

EXPENDITURES ON VULNERABLE HOMELESS RESIDENTS IN VENTURA COUNTY

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VENTURA COUNTY EXECUTIVE OFFICE



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Introduction

In Ventura County, after almost a decade of steady decline in the homeless population, the 2019 point-in-time survey counted 1,669 men, women and children experiencing homelessness. This marked a 28.5 percent increase from 2018, and a fifty percent increase from 2017. Over seventy-five percent of those individuals were unsheltered; among that group, nearly all had one or more exacerbating conditions.

Homelessness is a pernicious challenge. Those in the community experiencing persistent homelessness often also live with chronic disabilities, severe mental illnesses, and/or substance use disorders.

Often, service use is concentrated disproportionately among a relative minority of especially vulnerable individuals, who face acute and persistent challenges. They are likely to interact with many different parts of the social safety net and public safety systems—shelters, ambulances, hospitals, police, jails. The costs of these services, therefore, are spread across the community. Those costs can be challenging to track; to do so requires sharing information across multiple agencies and jurisdictions. In the absence of good information about the current systems-level costs of homelessness, it can be difficult to justify the high costs of the intensive interventions required to solve underlying issues for the high utilizing homelessness.

Ventura County, in partnership with the Ventura County Continuum of Care and cities of Ventura and Oxnard, engaged Social Finance to better understand the overlap across systems associated with persistent homelessness.¹ This analysis reviews the current costs associated with high utilizers of homeless services, the criminal justice system, and emergency health services in Ventura County. It also estimates the potential value of expanding access to housing and supportive services for the identified population.

To conduct this analysis, Social Finance engaged 14 County and City departments to integrate data across systems that track homeless programs, law enforcement, healthcare delivery, emergency transit, and behavioral health. This integration allows us to identify the utilization rates of the highest-cost users experiencing long-term homelessness. Through this integration, Ventura County can determine how individuals experiencing homelessness interact with a variety of departments across the community and identify the baseline costs of their past interactions.

¹ “Persistence” in this study is defined as those individuals who are experiencing homelessness in two consecutive years, as determined by HMIS interactions. Except when noted otherwise, this was a filtering criterion that was used in all analyses. This term is used throughout this report for study purposes only.

Methods

Social Finance utilized the following data from City and County sources:

Figure 1: Data sources and types

Department	Description	Type of data
Ventura County Human Services Agency	Use of services captured in the Homeless Management Information System	Individual - service use level
Gold Coast Health Plan	Total amount paid by Gold Coast health for inpatient, outpatient, professionals, ancillary, and prescription drug costs	Individual – service use level aggregated at monthly level
Ventura County Health Care Agency (HCA)	Total cost, total amount paid, and net county cost for inpatient acute/trauma, inpatient psychiatric, outpatient surgery, oncology, clinic, rehabilitation, observation, emergency department, and outpatient mental health utilization	Individual – service use level
Emergency Medical Services and Fire	Dispatches for calls relating to homelessness	Individual – incident level
Ventura County Sheriff's Office	Bookings; jail days	Individual – booking level
Ventura County Public Defender's Office	Estimated costs of representation based on jail data	Individual – incident level
Jail Health	Estimated costs of representation based on jail data	Individual – incident level
City of Ventura	Safe & clean, parks and recreation, shelter, homeless prevention, and emergency program costs related to homelessness	Aggregated and divided evenly among annual homeless population
City of Oxnard	Police department, fire, and other administrative costs.	Aggregated and divided evenly among annual homeless population
City of Thousand Oaks	Public works costs	Aggregated and divided evenly among annual homeless population
Downtown Ventura	Ambassador team costs	Aggregated and divided evenly among annual homeless population
Ventura County Probation Agency	Aggregate costs of supervising individuals experiencing homelessness on probation	Aggregated and divided among justice-involved homeless population
Ventura County Watershed		Aggregated and divided evenly among annual homeless population

To combine each of these data sources together, Social Finance worked with the County to match individuals who had interacted with the Homelessness Management Information System (HMIS) against the remaining data sets, without sharing service-use information across agencies. This process resulted in a detailed, de-identified, individual-level dataset mapping historical use across six different departments.² On top of these integrated database, we layered in conservative estimates of additional service use derived from data that we couldn't match at an individual level (e.g., City of Ventura Parks & Recreation costs).

² See Appendix for more information regarding the data integration process.

Each of the individualized datasets described in the table above matched at different rates to the base HMIS data that we received. The match rates are below.

Figure 2: Match rates by data source

Data source	Match rate
Gold Coast Health Plan	38%
Ventura County Health Care Agency (HCA)	35%
Ventura County Sheriff's Office	15%
Emergency Medical Services and Fire	13%

The match rate is a result of two factors. First, certain individuals who have interacted with HMIS services have not interacted with services in other departments. Second, there data mismatches, in which records of names are misspelled in one dataset and as a result are not matched. To mitigate this, whenever possible we tried to use identifiers such as the County Identification Number³ or Social Security Numbers⁴, as these are less likely to have errors. For those datasets that did rely on name and data matches—including EMS, Sheriff's Office, and HCA—there is a higher probability that some costs are missing from these datasets. This process is inherently conservative; match errors would understate true costs.

More important than mismatches are likely gaps in the base dataset. We used HMIS as the starting place for determining persistent homelessness. However, some individuals experiencing homelessness may not register in HMIS; they may avoid shelters altogether or rely on shelters that don't input data into HMIS. This is another source of conservatism in this analysis: we may overlook, high-utilizing individuals who are persistently homeless, but are not identified via HMIS.

Finally, not all datasets contained the same level of identifiable information. Data from jail health, watershed, and police, among others, were not available at the individual level; as a result, we distributed aggregate costs across the relevant populations.⁵

Despite these challenges, the result is a granular, integrated dataset that can determine (1) how the individuals experiencing homelessness engaged with County and City services; (2) the cost of serving this population across two fiscal years; and (3) which services the high-utilizing population engaged with the most.

