The Minnesota Supportive Housing and Managed Care Pilot

Evaluation Summary

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The National Center on Family Homelessness

March 2009

hearth connection

THE NATIONAL CENTER ON Family Homelessness
for every child, a chance

Robert Wood Johnson Foundation

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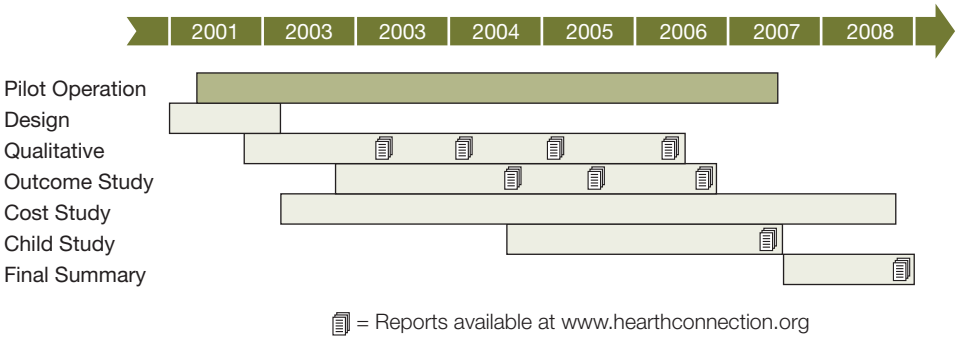
Before Amber enrolled in the Pilot, she had been living in a shelter with her children after leaving an abusive relationship. Amber described herself as "depressed" during that time in her life. Three years later, after working with one of the Pilot's family programs, Amber described herself very differently. "I am happy. I am not depressed anymore. I feel good." Since starting the program, Amber has made important changes in her life. She works two jobs and is pursuing career training opportunities. She hopes one day to open her own business.

Amber's children have also benefited from the activities the program has made available to them. Amber says "the program has a lot of things for the kids to do…like bowling or skating…they have parties and go to the beach. I believe this has made them happier. They look forward to having something to do." The program also directed Amber to medical resources for her children. "I think my [son] may have ADHD, so when school starts, [the Pilot] is going to start the process of getting him tested."

When asked what the best thing Amber has going for her, she responds, "My kids and my determination." Amber has used these assets and the Pilot's services to secure a home she is pleased with, become employed, and pursue her goal of one day opening a business. The change in Amber's life has been profound. "At first I was depressed. [I used to] sit in the house with the lights off. [Now I don't do that.] I am out doing stuff, all day long."

Evaluation timeline for the Supportive Housing and Managed Care Pilot



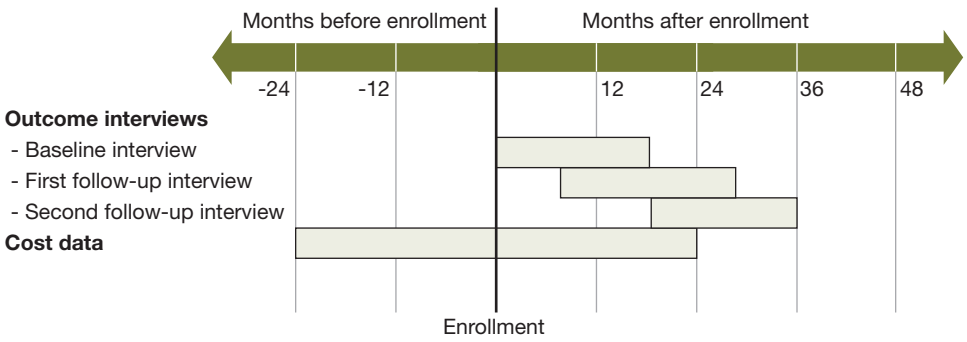
Prior to enrolling in the Pilot, Jared spent several years of his life traveling from place to place. Originally from Minnesota, he returned in 1992 after a long stretch of living all over the country. “I traveled around the country for a long time. I lived out of small rooms and worked day labor. I was pretty happy with myself…I was content. I didn’t really consider myself homeless or hopeless.”

Before becoming involved in the program, Jared had spent time at a local shelter. He also lived on the streets from time to time. “I spent a lot of nights outdoors. I was out there with the fellows drinking, a radio playing and a small fire. I kept my clothes clean and fed my face most of the time. If there were services available, I would use them.” Jared admits to struggling with alcohol addiction, and in the past, cycled in and out of detox programs. When he became involved with the Pilot, his primary provider staff person suggested that he enroll in a residential, chemical-dependency program. After spending several months there, he returned to St. Paul and was placed in housing.

Jared speaks highly of his current housing. “I have a nice clean apartment. I don’t have all the luxuries, but my basic necessities are met.” With a place to live, Jared hopes to address his alcohol addiction. “[I want] to stay sober. I do not stay sober all the time. I drink [on occasion]. I think I had about four beers last weekend.” He also would like to be self-supportive. “I need to go out there and try harder at something. I need to be self-sufficient. My goal is to be self-sufficient. I don’t like to take things.” While he will continue to strive for these goals, Jared acknowledges the progress he has already made. “I’ve come a long way in the past five, 10 years. I lived like a…good time Charlie for a while: money, hotel rooms and parties. I’ve come a long way.”

