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A Study of Emergency Service Provider Costs for Chronically Homeless Persons in Washington County, Oregon

Scott Stewart

Portland State University

Janai Kessi

Portland State University

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A STUDY OF EMERGENCY SERVICE PROVIDER COSTS
FOR CHRONICALLY HOMELESS PERSONS IN
Washington County, Oregon



NeRC

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PORTLAND STATE UNIVERSITY

Acknowledgements

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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 study. NERC would like to thank each of these committee members: Denny Doyle, Mayor of Beaverton; Dennis Mulvihill, Government Affairs Manager of Washington County; Pat Garrett, Washington County Sheriff; Michael Balter, Executive Director of Boys And Girls Aid; Ramsay Weit, Executive Director of Community Housing Fund; Jonathan Schlueter, Former Executive Director of Westside Economic Alliance; Pat Reser, Board Chair of Reser's Fine Foods; Michael Brown, City Manager of Hillsboro; Janice Burger, Chief Administrator of Providence St. Vincent Medical Center; Dick Stenson, President and CEO of Tuality Healthcare; Jerralynn Ness, Executive Director of Community Action; Renee Bruce, Director of Family and Community Resources; Mary White, Director of Social Work at Kaiser Permanente; David Pump, Executive Director of Sequoia Mental Health Services.



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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Portland State University
College of Urban and Public Affairs
PO Box 751
Portland, OR 97207-0751
503-725-8167
nerc@pdx.edu
www.pdx.edu/NERC

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 Intern. The report was formatted by Marilyn Quintero, Administrative Assistant.

Executive Summary

Unattached male and female individuals accounted for the largest share of emergency service costs among study participants, although some members of homeless families also had high costs. Medical services generated the biggest portion of costs.

Gender played a role in some areas of cost. Total costs for males were only slightly higher than females, but for two service categories males were much higher.

See more key findings below.

Background

Individuals and families experiencing homelessness in Washington County are a growing community challenge. Services provided to the homeless population have tended to focus on providing support in cases of emergency, and by doing so are unlikely to address the root causes of homelessness. There is a growing recognition nationally that concentrating on provision of emergency services might be both inefficient and unnecessarily expensive.

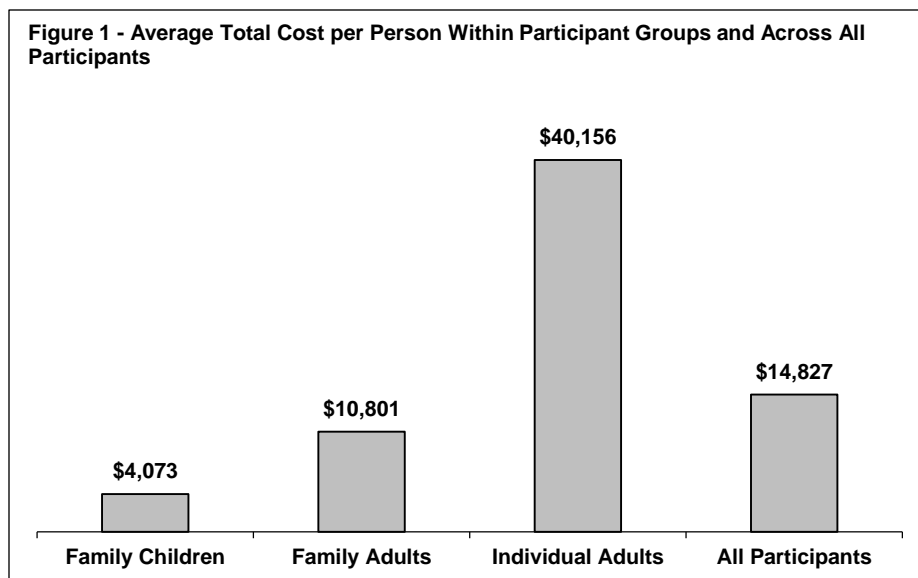
Recognizing these issues locally, Vision Action Network (VAN) and its partners have taken the initiative to both better understand homelessness in Washington County and to encourage progress toward its solution. As one part of that effort VAN commissioned the Northwest Economic Research Center (NERC) to examine certain aspects of spending related to homeless persons in the County.

This study's purpose is to provide community leaders with an idea of how much money is spent on emergency services for homeless persons in Washington County. It explores four major areas of emergency costs (medical services, law enforcement, mental health services and emergency shelter) by examining records from 10 service-providing organizations in the County. These organizations furnish a good cross section of services, but likely do not capture the costs of all services rendered to homeless persons.

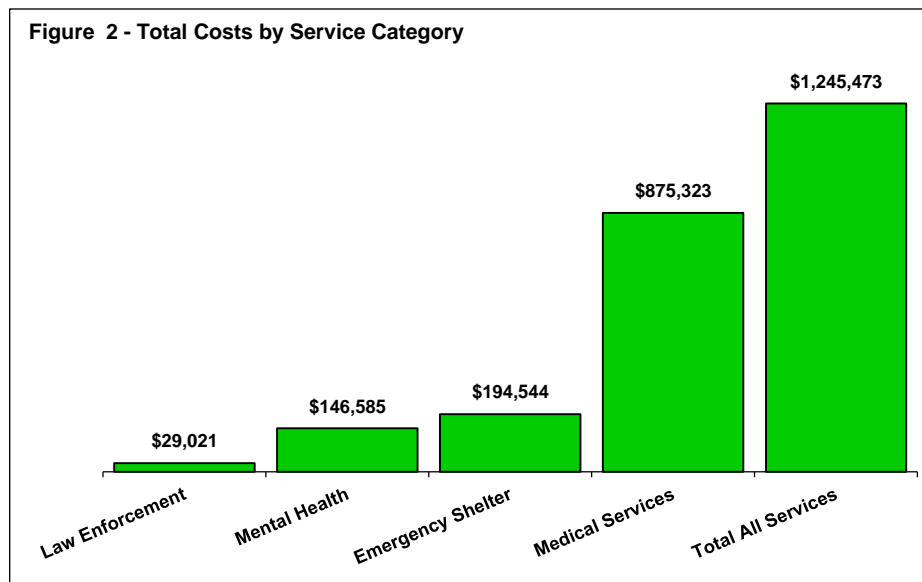
The study is unusual in that it examines costs for both families and unattached adults. VAN, Washington County Housing officials and NERC are unaware of any other studies that do so.

Key Findings

- Adults not attached to families (individual adults) were by far the most expensive participants (Figure 1). Although only 24 percent of all participants were individual adults, they accounted for 65 percent of the total costs examined by the study.



- While members of homeless families on average are not as costly as individual adults, there were some with high expenses. For example, three of the top 10 highest cost participants were from families.
- Gender played a role in some areas of service usage and cost. Overall, average costs were slightly higher for males, driven mostly by higher average medical costs. In two other cost areas (law enforcement and mental health) costs for males were considerably higher than females.
- Children had much lower costs than adults, but 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.
- Of the over \$1.2 million total costs examined, medical costs made up the largest portion: 7 out of every 10 dollars (Figure 2).



- Within medical services, the emergency room was the most used, with more visits than all other services combined. Inpatient admissions was the least used medical service, but its costs were 3.75 times the cost of all other medical services combined.
- Individual adults were more prone to be admitted as inpatients. One half of individual adults using the hospital were admitted, compared to one quarter of family members.
- Forty-two percent of participants who interacted with law enforcement were individual adults, but they were involved in nearly 75 percent of all police encounters and accounted for 85 percent of law enforcement costs.
- More females than males used mental health services. The males, however, were responsible for nearly two-thirds of total mental health costs.
- Emergency shelter accounted for 16 percent of all costs for participants, the second largest cost area after medical services.

Conclusion

Emergency services for the homeless are costly, and for a smaller portion of the homeless they are very costly. This raises the question of the potential effects a more stable living situation might have for homeless persons. Stability may provide opportunities for more efficient provision of health care, mental health, and other services, and less frequent encounters with police.