Results

³ CINs are an internal Ventura County identification number that are used across many county safety net datasets.

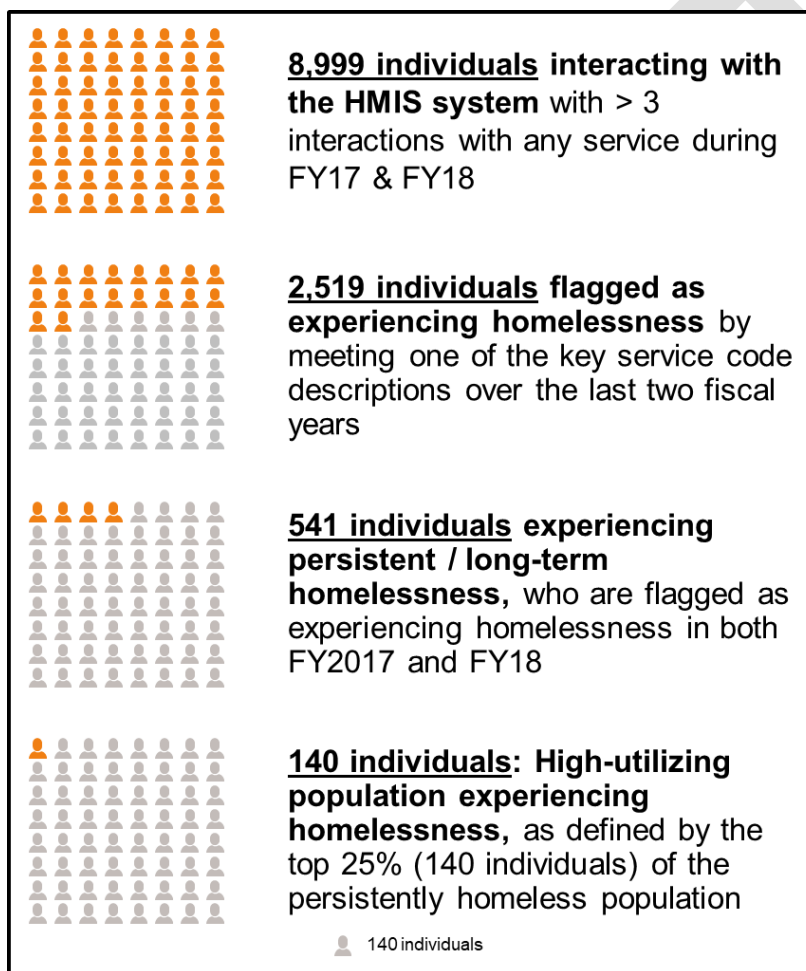
⁴ See Appendix for more information on data matching procedures. No personally identifiable information was directly shared with Social Finance.

⁵ See Appendix for detail on how aggregated costs were distributed.

Defining the high-utilizing homeless population

Determining whether or not an individual is experiencing homelessness is challenging to determine through administrative data alone. Some individuals who are experiencing homelessness do not access government services; many accessing services are not experiencing homelessness. No single data source provides a definitive demarcation.

To address this issue, the County identified certain services in HMIS that are especially suggestive that an individual is experiencing homelessness. Across FY17 and FY18, we found that 8,999 individuals interacted with the HMIS system at least three times. Of this group, 2,519 individuals met one of fifteen key service code descriptions⁶—services such as homeless



drop-in centers, emergency shelters, or public showers, that are likely indicative of homelessness—in either fiscal year; 1,602 met the service code in only FY18; 541 individuals met one of the key service codes in both fiscal years, demonstrating that they were persistently homeless. Of these 541 individuals, we defined the high-utilizing homeless population—those who are utilizing county and city services the most—as the top twenty-five percent (140 individuals) in terms of costs. These 140 individuals formed the basis of our analysis.

Expenditure analysis

⁶ These flags include: Alcohol Use Related Recovery Homes/Halfway Houses, At Risk/Homeless Housing Related Assistance Programs, Emergency Shelter, Homeless Courts, Homeless Drop-in Centers, Homeless Employment Programs, Homeless Motel Vouchers, Homeless Transportation Programs, Homelessness Prevention Programs, Housing/Shelter, Private Mail Services, Public Showers/Baths, Runaway/Youth Shelters, Street Outreach Program, Transitional Housing/Shelter

By bringing together data sources from across the County and cities of Ventura and Oxnard, and combining these with cost data, we were able to estimate the total costs of serving the high-utilizing homeless population.

The high-utilizing population of 140 homeless individuals cost \$5-8 million to serve per year, with an average per-person annual expenditure of between \$37,500 and \$57,000.

Over 75% of expenditures occurred in three categories: Inpatient, outpatient, and emergency department costs from the Gold Coast Health Plan, which administers the County’s Medi-Cal program (\$14,700-\$26,700 per year); behavioral health costs (\$7,500-\$10,500); and jail costs (\$6,700-\$7,800 per year). Of the persistently homeless population, nearly all (92%) of individuals utilized physical health services in one of the fiscal years; 75 individuals (54%) utilized behavioral health services; and 95 individuals (68%) were incarcerated during the period.

