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A Comparison of Emergency Service Provider Costs for Formerly Homeless Persons Living in Permanent Supportive Housing in Washington County, Oregon

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A COMPARISON OF EMERGENCY SERVICE PROVIDER COSTS FOR FORMERLY HOMELESS PERSONS LIVING IN PERMANENT SUPPORTIVE HOUSING IN

Washington County, Oregon



NeRC

NORTHWEST ECONOMIC RESEARCH CENTER
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Acknowledgments

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The Vision Action Network (VAN) is a private nonprofit organization committed to the promotion and support of collaborative community-based problem solving in Washington County. Karin Kelley-Torregroza, Executive Director of VAN and her staff were integral to the success of this project.

The VAN Homeless Cost Study Advisory Committee contributed their time and insight throughout the two phase study. NERC would like to thank each of these committee members: Michael Balter, Executive Director of Boys And Girls Aid; Michael Brown, City Manager of Hillsboro; Renee Bruce, Director of Family and Community Resources; Janice Burger, Chief Administrator of Providence St. Vincent Medical Center; Bob Davis, Washington County Administrator; Denny Doyle, Mayor of Beaverton; Pat Garrett, Washington County Sheriff; Dennis Mulvihill, retired Government Affairs Manager of Washington County; Jerralynn Ness, Executive Director of Community Action; David Pump, retired Executive Director of Sequoia Mental Health Services; Jonathan Schlueter, Former Executive Director of Westside Economic Alliance; Zeke Smith, Chief Impact Officer of United Way of the Columbia-Willamette; Dick Stenson, retired President and CEO of Tuality Healthcare; Ramsay Weit, Executive Director of Community Housing Fund; Mary White, Director of Social Work at Kaiser Permanente.



The Washington County Department of Housing Services provides rental assistance and affordable rental opportunities to low income families throughout Washington County. The Department is also lead agency for *A Road Home: Washington County's 10-Year Plan to End Homelessness*. Adolph A. Valfre, Jr., Executive Director of Housing Authority of Washington County, Annette Evens, Homeless Program Coordinator, and Melanie Fletcher, Software Applications Specialist, provided valuable feedback and direction for the report.

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NERC is based at Portland State University in the College of Urban and Public Affairs. The Center focuses on economic research that supports public-policy decision-making, and relates to issues important to Oregon and the Portland Metropolitan Area. NERC serves the public, nonprofit, and private sector community with high quality, unbiased, and credible economic analysis. Tom Potiowsky is the Director of NERC, and also serves as the Chair of the Department of Economics at Portland State University. The report was researched and written by Scott Stewart, Senior Research Associate, and Janai Kessi, Research Analyst.

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Executive Summary

Background

At the request of Vision Action Network, in 2013 the Northwest Economic Research Center (NERC) completed Phase One of “Emergency Service Provider Costs for Chronically Homeless Persons in Washington County Oregon.” The study analyzed the costs of participants during homelessness. This new study is Phase Two. Its purpose is to compare the emergency service costs that chronically homeless persons incur while actually homeless with their costs for the same services while residing in permanent, supportive housing.

Similar studies in other locales have found that once persons are in permanent, supportive housing they tend to use fewer costly emergency services. Phase Two examines this for Washington County.

Participants of this study are a subset of the participants from Phase One. Eleven Washington County service-providing organizations furnished records to NERC for analysis. These organizations represent a good cross-section of emergency services but likely do not capture the costs of all services rendered to homeless persons.

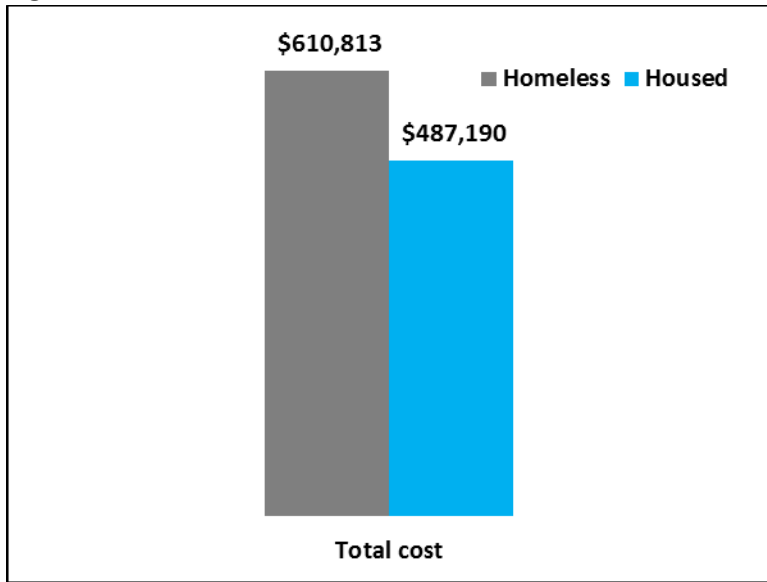
This study is unusual in that it analyzes and reports on the usage and costs of homeless families along with individual adults. Washington County housing officials, Vision Action Network staff and NERC are unaware of any other studies that do so.

Key Findings

Medical

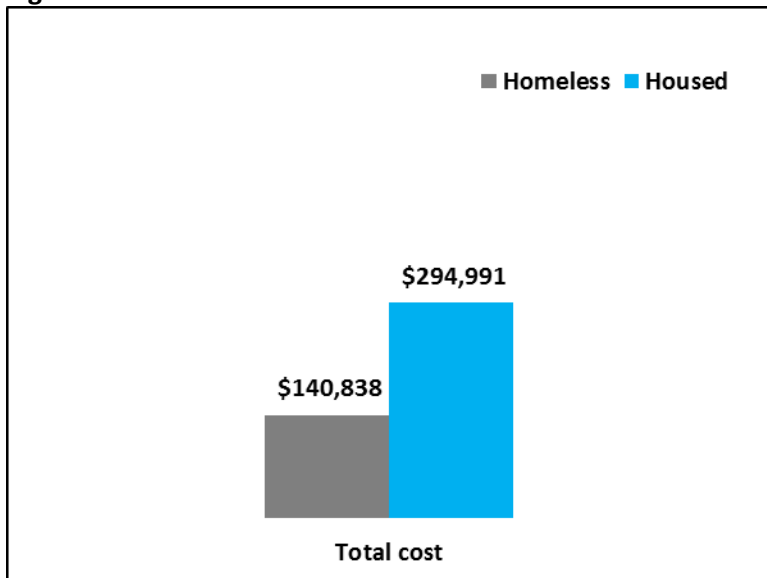
- Sixty percent of all service episodes were for medical services. In addition to the percentage of medical episodes being high compared to other service categories, the costs for these episodes also dominated costs in all other categories: Medical costs were 81 percent higher than all costs in the other four service categories combined.
- As has been the case in other study locales, total medical costs decreased by more than 20 percent (\$123,623) for individual adults when they moved from homelessness into permanent, supportive housing.

Figure 1 - Total medical service costs for individual adults



- Costs in all three medical subcategories (Inpatient, Outpatient and Emergency Room) decreased between the homeless and housed periods for individual adults: Outpatient fell by 32 percent, Emergency Room by 40 percent, and Inpatient by four percent.
- In both the homeless and housed periods, total medical costs for families were much lower than individual adults, even though there were four times as many family members as individual adults in the study. But, unlike individual adults whose medical costs decreased between their homeless and housed periods, costs increased by about 109 percent for families when they moved into permanent, supportive housing.

Figure 2 - Total medical service costs for families



- In direct contrast to individual adults, costs for families increased across all three medical service subcategories between the homeless and housed periods.
- The total number of Outpatient visits nearly doubled and the average cost per visit increased by 146 percent.
- As was the case with individual adults, inpatient visits were by far the most costly per visit among the three visit types. Inpatient costs for families increased by 74 percent between the homeless and housed periods.