A further step would be to compare the costs found in this study with costs for formerly homeless persons living in supported housing in Washington County. Evidence from studies in other locales suggests these savings are possible, along with other important benefits stable housing offers. A more focused look at costs of those in supportive housing could help community leaders develop and finetune more effective policies geared toward the elimination of homelessness.

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INTRODUCTION

Individuals and families experiencing homelessness in Washington County, Oregon are a growing community challenge. Services provided to the homeless population have tended to focus on providing support in cases of emergency. Whether this is emergency food support or write-offs associated with emergency room visits, once people have become classified as homeless they tend to reconnect with the social service system in times of extreme need. By providing only emergency services, social service providers are unlikely to address the root causes of homelessness.

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.

This study’s purpose is to provide community leaders with an idea of how much money is spent on these emergency services for the homeless in Washington County. It is a step toward developing cost-effective policies geared toward ending homelessness rather than simply managing it. A further step would be to compare the costs found in this study with costs for formerly homeless persons living in supported housing in Washington County. Evidence from studies in other locales suggests these savings are possible, along with other important benefits stable housing offers people.

This study explored four major areas of emergency costs for the homeless:

1. Medical Services
2. Law Enforcement
3. Mental Health Services
4. Emergency Shelter

While costs for homelessness almost certainly extend beyond these categories, these four major areas provide a good sense of community spending for the homeless persons involved.

This study is unusual in that it examines both individual adults and families. Washington County housing officials, Vision Action Network staff and NERC are unaware of other studies that do so. Other studies reviewed focused upon individual adults only. We feel that information on families adds an important dimension to this work.

METHODOLOGY

RECRUITMENT

Study participants were recruited utilizing the Washington County Homeless Management Information System (HMIS), a database supporting homeless clients and service providers in the County. The County Department of Housing Services and homeless services provider Community Action jointly conducted the recruiting. All personnel involved in the recruiting were professional staff trained in confidentiality protocols.

Washington County staff used HMIS to identify possible participants for the study. HMIS also generated the study participant demographic information used throughout this report.

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. Twenty individual adults and 21 families consisting of 27 family adults and 37 family children were recruited, for a total of 84 study participants. Study participants were not a random sample of all homeless persons in Washington County. They were drawn from two programs within the County's 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 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 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 3 years prior to their entry into the programs. See Appendix

A for a more detailed description of the recruitment protocol.

DATA COLLECTION

NERC sent requests for frequency and cost data to 10 emergency service providers in Washington County for each participant's three year period. The organizations providing data do not furnish a comprehensive tally of all costs that study participants may be incurring in the County, nor are they necessarily representative of the costs of all homeless persons in Washington County. The study is intended to give community leaders some sense of costs being incurred by homeless persons, and an idea of the differences between different types of participants (e.g. individual adults and family members, or males and females).

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

Medical Services

- Legacy Meridian Park Hospital
- Providence St. Vincent Medical Center
- Tuality Healthcare

Law Enforcement

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

Mental Health

- LifeWorks Northwest
- Luke-Dorf
- Sequoia Mental Health Services

Emergency Shelter

- Community Action Inc.

All personnel involved in the data collection process were professional staff trained in confidentiality protocols. The identities of study 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 or courier. She de-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)

Mental Health

- Case Management
- Therapy
- Medication Management

Emergency Shelter

- Bed-nights

DATA ANALYSIS

Data were received by NERC with identifiers removed. Formats included electronic spreadsheets, PDF, and paper records. 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 emergency services for the homeless, both for each type of service and in the aggregate. All services except emergency shelter included multiple service subcategories.

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 frequencies of service 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.

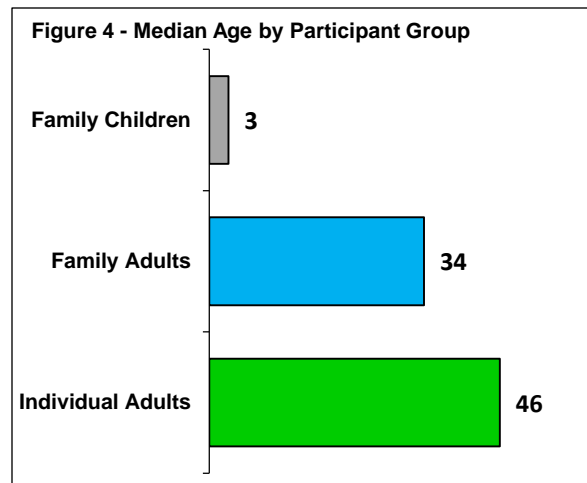
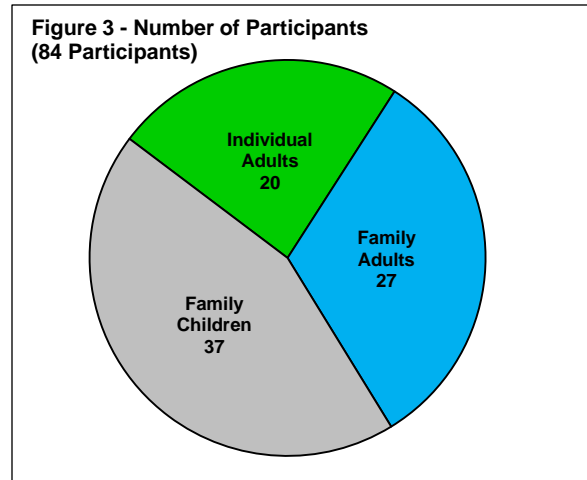
FINDINGS

PARTICIPANT PROFILE

The study involved frequency-of-use and cost data associated with 84 participants. There were 20 individual adults and 21 families. The families consisted of 27 adults, and 37 children (Figure 3). Family size averaged three persons.

Detailed demographic data were obtained from HMIS for 82 of the 84 participants.

The average age for all participants was 24. Within the key person groups the median age was 46 for individual adults, 34 for family adults and three for family children (Figure 4).

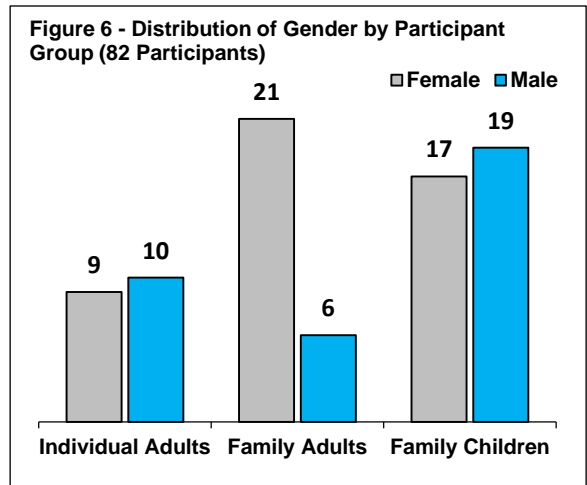
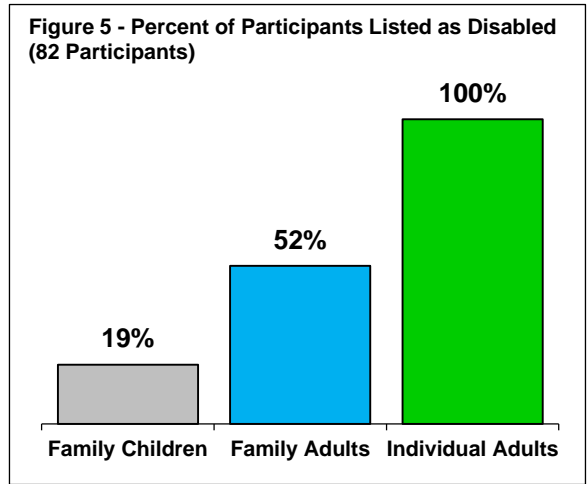


Of the 82 participants for whom detailed demographic data were obtained, 49 percent (40 participants) were disabled. One hundred percent of individual adult participants included in the demographic data are listed as disabled because it is an entrance requirement of the program they were recruited from. Fifty-two percent of family adult (14 participants) and 19 percent of family children (7 participants) were listed as disabled (Figure 5).