Figure 3: Overview of community costs

Annual Expenditures for High-utilizing population (n=140)				
Agency	Average Annual Per-Person Expenditures		Total Annual Expenditures	
	Indications of Homelessness in FY17 & FY18	Indications of Homelessness in at least FY18	Indications of Homelessness in FY17 & FY18	Indications of Homelessness in at least FY18
Healthcare – IP, ED, OP	\$14,700	\$26,700	\$2,058,000	\$3,738,000
Behavioral Health	\$7,500	\$10,500	\$1,050,000	\$1,470,000
Jail (exc. jail health)	\$6,200	\$7,200	\$868,000	\$1,008,000
Healthcare – other	\$4,100	\$7,400	\$574,000	\$1,036,000
Public Defender	\$1,600	\$1,600	\$224,000	\$224,000
Cities	\$1,400	\$1,400	\$196,000	\$196,000
Jail Health	\$500	\$600	\$70,000	\$84,000
Probation	\$340	\$330	\$47,600	\$46,200
Victimization	\$600	\$580	\$84,000	\$81,200
HMIS	\$320	\$220	\$44,800	\$30,800
EMS	\$280	\$390	\$39,200	\$54,600
Watershed	\$20	\$20	\$3,900	\$2,800
Total	~\$37,500	~\$57,000	\$5,259,500	\$7,971,600

We conducted sensitivity analyses to understand which elements of this analysis had the strongest

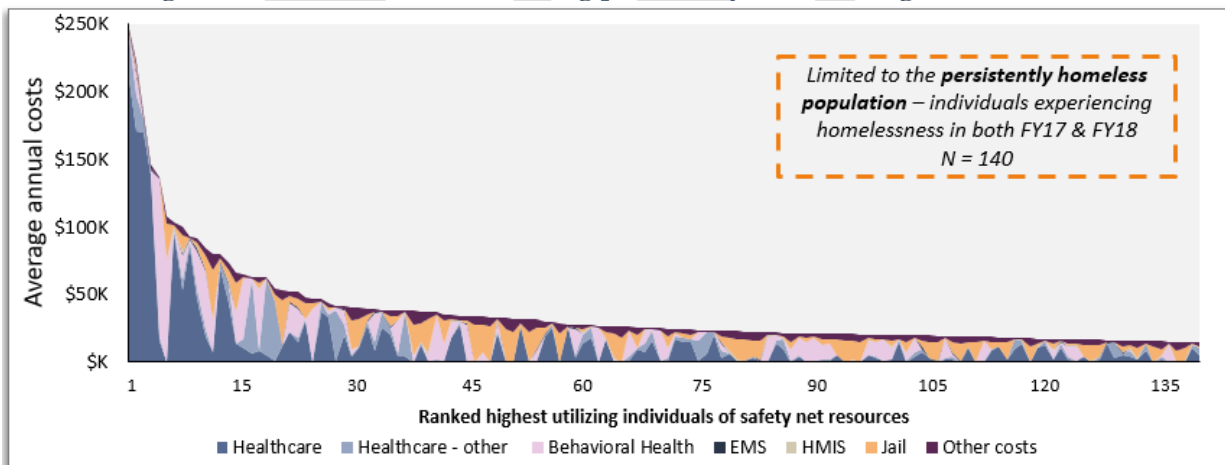
impact on our findings. There was one assumption in particular that had a large impact on

costs: defining the persistence of homelessness. We found that when we altered the requirement that individuals exhibit a key service code indicating homelessness in both FY17 and FY18, and instead only required such a flag in FY18, average costs jumped to \$57,000. This nearly \$20,000 increase was driven largely by increases in healthcare costs, which rose from an average of \$14,700 to \$26,700. This could be because the stricter filter causes us to miss some high utilizers who are service resistant and do not engage with the HMIS system unless absolutely necessary or represent individuals who recently experienced a costly bout of homelessness and are on the path to becoming persistently homeless. Rather than select one of these filtering criteria over the other, we have chosen to include both in this study as rough upper and lower bounds of the potential expenditures associated with the persistently homeless.

The highest-utilizing individuals cost hundreds of thousands of dollars per year and interact with multiple systems.

Figure 4 demonstrates the historical costs that the 140 highest-utilizing homeless individuals accrued, on average, across FY17 and FY18. Each number of the x-axis represents an individual person; the y-axis represents that person’s average annual costs, broken down by cost type. Individuals are ordered based on their total costs; for example, in Figure 4, the #1 most costly person in the County averaged about \$250,000 in costs across FY17 and FY18.

Figure 4: Costs concentration among persistently homeless high utilizers



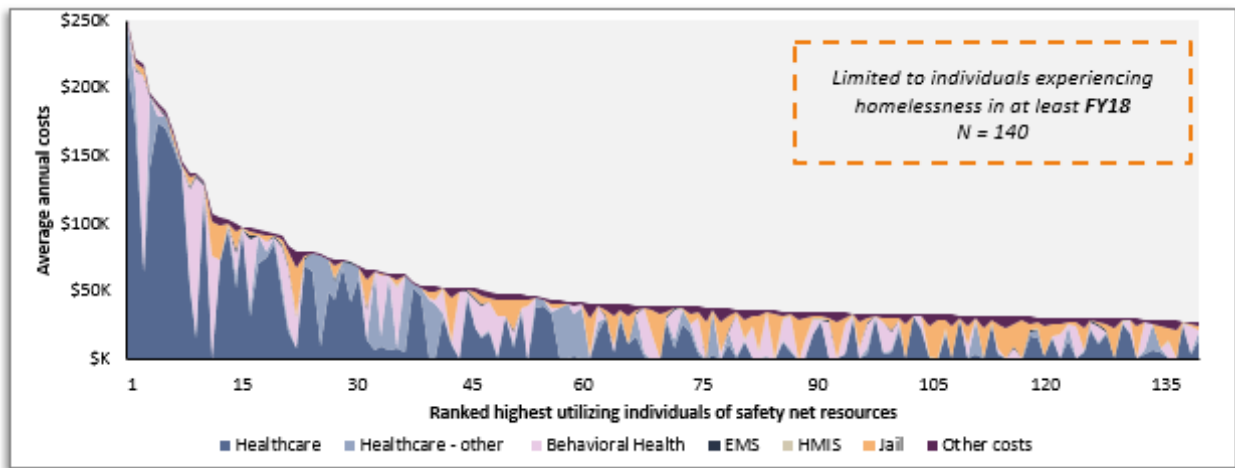
Agency	Healthcare	Healthcare other	BH	EMS/fire	HMIS	Jail	Other
Average cost	\$14,700	\$4,100	\$7,500	\$280	\$320	\$6,700	\$3,900

Individuals tended to use one service type significantly more than others. Part of this may be structural – a person who spent substantial time hospitalized or incarcerated simply may not

have been able engage with other systems – but it also indicates the magnitude of challenges facing individuals who are experiencing homelessness.⁷

Figure 5 replicates the analysis for the highest-utilizing population of individuals experiencing homelessness in FY18.