Jared credits the Pilot with some of the changes that have occurred in his life. “It has been like night and day. It has enhanced my life. They are not [always] pressuring me. They do their work and they do it very well.”

Participant timeline for involvement in the evaluation



Note that additional data collection with participants took place as part of the qualitative and child studies, irrespective of how long participants were enrolled.

Executive Summary

The Minnesota Supportive Housing and Managed Care Pilot evaluation suggests that it is possible to end homelessness for the most marginalized single adults and families in America with housing and intensive supports. Although this population has experienced long spells of homelessness exacerbated by physical health problems, mental illness, chemical dependency and traumatic stress, we found that stable housing, recovery and reintegration into community life are possible. The intervention of supportive housing–housing *and* services focused on the unique needs of people exiting homelessness–broke the cycle of homelessness.

The program engaged participants with highly complex needs, averaging five years of homelessness prior to enrollment. Participants' homelessness was exacerbated by medical problems, mental illness, chemical dependency, traumatic experiences, and for some, children with special needs. Pilot participants cost publicly funded systems at least $6,290 per person per year, on average, in mainstream services during the two years before enrollment. They also were enrolled 59 percent of the time in income support programs, and 72 percent of the time in health care programs. Single adults used far more publicly funded services than adults in families, or children. The average single adult used $13,954 per year in services, while family adults and children used $4,582 and $3,691, respectively. As households, families averaged pre-enrollment costs of $11,203 per year.

Working successfully with this population required patience, persistence, flexibility, and a deep respect for program participants. The Pilot created an intensive service model featuring low caseloads (fewer than 10 households per staff member) and a range of in-house, specialty service providers, including housing specialists, nurses and child development workers. The average cost for these services was $4,239 per participant per year. Most participants entered the Pilot exhausted and despairing, unwilling to embrace the opportunities presented by service providers. It took considerable time and effort to establish rapport, engage participants with housing and services, and establish participants' faith in themselves and others. Ultimately, trusting relationships developed and became the linchpin of effective services.

Pilot participants experienced significant increases in housing stability, and smaller improvements in other outcomes over the 18 months covered in the study. After 18 months, participants had significantly improved residential stability, experienced fewer mental health symptoms, and use of alcohol and/or drugs declined as well. Participants also reported a greater sense of safety and improved quality of life. Participants did not show evidence of improved physical health functioning after 18 months. Over 40 percent of participants had at least one chronic health condition (such as high blood pressure, asthma or diabetes) at enrollment, so it is possible that measurable change in these areas would take longer than 18 months to detect.

The Pilot had a small impact on the overall level of mainstream service costs for participants, relative to the comparison group, and caused desirable shifts in the types of mainstream services used. While costs for single adults increased relative to the comparison group, adults in families saw cost offsets, and children were nearly cost neutral.

For single adults, the Pilot helped participants shift toward more routine and preventive care, including outpatient care, and away from costly inpatient mental health and chemical dependency services, detox, and prison. (While increases are

statistically significant, the significance varies on the reductions.) The dramatic increase in outpatient mental health and pharmaceuticals drove overall cost increases for single adults. Both inpatient and outpatient medical care increased relative to the comparison group. Participants frequently described having unaddressed medical problems at enrollment that were subsequently identified by service teams who helped them access appropriate treatment. The impact of this change was tremendous, and for some, even lifesaving. Medical interventions included such procedures as organ removal, saving limbs from amputation, cardiac surgery, and treatment for a range of chronic diseases. The increase in mainstream service use for single, adult Pilot participants was paid for mainly by the Federal government, through medical, mental health, and substance abuse programs.

Generally, these results suggest a desirable move away from costly and disruptive institutional services and toward necessary, routine health care that improves quality of life. For adults in families, cost offsets were driven primarily by a reduction in inpatient medical care. Increases in outpatient mental health utilization were also seen for adults in families. For children, the largest change in costs was an increase in outpatient medical utilization.

The Pilot helps delineate solutions to end homelessness for a nation spending billions of dollars each year on shelters, jails, prisons and emergency medical care for people experiencing homelessness. To fully address this complex, costly social issue, programs like the Pilot must be replicated. Doing this requires increasing the pool of funding available for housing and services, and ensuring that both specialized and mainstream services are available and accessible. These programs must also be studied to see if costs can be reduced without compromising quality, and if there are changes in service use and outcomes over a timeframe longer than the one studied here.

The Minnesota Supportive Housing and Managed Care Pilot: Evaluation Summary

The Minnesota Supportive Housing and Managed Care Pilot evaluation suggests that it is possible to end homelessness for the most marginalized single adults and families in America with housing and intensive supports. Although this population has experienced long spells of homelessness exacerbated by physical health problems, mental illness, chemical dependency and traumatic stress, the Pilot found that stable housing, recovery and reintegration into community life are possible. Participants entered the program exhausted by the day-to-day struggle to survive, often disconnected from family, friends and work, and unwilling, or unable, to interact effectively with mainstream service systems to end their homelessness. Stable housing and ongoing support provided them with the time and energy to address lifelong issues that had previously threatened their ability to maintain a home. Most importantly, the intervention of supportive housing–housing *and* services focused on the unique needs of people exiting homelessness–broke the cycle of homelessness. They began to see their lives improve.