Fifty-seven percent of participants for whom demographic information was available were female. The highest concentration of females was in the family adult group. There were slightly more males than females in the individual adult group (Figure 6).

Gender was not available in the demographic data for one child and one individual adult, therefore the values in Figure 6 do not sum to the total 84 participants.

Participants were predominately white (85 percent) and nearly 94 percent were Non-Hispanic. These are higher percentages than Washington County residents generally: 77 percent of residents are white and 84 percent are Non-Hispanic.

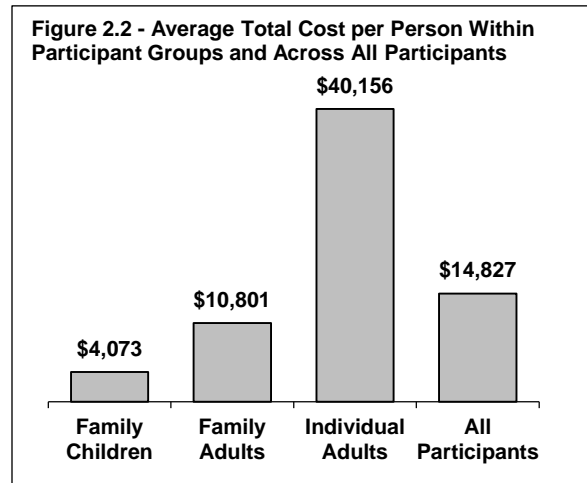
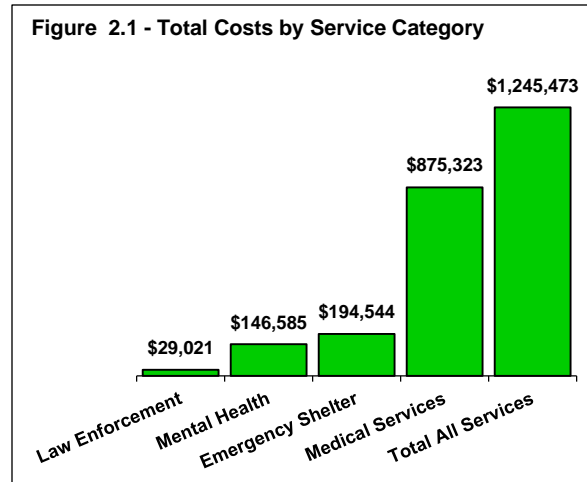


TOTAL COSTS

All costs for all participants during their three year homelessness periods totaled \$1,245,473. Medical service was the largest of four major cost categories, accounting for 70 percent of the total (Figure 2.1). Emergency shelter was the 2nd largest category at 16 percent, followed by mental health at 12 percent. Law enforcement accounted for the smallest portion of costs at two percent.

Distributing total costs evenly across all study participants produces an average cost of nearly \$15,000 for the three year homelessness period (Figure 2.2). However, this average masks important information: among the participants there are some high use/high cost persons combined with many relatively modest users, and these different groups tend to share some distinct characteristics. These distinctions will be examined throughout the Findings section.

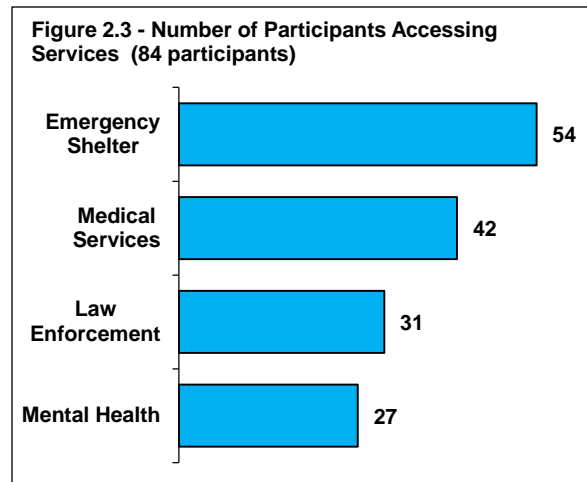
The study uses three basic participant categories for comparisons: (1) Adults that are members of homeless families, (2) children in those families, and (3) individual adults not associated with a homeless family. Families are examined as units a few times. Total costs varied widely across these groups (Figure 2.2). While participants from families were lower than the overall average, individual adults were much higher: Almost triple the overall average and 10 times the average for children. Although there were some family members with high costs, most of the highest dollar participants were individual adults.



In terms of the number of participants accessing each service, emergency shelter was the highest with 54 participants utilizing it at least once during their respective periods of homelessness. Medical service was second with 42 participants utilizing some type of hospital care during their homeless period. Law enforcement (31 participants) and mental health (27 participants) services were the least accessed of the four types of emergency services (Figure 2.3).

As a group, participants had a high rate of contact with the service providers queried for the study. All but six of the 84 study participants accessed at least one emergency service. Two of these six were adults and four were children under the age of two.

All cost and usage numbers stated in the body of this report are for a three year period of homelessness. Vision Action Network requested an Average Annual Cost for selected groups of participants. See Appendix E.



COSTS BY THE FOUR MAJOR CATEGORIES

For each of the four major cost categories we look at the total costs of the category and then examine the particular services within the category.

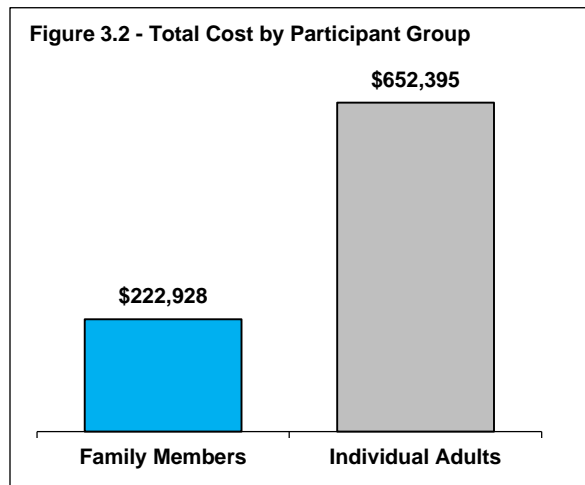
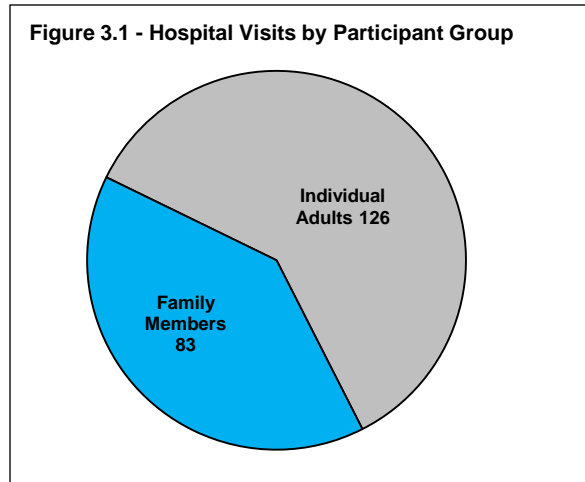
MEDICAL SERVICE COSTS

Medical service costs all came from hospitals. They account for 70 percent of all costs examined by the study. Half of the 84 participants accessed at least one hospital service during their periods of homelessness.

The case of individual adults accounting for the greatest frequency of use and the largest portion of costs is seen most strongly in the medical service category.

Of the participants receiving medical care 26 were in families while only 16 were individual adults, but these individual adults accounted for more than 60 percent (126) of all hospital visits (Figure 3.1).