Figure 5: Costs concentration for individuals flagged as homeless in FY18



<i>Agency</i>	Healthcare	Healthcare other	BH	EMS/fire	HMIS	Jail	Other
<i>Average cost</i>	\$26,700	\$7,400	\$10,500	\$400	\$200	\$7,800	\$3,900

⁷ Notes: (1) The average individual annual costs for each individual is calculated by aggregating costs across FY2017 and FY2018 and then dividing by two. (2) Healthcare costs include inpatient, outpatient, and emergency department costs. (3) Healthcare – other costs include prescription drug, ancillary, and other healthcare costs observed in data provided by Gold Coast and Ventura County Health Care Agency. (4) EMS costs are composed of two sets of costs: the cost of fire dispatches related to EMS calls, and the Medi-Cal reimbursable portion of EMS transports. (5) HMIS costs include the costs for interactions with the following services: shelters, public showers, private mail services, and case/care management. The respective costs are included in the Appendix. (6) Jail costs include the cost of bookings, days held, and estimated jail health costs. Detailed notes on the incorporation of jail health costs are included in the Appendix. (7) Other costs include: city, public defender, probation, victimization, jail health, and watershed. (8) Detailed notes on the incorporation of aggregate costs from Probation, Victimization, Cities, and watershed are included in the Appendix.

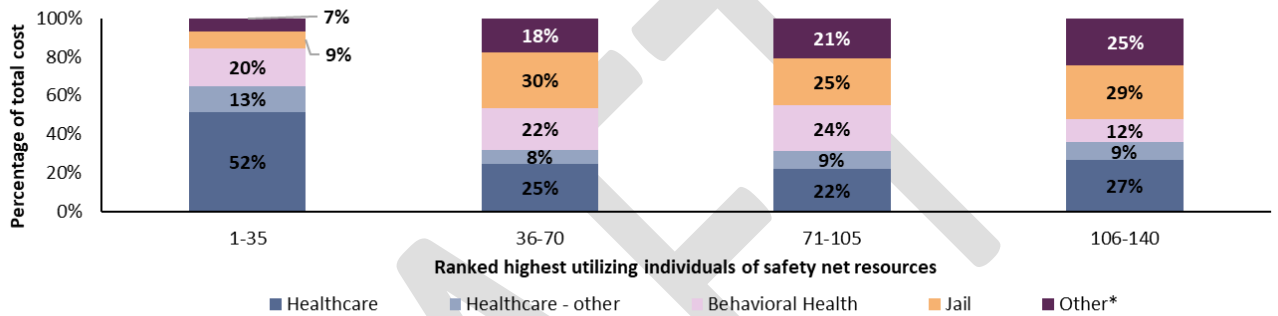
Sources: Ventura County CoC HMIS; Ventura County Emergency Medical Services; Ventura County Behavioral Health; Gold Coast Health Plan; Ventura County Health Care Agency; Ventura County Sheriff’s Office; Ventura County Public Defender’s Office; Ventura County Probation Office; City of Ventura; City of Oxnard; City of Thousand Oak; Ventura County Watershed Protection District.

Cost drivers vary among the top cost quartiles.

Physical health is the largest component of costs among the top quartile of high utilizers; however, criminal justice becomes an increasingly larger share of total costs among the bottom quartiles, while behavioral health remains a major cost driver across all but the bottom quartiles.

Figure 6: Components of Cost by Quartile

Components of total cost, average annual costs
High-utilizing population (n=140)

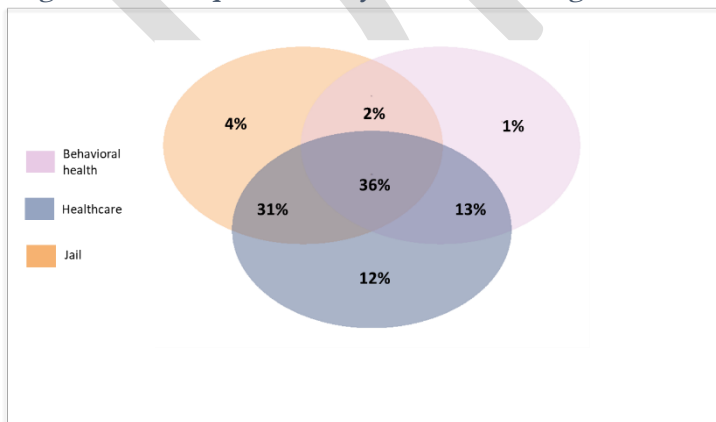


*Other costs include HMIS, EMS, city, public defender, probation, victimization, and watershed protection costs

Among the 140 highest utilizers, 83% interacted with more than one of the high-cost services: behavioral health, healthcare, and criminal justice.

Fifty individuals of the 140 highest utilizers accessed all three services, and 43 accessed both healthcare services and spent time in jail during FY17 and FY18.

Figure 7: Overlap between systems use for high utilizers



Only 20 individuals accessed one service across both fiscal years analyzed, a distinct contrast to the broader persistently homeless population of 541 individuals in which 47% of the population only interacted with one system. The highest utilizers are more likely to be involved in multiple systems.

