are connected with outcomes in another, and to explore common root causes of frequent utilization across systems in order to identify maximum leverage points for coordinated intervention*[i]. Study findings are expected in 2019.

Lane County, Oregon

Eligibility criteria: 100 individuals experiencing homelessness and identified by providers as demonstrating the highest utilization of hospital, jail, criminal justice, public transit, and other crisis services.

Numbers served: Of the 100 identified, 26 received street outreach and 11 individuals received housing; Lane County maintains a waitlist for housing availability which is expected to increase in the near future.

Program design: Lane County's Health and Human Services Division initiated the service collaboration among 18 different provider agencies and based their design on a model from the Corporation for Supportive Housing. The goal of the program is to identify individuals with high utilization and offer them housing and wraparound supports.

Outcomes: Lane County's FUSE project is grounded in Housing First principles and funded by private, local, and state financing, with considerable support from the Oregon Housing and Community Services agency. The pilot program enrolled 26 individuals who received outreach. A subset of 11 individuals received housing, 5 participants withdrew from the program, and 10 individuals remain on the waitlist for housing services. Findings included an 82% decrease in arrests, 75% decrease in court citations, 53% decrease in healthcare costs, and 26% decrease in emergency room utilization for this cohort.

Currently the collaborative is working to secure funding for additional housing. The list of high utilization continues to be generated each month.

King County, Washington

Eligibility criteria: Familiar Faces are individuals who are booked into jail four or more times in one year with a concurrent mental health and/or substance use condition. Individuals with eight or more bookings in three years meet the criteria for Very Familiar Faces. About 2,000 individuals in King County are Familiar Faces and 300 are Very Familiar Faces. Of the 300, a randomly selected group was invited to enroll in the project.

Numbers served: 60 individuals enrolled in case management and wrap-around services, 20 housing placements with in-house service supports.

Program design: The Familiar Faces pilot project was funded by the Veterans, Seniors, and Human Services Levy (a 1% sales tax) and was loosely modeled on previous FUSE studies. The goal of the program is to reduce Emergency Department costs and improve health outcomes by creating a system of integrated care for individuals identified with frequent utilization of King County Jail who also have complex mental and/or physical health needs. Housing was not the main intervention.

Outcomes: A report is forthcoming in 2019. Cost savings have been identified and will be allocated to criminal justice expenses (83%) and health and human services (17%).

Clark County, Nevada

Eligibility criteria: Each system maintains its own list and definitions of frequent utilization. For the Clark County Jail, two or more bookings in the last three years is frequent utilization, and super-frequent utilization is three or more bookings within three years. Inmates without shelter and appearing in local homelessness services databases were eligible for the program.

Numbers served: Jail intake workers referred 1,500 individuals to the program in 2016. 40 individuals were matched to shelter databases.

Program design: In 2013 the Clark County Jail was at capacity. An increase in visibility of people living on the streets facilitated political will to create a project which reduced the jail population by diverting those inappropriately housed in the jail system. Jail intake workers referred inmates who were to be discharged unsheltered to the supportive housing program.

Outcomes: This project has yet to be evaluated.

New York City, New York

Eligibility criteria: Individuals with four jail stays and four shelter stays within the past five years, who have interacted with either of these systems in the last year. Housing providers placed additional criteria on new residents, including substance abuse treatment within the past 12 months, no recent substance use evidence, and expression of readiness for housing, or a recent diagnosis of a serious mental health illness.

Numbers served: 100 individuals in 2006 (FUSE I); the program was then expanded in 2008 to include another 100 individuals (FUSE II) for a total enrollment of 200.

Program design: A scattered-site Housing First approach and supportive permanent housing, including mobile case management or on-site services, was funded through housing vouchers and nonprofit housing providers.

Outcomes: Columbia University led an evaluation of FUSE II for two years following housing placement. The study compared a group of 60 FUSE II participants to a group 70 who were eligible for the program but not enrolled, surveying each group every six months. The study found 91% of FUSE II participants were housed in permanent housing, compared to 28% in the comparison group at one year after intervention, and 86% of the intervention group retained their housing for two years compared to 42%. Shelter use among the FUSE II participants was reduced by 146.7 days, on average, and the number of participants with any shelter usage was reduced by 70% over two years. Incarceration rates for participants fell from the time of housing to a level 40% lower than that of the group not receiving FUSE II supports, and those enrolled were incarcerated an average of 19.2 fewer days than the comparison group. The decrease in shelter and jail utilization indicates a total cost savings per person of $8,372 over a 12-month period.