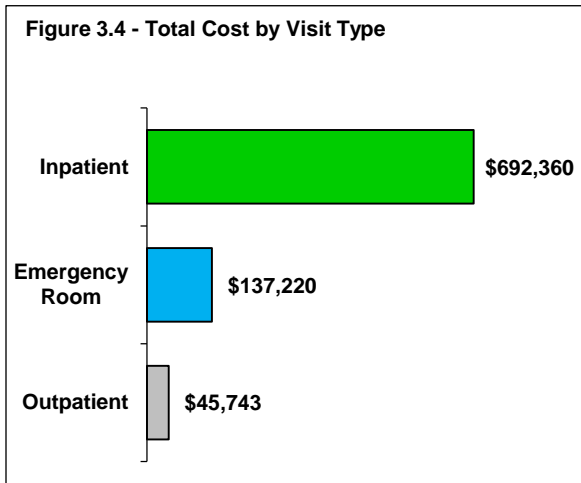
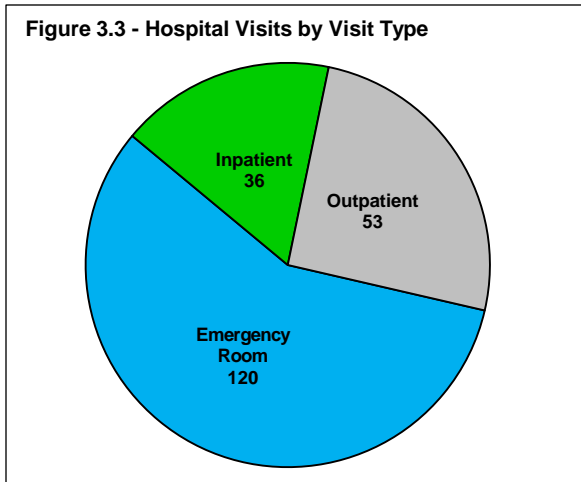
Furthermore, individual adults accounted for nearly 75 percent (\$652,395) of all medical service costs (Figure 3.2).



Hospital visits were analyzed in three categories: Inpatient, Outpatient and Emergency Room (ER).

The ER was the most used service with a total of 120 visits; more than the other two categories combined (Figure 3.3). Ninety percent of all study participants that visited the hospital were admitted to the ER at least once.

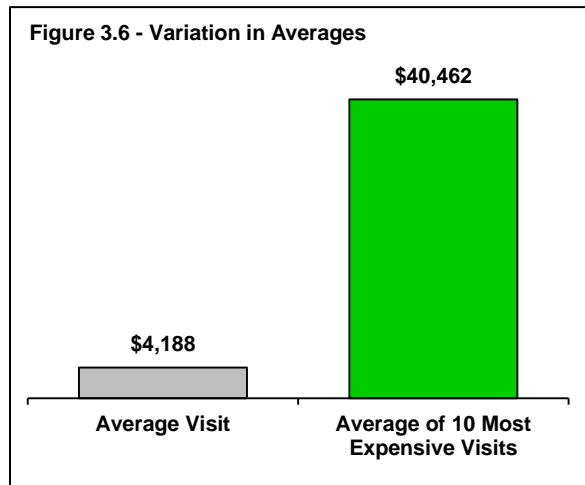
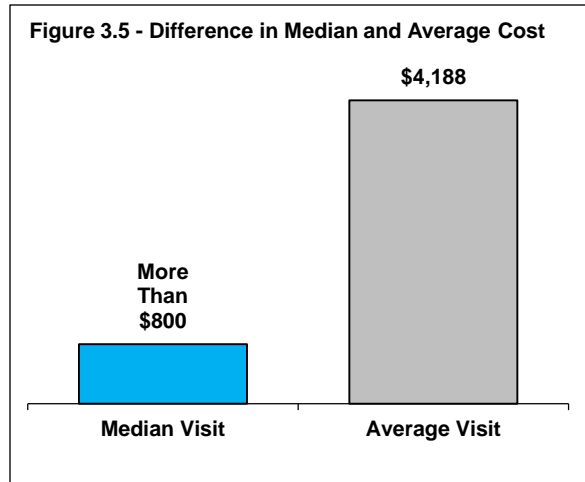
While the ER was the most used hospital service, inpatient was used the least. However, inpatient costs were the highest of all hospital services by far: 3.75 times the cost of ER and outpatient services combined (Figure 3.4). Higher cost services (e.g. surgery, critical care) and multiple day stays are factors contributing to higher inpatient expenses. The median stay for study participants was four days, and there were a few much longer stays lasting between 10 and 50 days.



The effect of a relatively small number of very expensive visits can be seen in the difference between the median and average visit costs. The median visit was a little over \$800 while the mean was almost \$4,200 (Figure 3.5). The average of the top 10 hospital visits was over \$40,000, almost 10 times the overall average (Figure 3.6). These more expensive visits pulled the average up much higher than the median.

Seven of these 10 most expensive visits were by individual adults, an important factor driving their high overall costs in the study.

See Appendix B – Use and Cost Data Tables for a detailed breakdown of the number of participants, frequency of use, and costs by key participant groups.



EMERGENCY ROOM COSTS

Focusing on just the ER, the theme of proportionately fewer individual adults accounting for more visits and costs continued:

- Percentage of individual adult participants using the ER at least once: 37%
- Percentage of total ER visits that involved individual adults: 53%
- Percentage of total ER costs attributed to individual adults: 68%

Individual adults averaged five ER visits during their respective three year homeless period. Family adults averaged three visits and family children averaged two.

Total ER costs were \$137,220, higher than outpatient but a distant second to inpatient.

INPATIENT COSTS

Proportionately more individual adults used inpatient services:

- Percentage of individual adults using the hospital who were admitted as inpatient: 50%
- Percentage of family members using the hospital who were admitted as inpatient: 27%

Only 17 percent of total hospital visits were inpatient, but these visits accounted for 79 percent (\$692,360) of all hospital costs.

OUTPATIENT COSTS

Outpatient was the 2nd most used of the three types of hospital services, but it accounted for the least amount of costs.

- Percentage of all participant hospital visits that are outpatient: 25%
- Percentage of all participant hospital costs that are outpatient: 6%

There is national research indicating that outpatient services are the least used hospital service by homeless populations. The study also found that the homeless access

outpatient at a much higher rate when they have health insurance.¹ This study cannot draw conclusions about this, but outpatient services for homeless persons might be a good topic for future study.

¹Kushel MB, Vittinghoff E, Haas JS. Factors Associated With the Health Care Utilization of Homeless Persons. JAMA. 2001;285(2):200-206. doi:10.1001/jama.285.2.200.

LAW ENFORCEMENT COSTS

DATA LIMITATIONS

Law Enforcement data for this study comes from two Washington County police departments and the Washington County jail. Some types of data requested returned very few records so NERC collapsed these into two categories: patrol encounters and jail stays. Patrol encounters include any kind of police response (e.g. arrest, vehicle stop). Jail stays report specifically on the length and costs of study participant incarceration.

Complete law enforcement costs are very difficult to measure on a per-person basis. For example, the two police departments' costs

“...were determined by multiplying the average of officer hourly salary plus benefits by the time recorded in the dispatch database for Calls of Service: dispatch time until call closed. This is a gross underestimate of actual costs to the department as it does not include other operational costs of operating the department, which are very difficult to measure. As such, it might be taken as a minimum of the ‘marginal cost of service,’ as it does not include any of the many ‘overhead expenses’ such as officer training, equipment and vehicle purchase/maintenance and operation.”²

Regarding Incarcerations at the Washington County Jail, the housing programs from which study participants were recruited screens applicants based on multiple criteria. One criterion is criminal record, which may have limited the number of

participants accepted into housing programs that served time in the jail.³

OVERALL COSTS

Continuing a theme found in participant cost data for medical services, individual adults account for the majority of activities and costs involving law enforcement. Forty-two percent of the 31 participants who interacted with law enforcement were individual adults. These 13 persons accounted for nearly 75 percent of all study participant activity with law enforcement (Figure 4.1) and 85 percent of the cost (Figure 4.2).

Gender played a role in the amount of Study Participants' involvement with law enforcement. Thirty-two percent of all persons interacting with law enforcement were males, but they were involved in about 70 percent of the encounters. Additionally, these male participants accounted for 75 percent of law enforcement costs.