Supportive Services, Housing, Law Enforcement, and Emergency Medical Services

- For the homeless and housed periods combined, Supportive Services other than housing cost over \$7,300 per participant. Individual adults cost more than five times as much per participant than family members.
- Total housing costs increased between the homeless and housed periods for families by a small amount.
- For individual adults, no cost data were available for any type of emergency housing during their homeless period.
- For all participants, the number of law enforcement patrol encounters and their associated costs went up between the homeless and housed periods. The increase was a little over 165 percent (\$3,086). Law enforcement officers encountered study participants 27 times during the homeless period and 59 times during the housed period.
- The Washington County Sheriff's Office provided, independent of this study, a set of statistics about homeless persons moving through the Washington County Jail system. It is included as Appendix C of this report.

Total Services

- When all five service areas are combined, the total costs increase for both individual adults and families when they move into permanent supportive housing.

Closing Remarks

Information about emergency service costs for families are not well known nationally, and this analysis found both their demographics and their usage and cost patterns to be very different from those of individual adults (e.g., while medical costs for individual adults decreased after entry into permanent, supportive housing, those costs increased when families did so).

Homeless families and their behavior after entering permanent supportive housing needs more study. This is particularly true regarding family children. Although they had much lower costs than adults during both their homeless and housed periods, there is national research suggesting that children affected by adverse childhood experiences develop health and other problems later in life that could have expensive future impacts for communities.¹

¹ The Adverse Childhood Experiences Study (ACE): <http://www.cdc.gov/ace/> and <http://acestudy.org/>

Washington County Housing officials see indications of permanent housing and supportive services returning greater savings in the longer run (beyond the two years studied) as individual adults and families become increasingly stable and have their basic needs taken care of. Studying the costs of formerly homeless individual adults and families transitioning into permanent housing over a longer time frame could test these indications and provide useful information for policymakers.

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INTRODUCTION

Both nationally and within Washington County there is a growing recognition that the provision of emergency services might be both inefficient and unnecessarily expensive. The end result is continued reliance on emergency services by the homeless population, and a commitment by the county to continue funding services that rarely “solve” the problem. If neither the giver nor the recipient of the services is experiencing a positive outcome, new ideas are needed.

In 2013 the Northwest Economic Research Center (NERC) completed Phase One of “Emergency Service Provider Costs for Chronically Homeless Persons in Washington County Oregon”, which analyzed the costs of participants during homelessness. This new study is Phase Two. Its purpose is to compare the emergency service costs that chronically homeless persons incur while actually homeless, with the costs these persons incur for the same services while residing in permanent, supportive housing. Similar studies in other locales have found that once persons are in permanent, supportive housing they tend to use fewer costly emergency services. Phase Two examines this for Washington County.

For consistency we will refer to participants during their homeless period as “Homeless” and during their housed period as, “Stably Housed

Persons” (the term used by Washington County service providers to describe a person in permanent supportive housing).

This study explored five major areas of cost for the study participants:

1. Medical Services
2. Law Enforcement
3. Supportive Services
4. Housing
5. Emergency Medical Services

While costs for homelessness almost certainly extend beyond these categories, these five major areas provide a good sense of community spending for the persons participating in this study

This study is unusual in that it examines costs for both individual adults and families. Washington County housing officials, Vision Action Network staff and NERC are unaware of any other studies that do so. Other studies investigating changes in emergency costs of the chronically homeless as they move into supportive housing focused upon individual adults only. Families are a distinctly different group than individuals and their inclusion adds an important dimension to this work.

METHODOLOGY

RECRUITMENT

All Study participants recruited for Phase One who had been in supportive housing for two or more years following their homelessness were eligible to participate in Phase Two. The Washington County Department of Housing Services together with homeless services provider Community Action, who jointly conducted the recruiting for Phase One, attempted to re-contact and enlist these participants for Phase Two. All personnel involved in the recruiting were professional staff trained in confidentiality protocols. NERC was not involved in the recruiting and received information about participants only after identifiers had been removed by Washington County.

Community Action staff made the actual contacts with potential study participants, explaining the study and collecting all necessary consent forms from those choosing to participate. Study participants were not a random sample of all stably housed persons in Washington County. They were drawn from two programs within the County's Homeless Management Information System (HMIS) and may be biased toward a population that uses those programs. The costs examined in the study may not be representative of all homeless or stably housed persons in Washington County.

Individual adult participants were 18 years of age or older and participating families had a

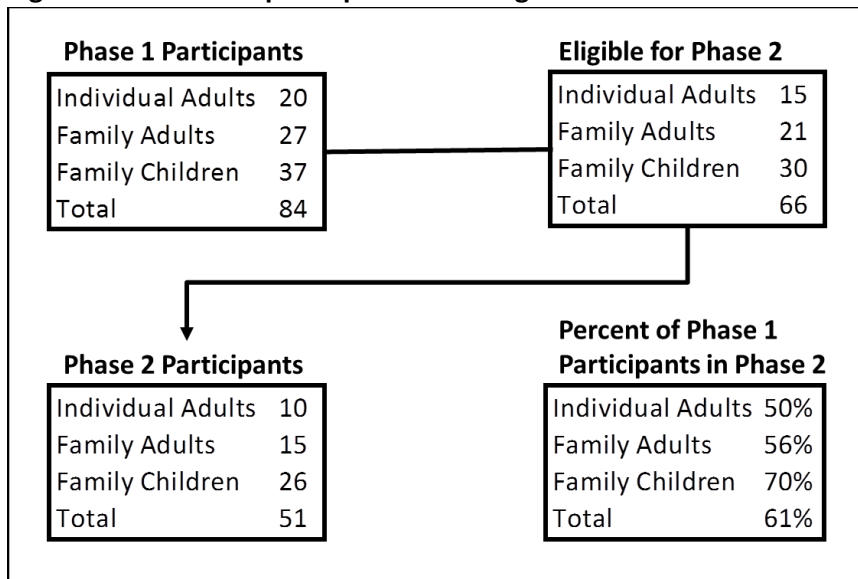
parent or guardian 18 years of age or older. All participants were recruited in Phase One from programs which required them to be chronically homeless for entry. These participants were identified by Washington County Continuum of Care (CoC) providers as having significant barriers that negatively impacted their ability to end their homelessness (e.g., substance abuse, mental illness) during the 2 years prior to their entry into the programs. See Appendix A for a more detailed description of the recruitment protocol.

Figure 3 shows the number and mix of participants that began in Phase One and continued into Phase Two. There were 84 total participants in Phase One, 20 of which were individual adults. Sixty-six of these total participants were eligible for Phase 2, including 15 individual adults. Of those, 51 of the total participants agreed to engage in Phase Two, and 10 of the 51 were individual adults.

Overall, 61 percent of total Phase One participants continued to Phase Two: Fifty percent of Phase One adults continued, along with 56 percent of Family adults, and 70 percent of family children.

After Phase One the decision was made to not attempt to recruit additional participants into the study.

Figure 3 - Number of participants surviving to Phase Two



DATA COLLECTION

NERC sent requests for frequency-of-use and cost data to 11 service providers in Washington County for each participant’s two year homelessness period and two year permanent supportive housing period. Data from these service providers likely do not represent a comprehensive tally of all costs that study participants may have incurred in the County during these periods of time, nor are they necessarily representative of the costs of all homeless or stably housed persons in Washington County. The study is intended to give community leaders a sense of costs being incurred by homeless persons, and how these costs change once the person is in permanent supportive housing.

