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Chemical Dependency Treatment Reduces Emergency Room Costs And Visits

WASHINGTON STATE SUPPLEMENTAL SECURITY INCOME RECIPIENTS

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Does Chemical Dependency Treatment Really Make a Difference?

In a previous study we found that most aged and disabled Medicaid clients who are frequent visitors to the hospital emergency room (ER) have an alcohol or other drug use disorder, a mental illness, or both.[1] However, fewer than one in six of the most frequent ER visitors in need of chemical dependency (CD) treatment actually received publicly funded CD treatment in Fiscal Year 2002.

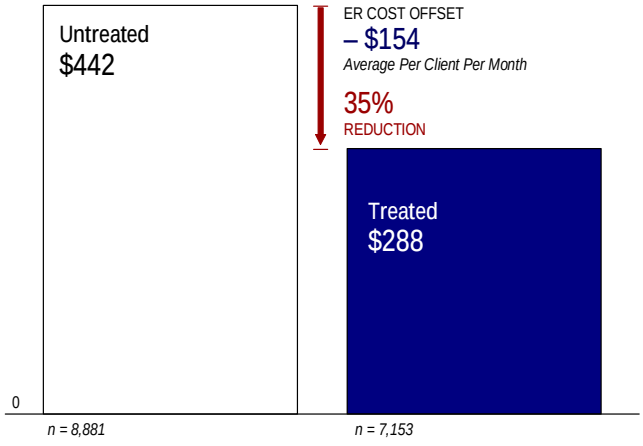
In this study we examine whether CD treatment reduces ER costs and ER visits for Supplemental Security Income (SSI) clients, compared to SSI clients who need CD treatment but do not receive it. **We find that there is a significant reduction in ER costs when CD treatment is provided to SSI clients who need it:**

- The average monthly ER cost is $442 for SSI clients who need CD treatment but do not receive it. These costs are reduced to $288 per month for SSI clients who receive CD treatment – **an ER cost offset of $154 per client per month**.[2] *(See chart below)*
- This represents a **35 percent reduction** in average monthly ER-related medical costs for SSI clients who receive CD treatment, compared to SSI clients who need but do not receive CD treatment.

In the following pages we provide more information about the effect of CD treatment on ER costs, frequency of ER visits, and the extent to which SSI clients "wander" from ER to ER to receive care.

Monthly ER Costs Are 35 Percent Lower For SSI Clients Receiving CD Treatment

ER costs per client per month



[1] Mancuso, David, Ph.D., Nordlund, Daniel J., Ph.D., Felver, Barbara E.M. (2004). *Frequent Emergency Room Visits Signal Substance Abuse and Mental Illness*. Washington State DSHS, Research and Data Analysis Division, Olympia, WA. Updated June 2004.

[2] Cost offsets can be interpreted as costs avoided for clients already receiving CD treatment, as well as potential savings that might be realized by treating those who now go untreated. Cost offsets were estimated using regression models in which the effects of covariates (age, gender, race/ethnicity, baseline ER expenditures) were controlled.

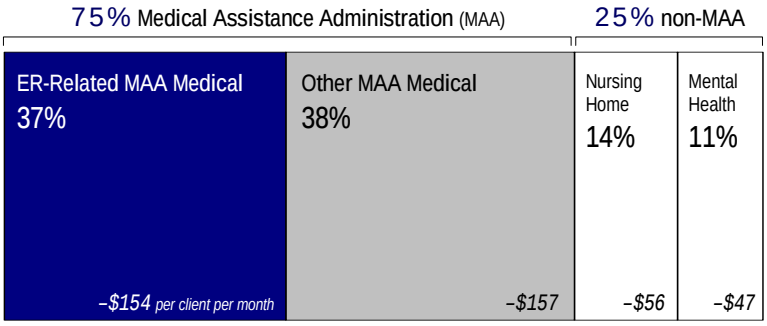
Reduced Emergency Room Costs Are Almost Half Of The Overall Medicaid Cost Offset From Chemical Dependency Treatment