Distribution of costs

For the purposes of this study, we have attempted to parse out how public spending is allocated among different levels of government.⁸ This is a difficult task, as many programs are funded by multiple levels of government. For example, Medi-Cal services are jointly paid by the federal government and the state, even as funding flows to the county-operated health system. Funding streams also come with restrictions on how the funding can be used. County General Operating funds are highly flexible and can be easily redirected; Mental Health Services Act funds, on the other hand, must be used for specific activities, but could be reallocated within those proscribed set of activities. Other sources, such as Medi-Cal funding, can only be drawn down to pay for specific medical services for specific individuals and therefore savings can't be reallocated at all. Understanding how costs flow to different levels of government is crucial to addressing the “wrong pockets” problem, in which an agency or government that bears the costs associated with implementing a program does not receive the primary benefit.

With this in mind, the question of reallocation is critical to understanding the potential value of reducing the costs associated with homelessness.

Figure 8 attempts to estimate of what percentage of each cost is borne by each level of government. These funding streams are complicated, in particular for physical and behavioral health. While this analysis is based on extensive conversations with county budget and policy experts, we acknowledge that this is a complex landscape, and that this analysis may miss further nuances and does not anticipate potential shifts in State and Federal participation.

- **Jail and jail health costs:** The County bears the weight of nearly 100% of jail-related costs presented in this report. The data used to calculate costs only includes the costs for individuals booked, held, or serving sentences in county jail. Since 2011 realignment, county jails have had oversight of most non-serious, non-violent felons, and there is no maximum length that these individuals can serve in county jail.⁹ As a result, county jails hold a larger share of the total incarcerated population than in decades past, and more than in most other states. The County contracts with an outside organization at a fixed rate to provide most healthcare services within the jail; funds for this contract operate through the Sheriff's Department budget. While these costs are fixed during the course of the contract, reductions in jail health needs may impact future contract terms.
- **Physical Health:** Gold Coast Health is the Medi-Cal Managed Care Organization (MCO) for Ventura County. The amounts recorded in the Gold Coast Health data reflect the

⁸ Note that foundations, businesses, and other private actors expend resources to address the direct and indirect consequences of homelessness as well; while meaningful, those costs are not included in the scope of this study.

⁹ <https://www.ppic.org/publication/californias-county-jails/>

amount paid by Medi-Cal for services. Medi-Cal is funded jointly by the federal and state governments based on the respective state's federal medical assistance percentage (FMAP). California's FMAP is 50%, meaning that 50% of funding for Medi-Cal covered services is provided by the federal government.

- **Behavioral health costs:** The Ventura County Behavioral Health Department (VCBH), which is a division of the Ventura County Health Care Agency and a County Mental Health Plan, braids several funding streams in order to deliver services to individuals in need, ranging from federal dollars to county appropriations. In FY2019-20, Behavioral Health costs were funded by the following: Short Doyle/Medi-Cal (SDMC) dollars, which are the federal portion of Medi-Cal/Medicaid eligible services; Realignment dollars, which are state funds that are allocated to the county to provide behavioral health services; Mental Health Services Act (MHSA) dollars, which are state funds that are allocated to the county to provide behavioral health services; assorted grants, which may be from foundations or other levels of government; state general funds; and county general funds. Most individuals experiencing homelessness are Medi-Cal eligible, meaning that many of their behavioral health services will be covered by Medi-Cal. For these services, 50% of the cost is provided by the federal government; VCBH must contribute the remaining 50%. Realignment and a portion of MHSA dollars are often used to make up the non-federal Medi-Cal spending. However, some services are either not Medi-Cal eligible, or are not reimbursed in full by Medi-Cal. These expenses must be borne by VCBH.

The data provided by VCBH for this study included the estimated total cost of each individual service rendered, along with any payments that were received from outside entities and the source of those payments. Using these data, we saw that for our population, almost exactly half of the estimated costs were paid by SDMC or other federal sources. The remaining 50% was paid by VCBH, through a mixture of Realignment, MHSA, and local dollars.

Realignment, MHSA, and local funds all have some degree of fungibility in how they can be used for behavioral health services. Realignment and MHSA dollars must be used for a qualified behavioral health purpose but are determined independently of behavioral health utilization in Ventura County. This means that if a program resulted in a reduction in behavioral health utilization among the persistently homeless, VCBH may have funds freed up that could be used for other qualified purposes including providing behavioral health services to another population.

One notable piece of missing data is the cost associated with out-of-county placements. Some individuals with complex needs may be referred to services outside of Ventura County (for example, in Los Angeles). VCBH pays the costs associated with the treatment provided in these other counties, but those costs were not captured in the data we

received from VCBH. While rare, these out of county placements can be very expensive – upwards of hundreds of thousands of dollars per year that would accrue to VCBH.

- **EMS/Fire:** Emergency medical services and fire expenditures consist of two distinct costs: Medi-Cal reimbursable costs, and fire department costs related to medical dispatches. Much as with Gold Coast costs, the Medi-Cal reimbursable portion accrues evenly to the federal government and the state. Fire costs, meanwhile are calculated based on the amount of time employees from the Ventura County, the City of Ventura, or the City of Oxnard Fire Departments spend responding to medical-related calls for individuals experiencing homelessness. Therefore, the fire portion of costs accrue directly to city and county governments. Since we are not able to disaggregate these costs with the current data, we have listed these costs under “other”.
- **Public Defender and Probation:** The County bears 100% of probation and public defender costs. The cost to supervise and represent individuals is a function of the amount of time spent with those individuals. Probation officers and public defenders are employees of the county, who are funded through the budget of the probation agency and public defender’s office.
- **Victimization costs:** The victimization costs used in this study provide a proxy for the victim costs and the crime career costs associated with specific crimes. The specific crimes are determined by matching the victimization costs against the bookings data provided by the Ventura County Sheriff’s Department.
- **City costs:** These are typically general operating funds that are allocated directly from the budget for each city.
- **HMIS/CoC costs:** These are the costs associated with homeless services that are recorded in the County’s Homeless Management Information System (HMIS).¹⁰ Continuum of Care (CoC) funds, which are used to pay for many services recorded in HMIS, come from a variety of sources, including the U.S. Department of Housing and Urban Development and other state and local resources. Given the lack of data on what specific resources were funded by which sources, we have opted to label these costs as “other” rather than speculate as to what percentage of them could be allocated to each level of government.
- **Watershed protection:** These costs are a budget-line items for the Ventura County Watershed Protection Agency, which results in 100% cost accrual to the County.