Vision Action Network selected the following organizations as a cross-section of services frequently used by homeless persons in the County. All cost and frequency data were obtained from these organizations:

Medical Services

- Legacy Health
- Providence Health & Services
- Tuality Healthcare

Law Enforcement

- Beaverton Police Department
- Hillsboro Police Department
- Washington County Sheriff’s Office

Supportive Services²

- Washington County Housing Services
- Community Action

Housing

- Washington County Housing Services
- Community Action

Emergency Medical Services

- Metro West Ambulance
- Hillsboro Fire Department
- Tualatin Valley Fire & Rescue

All personnel involved in the data collection process were professional staff trained in confidentiality protocols. The identities of study

² LifeWorks Northwest, Luke-Dorf Inc. and Sequoia Mental Health Services provided mental health data for Phase One. This data was included in Phase Two for the homeless period.

participants were known only to the Washington County HMIS administrator, Community Action recruiters and service provider data analysts. The HMIS administrator sent identifying information and received participant data from service providers via secured email. The Administrator dis-identified the participants by replacing their names with ID numbers before sending the data via secured email to NERC. See Appendix A for more in-depth discussion of the data collection and storage protocol.

NERC received records for a standard set of services from each provider type:

Medical Services

- Emergency Room
- Inpatient
- Outpatient

Law Enforcement

- Police Responses
- Arrests
- ER Transfers
- Incarcerations (Washington County Sheriff's Office only)

Supportive Services

- Case Management
- Therapy and Treatment
- Other

Housing

- Bed-nights
- Rental Assistance

Emergency Medical Services

- Emergency Medical Assistance
- Ambulance Transport

Washington County used the Homeless Management Information System (HMIS) to generate the study participant demographic information used throughout this report.

DATA ANALYSIS

Data were received by NERC with identifiers removed. Formats included electronic spreadsheets and PDF documents. All data were converted to spreadsheets and assembled into a series of tables for analysis. Demographic information from HMIS was incorporated to enable comparisons among various participant groups. In the analysis NERC sought to understand and calculate various costs of services for stably housed individual adults and families and to compare them with costs from when these groups were homeless. NERC examined the data for each type of service and also in the aggregate. All services included multiple service subcategories; however due to the small number of Phase Two participants, particularly individual adults, most subcategories had insufficient records to report detailed data.

NERC made comparisons across four participant groupings:

- Individual adults (persons not attached to homeless families)
- Families
- Family adults
- Family children

Not all groups were compared in all service areas.

Analysis included frequency-of-use and costs. NERC examined both cost by participant and cost by episode.

Only aggregate measures (e.g., averages) were used; the study does not report on individuals.

For the Supportive Services and Housing categories NERC received data for the housed period that only reported costs for heads of household rather than for each family member,

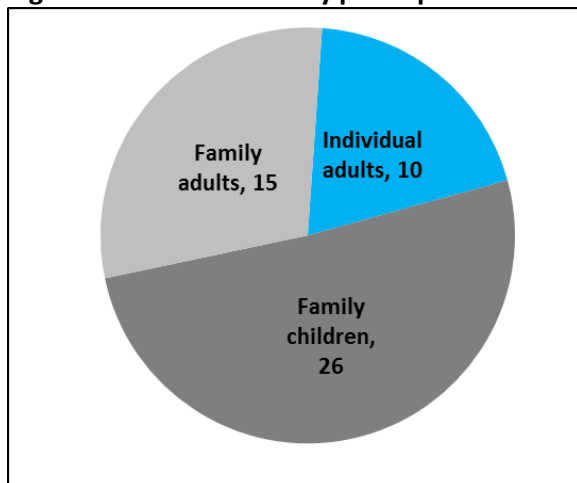
while individual adults were listed as individuals. To facilitate comparison between homeless and housed periods NERC distributed the total cost per family during their housed period among the total number of family members.

FINDINGS

PARTICIPANT PROFILE

The frequency-of-use and cost data detailed above was collected for 51 participants. There were 23 households: 10 individual adults and 13 families. The families consisted of 15 adults, and 26 children (Figure 4). Family size averaged three persons.

Figure 4 - Number of study participants



The Washington County Homeless Management Information System (HMIS) provided detailed demographic data for all participants. The median age was 44 for individual adults, 32 for family adults and two for family children. Most of the adult Phase Two participants were between the ages of 18 to 39 years old. Most family children were under the age of nine years old (Figure 5).

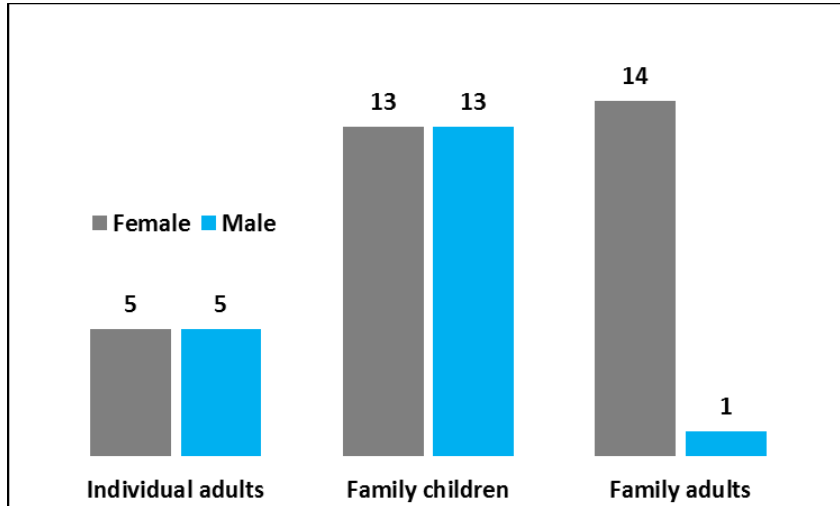
Figure 5 - Distribution of participants by age and gender

Age Group (Years)	Female	Male	Total
0 to 9	11	13	24
10 to 17	2		2
18 to 29	9		9
30 to 39	6	2	8
40 to 49	1	4	5
50 to 59	3		3
Total participants	32	19	51

Of the 51 participants, 53 percent (27 participants) were disabled. All individual adult participants included in the study were listed as disabled because it is an entrance requirement of the program they were recruited from. Sixty-seven percent of family adults (10 participants) and 27 percent of family children (7 participants) were also listed as disabled.

Sixty-three percent of participants were female. All but one family adult was female. There were an equal number of males and females in the individual adult group (Figure 6).

Figure 6 - Distribution of gender by participant group

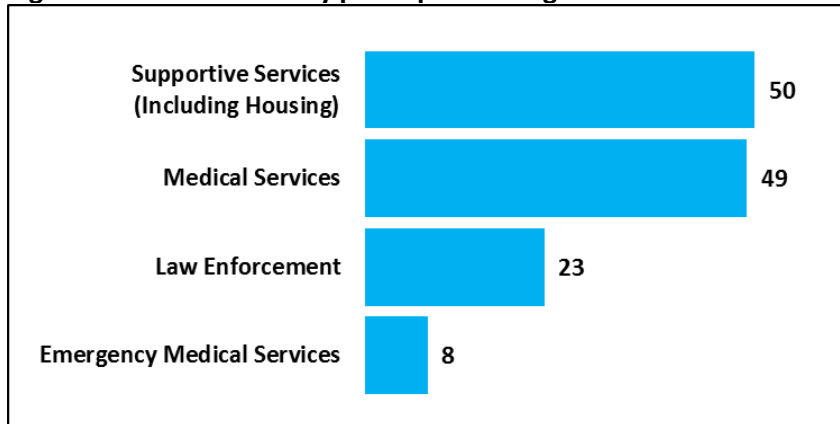


Participants were predominately white (82 percent) and 92 percent were Non-Hispanic. These are higher percentages than Washington County residents generally: In 2010³ a little more than 80 percent of residents were white and roughly 84 percent are Non-Hispanic.

categories during their homeless and housed periods. Of these all used some type of supportive service, 49 used some type of medical service, 23 were encountered by law enforcement, and eight used some type of emergency medical service (Figure 7).

All but one⁴ of the 51 Phase Two participants used at least one service out of the five

Figure 7 - Number of study participants using services at least once



³ U.S. Census Bureau. 2010 Decennial Census.

⁴ One Phase Two participant had no records returned by data providers.

OVERALL COST AND USAGE OF SERVICES

NERC received nearly 1,000 records representing episodes-of-service for the Phase Two study participants. About sixty percent of these episodes were for medical services. In addition to the percentage of medical episodes being high compared to the other service categories, the costs of these medical episodes also dominated costs in all other service areas (Figure 8).