In a previous study we found the overall "gross" Medicaid cost offset from providing CD treatment to SSI clients to be $414 per client per month. After accounting for the cost of CD treatment, the "net" cost offset is $252 per client per month.[3] **Reduced ER costs are a significant component of the overall Medicaid cost offset:**

- The $154 per client per month ER cost offset accounts for more than one third – **37 percent** – of the $414 per client per month overall "gross" Medicaid cost offset from providing CD treatment to SSI clients.
- **Reduced ER costs alone almost completely offset the $162 per client per month average CD treatment cost.**

Reduced ER Costs Are 37 Percent Of The Overall Cost Offset From CD Treatment

Per client per month



GROSS OFFSET = $414 • CD Treatment Cost = $162 • NET OFFSET = $252

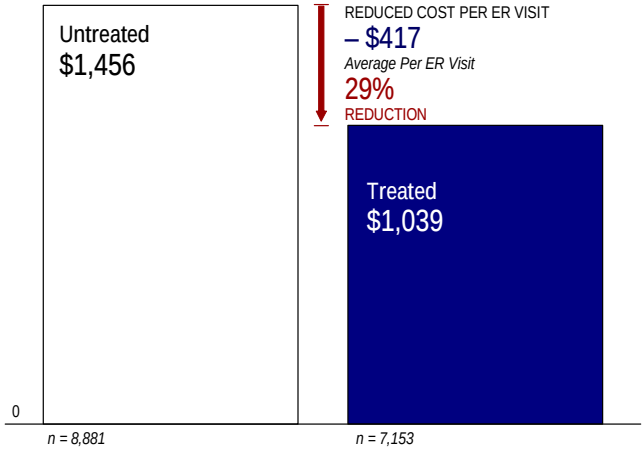
Chemical Dependency Treatment Reduces The Average Cost Per Emergency Room Visit

Providing CD treatment to SSI clients reduces per client per month ER costs in part by **reducing the average cost of an ER visit**:

- The average cost per ER visit is $1,456 for SSI clients who need but do not receive CD treatment. The average cost per ER visit is reduced to $1,039 for those who receive treatment – **a reduction of $417 per visit.**

The Average Cost Of An ER Visit Declines By 29 Percent

Average cost per ER visit



[3] Estee, S. and Nordlund, D. (2003). *Washington State Supplemental Security Income (SSI) Cost Offset Pilot Project: 2002 Progress Report*. Washington State DSHS, Research and Data Analysis Division, Olympia, WA. February 2003.

Chemical Dependency Treatment Reduces Subsequent Emergency Room Visits

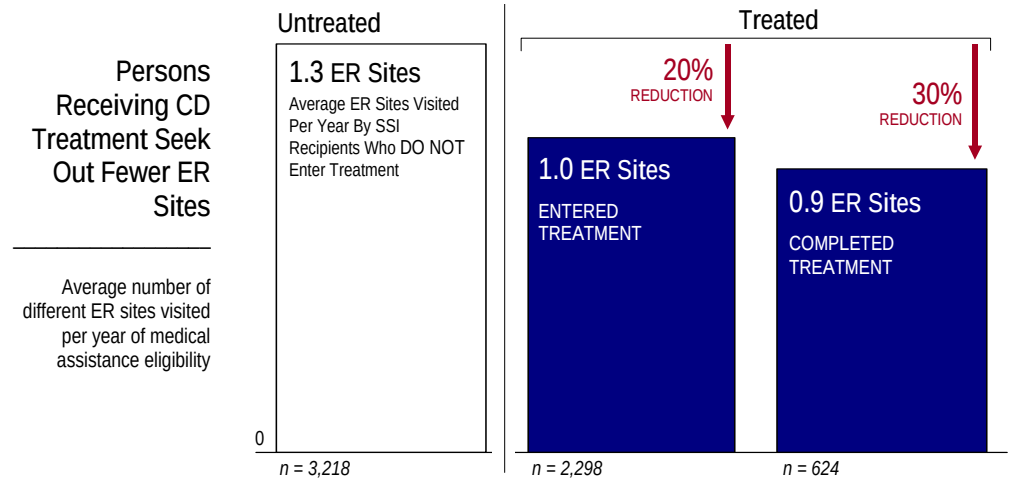
CD treatment also reduces per client per month ER costs by **reducing the number of ER visits** made by SSI clients. Here we distinguish between clients who enter but do not complete CD treatment and those who complete CD treatment, to determine whether completing treatment has additional beneficial effects.