Notably, after two years the percentage of FUSE II participants with any recent use of hard drugs was half that of the comparison group, and the number with a current alcohol or substance use disorder had fallen by 30%.

Utilization of crisis medical services was .67 ambulance rides per person per year in the FUSE II participant group, compared to 1.2 rides in the comparison group. Psychiatric hospitalization days also fell by about half.

The evaluation noted that programs using the FUSE model may see increased specific service utilization for some participants, as they seek medical care postponed or inaccessible while homeless. This is a positive outcome.

San Diego County, California

Eligibility criteria: To be eligible for enrollment in Project 25, an individual must cost the system more than the cost of a housing voucher and must have interacted with two of the following three systems: criminal justice or jails; emergency rooms, ambulances, or hospitalization; and county behavioral health services.

Numbers served: Of the 71 individuals who met the above criteria, 36 were given housing vouchers.

Program design: United Way partnered with San Diego County in 2010 to create Project 25. The goal of the project was to provide permanent supportive housing to use county funds more efficiently. Using a Housing First approach, the program placed individuals in housing units scatter-site throughout the city and provided intensive individualized case management.

Outcomes: An evaluation of the program was completed in 2014 for 28 members enrolled in the program and housed in their own apartments by 2011. The evaluation showed a 67% total reduction public service costs, from 2010 to 2013, from $3.5 million in 2010 to $1.1 million in 2013. Total expense in all major categories (ambulance transportation, ER visits, hospitalizations, arrest, and days in jail) fell by 90%, from $111,000 to less than $12,000 per person (on average). Net Return on Investment in 2013, after two years of housing for 28 individuals, was 262%.

The evaluation found the program also increased participants' independence, employment, and overall income. All but three participants are still enrolled (those three have passed away from natural causes). One third of the participants no longer need intensive support, effectively "graduating" from the program, an additional third may graduate after some time, and one third still requires intensive support (at the time of evaluation, 2014).

Future plans: San Diego Project 25 is phasing out in favor of the California Department of Health Care Services' Whole Person Care Pilots (WPC) and Health Homes Program. WPC is a five-year, up to $1.5B pilot program to test county-based initiatives to coordinate care for vulnerable Medi-Cal beneficiaries with high utilization of multiple systems and have poor outcomes. Funding is awarded to cities, counties, healthcare organizations, or hospitals (or a consortium of any of these) to coordinate care across health, behavioral health, and social services. WPC approved the first round of pilot applicants in 2016 and expanded the program in 2017.

Health Homes Program is an ongoing initiative to develop a network of providers of housing and coordinated care for individuals with high utilization who also have multiple chronic conditions. This program is organized through Medi-Cal Managed Care Plans and funded through California Assembly Bill (AB) 261 (2013), allowable through section 2703 of the Affordable Care Act. The program is permanent subject to demonstrating no net impact to the state General Fund.

[i]CORE (2018). Understanding frequent users across systems: Data and analytic support for the FUSE Project (Multnomah County FUSE Study one-page description).

Appendix B: Existing Frequent Utilization Services in Detail

A variety of entities have designed services specifically to address the complex needs of individuals who return again and again for healthcare and other services, and more are in active development. Existing programs include:

Clackamas County Paramedic Community Response

The community paramedic program emerged from a pilot project by Health Share in partnership with American Medical Response (AMR) and Providence to reduce 30-day Emergency Department readmit and transportation costs. When the pilot project ended, Clackamas County Fire Station #1 continued the effort in close collaboration with AMR's opioid overdose follow-up program. Together, Clackamas County Fire and AMR's Community Paramedics program focus on reducing non-emergency 911 calls and provide opioid and narcotic overdose follow-up services through house calls, connecting clients with resources, and minimal case management. The Clackamas County community paramedics also provide immunization outreach for Hepatitis A, B, and C, flu shot clinics, and hosted service fairs to connect individuals with resources in one location.

Clients are referred by emergency responders who feel that transportation to the emergency department will not help the client. The community paramedic collaborates with AMR's frequent transport list and TC911's frequent utilization list to avoid duplication.

Funds provided by the EMS Council allow the community paramedic service to extend beyond Fire Station #1 to cover the entire county.