Medical costs were 81 percent higher (\$686,871) than all costs in the four other categories combined.

Figure 8 - Medical use and costs compared to all other services

	Medical services		All other services	
Total usage		568		403
Total cost	\$	1,533,833	\$	846,962
Average cost per use episode	\$	2,700	\$	2,102
Average cost per participant	\$	30,075	\$	16,607

Medical costs have the greatest influence on the differences of expense between the homeless and housed periods, and they offer the most robust data for analysis in the study. Small numbers of valid records in other service categories limit what can be said about use and cost patterns within these other categories (See Appendix B).

Overall, usage and cost patterns among Phase

Two participants varied. For example, 20 participants saw costs increase by more than \$2,500 between the homeless and housed periods, while 19 saw costs decrease by

more than \$2,500 (Figure 9). Twelve participants saw little change in their costs between the two periods. Phase Two participants appear to have very different tendencies in relationship to services. However, when individual adults and families are examined separately some general patterns emerge.

Figure 9 - Distribution of participants by change in costs

	Decreased	Same	Increased	Total
Individual adults	3	1	6	10
Family adults	2	2	11	15
Family children	14	9	3	26
Total (All participants)	19	12	20	51

Note: A participant is counted one time if the change in their total costs between the homeless and housed periods fall into one of the three categories. The ranges are defined as "Decreased" = Less than \$(2,500); "Same" = \$(2,500) to \$2,500; "Increased" = \$2,500 or more

CONTRASTING INDIVIDUAL ADULTS AND FAMILIES

This study is unusual in that it analyzes and reports on the usage and costs of homeless families along with individual adults. For homeless families in particular, information about emergency service costs are not well known nationally. VAN, Washington County, and NERC are aware of no other studies examining emergency services costs of families. Recently (2014) there was a Florida study that identified both homeless individual adults and families in a region, but it reported on costs only for individual adults, not for the families.⁵

Families in the Phase Two study are distinct from individual adults in many ways. Ten of the 13 families were headed by a single female adult, while gender for the individual adults group was split evenly. Furthermore family adults were generally younger than individual adults. The median age for individual adults was 44 while for family adults it was 32, twelve years younger.

Distinctions were also present in use of services. For example, while medical expenses for individual adults declined after entering permanent supportive housing, family adults more than doubled their usage of medical services between their homeless and housed periods.

Individual adults and families are distinct groups, each demonstrating different patterns of service usage and costs.

⁵ Shinn, Gregory A. Tracy, Judy Watson. 2014. The Cost of Long-Term Homelessness in Central Florida: The Current Crisis and the Economic Impact of Providing Sustainable Housing Solutions.

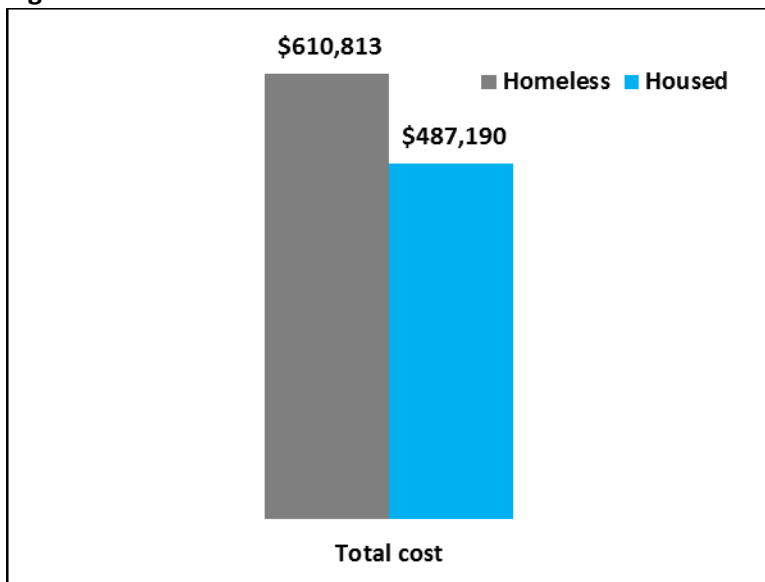
MEDICAL SERVICE COSTS

Medical services provided the most detailed study results. Within this category NERC was able to contrast the patterns of individual adults and families.

MEDICAL COSTS DECREASE FOR INDIVIDUAL ADULTS

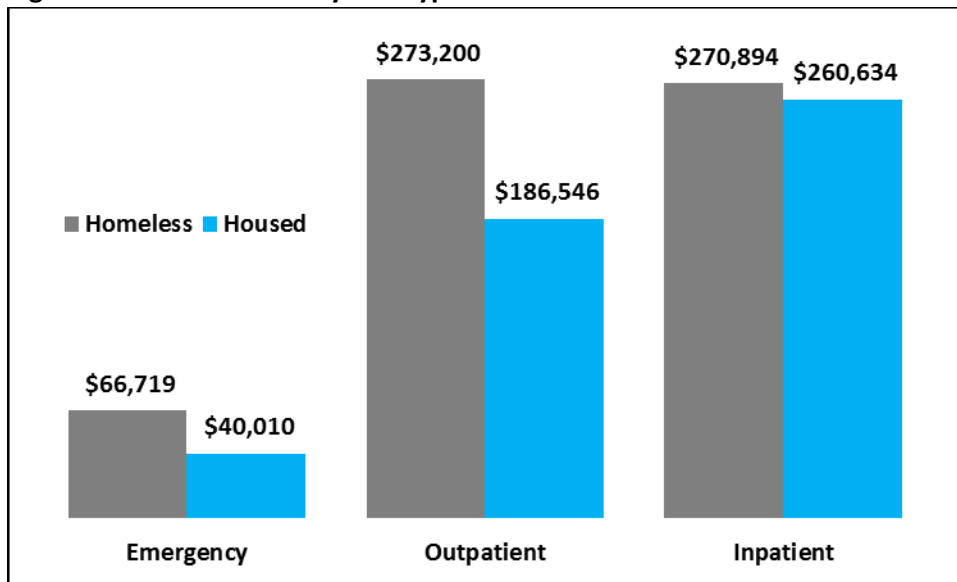
As has been the case in other study locales nationally, total medical costs decreased by more than 20 percent (\$123,623) for individual adults (Figure 10).

Figure 10 - Total medical service costs for individual adults



Costs in all three medical subcategories (Inpatient, Outpatient and Emergency Room) decreased between the homeless and housed periods for individual adults. Outpatient went down the most (Figure 11).

Figure 11 - Medical costs by visit type for individual adults



Outpatient Costs

Total outpatient costs decreased by nearly 32 percent between the homeless and housed periods, a reduction of \$86,655. The total number of outpatient visits between the two periods increased by 104 percent. Individual adults used outpatient services more often once they were in permanent housing, but these visits were on average less costly than those made during their homeless period.

Emergency Room Costs

Total emergency room costs fell by 40 percent between the homeless and housed periods. This was a drop of \$26,709. The total number of emergency room visits between the two periods decreased by 51 percent. The cost per visit stayed about the same between the homeless and housed periods. During both periods emergency room costs were much less than either inpatient or outpatient.

Inpatient Costs

Total inpatient costs fell, but only by about four percent (\$10,259) between the homeless and housed periods. Inpatient visits were by far the most costly per visit among the three visit types.