¹⁰ Note that additional services that individuals who are experiencing homelessness may interact with might not be tracked in HMIS. For example, some shelters either do not use HMIS or are unable to track with complete accuracy every night an individual spends in shelter.

Figure 8: Cost Accrual by Level of Government

Cost type	Annual aggregate cost to system (top 140)	Local (city + county)	State	Federal	Other
Behavioral Health	\$1,050,000	\$525,000 50%	\$0 0%	\$525,000 50%	\$0 0%
Jail	\$868,000	\$868,000 100%	\$0 0%	\$0 0%	\$0 0%
Healthcare – IP, OP, ED, and other	\$2,632,000	\$0 0%	\$1,316,000 50%	\$1,316,000 50%	\$0 0%
Public Defender	\$224,000	\$224,000 100%	\$0 0%	\$0 0%	\$0 0%
Cities	\$196,000	\$196,000 100%	\$0 0%	\$0 0%	\$0 0%
Jail Health	\$70,000	\$70,000 100%	\$0 0%	\$0 0%	\$0 0%
Probation	\$47,600	\$47,600 100%	\$0 0%	\$0 0%	\$0 0%
Victimization	\$84,000	\$0 0%	\$0 0%	\$0 0%	\$84,000 100%
HMIS/CoC	\$44,800	\$0 0%	\$0 0%	\$0 0%	\$44,800 100%
EMS/Fire	\$39,200	\$0 0%	\$0 0%	\$0 0%	\$39,200 100%
Watershed	\$3,900	\$3,900 100%	\$0 0%	\$0 0%	\$0 0%
Total cost per year	\$5,259,500	\$1,934,500 37%	\$1,316,000 25%	\$1,841,000 35%	\$168,000 3%

Potential solutions

Permanent Supportive Housing

For the most vulnerable and most frequent service utilizers, even highly intensive interventions can prove cost-beneficial.

Permanent Supportive Housing (PSH) with Intensive Case Management (ICM) is a best-practice, evidence-based approach to tackling homelessness for the highly vulnerable. PSH with ICM combines housing and supportive services. Decades of research suggest that this combination, when implemented with fidelity, can reduce preventable high-cost emergency healthcare utilization, such as inpatient hospital stays, emergency department visits, and behavioral health days; decrease involvement in the criminal justice system, reducing incarceration rates, jail bed days, and recidivism; lower utilization of emergency services, such as EMS transports; and ensure greater housing stability. While expensive, the cost of providing PSH with ICM may be offset by cost reductions driven by lower use of homeless services, corrections, and medical services. At the same time, it may contribute to improving other community outcomes for businesses, neighborhoods, watersheds, and open spaces.

Decades of research have demonstrated significant effects of PSH. Studies also suggest variability: in different times and places, research efforts have come to significantly different results.

Pay for Success

Innovative financing strategies can help overcome the risks demonstrated through variable research findings. Pay for Success is a set of outcomes-based social impact financing mechanisms that drive public and private resources toward scaling effective social programs. These financing strategies are based on a set of core principles: clearly defining and measuring progress toward shared social impact goals; collaborating across the public, private, and social sectors to achieve these goals; and making funding directly dependent on outcomes achieved. Pay for Success has been used across social issue areas—including homelessness, criminal justice, children and families, workforce development, and health—to help expand high-quality service providers. The federal government has committed to Pay for Success strategies in recent years with the creation of the Social Impact Partnership to Pay for Results Act (SIPRA) and the Second Chance Act (SCA), which provide funding to support state and local efforts to develop outcomes-based funding approaches to homelessness.

Ventura County is already a leader in Pay for Success approaches. In 2017, the County launched the nation's twentieth Pay for Success (PFS) project, intended to reduce recidivism, improve public safety, and promote family stability. There may be opportunities to use a similar approach to meeting the challenges of homelessness.

Appendix

Data Integration Procedure

The following data integration procedure to protect sensitive personally identifiable information (PII) while still producing valuable target population analysis.

1. Ventura County Human Services Agency (HSA) used data from the Homeless Management Information System (HMIS) to identify the most recent and frequent utilizers of homeless services, defined as individuals who had three or more interactions with services in HMIS across FY17 and FY18. This created a set of 8,999 individuals.
2. HSA created an anonymized unique identifier (“unique ID”) for all individuals identified in step (1).
3. HSA sent the dataset of 8,999 individuals to each department that was able to provide individualized data – Gold Coast, Behavioral Health, EMS, and Sheriff’s Office – to allow each department to match based on individual name, date of birth, and, if applicable, Client Identification Number (CIN)¹¹.
4. Each department matched their utilization data to the dataset provided by HSA and sent to Social Finance only the cost information alongside the Unique ID, scrubbing the database of any Personally Identifiable Information (PII). The match-rate ranged from 13% to 38% (see Figure 2). This match rate represents the number of individuals that matched both datasets, but is not necessarily all of the individuals that had costs over this period, as some people who matched in the system did not have any actual services associated with their record during the time period of the study.
5. Social Finance combined the datasets using the Unique ID, allowing Social Finance to identify individual-level costs attributable to healthcare, behavioral health, EMS, criminal justice, and shelter usage without ever seeing any PII.
6. Public Defender costs were then added based on approximate estimates of time spent with homeless criminal defendants, determined as a function of individual days held in County jail.
7. Fire costs were added based on averages by EMS dispatch.
8. Finally, aggregate costs were averaged across the entire population and applied uniformly to each individual in the study.¹²

¹¹ CINs are an internal Ventura County identification number that are used across many county safety net datasets

¹² Victimization costs were determined by the procedure discussed below in Data Summary.