The Minnesota Supportive Housing and Managed Care Pilot (the Pilot) is the result of a multi-year, public/private planning effort begun in 1996. In 2000, the Minnesota Legislature appropriated funds to serve homeless families in the Pilot. In 2001, it appropriated additional funds to serve homeless, single adults. A total of $10 million was invested from 2000 to 2007. Through contracts with the Minnesota Department of Human Services, appropriations were distributed to two Minnesota counties: Blue Earth (a rural county including the city of Mankato and its environs) and Ramsey (an urban county including the city of Saint Paul and its suburbs). The counties contracted with Hearth Connection, a nonprofit agency created to lead the Pilot. Hearth Connection then maintained contracts with four organizations to provide direct services in the two counties.

The evaluation of the Pilot, conducted by the National Center on Family Homelessness, is unique in that it examines the experiences of both single adults and families with children in both urban and rural communities. By conducting four interrelated studies, the evaluation comprehensively assessed the Pilot's implementation, outcomes, and cost impact:

- A qualitative study tracked the implementation of the Pilot by documenting the experiences of the supportive housing providers and other stakeholders, and described the Pilot's impact on participants.
- Separate studies of children's and adults' outcomes captured key changes in participants' lives over time.
- Finally, an administrative data study examined publicly funded service utilization and associated costs for Pilot participants relative to a matched comparison group.

For details about the four studies, please see the section *Where does this information come from?* at the end of this document.

The purpose of this report is to summarize the Pilot's accomplishments; to describe the activities necessary to meet the Pilot's goals from the perspective of individuals, service providers, and public systems; to report the key findings from each component of the evaluation; and to discuss what is gained by an investment of resources in a program such as the Pilot.

Who the Pilot served

The Pilot served those with highly complex needs.

The Pilot recruited participants with the most complex needs, including those who had not been helped by other programs and/or had been homeless for long periods. These participants were believed to be frequent users of costly, publicly funded crisis and institutional services, and most in need of supportive housing (i.e., housing in concert with intensive services). Participants had long histories of homelessness, exacerbated by medical problems, mental illness, chemical dependency, traumatic experiences, and for some, children with special needs. Specifically, participants' profiles included:

- Average of five years and median of 24 months spent homeless
- Participants averaged two serious medical conditions
- 28 percent had severely impaired physical functioning
- 81 percent were depressed
- More than 60 percent had experienced more than three major traumatic events
- 66 percent had abused alcohol and drugs for more than three years

Adult Participant Demographics at Baseline

- Mean age: 38 years
- 57 percent Caucasian
- 56 percent urban, 44 percent rural
- 11.2 years of education
- 33 percent with annual income below $5,000

While the numbers are compelling, they do not describe the life experiences of the program participants and the struggles they face. Our yearly, qualitative data collection allowed us to document, in participants' own words, the extent to which homelessness was inextricably related to medical, mental health, and substance use problems. More than half of participants had at least three co-occurring physical, mental, or chemical health conditions. Many described a lifelong pattern of achieving relative stability for a brief period, only to have it shattered by the recurrence of medical problems, mental illness or substance abuse.

According to participants, these co-occurring challenges were often connected to traumatic, early childhood experiences. Many participants were exposed to dramatic upheavals from an early age, including homelessness, neglect, physical and sexual abuse, and loss. The end result was a group of participants who described themselves as having "dead dreams," who had lost faith in themselves and the rest of the world.

"My mom died when I was ten. She committed suicide. My dad was an alcoholic and sexually abusive—I pretty much raised myself."

For participants in family programs, these challenges were coupled with the stress of parenting. Nearly half of the parents in the Pilot experienced levels of parenting stress high enough to put them at increased risk of committing child abuse and neglect. Adults in families experienced tremendous instability prior to enrollment, with more than 60 percent having been separated from their children for a significant period, often due to alcohol and drug use, incarceration, or the inability to care for or provide housing for a child. More than half of the children had experienced the death of a close friend or family member, and more than half had witnessed more than three violent events. The children in the Pilot not only witnessed violent events, but also directly experienced them. Two children had been shot, others were beaten up and chased, or had been in natural disasters.

"My daughter has been in trouble. I think the police have been here like eight times this year. She's fighting outside. She's a fighter. She's a problem child. I'm working with her and she's getting a little better. The program is helping me find creative things for her to do after school."

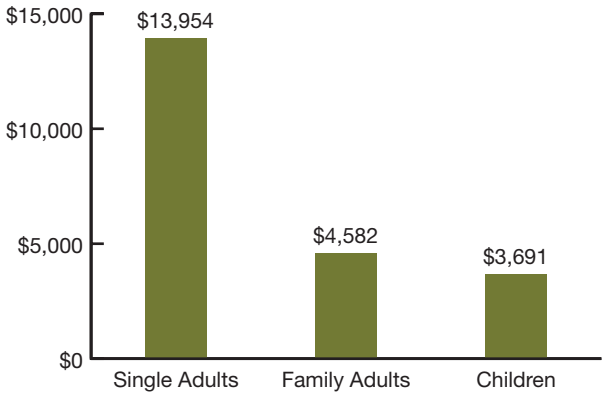
Child Participant Characteristics at Baseline

- Average age: 11 years old
- 42 percent Caucasian
- Witnessed 3.7 severe, violent events
- 16 percent have post- traumatic stress disorder
- Attended more than four schools
- 20 percent have attention deficit disorder or attention deficit/hyperactivity disorder
- 33 percent were suspended from school in the past year

Given this profile, it is not surprising that Pilot participants were users of publicly funded services. According to extracts of state and county administrative data systems covering physical, mental and chemical health care, income support, child welfare, and criminal justice, Pilot participants cost publicly funded systems at least $6,290 per person per year, on average, in mainstream services during the two years before enrollment. This group includes 343 adults and 175 children. Put another way, this group of 518 participants cost the state and counties a minimum of $3.25 million per year in publicly funded services.