Law enforcement agencies reported a total of 23 arrests involving study participants. Almost all of those arrested were males.

Law enforcement costs were \$29,021, by far the lowest of the four major categories.

²Bud Bliss, Crime Analyst, Beaverton Police Department

³Annette Evans, Washington County Department of Housing Services

Figure 4.1 - Encounters by Participant Group

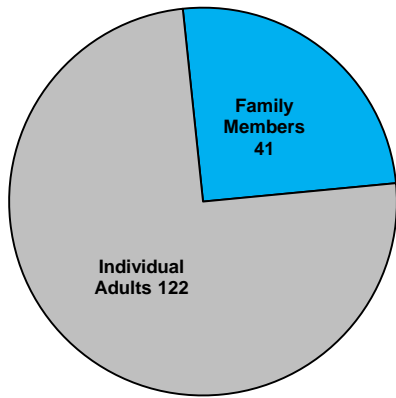
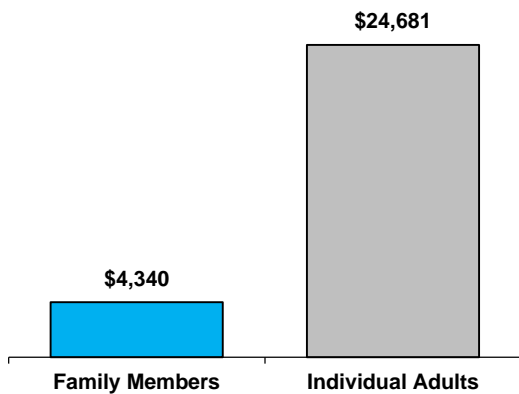


Figure 4.2 - Total Cost by Participant Group



PATROL COSTS

Nearly all of the study participants that interacted with law enforcement were encountered by officers while on patrol. These patrol encounters totaled 153 out of the 163 law enforcement interactions overall, but the cost per patrol encounter was on average less than \$80. Even so individual adults made up the largest number of encounters (113) and cost more than 3.5 times that of family adults.

JAIL COSTS

Only three participants had stays in jail, limiting considerably the scope of analysis. The three participants had 10 jail stays between them with an average cost per stay of \$1,688. The average cost per participant was \$5,625 (Table 4.3).

Table 4.3 – Jail Costs

Count	3
Stays	10
Av Cost per Stay	\$1,688
Av Cost per Person	\$5,625
Total Cost	\$16,876

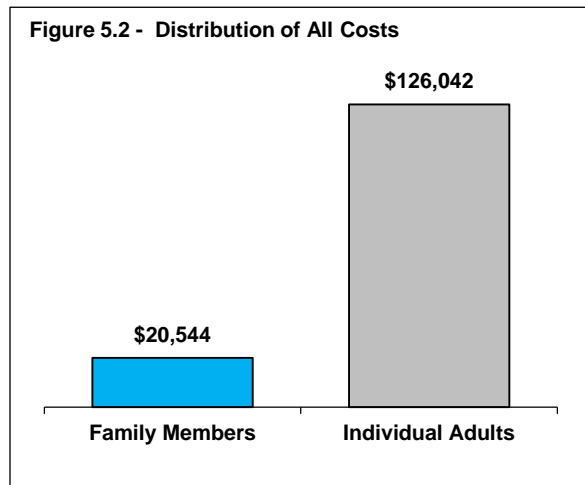
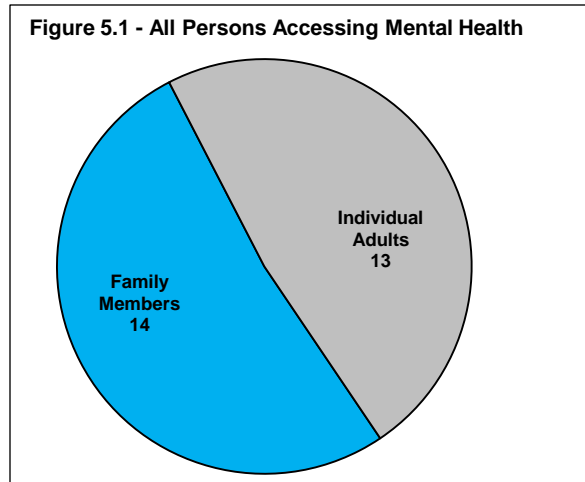
Aside from jail costs, these participants also incurred a total of \$33,194 in mental health and hospital visits combined as well as \$1,351 in emergency shelter stay costs (these costs are included in their respective report sections).

MENTAL HEALTH COSTS

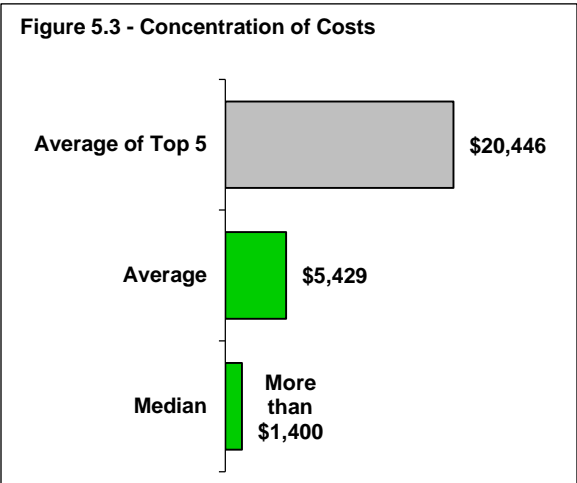
Study participant costs for mental health services totaled \$146,585, third highest of four major categories. Mental Health providers reported costs in three categories:

- Case Management
- Therapy
- Medication Management

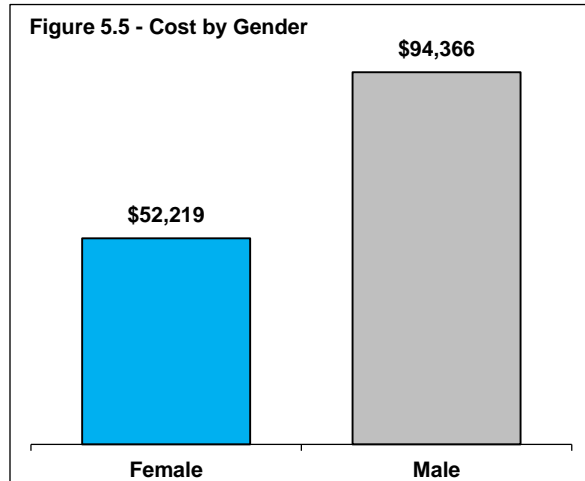
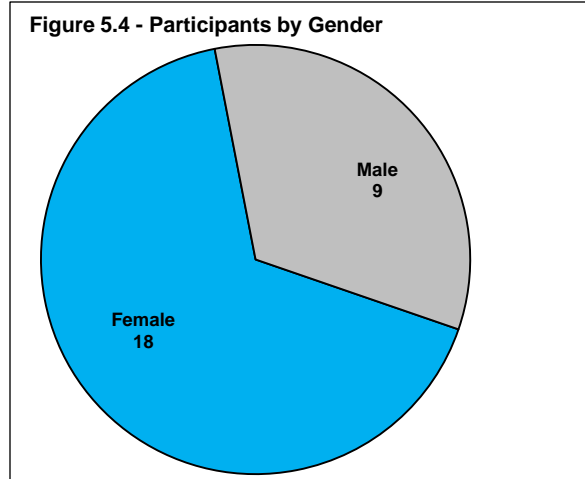
Thirty-two percent of participants accessed services at some time. They were split about half and half between individual adults and family members (Figure 5.1), but individual adults accounted for \$126,042, 86 percent of total mental health costs (Figure 5.2).



In keeping with the tendency of higher costs for individual adults, they accounted for more than six times the total cost of family members for mental health services despite the size of the two groups being about even (Figure 5.2). The top 5 participants averaged over \$20,000 in costs (Figure 5.3) and were all individual adults.