- The number of ER visits per year of medical assistance eligibility is reduced by **19 percent** for SSI clients who enter but do not complete CD treatment.
- ER visits are reduced by about the same degree – by **20 percent** per year – for SSI clients who complete CD treatment.

Chemical Dependency Treatment Reduces "Wandering" to Multiple Emergency Room Providers

Visiting multiple ERs – or "wandering" – may be an indication of drug-seeking behavior. We examined the effect of CD treatment on "wandering" by assessing the impact of CD treatment on the number of different ER providers visited.[4]

- The number of different ERs visited is reduced by **20 percent** for clients who enter CD treatment but do not complete treatment.
- The number of different ERs visited is reduced by **30 percent** for clients who enter and complete CD treatment.



[4] This analysis is restricted to SSI clients who had (1) at least one ER visit prior to the point at which their need for CD treatment was identified in administrative records, and (2) at least 12 months of medical assistance eligibility in the follow-up period.

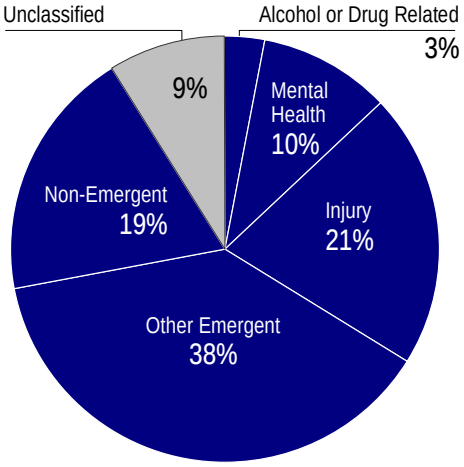
Why SSI Clients Needing Chemical Dependency Treatment Visit Emergency Rooms

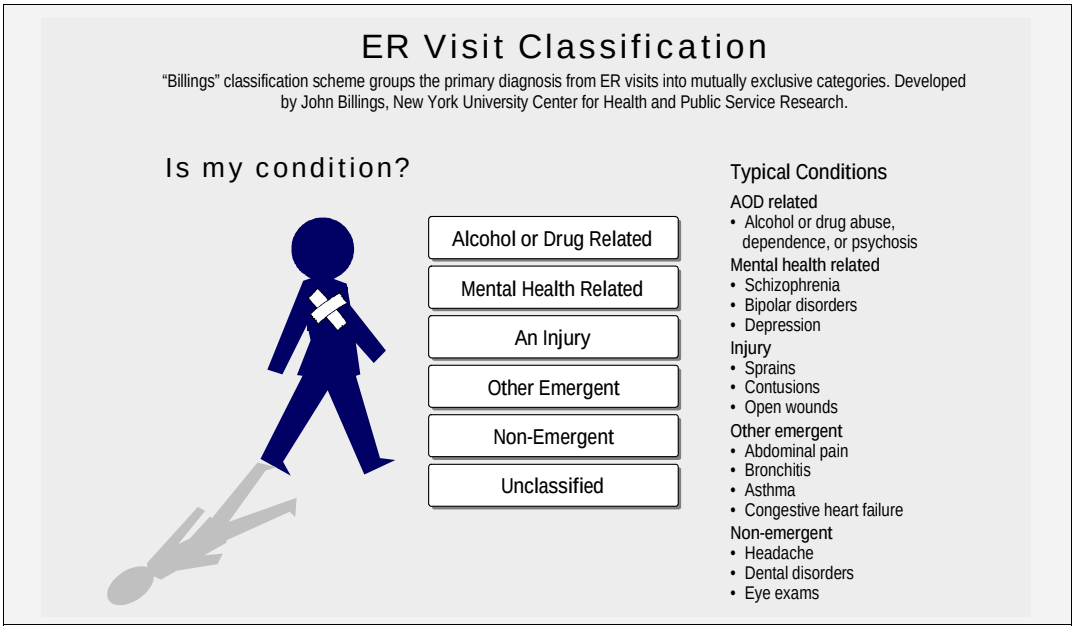
Over the entire study period, only **3 percent** of ER visits by clients needing CD treatment had a primary diagnosis that was alcohol or other drug (AOD) related.[5] In contrast:

- **10 percent** of ER visits had a primary diagnosis of mental illness, such as schizophrenia, a bipolar disorder, or depression.[6]
- **21 percent** of visits were to treat injuries. The most common injuries were sprains, contusions, and open wounds.
- **38 percent** of visits were to treat other "emergent" conditions, such as abdominal pain, bronchitis, asthma, or congestive heart failure.[7]
- **19 percent** of visits were to treat non-emergent conditions. Headache was by far the most common non-emergent condition.

Distribution Of ER Visits By Primary Diagnosis

Among SSI Clients Needing CD Treatment





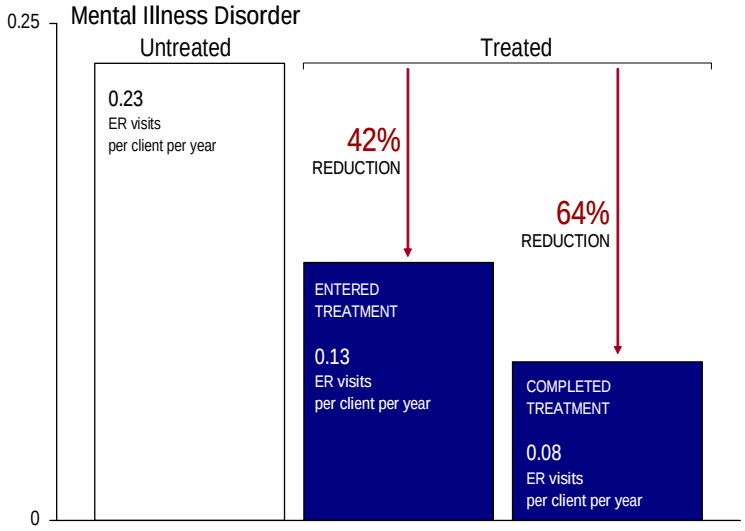
[5] An additional 5 percent of ER visits had a secondary diagnosis indicating the visit was alcohol or drug related.
[6] An additional 5 percent of ER visits had a secondary diagnosis of mental illness.
[7] Emergent conditions are those determined to require medical attention within 12 hours, based on the patient's initial complaint, vital signs, medical history, and age. For a more detailed discussion, see Billings, J., Parikh, N., Mijanovich, T. (2000). *Emergency Department Use in New York: A Substitute for Primary Care?* The Commonwealth Fund, New York, NY. November 2000.

Chemical Dependency Treatment Reduces Subsequent Emergency Room Visits With A Primary Diagnosis Of Mental Illness

We next examine the effect of CD treatment on the frequency of specific types of ER visits.[8] Subsequent ER visits with a primary diagnosis of mental illness are reduced by **42 percent** for clients who enter but do not complete CD treatment, and by **64 percent** for clients who complete CD treatment, when compared to untreated clients.

CD Treatment Reduces ER Visits With Primary Diagnosis Of Mental Illness

ER visits with a primary diagnosis of mental illness, per client per year of medical assistance eligibility