Prior to enrollment, participants were users of the state's mainstream income support, health, and social welfare programs. Almost all the participants were enrolled in these programs at least some of the time. On average, prior to enrollment, participants were enrolled 59 percent of the time in income support programs and 72 percent of the time in health care programs.

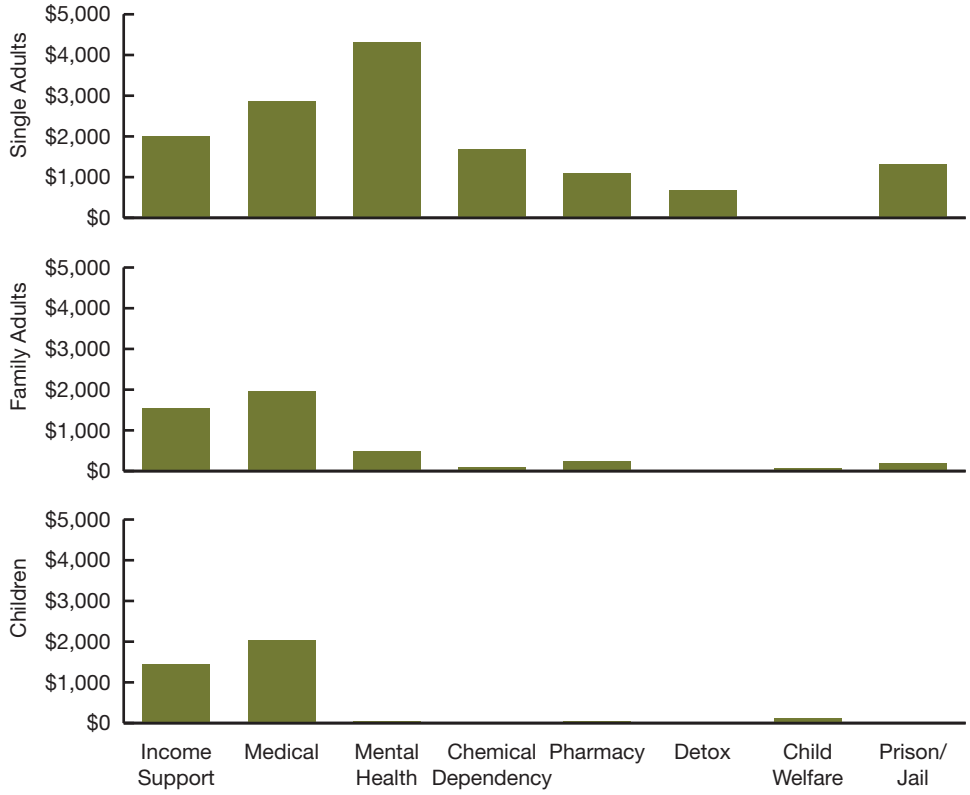
Annual Costs for Single Adult, Family Adult, and Child Participants Before Enrollment



Administrative data also reveal several patterns of service use that provide insight into the Pilot's target population prior to enrollment:

- Single adults used far more publicly funded services than adults in families, or children. The average single adult used $13,954 per year in services, while family adults and children used $4,582 and $3,691, respectively. As households, families used an average of $11,203 per year.
- Single adults, adults in families, and children also used different *types* of services. For family adults and children, costs were dominated by income support and medical care (i.e., health care services other than mental or chemical health). However, single adults had major costs related to mental health, chemical dependency, detoxification, and prisons/jails. For families, these domains are small portions of the total. The chart below shows the costs for these three groups broken out for different service domains.

Annual Participant Costs Before Enrollment, Broken Out By Participant Type and Major Service Domain



- Similar to other studies of service use in homeless populations, costs were relatively concentrated. The top 10 percent of service users account for 44 percent of the total expenditures; the top 20 percent account for 59 percent of the total. At the other end of the scale, the bottom 20 percent of users account for only 2.3 percent of total expenditures. A few participants (2.5 percent) used none of the tracked services in the pre-enrollment period.
- The single adult group spent significant amounts of time in institutional settings before enrollment. On average, participants in this group spent 39 days, out of the two years preceding enrollment, in inpatient or residential care, and 31 days in jail or prison.
- Children's costs paralleled those of adults in families. They were driven primarily by income support and medical care costs. The data for minors receiving chemical dependency treatment and juvenile justice services was not available for inclusion in this study.

How services were delivered

Working successfully with this population requires patience, persistence, flexibility, and a deep respect for program participants.

"What's different from other case managers is that we're doing really intensive work with these clients and we have an opportunity to see them three or four times a week."