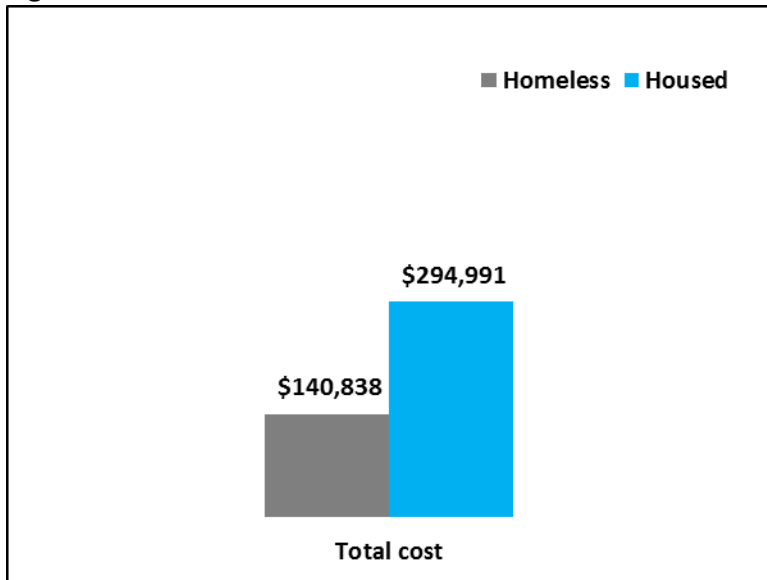
One possible explanation for the lack of change between the homeless and housed periods could be that inpatient care is often associated with critical or chronic conditions. In other words if a person is critically or chronically ill they will use inpatient services in spite of being stably housed.

MEDICAL COSTS INCREASE FOR FAMILIES

For the homeless and housed periods combined, medical costs for families were much lower compared to individual adults even though there were four times as many family members as individual adults in the study.

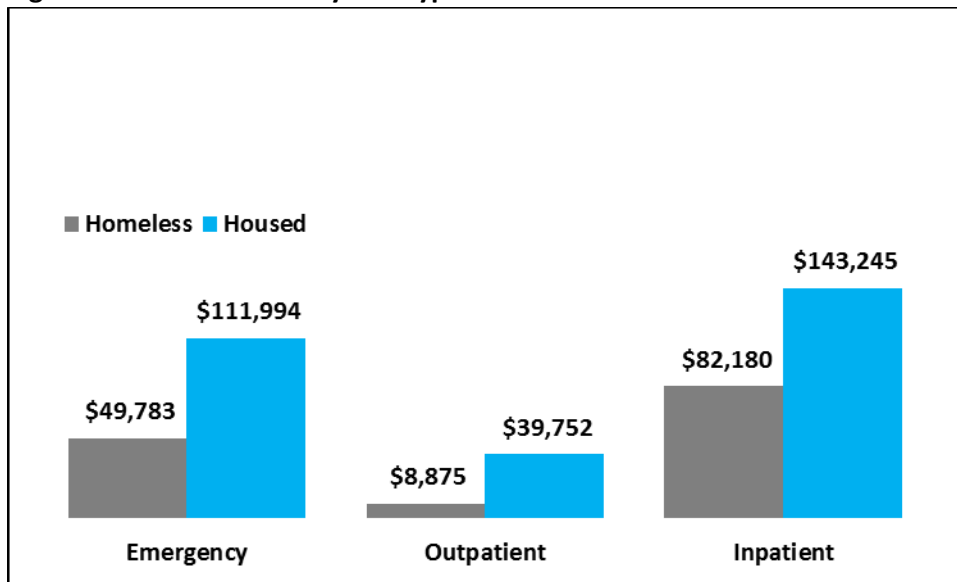
However, unlike individual adults whose medical costs declined between their homeless and housed periods, both the frequency of use and costs increased for families when they moved from homeless to housed. The total cost increase for families was more than 109 percent (\$154,152) (Figure 12).

Figure 12 - Total medical service costs for families



In direct contrast to individual adults who showed decreases, costs for families increased across all three medical service subcategories between the homeless and housed periods (Figure 13).

Figure 13 - Medical costs by visit type for families



Inpatient Costs

Inpatient was the largest subcategory of medical costs for families for their combined homeless and housed periods, representing over half of the total for the three subcategories.

Inpatient costs for families increased by 74 percent (\$61,065) between the homeless and housed periods. As was the case with individual adults, inpatient visits were by far the most costly per visit among the three visit types.

Outpatient Costs

Family Outpatient costs constituted the smallest share among the three subcategories, representing a little more than one tenth of total costs for families (

Figure 14).

Family Outpatient costs increased four and one-half times between the homeless and housed periods, but the dollar amount of the increase was relatively small at \$30,877.

The total number of Outpatient visits nearly doubled and the average cost per visit increased by 146 percent.

Emergency Room Costs

For families, between the homeless and housed periods, Emergency Room...

- ...costs increased by 125 percent (\$62,210).
- ...cost per visit increased by 69 percent (\$456).
- ...visits increased by 33 percent.

Figure 14 - Medical costs by visit type as a share of total medical costs for families

	Inpatient	Outpatient	Emergency	Total
Total (Both periods combined)	\$ 225,425	\$ 48,627	\$ 161,777	\$ 435,829
Percent of Total	52%	11%	37%	100%

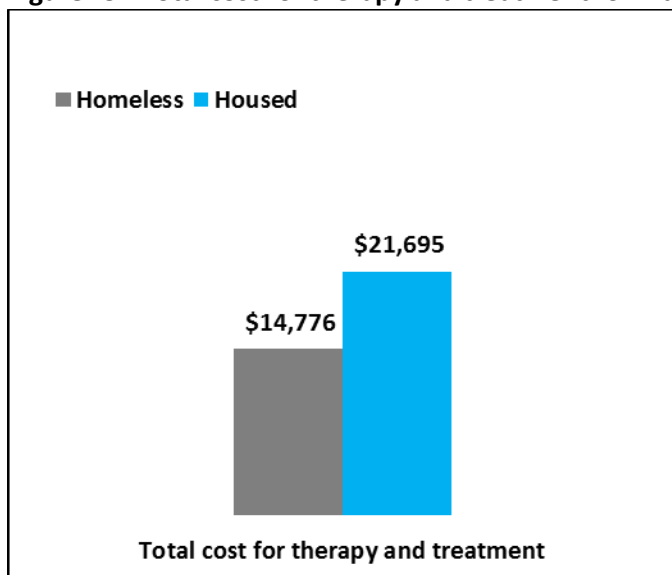
OTHER SERVICE CATEGORIES

The remaining four service categories (Supportive Services, Law Enforcement, Emergency Medical Services, and Housing) had significant data limitations (See Appendix B), which didn't support a detailed analysis of these categories. Our observations from within these categories follow.

SUPPORTIVE SERVICES: MENTAL HEALTH THERAPY AND TREATMENT

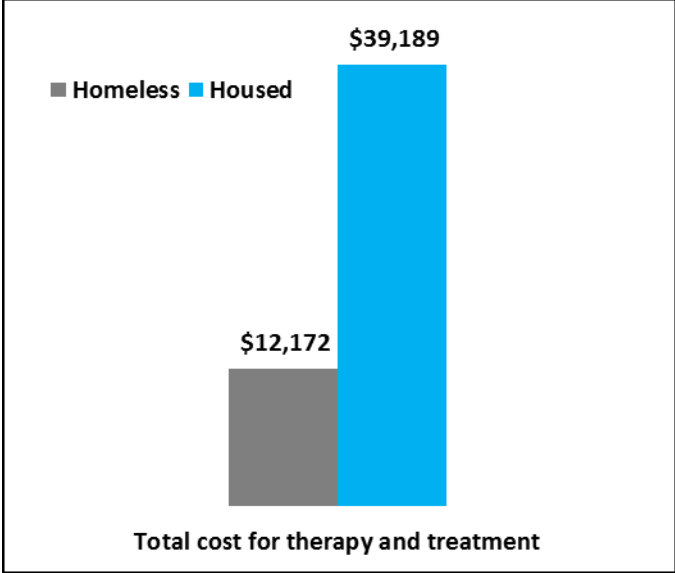
Mental health costs for therapy and treatment increased for both individual adults and families between the homeless and housed periods. Costs increased for individual adults by nearly 47 percent (\$6,919); In addition a smaller number of individual adults utilized therapy and treatment once they entered permanent supportive housing, these two factors combined to cause the average cost per individual adult to go up.