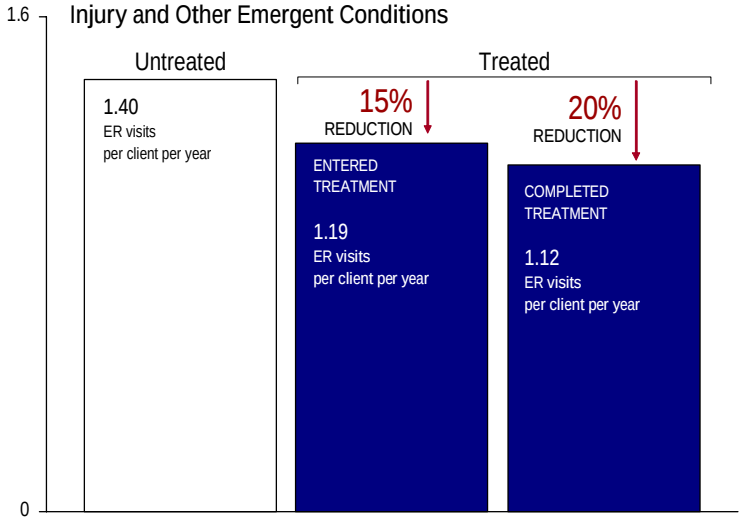


Chemical Dependency Treatment Reduces Subsequent Emergency Room Visits To Treat Injuries Or Other Emergent Conditions

Subsequent ER visits with a primary diagnosis of injury (sprains, contusions) or another emergent condition (abdominal pain, bronchitis, asthma) are reduced by **15 percent** for clients who enter but do not complete CD treatment, and by **20 percent** for clients who complete CD treatment, when compared to untreated clients.

CD Treatment Reduces ER Visits To Treat Injuries And Other Emergent Conditions

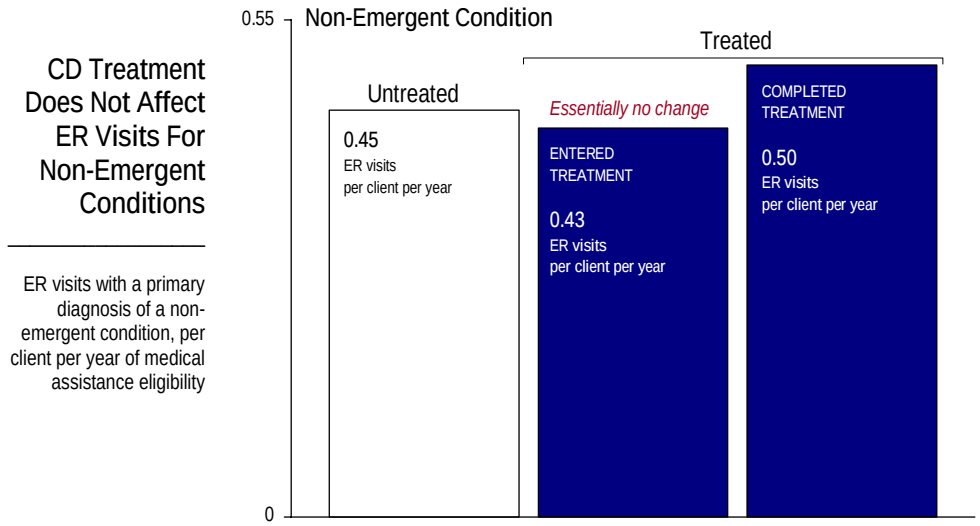
ER visits with a primary diagnosis of injury or other emergent condition, per client per year of medical assistance eligibility



[8] Our analysis framework does not lend itself to analyzing pre/post changes in the frequency of AOD-related ER visits. This is because AOD-related ER visits by definition cannot occur before the "index date" when a client's need for CD treatment is first identified. Consequently, we do not report on the effect of CD treatment in reducing AOD-related ER visits. As previously noted, ER visits with an AOD primary diagnosis are rare, even among SSI clients who need CD treatment.

Chemical Dependency Treatment Does Not Affect Subsequent Emergency Room Visits For Non-Emergent Conditions

Treated and untreated clients average about half an ER visit per year to treat non-emergent conditions such as headaches or dental disorders. Use of the ER to treat non-emergent conditions may reflect problems with access to primary medical care for SSI clients. If this is the case, it is not surprising that CD treatment does not affect ER use for non-emergent conditions.