Pilot service providers and other stakeholders were aware of the challenges of addressing the complex needs of this population, and adapted service approaches in a flexible manner that often differed from mainstream models. Hearth Connection gave service agencies wide latitude to structure programs according to participants' needs. At the same time, they closely monitored enrollment, service approaches, and outcomes. Hearth Connection sought to ensure that the Pilot stayed on mission and implemented the core principles of flexible, respectful, participant-centered support.

The Pilot created an intensive service model featuring low caseloads (fewer than 10 households per staff member) and a range of in-house specialty service providers including housing specialists, nurses, and child development workers. The average cost was $4,239 per participant per year (excluding rental assistance provided directly by the Pilot) Put in context, that amount is equivalent to roughly six days of inpatient treatment for mental illness or substance abuse. The investment in rental assistance through the Pilot was significant and critical, but because there are not comparable data for comparison group members and Pilot participants before enrollment, changes in these costs cannot be determined.

While not strictly adhering to any one program model, the housing and service approaches were based on best practices such as intensive case management, assertive community treatment, supportive housing, and motivational interviewing. Service teams generally disregarded the notion of "housing readiness" and moved participants into housing as quickly as possible, mostly scattered-site, private market apartments. Simultaneously, participants received intensive services–even daily–depending on their needs.

Engaging participants with housing and services was initially challenging. Most participants entered the Pilot exhausted and despairing, unwilling to embrace the opportunities presented by service providers. It took considerable time and effort to establish rapport and participants' faith in themselves and others. Ultimately, trusting relationships developed and became the linchpin of effective services. This took considerable time, and often occurred through one-on-one staff interactions with participants in community settings such as drop-in centers, coffee shops, or while helping participants with activities of daily living (e.g., buying groceries, housekeeping, setting up daily routines, budgeting, etc.). These interactions, seldom reimbursable through mainstream service systems like Medicaid, helped establish a therapeutic rapport between staff and participants, imparted vital skills, and allowed staff to conduct ongoing assessment of participant needs. Participants described how important it was to "borrow" the faith of others when they had lost their own, how much the energy of staff members replenished their own reserves, and the extent to which this relationship with provider staff was often the only supportive one in their lives.

Given the years of disappointment experienced by participants, it was critical that service providers met participants' immediate needs, particularly housing. Obtaining and maintaining housing for this population required intense work, readily available financial support, and strong relationships in the community. Service teams worked closely with landlords and tenants to make sure both were satisfied. They mediated disputes, taught participants how to maintain a home, and helped them pay rent and other bills on time.

"There was somebody who believed in me and I believed I could do it. I mean, I knew I could, but I needed somebody else to tell me, to reinforce the idea, I guess."

Service teams closely integrated housing and support services. These services included:

- intensive case management, including assessment and individualized service planning;
- help accessing benefits, income support programs, health care and other supports, including informal ones;
- aid with family relationships, support and reunification;
- life skills development;
- support through treatment and recovery, including aftercare;
- tenant and financial literacy training, including the rights and responsibilities of tenancy;
- support for self-advocacy with landlords, neighbors, and criminal justice and school systems.

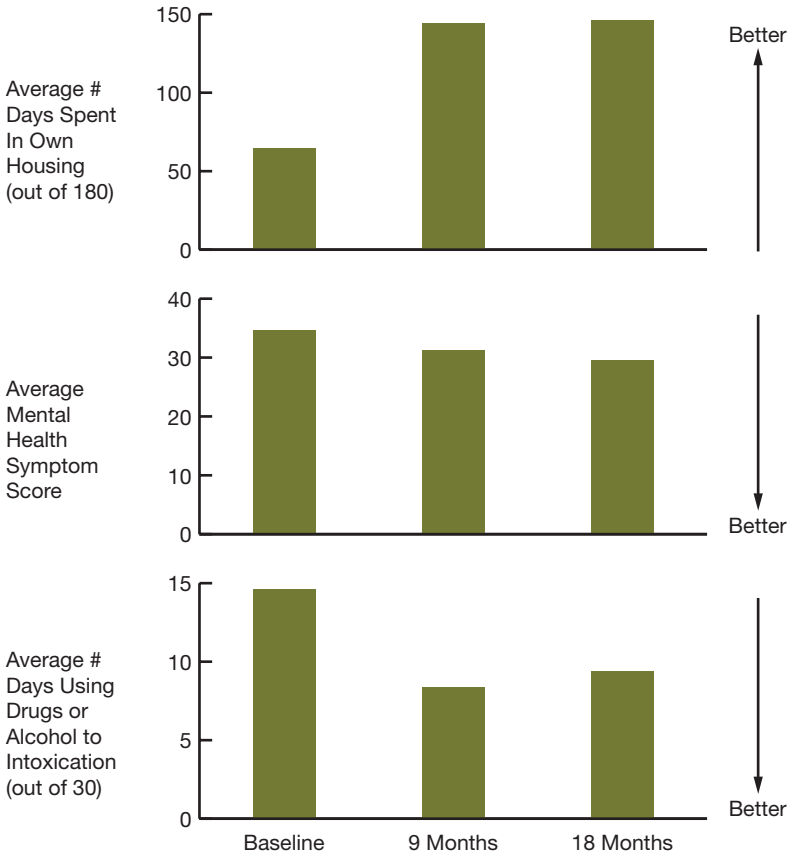
Services were driven by participants and evolved as participants' needs changed. The intensity of services varied over time, with some participants seeing service providers every day, some every other day, and others weekly.