Figure 15 - Total cost for therapy and treatment for individual adults



More family members used therapy and treatment services after they moved into permanent housing, resulting in an increase of more than 200 percent (\$27,017) between the homeless and housed periods.

Figure 16 - Total cost for therapy and treatment for families



LAW ENFORCEMENT: ALL PARTICIPANTS

NERC received law enforcement data from two police departments and the Washington County Sheriff's Office. The police departments provided a list of patrol encounters and the associated costs; and the Sheriff's Office provided a summary of the number and cost of jail stays. All jail stays and patrol encounters occurred within Washington County.

The reported number of law enforcement encounters was very low (See data limitations in Appendix B) making analysis difficult. Of the Law Enforcement records received, NERC found little difference between individual adults and family members in this cost category. They are reported here as one group.

Overall, the number of law enforcement patrol encounters and their associated costs went up between the homeless and housed periods. The increase was a little over 165 percent (\$3,086). Law enforcement officers encountered study participants 27 times during the homeless period and 59 times during the housed period. During participants' housed and homeless periods there were very few jail stays. Due to this NERC was unable to comment in any detail about jail stay data.

In response to the small amount of jail stay data in the Phase One study, the Washington County Sheriff's Office provided, independent of this study, a set of statistics about homeless persons moving through the Washington County Jail system. It is included as Appendix C of this report. It shows that although only a few study participants moved through their jail system, a sizable number of self-reported homeless persons were incarcerated in the jail during the period of this study.

EMERGENCY MEDICAL SERVICES: ALL PARTICIPANTS

NERC received a small number of emergency response data from three service providers, two of which provided information solely on ambulance transports. All emergency responses and ambulance transports occurred within Washington County.

As with Law Enforcement, NERC found no clear difference in usage and cost between individual Adults and Family members within the emergency medical services data. Ambulance transports increased between the homeless and housed periods which caused EMS costs to rise by roughly 70 percent (\$6,300).

One possible explanation for the low number of encounters is age. Fire Chief Michael Duyck at Tualatin Valley Fire & Rescue (TVF&R) told us that emergency medical responders tend to encounter younger and older persons more than people falling into the age range in the middle. No adult participants were older than 55 and none were younger than 20. Adult participants generally were not in the older or younger range.

HOUSING COSTS: FOR FAMILIES THE CHANGE IN COST IS SLIGHT

NERC received emergency shelter use and cost data for the homeless period and records of housing assistance payments for the housed period. The emergency shelter data was provided by Community Action and the housing assistance payment records were provided by Washington County Housing Services and Community Action.

One key limitation was the unavailability of emergency shelter data for individual adults during their homeless period. Although no data

were available, it is unlikely that community resources were not expended on some form of individual adult emergency shelter during the homeless period. This prevents a realistic comparison between the homeless and housed periods for individual adults.

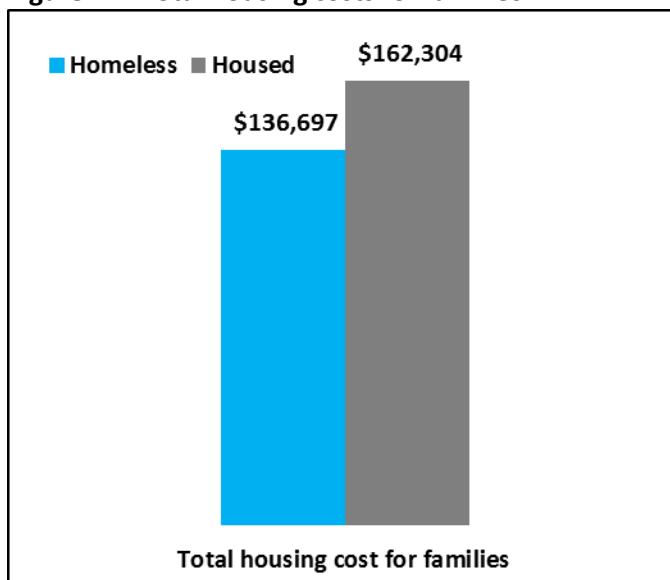
EMERGENCY SHELTER VS. PERMANENT SUPPORTIVE HOUSING

Total housing costs increased between the homeless and housed periods for families by a small amount (Figure 17).

Furthermore the costs for emergency shelter were for shorter periods of time, whereas the costs for permanent, supportive housing were spread across the entire two year housed

period. For example the 37 Phase Two family members that stayed in emergency shelter during their homeless period spent on average 38 bed nights in emergency shelter for their entire two year homeless period.

Figure 17 - Total housing costs for families



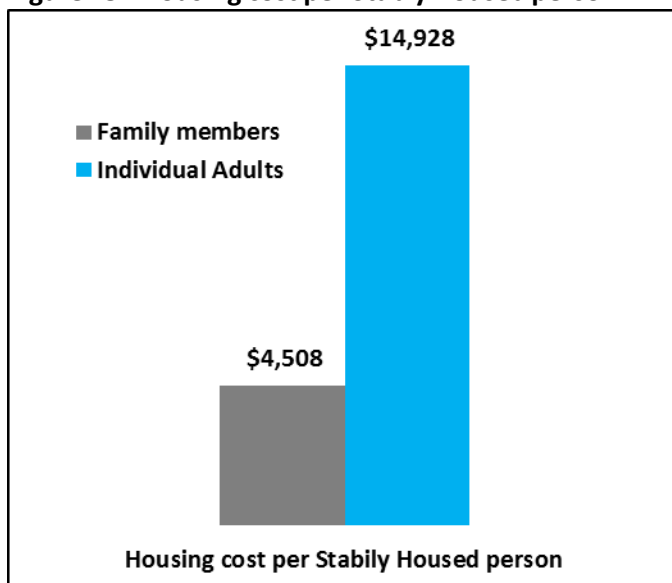
For individual adults no cost data were available for any type of emergency housing during their homeless period. Due to this gap in data we do not include a comparison of housing costs for individual adults similar to Figure 16. Housing costs were \$134,350 for individual adults during their housed period.

On average individual adults were more than three times as costly to house as family members during their housed period. One likely

reason for this is the cost of a housing unit being spread out among more persons within a family versus one person for an individual adult. Coincidentally, the average family size among Phase Two families that received housing assistance was three people (

Figure 18).

Figure 18 - Housing cost per Stably Housed person



SUPPORTIVE SERVICE COSTS: ALL PARTICIPANTS

The data NERC received for Supportive Services during the housed period included a broader range of services than those supplied by the data for the homeless period. Additionally, the data was reported in the aggregate instead of by individual record per episode, creating difficulties for a meaningful comparison between the homeless and housed periods (See Appendix B).

For the homeless and housed periods combined, Supportive Services other than housing cost over \$7,300 per participant. Individual adults cost more than five times as much per participant than family members.

CLOSING REMARKS

Information about emergency service costs for families are not well known nationally, and this analysis found both their demographics and their usage and cost patterns to be very different from those of individual adults (e.g., while medical costs for individual adults decreased after entry into permanent, supportive housing, those costs increased when families did so).

Homeless families and their behavior after entering permanent supportive housing needs more study. This is particularly true regarding family children. Although they had much lower costs than adults during both their homeless and housed periods, there is national research suggesting that children affected by adverse

childhood experiences develop health and other problems later in life that could have expensive future impacts for communities.