Summary of Key Findings

This study has shown that CD treatment has significant beneficial effects in reducing ER costs, the frequency of ER visits, and the extent to which SSI clients "wander" from ER to ER to receive care:

- CD treatment reduces ER costs for SSI clients by **$154 per client per month**. Reduced ER costs alone almost completely offset the **$162 per client per month** average CD treatment cost.
- CD treatment reduces the number of ER visits made by SSI clients by about **20 percent**.
- CD treatment reduces the number of different ERs visited by **20 percent** for clients who enter CD treatment but do not complete treatment, and by **30 percent** for clients who enter and complete CD treatment.
- Subsequent ER visits with a primary diagnosis of mental illness are reduced by **42 percent** for clients who enter but do not complete CD treatment, and by **64 percent** for clients who complete CD treatment.
- Subsequent ER visits with primary diagnoses of injury or other emergent conditions are reduced by **15 percent** for clients who enter but do not complete CD treatment, and by **20 percent** for clients who complete CD treatment.

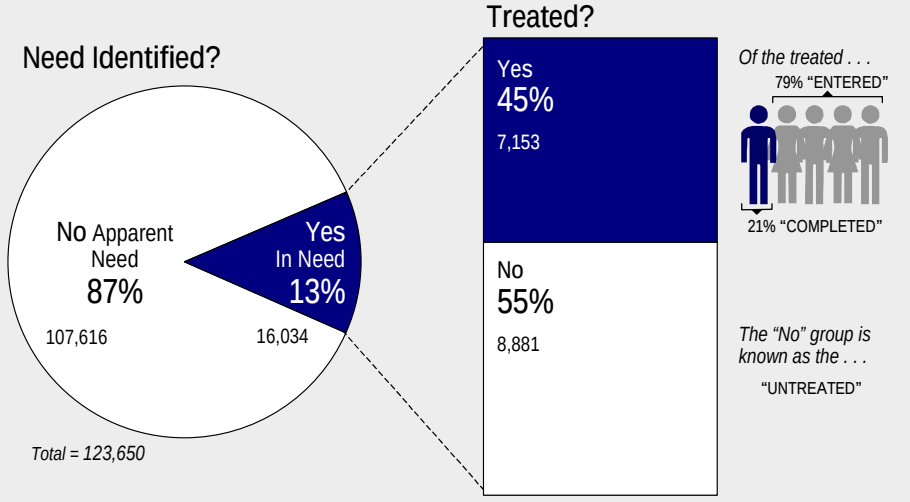
About the Study Population

This study examined 123,995 individuals who received SSI between July 1997 and December 2001. The SSI program provides assistance to persons with little or no income who are unable to work due primarily to physical or mental disability. SSI clients were first grouped into two broad categories:

- Those with apparent need for CD treatment based on information in administrative records, and
- Those without an indication of need for CD treatment.

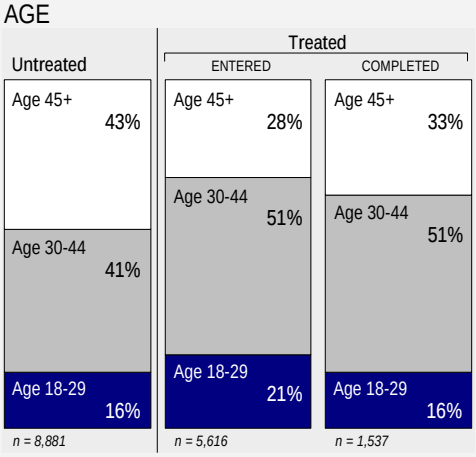
Of all SSI recipients, 13 percent were identified as needing treatment based on information in administrative records, including Medicaid-paid claims, Washington State Patrol arrest records, and Division of Alcohol and Substance Abuse service records.

- Among those identified as needing substance abuse treatment, we further distinguish between those who actually received treatment (45 percent of those in need), and those who needed treatment, but did not get it (55 percent of those in need). Finally, among those entering treatment we distinguish between those completing treatment (21 percent of those entering treatment) and those who enter but do not complete treatment (79 percent of those entering treatment).[9]

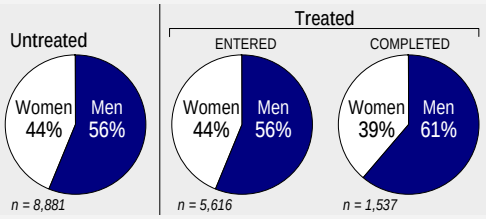


Demographics

AGE



GENDER



RACE/ETHNICITY

	Untreated	Treated	
		ENTERED	COMPLETED
White	75%	73%	73%
African American	11%	12%	13%
Asian	1%	1%	1%
Native American	6%	7%	6%
Hispanic	3%	3%	4%
Other	4%	4%	3%