Data Summary

- **Identifying the target population**

Excluded from the target population is any individual that has received a permanent supportive housing placement in the last two years.

The target population is those individuals persistently experiencing homelessness. To estimate this, only those individuals that meet one of the flags for experiencing homelessness in both FY17 and FY18 are included. This results in 541 unique individuals.

Individuals are sorted and ranked based on their total estimated cost, calculated as the sum of behavioral health, city, EMS, Gold Coast, jail (including jail health), probation, public defender, victimization, and watershed protection costs across both FY17 and FY18.

High utilizers are those individuals ranked within the top 140 (inclusive) of total costs. This number represents both ~25% of the persistently homeless population, as well as a reasonable estimate of the number of individuals that would be served in a PFS project with 125 units of PSH, accounting for the attrition expected over the course of such a project.

- **HMIS data**

An individual is flagged as experiencing homelessness by utilizing one of the following service codes at any point over the two fiscal year period: Alcohol Use Related Recovery Homes/Halfway Houses, At Risk/Homeless Housing Related Assistance Programs, Emergency Shelter, Homeless Courts, Homeless Drop In Centers, Homeless Employment Programs, Homeless Motel Vouchers, Homeless Transportation Programs, Homelessness Prevention Programs, Housing/Shelter, Private Mail Services, Public Showers/Baths, Runaway/Youth Shelters, Street Outreach Programs, Transitional Housing/Shelter.

A flag is created for each time an individual utilizes a shelter. The service codes included are Emergency Shelter, Extreme Weather Shelters, Housing/Shelter, Runaway/Youth Shelters, Transitional Housing/Shelter.

The average shelter bed day cost is calculated by dividing the total annual shelter budget (\$1,749,167) by the total number of beds (136). This results in an annual bed cost of \$12,861.52, which is a daily cost of \$35.24.

The Ventura County Continuum of Care (CoC) provided per interaction cost estimates for four services frequently utilized by individuals experiencing homelessness. This included public showers (\$15-\$30), private mail services (\$20), case management (\$40-\$80), and mental health assessments (\$150). To be conservative, we use the lower bound of any range provided.

- **Jail data**

The number of days held is the time between being initially booked and released. An individual can be booked on several charges at one time. For the purposes of calculating the booking cost, only distinct bookings, based on date and time, are counted.

Per the sheriff's office, the booking fee is \$534.48. The bed day fee is \$102.80.

- **Public defender costs**

The public defender's office represents 80% of justice-involved individuals in Ventura County. Because our target population is almost universally low income, we estimate this percentage is 100%. The hourly rate for the VC Public Defender's office is \$203.95.

The estimated number of hours that a public defender spends representing a justice-involved individual experiencing homelessness is based on the number of days the individual is in custody after the initial arrest. Estimates provided by the Ventura County Public Defender's office are as follows:

- Less than 1 day held: 0 hours
- Between 1 and 4 days held: 2 hours
- More than 4 days held: 5 hours

- **Probation costs**

The Ventura County Probation Agency estimates that 8,486 individuals are on probation each month, 3% of which (244) are experiencing homelessness.

The estimated hours spent with an individual experiencing homelessness on probation is 281 hours. The hourly supervision rate is \$66. Over the course of a year, this is approximately \$223,833.

There is an additional \$164,425 in overhead costs applied to supervising homeless clients annually. This includes the Interface CORE contract; services and supplies; clerical staff; and admin, fiscal, and IT overhead costs.

The total annual cost to supervise an individual experiencing homelessness is \$388,258.

There are 839 individuals identified as both experiencing homelessness and interacting with the criminal justice system over the past two years. The annual probation costs are dispersed evenly across this population, resulting in an annual average cost of \$463 per person $((\$388,258 * 2) / (839)) / 2$.

- **Jail healthcare costs**

The Ventura County Sheriff's Department and Probation Agency has a contract with Wellpath to deliver health and dental services for the jail and probation population. This cost is for \$100MM over ten years.

Based on data received from the Ventura County Probation Office, 3% of individuals on probation are experiencing homelessness. We assume the jail population mimics this distribution. For two years, the jail health cost for individuals experiencing homelessness is \$600,000 (\$300,000 annually).

We assume that any individual incarcerated for less than one day does not receive any jail health services. For all other individuals in our matched HMIS-Jail dataset, we calculate the total number of days held, which results in 53,145 total days over two years. We then divide the total jail health cost (\$600,000) by 53,145 to obtain the cost per day for jail health. This results in a cost per day of \$11.29.

- **Victimization costs**

Victimization costs are derived from "The cost of crime to society: new crime-specific estimates for policy and program evaluation" by McCollister, Kathryn E et al.¹ Individual offenses are matched to the categories identified by McCollister et al., which are based on the UCR categorizations.

The only victimization costs included are the crime victim cost and crime career cost portions of the tangible costs. The criminal justice system costs are excluded, as these are most likely included through the jail, probation, and public defender costs. Using data from the California Department of Justice, victimization costs are discounted due to the rate of individuals arrested and not charged in California (28%) and individuals who are charged but not convicted (32%). Total victimization costs are dispersed evenly across this population.

- **Healthcare**

Healthcare costs are costs identified as inpatient, outpatient, or emergency department. There are two sources of costs for healthcare: data provide by Gold Coast Health, and data provided by the Ventura County Health Care Agency.