What changed for the participants

Participants' lives improved while they were in the Pilot.

Pilot participants experienced significant increases in housing stability and smaller improvements in health and well-being over the 18 months of the outcome study. Due to the study's methods, it is possible to describe how outcome measures changed over time for participants, but the extent to which the Pilot *caused* any changes in participants' lives cannot be determined.

Nowhere were these changes more pronounced than in the area of housing stability. At baseline, participants spent an average of 64 days out of the previous 180 days in their own home.* After nine months in the Pilot, this number climbed up to 144 days of a possible 180 in their own home. This level of residential stability was maintained at 18 months. The figure below shows changes in the three key areas of housing, mental health, and substance abuse.



Besides the dramatic improvement in housing stability, participants also had gains in behavioral health outcomes. After 18 months, participants experienced fewer mental health symptoms. While the decrease is small numerically, it is equivalent to having one symptom, such as hearing voices, decrease from a daily event to disappearing entirely. Use of alcohol and/or drugs declined as well. Participants also reported a greater sense of safety and improved quality of life.

* Because of the timing of the evaluation, it was not possible to conduct baseline interviews with all participants right at the time of enrollment. Based on the Pilot's rapid access approach to housing, we believe the number of days spent in housing for participants at the baseline assessment would have been even lower–and the corresponding increase in their housing stability in the program even greater–if all participants were interviewed closer to their enrollment dates.

Participants did not show evidence of improved physical health functioning after 18 months. This may be due to the high level of impairment experienced by participants at enrollment, combined with a relatively short measurement time frame. Over 40 percent of participants had at least one chronic health condition (such as high blood pressure, asthma, or diabetes) at enrollment. Given the severe physical disabilities present in the population, it is possible that measurable change would take longer than 18 months.

"I have asthma. I had asthma before coming into this program, and I still have asthma."

More than housing

Housing was only the first step toward recovery for participants.

Pilot participants achieved high levels of housing stability. Housing created the foundation for participants to address other issues in their lives. With the struggle for day-to-day survival behind them, participants now had the time and space needed to address significant issues. Many described how the peace and privacy of housing created the opportunity to think about the future in ways that previously hadn't been possible.

"I got a roof over my head. I was able to sit down and be in peace. I got to catch up with myself and realize that if I continued to get high, I would lose everything."

Paradoxically, the stability associated with success in housing was also coupled with heightened challenges in other areas. Participants often struggled with loneliness, a sense of isolation, and boredom when initially housed. Some felt obliged to share housing with friends from the streets, often resulting in complaints from neighbors and issues with landlords. Service providers visited participants often and worked to prevent problems from becoming crises in order to prevent housing loss.

"When you have an apartment, your friends from the streets want to move in. It is against my lease to have people moving in. I don't want to end up back on the streets again."

Progress toward recovery–whether related to housing stability, chemical dependency, or mental health–was seldom linear. Participants and service providers described a gradual movement toward recovery, taking two steps forward and one step back. Upon entering the Pilot, most participants described a fear of losing housing and support if and when they relapsed or failed in some way. A significant design element of the Pilot was that providers stayed with participants even if they lost housing, relapsed, went to jail, or were hospitalized. Building a trusting relationship over time was paramount, and during these difficult periods, the Pilot staff worked harder than ever to support participants. In the end, this resulted in annual attrition of just over 10 percent.

"If I have something to do, I stay sober. If I don't, then the hopeless thing sets in. I think that is what happened. I was there and felt so enclosed, no one to talk to. It was real bad so I just flipped."

Impact on mainstream services

The Pilot did not substantially change the overall level of mainstream service costs for participants relative to the comparison group.