[9] A conservative definition of treatment completion was used in this study. If clients participated in a continuum of care, successive admissions and discharges were linked to construct treatment "episodes." For example, if a client participated in residential treatment and subsequently participated in outpatient treatment, the two admissions were linked to form a single treatment episode as long as the client entered outpatient treatment within 30 days of being discharged from residential care. For this study, a client needed to complete the last discharge in the episode in order for the episode to be considered as complete.

TECHNICAL NOTES

This paper examines "cost offsets" – costs avoided for clients already receiving treatment or potential savings that might be realized by treating the untreated – of ER-related medical costs among clients receiving CD treatment. ER-related medical costs include the cost of all Medicaid-paid medical claims with a first date of service falling within the first and last dates of service of the institutional ER claim. The paper also examines the effects of CD treatment on the number and type of ER visits and the number of different ER providers visited.

The study population included clients who received SSI benefits at some time between July 1997 and December 2001 and who were identified as having a substance abuse problem based on administrative records. The SSI program provides cash and medical assistance to persons with little or no income who are unable to work due primarily to disability. Results of the original study[10] examining the effect of CD treatment on overall Medicaid medical, mental health, and nursing home costs, along with separate analyses of the effects of treatment for stimulant drug abuse[11] and those who participated in methadone treatment,[12] are also available from the authors.

The need for CD treatment for these clients was identified using information from medical diagnoses or procedures; detoxification, assessment, or chemical dependency (CD) treatment encounters; and arrests for drug or alcohol-related offenses. Clients were included in the analysis only if they had at least one month of medical assistance eligibility both before and after the "index event" indicating a need for CD treatment. The "wandering" analysis was further restricted to clients who had (1) at least one ER visit prior to the point at which their need for CD treatment was identified in administrative records, and (2) at least 12 months of medical assistance eligibility in the follow-up period.

Average monthly ER costs incurred following the identification of need for CD treatment were compared between SSI clients receiving CD treatment and SSI clients needing CD treatment who remained untreated. The effect of CD treatment on ER costs in the follow-up period were estimated using a regression model to control for the effects of factors such as age, gender, race/ethnicity, and the baseline propensity to incur ER costs. The effect of CD treatment on ER costs is presented in comparison to the average monthly ER costs for untreated clients in the follow-up period. Differences-in-differences regression models were used to estimate the impact of CD treatment on the number of ER visits (by type) and the number of different ER providers visited per 12 months of medical assistance eligibility.

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[10] Estee, S. and Nordlund, D., 2003. *Washington State Supplemental Security Income (SSI) Cost Offset Pilot Project: 2002 Progress Report*. Washington State Department of Social and Health Services, Research and Data Analysis Division, February 2003.

[11] Nordlund, D., Estee, S. and Yamashiro, G.. 2003. *Treatment of Stimulant Addiction Including Addiction to Methamphetamine Results in Lower Health Care Costs and Reduced Arrests and Convictions: Washington State Supplemental Security Income Recipients*. Washington State Department of Social and Health Services, Research and Data Analysis Division, December 2003.

[12] Nordlund, D., Estee, S., Mancuso, D. and Felver, B. 2004. *Methadone Treatment for Opiate Addiction Lowers Health Care Costs and Reduces Arrests and Convictions: Washington State Supplemental Security Income Recipients*. Washington State Department of Social and Health Services, Research and Data Analysis Division, March.

Additional copies of this fact sheet may be obtained from the following websites:
http://www1.dshs.wa.gov/RDA/ or http://www1.dshs.wa.gov/dasa/
or through the Washington State Alcohol/Drug Clearinghouse by calling 1-800-662-9111 or 206-725-9696 (within Seattle or outside Washington State), by e-mailing clearinghouse@adhl.org, or by writing to 6535 Fifth Place South, Seattle, Washington 98108-0243.

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