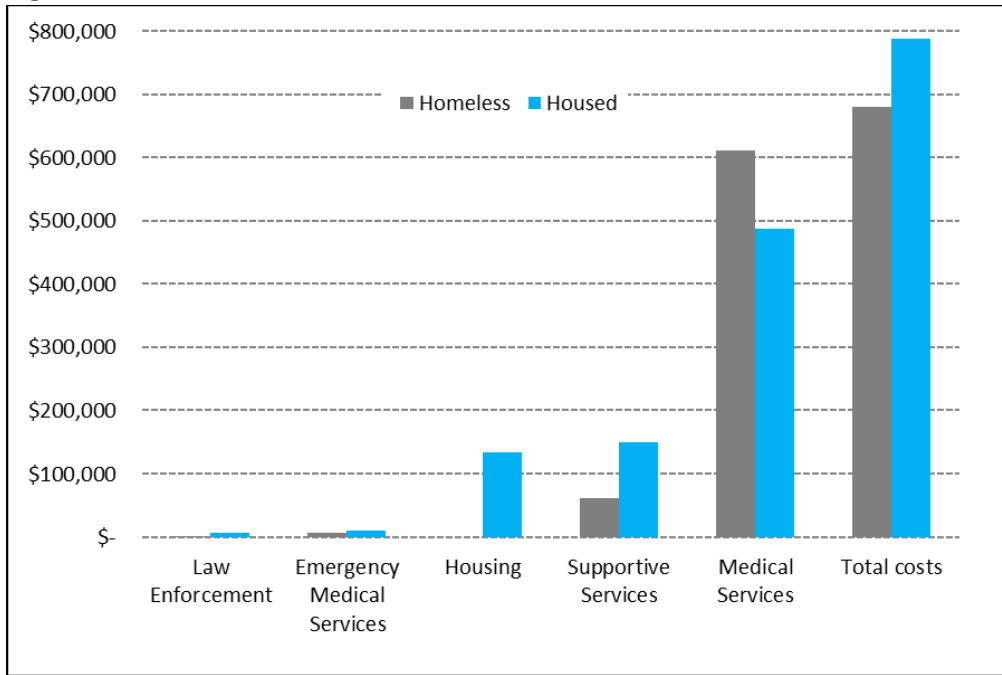
Washington County Housing officials see indications of permanent housing and supportive services returning greater savings in the longer run (beyond the two years studied) as individual adults and families become increasingly stable and have their basic needs taken care of. Studying the costs of formerly homeless individual adults and families transitioning into permanent housing over a longer time frame could test these indications and provide useful information for policymakers.

SUMMARY OF COSTS

For individual adults medical costs decreased after entry into housing, while costs increased for the other four service areas. However, it is important to note that no records were available for emergency shelter costs during the homeless period; and it is unlikely that no community resources were expended for them. Additionally, comparisons of Supportive

Services between the homeless and housed periods were problematic: as with housing, all actual community resources expended during the homeless period may not be represented. The number of records for Law Enforcement and Emergency Medical Services were very low, making detailed analysis difficult (Figure 19).

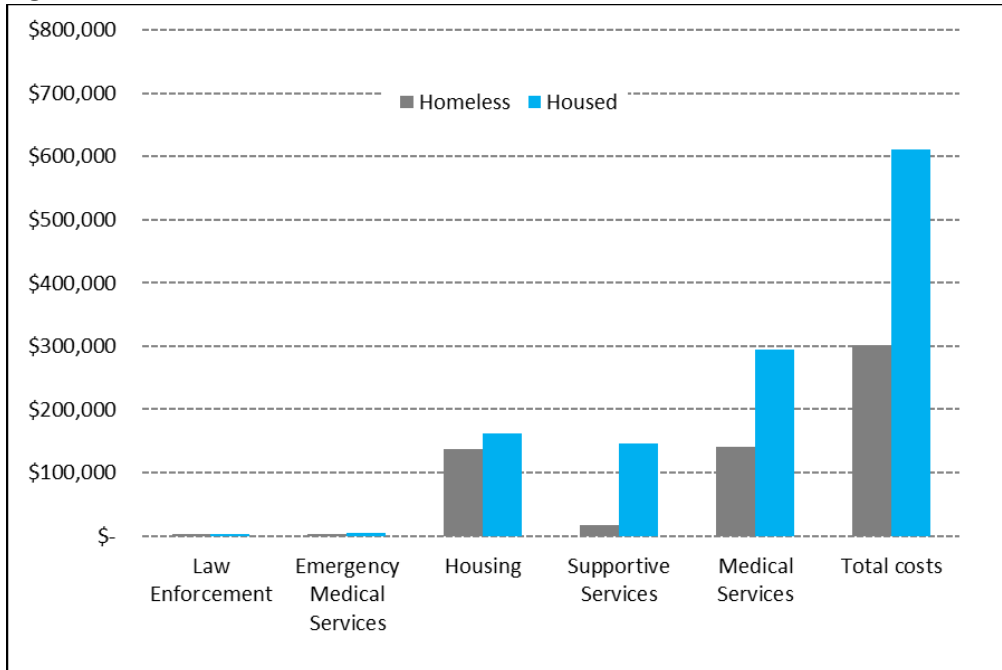
Figure 19 - Total costs for individual adults



For families, total costs doubled after entry into housing. This was driven mostly by medical, but all other categories increased also. Housing increased only by a small amount. For Law

Enforcement, Emergency Medical Services and Supportive Services the same data limitations noted for individual adults were present.

Figure 20 - Total costs for families



SUMMARY OF FINDINGS

MEDICAL

Sixty percent of all service episodes were for medical services. In addition to the percentage of medical episodes being high compared to other service categories, the costs for these episodes also dominated costs in all other categories: Medical costs were 81 percent higher than all costs in the other four service categories combined.

As has been the case in other study locales nationally, total medical costs decreased by more than 20 percent (\$123,623) for individual adults when they moved from homelessness into permanent, supportive housing.

Costs in all three medical subcategories (Inpatient, Outpatient and Emergency Room) decreased between the homeless and housed periods for individual adults: Outpatient fell by 32 percent, Emergency Room by 40 percent, and Inpatient by four percent.

Individual adults used outpatient services more often once they were in permanent housing, but these visits were on average less costly than those made during their homeless period.

This study is unusual in that it analyzes and reports on the usage and costs of homeless families along with individual adults. Information about emergency service costs for families are not well known nationally, and this analysis found both their demographics and

their usage and cost patterns of emergency services to be different from those of individual adults.

For family adults the median age was 32, while individual adults were 12 years older at 44.

In both the homeless and housed periods, total medical costs for families were much lower than individual adults, even though there were four times as many family members as individual adults in the study. But, unlike individual adults whose medical costs decreased between their homeless and housed periods, costs increased by about 109 percent for families when they moved into permanent, supportive housing.

In direct contrast to individual adults, costs for families increased across all three medical service subcategories between the homeless and housed periods.

The total number of Outpatient visits nearly doubled and the average cost per visit increased by 146 percent.

As was the case with individual adults, inpatient visits were by far the most costly per visit among the three visit types. Total inpatient costs for families increased by 74 percent between the homeless and housed periods.

SUPPORTIVE SERVICES, HOUSING, LAW ENFORCEMENT, AND EMERGENCY MEDICAL SERVICES

Fifty Phase Two participants used housing and 49 used some form of Supportive Services. Twenty-three were encountered by law enforcement and eight used some type of Emergency Medical Service.

For the homeless and housed periods combined, Supportive Services other than housing cost over \$7,300 per participant. Individual adults cost more than five times as much per participant than family members.

Total housing costs increased between the homeless and housed periods for families by a small amount.

For all participants, the number of law enforcement patrol encounters and their associated costs went up between the homeless and housed periods. The increase was a little over 89 percent (\$4,300). Law enforcement officers encountered study participants 27 times during the homeless period and 59 times during the housed period.

The Washington County Sheriff's Office provided, independent of this study, a set of statistics about homeless persons moving through the Washington County Jail system. It is included as Appendix C of this report.

ACKNOWLEDGMENTS

NERC would particularly like to acknowledge Melanie Fletcher, Washington County Department of Housing, and Pat Rogers, Community Action, for providing a great deal of valuable assistance with participant recruitment and data acquisition.