Clackamas Fire District #1

Clackamas Fire District #1 provides services to over 220,000 permanent residents in an area covering nearly 235 square miles with 20 community fire stations in urban, suburban, and rural areas. The service area encompasses the cities of Happy Valley, Johnson City, Milwaukie, and Oregon City, as well as the unincorporated areas of Barton, Beavercreek, Boring, Carus, Carver, Central Point, Clackamas, Clarkes, Damascus, Eagle Creek, Holcomb, Oak Lodge, Redland, South End, Sunnyside, and Westwood.

Project Access NOW

Project Access NOW improves communities' health and well-being by creating access to care, services, and resources for those most in need via six separate programs. As a nonprofit, Project Access NOW leverages a variety of funding streams such as private grant funds, contracts, hospital funding, and private donations, as well as partnerships with CareOregon, Health Share, the Oregon Health Authority (OHA), Department of Consumer Business Services (DCBS), and others. Five of Project Access NOW's programs are currently in Clackamas County:

Classic: this program connects uninsured clients to donated care.

Pharmacy Bridge: offers low-cost medications for participating clinics.

C3 Community Assistance Program (C3CAP): provides transportation, housing, medications, utility assistance, and more for newly discharged patients and Medicaid members.

Outreach, Enrollment, and Access (OEA): assists clients and their families with applying for the Oregon Health Plan (OHP) and/or Qualified Health Plans (QHP).

Premium Assistance: pays QHP premiums for clients and their families who would otherwise be unable to afford it.

Project Access NOW is involved in an effort to expand the Community Pathways program to Clackamas County. Community Pathways is a national model. It creates a network of community-based organizations connected via employed case workers called "Navigators," to help patients identify and address their social determinants of health. Community Pathways is funded by hospitals, health systems, grants, and fundraising. This Pathways model may be extended to Clackamas County soon as the Regional Community Health Network.

Tualatin Valley Fire & Rescue

Tualatin Valley Fire & Rescue provides fire protection and emergency medical services across Clackamas, Multnomah, Washington, and Yamhill counties. Its service area in Clackamas County includes the cities of Newberg, Sherwood, Tigard, Tualatin, West Linn, and Wilsonville. TVF&R is also a subcontract provider of transport services to AMR in Clackamas County.

Clackamas County Veterans Service Office

The Clackamas County Veterans Service Office assists and advocates for veterans and their families to help them obtain the benefits they earned

through their military service. VS officers are accredited and trained in VA law. With Coordinated Housing Access (CHA), the Veterans Service Office runs three programs to provide housing services for veterans in Clackamas County:

Veterans Rapid Re-Housing Project provides up to 24 months of rental assistance to veterans.

Housing our Heroes helps veterans with disabilities access permanent housing.

Veterans Rental Assistance Program provides long-term rent subsidies and a mental health peer support specialist.

Clackamas Service Center

Clackamas Service Center is a facility near the Springwater Corridor trail that provides services for housed and houseless individuals and families, called members, in a trauma-informed setting. Programs and the five paid staff members are funded by private donations and other sources. The center serves about 800 unique household units per month. About 50% of its members are housed and 50% houseless. Services include a food pantry, mail pick-up, medical care (provided by Outside In), clothing closet, showers, needle exchange, and prepared meals. The CSC hosts resource fairs once a month at which other providers, including CareOregon and Multnomah Housing, can connect with members. In the future the CSC hopes to increase their housing connectivity services for their currently houseless members, as well as provide classes and skills training.

The Father's Heart Street Ministry

The Father's Heart Street Ministry is a faith-based community space that provides consistent daily services and curates a home-like environment for people in Clackamas County who are currently experiencing homelessness or housing instability. Service providers describe it as a calm place for rest and rejuvenation. Drugs and alcohol are not permitted on the campus, and the staff promote a culture of respecting the (residential) neighborhood. The ministry is open four days a week, Tuesday - Friday, as a drop-in center, and provides breakfast, lunch, meals to go, showers with clothing exchange, napping spaces, access to a telephone and wifi, a mail drop, and community. Local churches, individuals, community service groups, and other organizations support Father's Heart through fiscal and material donations, including a recent Small Grant from Clackamas County to purchase necessary clothing items for their shower program. The ministry serves 60-100 people each day;

staff form personal relationships with each person and work in coordination with the County, local Emergency Rooms, and other services to support their clients.