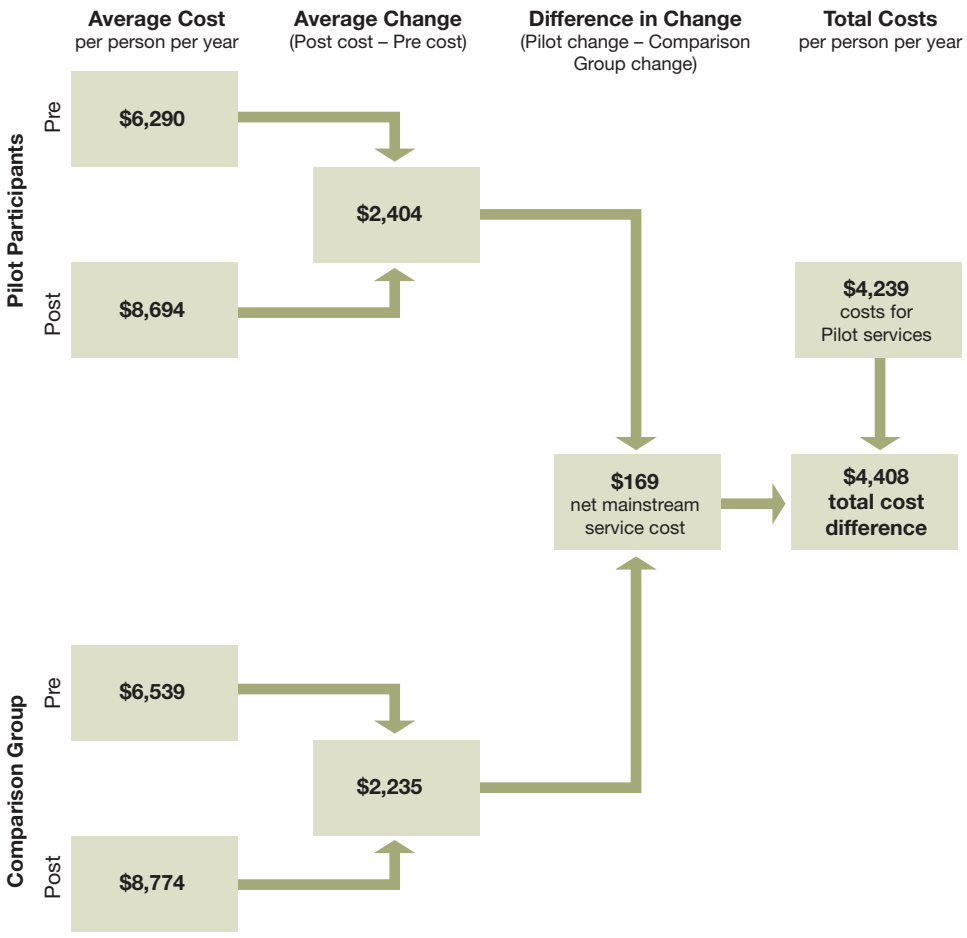
The Pilot's efforts to engage participants with complex challenges were successful. To understand the impact of the Pilot on mainstream service use and costs, the evaluation examined publicly funded service utilization and associated costs for Pilot participants relative to a matched comparison group. Participants and comparison group members were studied for a period of two years before and after Pilot enrollment.

Overall, Pilot participants used more mainstream services (i.e. publicly funded programs for people with disabilities and/or low incomes, without specific focus on people experiencing homelessness) after enrollment than they did before enrollment. However, the matched comparison group showed the same general pattern, suggesting that much of the increase was due to broader trends in service use, service unit-costs, or the changes in the nature or coverage of data systems.

Annual Mainstream Service Costs for Pilot and Comparison Groups

The chart above shows that costs of services not provided by the Pilot increased for both groups, and that the rate of increase was roughly equivalent.

The flow chart below shows the overall costs for Pilot and comparison group members. The diagram also illustrates the logic used to calculate the Pilot's cost impacts.

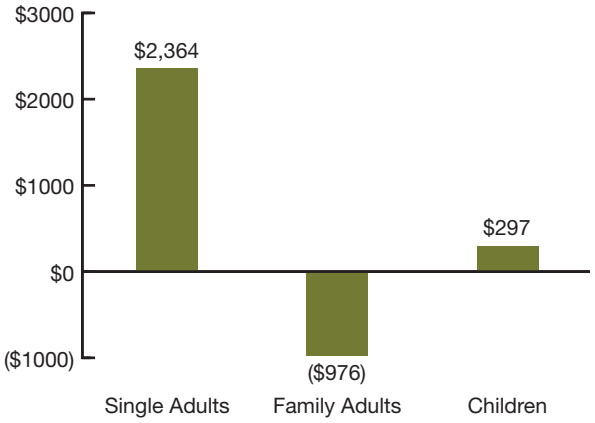


The chart shows (upper left side) that the average annual cost for mainstream services for a Pilot participant *before* enrollment was $6,290, while *after* enrollment this figure increased to $8,694. Therefore, the average change for Pilot participants was $2,404. The same calculations are done for the comparison group in the lower left portion of the figure. Comparison group members went from an average of $6,539 to an average of $8,774, an average change of $2,235. The right side of the figure shows that we take the difference between the change for Pilot participants and the change for comparison group members as a measure of the Pilot's cost impact. While comparison group members' costs increased on average $2,235, Pilot participants' increased slightly more, $2,404. This difference, $169, reflects the increased costs of mainstream services for Pilot participants. The additional costs of the Pilot, at $4,239 per person per year, yield the total net costs, $4,408, for Pilot participants, with 96 percent of this accounted for by the cost of the Pilot itself.

While the Pilot did not lead to substantial changes in overall mainstream costs, when broken out by subgroups, differences in cost and service utilization can be seen. The chart below shows differences in costs that can be attributed to people's participation in the Pilot program. Negative numbers (bars below the line) indicate which group of Pilot participants used fewer services than comparison group members, while bars above the line indicate which Pilot participants used more services per year than the comparison group. While costs for single adults increased relative to the comparison group, adults in families saw cost offsets, and children were nearly cost neutral.