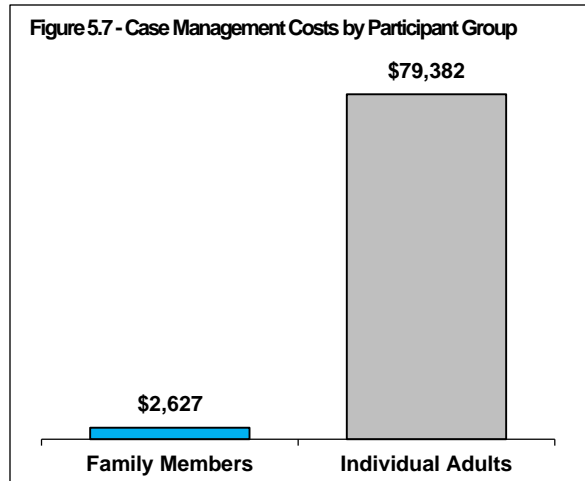
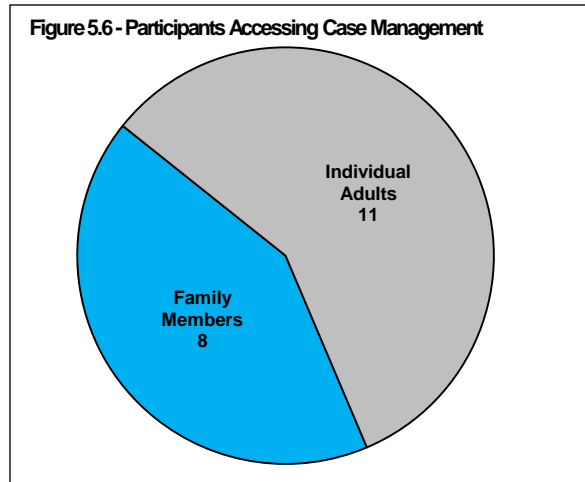
There was a considerable difference in use of mental health services by gender. Of those who accessed services, there were twice as many females as males (Figure 5.4). Males, however, incurred nearly two-thirds of total mental health costs (Figure 5.5).



CASE MANAGEMENT COSTS

Case management includes various supportive services (e.g., skills training, consultations) as well as those services directly related to managing each patient's information and the general logistics of their mental health treatment.

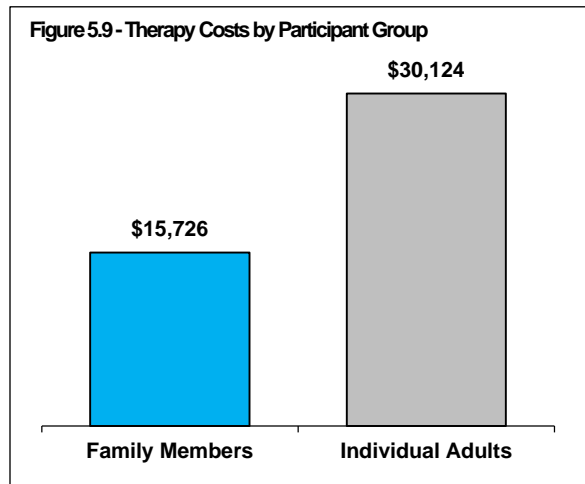
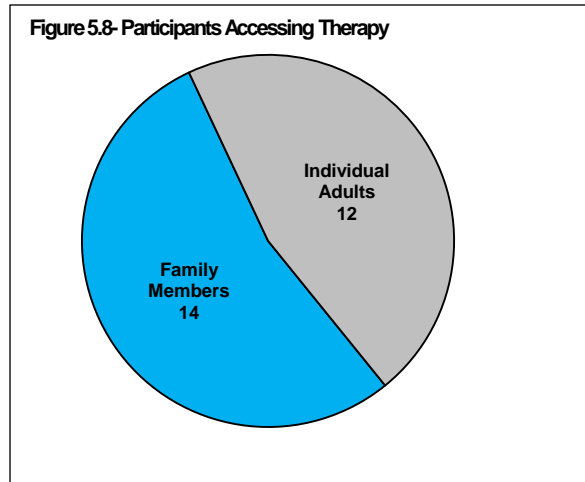
Total case management costs were \$82,009 for study participants, 56 percent of the costs of all mental health services. Of the 27 persons accessing mental health services 19 utilized case management services. Of these 19 persons 11 were individual adults and eight were family members (Figure 5.6). Individual adults accounted for more than 96 percent of case management costs, using a total of \$79,382 in services (Figure 5.7). This translated into an average cost of more than \$7,000 per individual adult during their respective periods of homelessness.



THERAPY COSTS

Therapy services are composed of supportive services (e.g., crisis services, individual assessment) and those directly related to therapy.

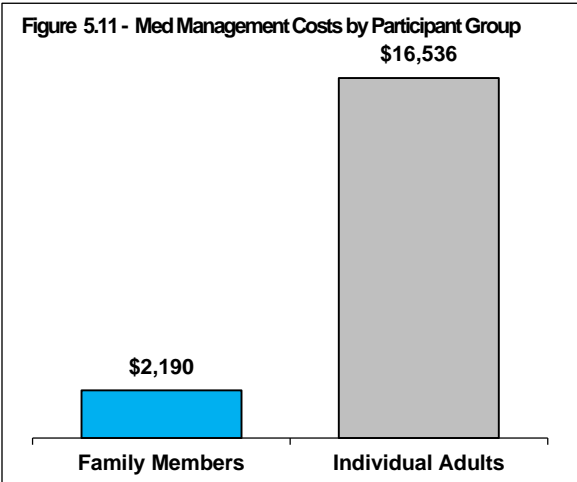
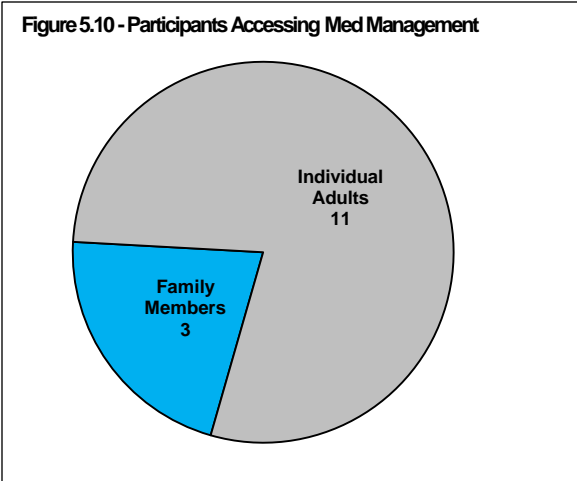
Total therapy costs were \$45,850 for study participants, 31 percent of the costs of all mental health services considered in this cost study. Of the 27 persons accessing mental health services 26 utilized therapy services. Of these 26 persons 12 were individual adults and 14 were family members (Figure 5.8). Individual adults accounted for more than 65 percent of therapy costs, consuming a total of \$30,124 in services (Figure 5.9). This translated into an average cost of more than \$2,500 per individual adult during their respective periods of homelessness.



MEDICATION MANAGEMENT COSTS

Medication management involves services directly related to the prescription and use of medications (e.g., psychiatric evaluation, medication training).

Total medication management costs were \$18,726 for study participants, 13 percent of the costs of all mental health services considered in this cost study. Of the 27 persons accessing mental health services 14 utilized medication management services. Of these 14 persons 11 were individual adults and three were family members (Figure 5.10). Individual adults accounted for more than 88 percent of the medication management costs, consuming a total of \$16,536 in services (Figure 5.11). This translated into an average cost of more than \$1,500 per individual adult during their respective periods of homelessness.