Community Services Network

Community Services Network PDX is a new effort led by DePaul Industries (also known as the DPI Group) to "improve the wraparound services offered to people in need." The network is a group of nonprofits, community members, government agencies, and private companies. CSN hosts monthly meetings to cross-educate service providers about additional available community resources, and quarterly service fairs for people in need to access a variety of services in one location. 20-50 people attend the cross-education service meetings, and about 300 people attended the quarterly service fair in February 2019. Many of these services are in Multnomah and Clackamas County.

Better Outcomes thru Bridges (BOB) Program

Better Outcomes thru Bridges (BOB) is a group of programs and projects under Providence Regional Behavioral Health. They operate throughout Oregon and focus on providing outreach and peer-delivered services through several different avenues, all with the same goal of helping their most vulnerable patients by meeting people where they are at, literally and figuratively. There are BOB Outreach Specialists housed in Providence Emergency Departments, schools, and a clinic. There are specific criteria for each site. However, each site connects patients who have high ED utilization, a behavioral health ED visit, or social determinants of health needs in conjunction with a Behavioral Health condition, to social supports within the Providence network and in the surrounding community. Patients are referred to BOB case managers by Emergency Department record pulls, ED staff, and community providers. Twelve social determinants of health (SDoH) are tracked for each patient enrolled in the ED program and five SDoH are tracked for the school- and clinic-based programs. Caseworkers set individual goals with each patient and spend as much time as needed on each case. A case is considered closed when the highest priority SDoH is met or when a client no longer feels that support from the BOB Outreach Specialist is needed. Completed goals range from lower ED usage to permanent housing to enrolling in Medicare. BOB is funded through Providence health network with additional project-specific grants within Clackamas County and Yamhill County.

Providence ElderPlace (PACE program)

ElderPlace is a PACE (Program for All-Inclusive Care for the Elderly) program operated by Providence from their Milwaukie Healing Place. PACE is a model of care coordination to facilitate older adults' living in the community by providing central care coordination and healthcare. All enrollees in ElderPlace must meet the following criteria: be 55 or older, be able to live safely in the community, be eligible for long-term support services as defined by the State of Oregon, be willing to receive all services through Providence, and be Medicaid eligible (although not necessarily enrolled) or willing to pay privately. In addition, all enrollees must live in the service area, which at this time does not include all of Clackamas County (although expansion is expected). ElderPlace receives referrals from community services, healthcare workers, and self-referrals. Once enrolled, Providence becomes participants' healthcare and insurance provider, and care coordination is centralized in a case management team through end of life. PACE Interdisciplinary Teams (IDT) are unique in that they are comprised of eleven disciplines (PCP, RN, home care coordinator, PT, OT, dietitian, day center manager, personal care aide, social worker, transportation driver, and activity coordinator), and ElderPlace/PACE also provides pharmacists, mental health specialists, spiritual support, and speech therapists. ElderPlace is funded by Medicaid (state) and Medicare (federal).

Safe Overnight Shelter Program

Safe Overnight Shelter Program is an effort to expand housing options for Emergency Departments to discharge patients who would otherwise be discharged unsheltered. The program provides fiscal, technical, and programmatic support to community organizations and individuals who want to provide safe overnight car camping and/or build tiny homes and Conestoga huts on their property. Providence BOB program will continue to work with individuals by providing a dedicated caseworker to continue service connection as needed. SOS is currently supported by Clackamas County and Providence (BOB program).

Clackamas County Homeless Veterans Coordination team

This group of Clackamas County service providers meet monthly to share information, coordinate care for veterans experiencing homelessness on the Veterans By-Name List, and update the list to reduce duplication of housing resource offerings. This collaboration is integral to connecting people with services, tracking people in contact with multiple services, and maintaining an accurate list of individuals waiting for housing. In 2018 the Coordination Team recorded 145 veterans and 11 family

members experiencing homelessness, and permanently housed 46 of those veterans. Veterans are eligible for this list after completing the Coordinated Housing Assessment and noting a current episode of homelessness or housing instability. Service providers collaborate to connect veterans from the list to transitional housing and services, with the ultimate goal of permanent, stable housing.