Healthcare costs in the Gold Coast data are identified via the following methodology:

- Costs are aggregated by client, month, the facility type (e.g., "Inpatient") and the detailed facility type (e.g., "Radiation").
- Emergency department is not a specific facility type. These costs are included under outpatient costs. A new facility type is created for the emergency department, which takes on this value when the detailed facility type is "O11 – HOP Emergency Room."
- Facility inpatient costs are any observation where the facility type is "Facility Inpatient" or where the detailed facility type contains the word "inpatient." The

exception is when the detailed facility type takes on the values “P61b - PHY Pathology/Lab - Inpatient & Outpatient – Outpatient.”

- Facility outpatient costs are any observation where the facility type is “Facility Outpatient” or where the detailed facility type contains the word “outpatient.” The exception is when the detailed facility type takes on the values “P61b - PHY Pathology/Lab - Inpatient & Outpatient – Inpatient.”

Healthcare costs in the HCA data are identified via the following methodology:

- There are three cost variables: the total cost, the total payment by the payer (e.g., Short-Doyle, Gold Coast), and the net county cost. For the purposes of this cost study, the total cost for services covered by public payers (e.g., Medicaid or Medicare) is used.
- Inpatient costs are those costs where the encounter type disposition is “Inpatient” or “Trauma Inpatient” and/or the medical service disposition is “Medicine Inpatient Team A”, “Medicine Inpatient Team B”, “Medicine Inpatient Team C”, or “Medicine Inpatient Team D”.
- Outpatient costs are those costs where the encounter type disposition is “Outpatient”.
- Emergency department costs are those costs where the encounter type disposition is “Emergency”.
- To avoid double counting, any costs where the financial class disposition is Gold Coast are excluded.
- Any costs where the financial class disposition is not a public entity are excluded. These excluded dispositions are “commercial insurance”, “Self-pay”, “special programs”, and “workers compensation”. The included dispositions are “government – other”, “Medicare”, “Medi-Cal”, and “Managed Care/HMO/PPO”.

Total health cost is the sum of healthcare costs in HCA and costs in Gold Coast.

- **Healthcare – other**

Healthcare – other costs are all costs in the Gold Coast and HCA data that are not identified as inpatient, outpatient, or emergency.

- In the Gold Coast data, these are costs where the facility type is “ancillary” or “prescription drugs”, or where the facility type is “professionals” and the facility type description is not inpatient, outpatient, or emergency.
- In the HCA data, these are all costs that are not identified as inpatient, outpatient, emergency, or behavioral health.

Costs for both sources are identified via the same methodology for healthcare costs.

- **Behavioral Health**

All behavioral health data is from the Ventura County Health Care Agency (HCA). HCA provides a significant portion of behavioral health services in Ventura County.

Behavioral health data is represented in three sections of the data: “mental health outpatient”, “IP – acute”, and instances where the medical service disposition is “Psychiatry (adult)” or “Behavioral health/counseling”.

There are three cost variables: the total cost, the total payment by the payer (e.g., Short-Doyle, Gold Coast), and the net county cost. For the purposes of this cost study, the total cost for services covered by public payers (e.g., Medicaid or Medicare) is used.

- **EMS**

There are two sets of costs for EMS: fire dispatch costs and EMS transport costs. Fire EMS data is on an individual dispatch basis. Only those dispatches that occurred in FY17 or FY18 are kept. All dispatches recorded are for health-related incidents.

The cost per dispatch is calculated using data provided by the Ventura County Fire Department. From 10/2018 – 6/2019, there 756 dispatches related to individuals experiencing homelessness in Ventura County, totaling a cost of \$82,645.98. This results in an average per dispatch cost of \$109.

EMS transport costs are identified on an individual level basis and aggregated across two years. Based on the data received, it is not possible to break these costs out by fiscal year.

Based on discussions with Ventura County EMS, the transport costs accrue to the ambulance operators, not the county. The exception is the Medi-Cal reimbursable portion of the EMS transport, which is ~6% of the total cost. For the purposes of this analysis, only the Medi-Cal reimbursable portion of the EMS transport costs are included.

The total EMS costs is the sum of the fire dispatch costs and the EMS transport costs.

- **City costs**

City costs are for Oxnard, Thousand Oaks, and Ventura. Only those costs that Social Finance could confirm occurred in FY2017 or FY2018 were included.

For consistency, we assume that costs incurred in 2017 and 2018 for the cities align with the County’s fiscal year.

Excluded costs are primarily for the city of Oxnard. Examples of these costs include EMS, Fire, Misc./Other, Public service assistance, and Rescue costs, which are for January 2019 – April 2019, and shelter operation costs, which do not have a time frame associated with the disbursements.

City costs are dispersed evenly across the population of individuals experiencing homelessness at least once over the past two fiscal years (n=2,519).

- **Watershed protection**

Ventura County Public Works: Watershed Protection District recorded budgetary amounts of \$42,000 and \$53,000 in FY17 & FY18, respectively, dedicated to trash cleanup in homeless encampments. The total cost (\$94,000) is distributed evenly across the population of individuals experiencing homelessness at least once over the past two fiscal years (n=2,519). The average annual cost is \$19 per person.

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|------------------------------------|---|
| City of Oxnard | Ventura County Rescue Mission |
| City of Thousand Oaks | Ventura County Watershed |
| City of Ventura | Ventura County Behavioral Health |
| Corporation for Supportive Housing | Ventura County Emergency Medical Services |
| Gold Coast Health | Ventura County Fire Department |
| Mercy House Living Centers | Ventura County Human Services Agency |
| Ventura County Whole Person Care | Ventura County Probation Agency |
| Ventura County Sheriff's Office | Ventura County Public Defender's Office |