EMERGENCY SHELTER COSTS

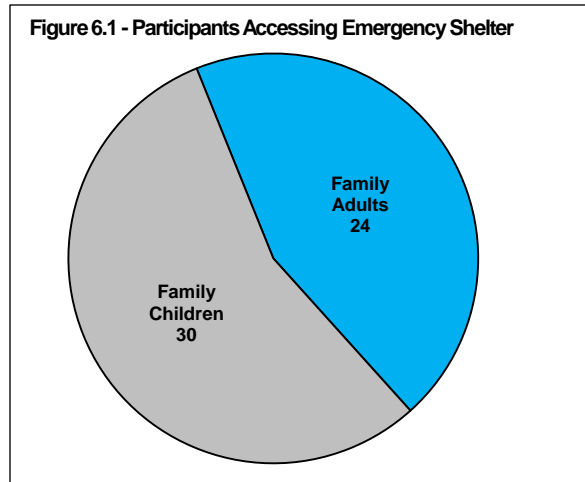
Homeless shelter costs for study participants totaled \$194,544 making it the second largest category in terms of cost after medical services. All costs were for families; no data were available for individual adults.

There were 54 participants that accessed emergency shelter services during their respective periods of homelessness and all of these participants were members of families. Of the 54 participants accessing emergency shelter 24 were family adults and 30 were family children (Figure 6.1). There were a total of 19 families represented and these families stayed an average of 212 bed-nights and incurred an average cost of \$10,239 per stay.

All of the participants using emergency shelter stayed at least 13 nights per shelter stay and none stayed longer than 77 nights. The largest number of stay periods reported was three.

On average, the 54 participants stayed 36 bed nights which cost \$1,737 per stay period.

Of the 4,032 bed nights roughly 63 percent (2,559 bed nights) were incurred by female study participants and these female participants accounted for a commensurate 63 percent of costs (\$123,472).



SUMMARY

COSTS OVERALL

Individual adults (adults not attached to families) were by far the most expensive participants. Although only 24 percent of all participants were individual adults, they accounted for 65 percent of the total costs examined by the study. They also tended to be much older than adults attached to families.

Although family members on average were not as costly as individual adults, there were some with high expenses: Three of the top 10 highest cost participants were from families.

Children had much lower costs than adults, but 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 (See Appendix D for details).

Gender played a role in some areas of service usage and costs (see below). Overall, average costs were slightly higher for males, driven mostly by higher average medical costs.

MEDICAL COSTS

Of the over \$1.2 million total costs examined, medical costs made up the largest portion: 7 out of every 10 dollars.

The emergency room was the most used medical service but participants admitted as inpatients were the most costly:

- The emergency room had more visits than all other hospital services combined, while
- Inpatient admissions – the least used service – accounted for 3.75 times the cost of all other hospital services combined.

Individual adults were more prone to use inpatient services. One half of individual adults using the hospital were admitted as inpatients, compared to a little more than one quarter of family members.

LAW ENFORCEMENT

Among the four major cost categories, law enforcement accounted for the least cost for study participants, but many law enforcement services were difficult to measure and likely understated.

Forty-two percent of the 31 participants who interacted with law enforcement were individual adults. These 13 persons accounted for nearly 75 percent of participant activity with law enforcement and 85 percent of the costs.

Gender played a role in the amount of study participants' involvement with law enforcement. Thirty-two percent of all persons interacting with law enforcement were males, but they were involved in about 70 percent of the encounters. Additionally, these male participants accounted for 75 percent of law enforcement costs.

Law enforcement agencies reported a total of 23 arrests involving study participants. Almost all of those arrested were males.

MENTAL HEALTH

Thirty-two percent of participants accessed services at some time. They were split about half and half between individual adults and family members, but individual adults accounted for, 86 percent of total mental health costs.

More females than males used mental health services. The males, however, were responsible for nearly two-thirds of total mental health costs.

EMERGENCY SHELTER

Emergency shelter accounted for 16 percent of all costs for participants, the second largest cost area after medical services.

LIMITATIONS OF DATA

Study participants were not a random sample of all homeless persons in Washington County. They were drawn from two programs within Washington County's Homelessness Management Information System and may be biased toward a population that uses those programs. The costs examined in the study may not be representative of all homeless persons in Washington County.

Cost data for the study came from 10 organizations selected by Vision Action Network as a cross-section of services highly used by homeless persons in the County. The organizations cover 4 major areas (medical services, law enforcement, mental health and emergency shelter). While these four major areas give a good sense of community spending for the homeless persons involved, they likely do not provide a comprehensive tally of all costs that study participants may have incurred in the County (e.g. cost data were not collected for non-hospital medical clinics, ambulance services, or K-12 school programs). Therefore, the costs may not be representative of all homeless persons in Washington County.

For a discussion of specific limitations of the study's law enforcement data, see page 19.

FURTHER RESEARCH

This study's purpose is to provide community leaders with an idea of how much money is spent on these emergency services for the homeless in Washington County. Hopefully, it is a step toward developing cost-effective policies geared toward ending homelessness rather than simply managing it. A further step would be to compare the costs found in this study with costs for formerly homeless persons living in supported housing in Washington County. Evidence from studies in other locales suggests these savings are possible, along with other important benefits stable housing offers.

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:

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Michelle Wilcox, Providence St Vincent Medical Center
Jeff Williams, Beaverton Police Department

APPENDICES

APPENDIX A - METHODOLOGY

RECRUITMENT

NERC expected to recruit at least 20 individual adult participants and 20 families for the study. Ultimately 20 individual adults and 21 families consisting of 27 family adults and 37 family children were recruited resulting in a total of 84 study participants. 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 HUD⁴) 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.

NERC partnered with Washington County Department of Housing Services to use the Homeless Management Information System (HMIS) to identify possible participants for the study. HMIS is used to record information about the services the homeless and near homeless persons use and about the institutions that provide them. It provides longitudinal person level data for anyone who accesses a service as well as a standardized assessment of a person's 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 individuals who have entered the programs of Shelter Plus Care and Community Action Inc. Community Action staff used this information, together with their familiarity of homeless persons within their program 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.

⁴HUD defines a chronically homeless person as someone who has a disabling condition and has been continuously homeless for a year or more, living in places not meant for human habitation, or has had at least four episodes of homelessness in the past three years. A "disabling condition" is defined as "a diagnosable substance abuse disorder, a serious mental illness, developmental disability, or chronic physical illness or disability, including the co-occurrence of two or more of these conditions." Furthermore, "a disabling condition limits an individual's ability to work or perform one or more activities of daily living." This definition is taken from the following document:

"Defining Chronic Homelessness: A Technical Guide for HUD Programs", September 2007. The document can be accessed at

http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/homeless/library

DATA COLLECTION

NERC sent requests to 10 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.

The HMIS data administrator sent via password protected email a list to each of the 10 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 or courier 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 an ID number. 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 participant's names and only referenced participants by ID number.

As authorized HMIS users, the Data Administrator and Community Action Inc. 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 – USE AND COST DATA TABLES

MEDICAL SERVICES

Table 3.1 – All Medical Service Costs (2012 Inflation Adjusted Dollars)

	Count of Participants	Visits	Average Cost per Visit	Average Cost per Person	Total Cost
All Persons	42	209	\$4,188	\$20,841	\$875,323
Individual Adults	16	126	\$5,178	\$40,775	\$652,395
Families	13	83	\$2,686	\$17,148	\$222,928
Family Adults	11	45	\$4,183	\$17,110	\$188,212
Family Children	15	38	\$914	\$2,314	\$34,716

Source: Providence St. Vincent Medical Center, Tuality Healthcare and Legacy Meridian Park Hospital

Table 3.2 – Emergency Room Costs (2012 Inflation Adjusted Dollars)

	Count of Participants	Visits	Average Cost per Visit	Average Cost per Person	Total Cost
All Persons	38	120	\$1,143	\$3,611	\$137,220
Individual Adults	14	64	\$1,449	\$6,622	\$92,712
Families	12	56	\$795	\$3,709	\$44,508
Family Adults	10	25	\$835	\$2,088	\$20,885
Family Children	14	31	\$762	\$1,687	\$23,623

Source: Providence St. Vincent Medical Center, Tuality Healthcare and Legacy Meridian Park Hospital

Table 3.3 – Inpatient Costs (2012 Inflation Adjusted Dollars)

	Count of Participants	Visits	Average Cost per Visit	Average Cost per Person	Total Cost
All Persons	15	36	\$19,232	\$46,157	\$692,360
Individual Adults	8	25	\$20,609	\$64,402	\$515,215
Families	4	11	\$16,104	\$44,286	\$177,145
Family Adults	4	8	\$20,777	\$41,556	\$166,222
Family Children	3	3	\$3,641	\$3,641	\$10,922

Source: Providence St. Vincent Medical Center, Tuality Healthcare and Legacy Meridian Park Hospital

Table 3.4 – Outpatient Costs (2012 Inflation Adjusted Dollars)

	Count of Participants	Visits	Average Cost per Visit	Average Cost per Person	Total Cost
All Persons	12	53	\$863	\$3,812	\$45,743
Individual Adults	9	37	\$1,202	\$4,941	\$44,467
Family Members	3	16	\$80	\$425	\$1,276

Note: Of the 3 participants associated with a family unit 2 were children accounting for less than \$200 of cost.