Tri-County 911

The Tri-County 911 Service Coordination Program (TC911) is a program that grew from a need identified by Multnomah County EMS personnel in 2007. At that time, EMS crews reported concerns about residents they were repeatedly responding to, often for non-medical emergencies. This led to an assessment of caller needs and hiring of a part-time social worker to test whether a brief social work intervention would impact 911 calls. TC911 is now staffed with seven full-time licensed social workers who work across Multnomah, Washington, and Clackamas counties. They provide short-term case management and multi-system care coordination to those calling 911 frequently when non-emergency services would more appropriately meet their needs. Clackamas County and Washington County residents are referred when they have had six or more EMS interactions in the previous six months. Multnomah County residents are referred when they have ten EMS interactions in six months. TC911 serves roughly 550 unique people each year. Most TC911 clients are enrolled or eligible for Medicaid.

TC911 goals are to assure appropriate use of emergency medical services by linking people to the right care. To achieve this, staff notify and consult medical, behavioral health, and social service providers; offer community-based, direct case management and advocacy; and coordinate across disciplines, systems of care, and counties to improve service provision and communication. TC911 staff have access to a variety of data, including ambulance and hospital records, PreManage (ambulatory side of ED Information Exchange or EDIE), OCHIN *Epic* (used by many Federally Qualified Health Centers in Oregon), and mental health crisis line information. Exchange and coordination of information is critical to TC911's work and program success. While TC911 staff do not respond directly to 911 calls, they try to identify unmet needs and link people to longer-term services and supports. TC911 meets monthly with Clackamas EMS and behavioral health staff to review referrals and determine which agency/program should take the lead and, if partnering together, how to do so efficiently. According to evaluations conducted by Providence Center for Outcomes Research and Education (2014, 2016), TC911 clients showed reductions in EMS and ED visits when Medicaid

claims data before and after intervention were compared. TC911 also showed a significant return on investment, even after accounting for program costs.

CareOregon Clackamas County Care Coordination Team

CareOregon provides care coordination through embedded Care Specialists in selected hospitals, a traveling community nurse in Clackamas County, and telephonically statewide. Care Coordination Transition Teams work with individuals for about a month, and telephonic staff provide support for an additional 30 days, on average, although no specific time limit is imposed by the program. The program worked with about 125 people in the Adventist/Clackamas County region last year and seeks to support and coordinate care and benefits in a client-centric manner. The program can provide medical supplies and equipment request support, non-emergency medical transportation, access to care, and support in communicating with medical providers. One essential aspect of this program is face-to-face meetings with clients and care provider teams.

CareOregon Housing Case Management Program

The Housing Case Management program at CareOregon is part of the Population Health Partnerships (PHP) department. It offers intensive housing case management in partnership with CareOregon's Regional Care Team that supports the member care plan. To be eligible, the member must have Health Share/CareOregon as their health plan, be engaged in care coordination with their Regional Care Team and their Primary Care Team, have a completed health risk assessment and care coordination assessment on file, have an active care plan that clearly identifies the member's housing and physical health needs, have a source of income, be homeless or living in unstable, unsafe, or unhealthy housing, and be likely to face deteriorating health in the next 6-12 months if the housing situation does not change.

New Directions

New Directions is a team of four LSW medical professionals embedded at OHSU Emergency Department, dedicated to transitioning CareOregon clients who are experiencing homelessness and high service utilization into the community. The team is intensely involved in case management for each of their clients, physically going with them to medical appointments and maintaining supportive contact. Team members seek to "skill up" both the client and medical professionals to better engage the client while simultaneously addressing the provider's anxiety and

stress. If a client on a New Directions list comes into contact with the OHSU Emergency Department, their dedicated case manager is called and case management begins. A New Directions team member can work with a client for 90 days, and uses the EDIE system to share information. New Directions is funded by CareOregon. All clients must be active CareOregon customers.

Clackamas County Transition Center

The Transition Center is housed in the old Sheriff's Office headquarters, across the street from the Clackamas County Jail. The center opened in 2015 using state Justice Reinvestment Initiative funds to reduce recidivism and decrease jail population. Upon release, individuals walk across the parking lot to the Center to receive a bus pass and connect with a wide variety of services, both in the county and in the community. Immediate services include OHP re-enrollment, referrals to mental health programs, addiction treatment programs, enrollment in Coordinated Housing Access and other housing services, DMV and ID referrals, and free NARCAN supplies and education. Community programs, available to any justice-involved person in Clackamas County, include addiction treatment support programs, peer mentorship programs, GED courses, SNAP benefits clinics, and community service referrals. Programs and staff are mostly funded through Clackamas County Community Corrections, with a mental health professional housed in Behavioral Health.