Many other persons also helped with advice and requests that were at times difficult and time-consuming. We thank them:

Deb Allison, LifeWorks NW
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Cindy Bolek, Hillsboro Police Department
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Chief Carey Sullivan, Hillsboro Police Department
Heather Vanderzanden, Community Action
Michelle Wilcox, Providence Health & Services
Jeff Williams, Beaverton Police Department
Karl Wilson, Providence Health & Services

APPENDIX A – RECRUITMENT AND DATA COLLECTION

The interpretation and use of observations recorded in this Phase Two study report should be placed within the context of the small, nonrandom sample of study participants. The sample size was small, 51 persons; Furthermore the sample size within distinct participant

groups (i.e., individual adults, family adults, family children) is even smaller. The issues these small numbers pose are discussed in more detail in Appendix B.

RECRUITMENT PROCESS

The population from which persons could be recruited for Phase Two was limited to the Phase One participant pool. Phase Two had a pool of 84 participants. To be eligible to participate in Phase Two persons had to have lived in permanent supportive housing for at least two years at the time of recruitment. There were 66 persons eligible to participate in the Phase Two study. The final number recruited was 51 persons: 10 individual adults, 15 family adults, and 26 family children.

The individual adult participants were 18 years of age or older and participating families had a parent or guardian 18 years of age or older. All participants were identified as chronically homeless (as defined by HUD) or were identified by Washington County Continuum of Care (CoC) providers as having significant barriers that negatively impacted their ability to end their homelessness (e.g., substance abuse, mental illness). During recruitment there were no restrictions regarding gender, race or ethnicity.

The Washington County Department of Housing Services used its Homeless Management Information System (HMIS) to identify possible participants for the study. HMIS records information about services the homeless and near homeless persons use and about the institutions that provide them. It furnishes

longitudinal person level data for anyone who accesses a service as well as standardized assessments of clients' needs, service plans, and the use of services. Staff, volunteers, and other persons are issued unique User ID and passwords for HMIS and receive confidentiality training on its use.

The data administrator for Washington County's HMIS selected potential study participants by querying for persons who have entered the programs of Shelter Plus Care and Community Action Inc. Community Action staff used this information, together with their familiarity of stably housed persons within these programs to locate potential participants. The potential participants were approached in person by outreach staff within the course of the staff's normal outreach duties. Potential participants were invited to participate by reading or listening to a description of the project and their role in it and discussing it with staff for clarity. Participants under the age of 18 were accepted with the consent of their parent/guardian. If a potential participant agreed to participate in the study, outreach staff obtained their informed consent as well as a Health Insurance Portability and Accountability Act (HIPAA) form. Once the group of study participants was complete, Outreach staff provided, via password protected email, a list of participants to the

HMIS data administrator. This list has been stored on the HMIS secured server.

DATA COLLECTION

NERC sent requests to 11 emergency services providers in Washington County. The information requested was limited to date of service, type of service (e.g., inpatient, emergency room), length of stay and cost of services.

Two new cost categories were added for Phase Two: Supportive Services and Emergency Medical Services. Supportive Services included what had been Mental Health Services in Phase One, but for Phase Two it included a broader range of services. Supportive Service data was collected directly from Washington County Housing Services and Community Action.

For the two new categories and for the categories that were expanded, NERC collected the homeless period data to capture the increased records.

For Emergency Medical Services (EMS), NERC and VAN determined that there were two types of EMS services; emergency medical response with no ambulance transport and emergency medical response with ambulance transport. NERC requested data for these two types.

In addition to adding two new cost categories, VAN also expanded the Medical Services data request to include all facilities within Washington County. This expanded request allowed for a substantial increase in the number of clinics and other medical facilities that each medical provider queried in response to NERC's data request.

The HMIS data administrator sent via password protected email a list to each of the 11

emergency service providers consisting of participant's names and dates-of-birth. The emergency service providers responded by sending the requested data directly via secured email to the HMIS data administrator, who stored it on their secured server.

The HMIS data administrator created a copy of the data with personal identifiers replaced by untraceable ID numbers. The Data Administrator then sent this file to NERC via secured email. NERC stored the data on a secured PSU server. At no point did NERC have access to participants' names and only referenced participants by ID number.

As authorized HMIS users, the Data Administrator and Community Action maintained the security of potential participant records within HMIS. Outreach staff kept participants' signed consent forms in locked cabinets.

After three years all paper documents with identifying information will be shredded, and all electronic documents with identifying information will be destroyed.

APPENDIX B - DATA LIMITATIONS

It is important to put the observations of use and cost patterns in this study in context. First, as stated in Appendix A the number of study participants is small. Second, participants were recruited from a program that screens persons based on criminal history. These factors serve to restrict NERC from generalizing any use and cost patterns to the entire homeless population in Washington County. In addition to the issues of having a small number of participants and the bias toward persons with little to no criminal history NERC encountered substantial

variation of usage and costs within the group of study participants. A larger group of participants, particularly individual adults, likely would have provided a more stable distribution.

SUPPORTIVE SERVICE CATEGORY COMPARISON ISSUES

Supportive Services was the most challenging category to analyze due to comparability issues. Supportive service cost data for the homeless period only reflects mental health service costs; mental health services are only a portion of the range of services captured within the supportive services category for participants during their housed period.

services data were not available. The missing date ranges varied from one month, up to 24 months and affected nine out of 23 households (13 families and 10 individual adults).

The use and cost data that mental health providers supplied for the homeless period is combined into the three categories Case Management, Medication Management, and Therapy and Treatment. The use and cost data that Washington County and Community Action provided for the housed period is combined into the categories of Case Management, Therapy and Treatment, and Other. Information explaining the comparability of these two different sets of categories was limited. The only category in which the services seem to align is for Mental Health Therapy and Treatment.

In addition there were substantial gaps in the data. For some households older supportive

APPENDIX C – WASHINGTON COUNTY SHERIFF’S OFFICE ANALYSIS

In Phase Two there were very few jail stays, as was the case in Phase One. NERC therefore was unable to comment in any detail about jail stay data. In response to the small amount of jail stay data in Phase One, the Washington County Sheriff’s Office provided, independent of this study, a set of statistics about homeless persons moving through the Washington County Jail system. NERC has included a complete copy of

these statistics within this section. It shows that although only a few study participants moved through their jail system, a sizable number of self-reported homeless persons were incarcerated in the jail during the period of this study. The Washington County Sheriff’s Office statistics and analysis included in the section below.

WASHINGTON COUNTY SHERIFF’S OFFICE JAIL STAY ANALYSIS

This letter⁶ is in response to your request about the number of inmates in jail who are, or likely, homeless and their associated cost. I’ll begin with background about the data, move to the data itself, and close with several remarks behind the data.

The booking process at the jail asks the person in custody for a home address. The person in custody can reply “homeless” or “transient” and that information is captured in our Jail Information Management System, which is the data source for the below information.

The *average daily number of inmates* lodged in jail in 2012 who reported being homeless or transient was 91, or about 16% of rated capacity. The average length of stay for this population was 32 days. The *total number of inmates who reported being homeless or transient* who were lodged in jail in 2012 was 1,273. Of this population:

- 627 were charged with a felony crime
- 107 were charged with a Measure 11 crime or felony-person crime
- About 44% were sentenced

The rate of homelessness for jail inmates was self-reported and not validated in any way. In fact, some inmates do not report a residence simply because they do not want us to know where to find them later, or because they legitimately don't know their new address (mostly apartment moves). Some who are homeless provide an address in order to qualify later for release. While I believe it possible that supportive housing could mitigate some jail visits from this population, my belief is simply a hypothesis until a controlled study could determine actual housing status, and impacts of supportive housing for those who actually lack housing. As previously discussed [in] a 2008 article in the European Journal of Homelessness (<http://works.bepress.com/dennisculhane/82>); reduced utilization by some in systems like jails will not reduce overall facility operating costs. Even if we set aside the population who reported being homeless, the remaining 16,340 who were booked in 2012 would have kept our jail at or near capacity, and our costs would not have been reduced.

⁶ Letter dated 11/19/2013, from Washington County Sheriff Pat Garrett to Karin Kelley-Torregroza, Executive Director, Vision Action Network