Source: Providence St. Vincent Medical Center, Tuality Healthcare and Legacy Meridian Park Hospital

LAW ENFORCEMENT

Table 4.1 – Police-Jail (\$55 per Officer Hour; \$87.38 per Jail Day)

	Count of Participants	Encounters	Average Cost per Encounter	Average Cost per Person	Total Cost
All Persons	31	163	\$178	\$936	\$29,021
<i>Individual Adults</i>	13	122	\$202	\$1,899	\$24,681
Families	13	41	\$106	\$334	\$4,340
<i>Family Adults</i>	18	41	\$337	\$624	\$4,340

Note: Three of the 18 family adults are under the age of 18. But due to the minimal amount of cost associated with the 5 encounters attributable to these minor participants and the fact that they may have been with their adult parent figures at the time of the encounter we included them in the family adults category.

Source: Beaverton Police Department, Hillsboro Police Department and Washington County Sheriff's Office

Table 4.2 – Patrol Costs (\$55 per Officer Hour)

	Count of Participants	Encounters	Average Cost per Encounter	Average Cost per Person	Total Cost
All Persons	30	153	\$79	\$405	\$12,145
<i>Individual Adults</i>	12	113	\$72	\$795	\$9,545
Families	13	40	\$65	\$200	\$2,600
<i>Family Adults</i>	18	40	\$65	\$144	\$2,600

Source: Beaverton Police Department, Hillsboro Police Department and Washington County Sheriff's Department

Table 4.3 – Jail Costs (\$87.38 per Jail Day)

	Count of Participants	Stays	Average Cost per Stay	Average Cost per Person	Total Cost
All Persons	3	10	\$1,688	\$5,625	\$16,876

Source: Washington County Sheriff's Office

MENTAL HEALTH

Table 5.1 – All Mental Health Costs

	Count of Participants	Average Cost per Person	Total Cost
All Persons	27	\$5,429	\$146,585
<i>Individual Adults</i>	13	\$9,696	\$126,042
Families	11	\$1,868	\$20,544
<i>Family Adults</i>	10	\$1,523	\$15,228
<i>Family Children</i>	4	\$1,329	\$5,315

Source: Sequoia Mental Health Services, Luke-Dorf Inc., and LifeWorks Northwest

Table 5.2 – Case Management Costs

	Count of Participants	Average Cost per Person	Total Cost
All Persons	19	\$4,316	\$82,009
<i>Individual Adults</i>	11	\$7,217	\$79,382
Families	7	\$375	\$2,627
<i>Family Adults</i>	6	\$422	\$2,534
<i>Family Children</i>	2	\$46	\$93

Source: Sequoia Mental Health Services, Luke-Dorf Inc., and LifeWorks Northwest

Table 5.3 – Therapy Costs

	Count of Participants	Average Cost per Person	Total Cost
All Persons	26	\$1,763	\$45,850
<i>Individual Adults</i>	12	\$2,510	\$30,124
Families	11	\$1,430	\$15,726
<i>Family Adults</i>	10	\$1,050	\$10,504
<i>Family Children</i>	4	\$1,306	\$5,222

Source: Sequoia Mental Health Services, Luke-Dorf Inc., and LifeWorks Northwest

Table 5.4 – Mental Health Medication Management Service Costs

	Count of Participants	Average Cost per Person	Total Cost
All Persons	14	\$1,338	\$18,726
<i>Individual Adults</i>	11	\$1,503	\$16,536
Families	3	\$730	\$2,190
<i>Family Adults</i>	3	\$730	\$2,190

Source: Sequoia Mental Health Services, Luke-Dorf Inc., and LifeWorks Northwest

EMERGENCY SHELTER

Table 6.1 – All Shelter Costs (\$48.25 per Bed-night)

	Count of Participants	Average Length of Stay (Bed-nights)	Total Bed Nights	Average Cost per Stay	Average Cost per Person	Total Cost
All Persons	54	36	4,032	\$1,737	\$3,603	\$194,544
Families	19	36	4,032	\$1,737	\$3,603	\$194,544
Family Adults	24	49	1,764	\$2,364	\$3,546	\$85,113
Family Children	30	35	2,268	\$1,689	\$3,648	\$109,431

Source: Community Action Inc.

APPENDIX C – 2012 ESTIMATE OF HOMELESS POPULATION IN WASHINGTON COUNTY, OR

For the year extending from October 2011 to October 2012 there were an estimated 1,416 homeless persons in Washington County, OR. This estimate is taken from the 2012 Annual Homeless Assessment Report (AHAR) for Washington County, OR. The 2012 AHAR does not purport to capture all those persons housed by “victim service providers” (e.g., rape crisis centers, battered women’s shelters) or those housed in some Washington County veteran services programs. Additionally the report does not capture those persons living in places not meant for human habitation, such as the outdoors, hotels, doubled up living situations, etc. Because of these data gaps it is most likely that this estimate of homelessness understates the actually rate of homelessness in Washington County.

APPENDIX D – POSSIBLE LONG-TERM COSTS FOR CHILDREN

A group of possible costs that have not yet been quantified are future costs homeless children might be more likely to incur. Although there have been no studies specifically examining the relationship between homeless children and health outcomes, there is growing proof that generally, adverse childhood experiences can lead to poor health issues in adulthood. It is a reasonable assumption that homeless children are likely to endure frequent adverse experiences, and thus may be vulnerable to the future negative consequences mentioned in the research.

The Adverse Childhood Experiences (ACE) Study, a collaborative effort of the Centers for Disease Control and Prevention and Kaiser Permanente, provides evidence, as discovered in numerous studies, of a greater likelihood of issues ranging from worker absenteeism to chronic pulmonary disease among persons facing adverse experiences as a child.

If homeless children are prone to issues identified by ACE research they may be at risk of accruing substantial health and social costs over their lifetimes. The ACE findings also provide evidence that early intervention and prevention may yield a high rate of return toward ameliorating those costs.

For more information, see:

The Adverse Childhood Experiences Study (ACE)

<http://www.cdc.gov/ace/>

<http://acestudy.org/>

APPENDIX E – AVERAGE ANNUAL COST PER PARTICIPANT

Costs were reported for a three year period for each participant. Table 1 recalculates these three year costs into average annual costs for select groups of participants. “All Participants” average about \$5,000 per year, while “Individual Adults” are much higher at \$13,385. The “Top 10” and “Top 5” groups show the effect of high dollar users. For example, the “Top 5” participants are almost 10 times as costly as the average participant overall.

Table 1 - Average Annual Cost per Participant	
All Participants	\$4,942
Individual Adults	\$13,385
Top Ten Most Costly Participants	\$28,958
Top Five Most Costly Participants	\$45,338



Northwest Economic Research Center
Post Office Box 751
Portland, Oregon 97207

College of Urban & Public Affairs
Portland State University, Urban Center
506 SW Mill Street
Portland, Oregon 97201

www.pdx.edu/nerc