Cross-System Transition Working Group, Multnomah County

New Transitions (Health Share), Central City Concern, and Aging & Disability of Multnomah County launched a project about ten years ago to address high utilization in Portland. From that project arose the Regional Cross-System Transition Working Group, led by Janet McManus at Multnomah County Adult Behavioral Health. The group is a tri-county multi-disciplinary team consisting of professionals from various agencies and health care settings who are engaged in care coordination as Medicare-, Medicaid-, and dual-eligible individuals transition across settings. The stated mission of this group is:

> To improve communication, coordination and collaboration regarding transitions across settings
> To identify similarities, differences, overlaps, duplication and gaps within and between systems
> To make recommendations to the systems we represent regarding how to strengthen and improve care coordination in our community.

The group hosted a mini-summit (Cross-System Transitions Summit) in November 2018; about 70 people attended and 17 recommendations were published. Interagency working groups are actively meeting to address four or five of these recommendations. The group is continuing to engage additional allies to help move other initiatives forward. This seems to be an important area of unofficial information transfer among Clackamas, Multnomah, and Washington Counties. Janet McManus retired in early 2019. Tyler Havlin of HealthInsight Oregon will lead the group during the transition period and co-lead with the new Innovator Agent through June 2019.

Health Access across Systems subgroup of Cross-System Transition Working Group

This is a workgroup of the Cross-Systems Transition Working Group to address recommendations #6 and #8 from the housing mini-summit. The group is comprised of Homeless Coordinated Entry administrators from the tri-county area (each county is represented). They aim to standardize and increase health systems' documentation of housing status in *Epic* and make it available to EDIE. This group is also working to broaden the community partners who have access to EDIE and PreManage.

Proactive Outreach Team

Proactive Outreach Team is a group of community-based nurses and social workers providing intensive case management for people who are Providence Health Plan insured with patterns of frequent or inappropriate emergency department utilization. Clients in this program often present complex cases that cannot be managed at the clinic or resource desk, experience barriers to integrating health recommendations into daily life, and have not yet engaged with clinics or specialists. Referrals are made by Providence Medical Clinic. Case managers provide trauma-informed support, advocacy, and coordination and help clients set short-term goals to work towards long-term stabilization.

Greater Portland Metropolitan Area ED/EMS Leadership Collaborative

This community outreach meeting group is an important networking and information sharing space for practitioners, professionals, and service providers in health systems, Emergency Services and community programs focused on improving service coordination for people with high utilization. Becky Wilkinson (Providence, Better Outcomes thru Bridges program) facilitates monthly meetings at the Firehouse on NE Sandy

Boulevard in Portland, and runs a resource listserv. The meetings are typically attended by 30-50 people. Each month two or three community organizations present to the group. Attendees may ask specific questions to determine if the service is relevant to their clients. Presentations are followed by networking and informal information sharing. The same group of people attend most meetings with some fluctuation.

Managing High ED/EMS Utilization Working Group

Managing High ED/EMS Utilization is a working group of emergency healthcare service providers who meet monthly to learn, share, and build ideas that "support effective service provision...including care management and care coordination, among people with high utilization." The meeting is a critical information sharing space for service providers to keep abreast of current local and national initiatives, connect with each other to provide warm handoffs, and share best practices with the specific goals of creating a large community contact list of EDs and EMS providers, as well as an informal community "Best Practices" guide for working with individuals who have high ED/EMS utilization. Becky Wilkinson of Providence Regional Behavioral Health BOB program facilitates these meetings, along with Allison Goldstein from the Tri-County 911 Program and Kitty Rodgers from Legacy.

Clackamas County Continuum of Care

Clackamas County Continuum of Care is a working group co-chaired by Erika Silver that provides recommendations to the board of commissioners on behalf of unsheltered residents of Clackamas County. Additional staff from Clackamas County attend meetings, as do community members and service workers. The draft goal from the November 2018 meeting is: "Working in partnership with community groups, cities and counties, provide safe, off the streets shelter options for 100 additional people in 2019, and again in 2020 and 2021." This task force provides recommendations and input directly to the Clackamas County Board of Commissioners. Specific committees include: Veterans Housing, Homeless Liaisons, Community Outreach, PIT Count, and Warming Centers.