Annual Mainstream Cost Differences between Pilot and Comparison Group by Participant Type

(negative numbers indicate savings for Pilot relative to Comparison)



Changes in cost patterns

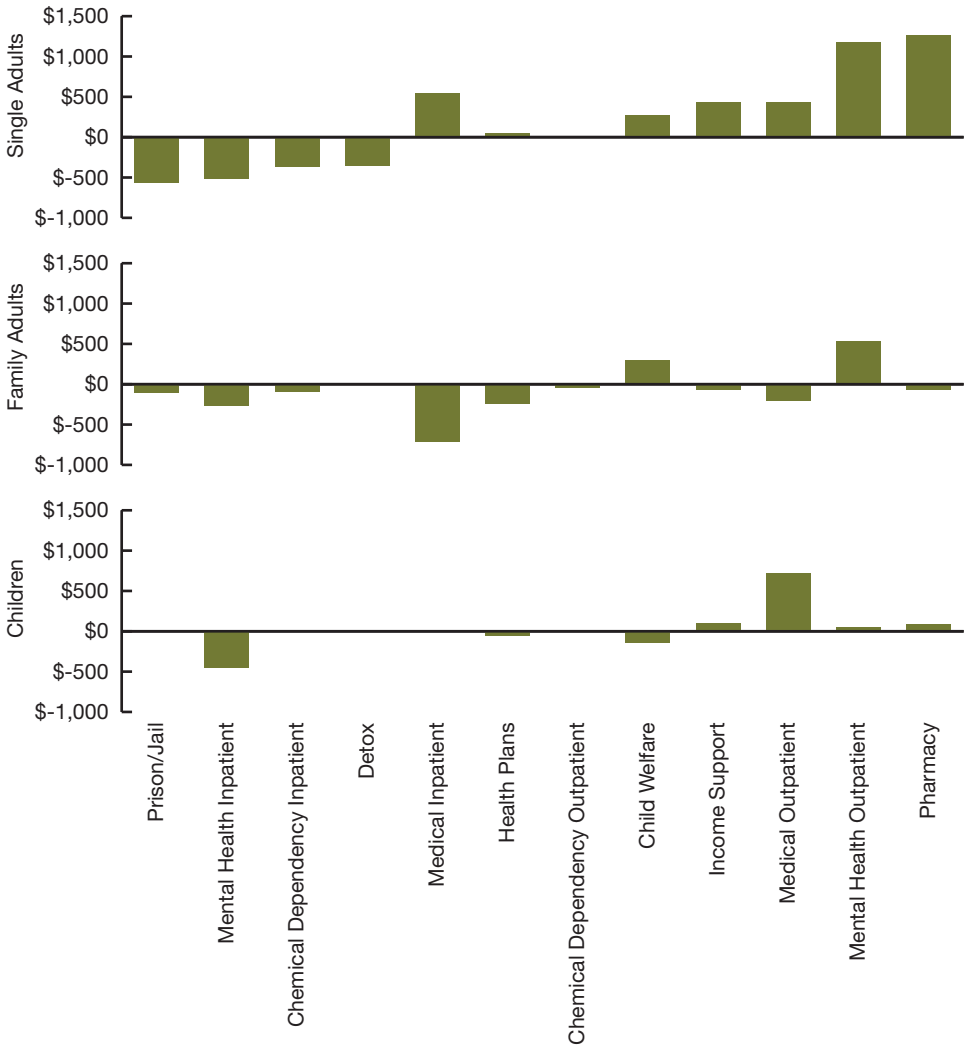
The Pilot caused desirable shifts in the types of mainstream service costs.

Although the overall level of mainstream costs was not significantly impacted by the Pilot, the drivers of the costs were significantly different for Pilot and comparison group members.

The chart below shows changes in costs for Pilot participants relative to the matched comparison group, broken out for different groups of participants and by service domain. In this chart, a positive number indicates that the difference between pre- and post-costs for Pilot participants was greater than the change in costs (pre- to post-) for the comparison group. A negative number indicates that these cost differences were larger for the comparison group than for Pilot participants.

Annual Mainstream Cost Differences Between Pilot and Comparison Group by Participant Type and Service Domain

(negative numbers indicate savings for Pilot relative to Comparison)



Please see the Appendix for the figures upon which this graph is based.

"I had emphysema and pneumonia and they got me to a hospital."

For single adults, the Pilot helped participants shift toward more routine and preventive care, including outpatient care, and away from costly inpatient mental health and chemical dependency services, detox, and prison. (While increases are statistically significant, the significance varies on the reductions.) The dramatic increase in outpatient mental health and pharmaceuticals drives overall cost increases for single adults. Both inpatient and outpatient medical care increased relative to the comparison group. This increase in medical care dovetails with anecdotal findings from the annual qualitative study. Participants frequently described having unaddressed medical problems at enrollment that were subsequently identified by service teams who helped them access appropriate treatment. The impact of this change was tremendous, and for some even lifesaving. Medical interventions included such procedures as organ removal, saving limbs from amputation, cardiac surgery, and treatment for a range of chronic diseases. Note that child welfare costs for single adults reflect a small number of single adults who had encounters in the child welfare system (as minors) during the study window.

For adults in families, cost offsets were driven primarily by a reduction in inpatient medical care. Increases in outpatient mental health utilization are also seen for adults in families. For children, the largest change in costs was an increase in outpatient medical utilization.

The increase in mainstream service use for single adult Pilot participants was paid for mainly by the federal government, through medical, mental health, and substance abuse programs. The impact of the Pilot on mainstream service use for single adults is broken out below by the level of government paying.

Annual Mainstream Cost Differences Between Pilot and Comparison Group Single Adults by Payer

Payer	Cost Difference (negative numbers indicate savings for Pilot relative to Comparison)
Federal	$ 2,015
State	$ 378
County	$ -16

From the federal government's point of view, the Pilot single adults used approximately $2,000 more in mainstream services per person annually, while the state share of the increase in mainstream services was less than $400. There was virtually no difference in mainstream service use paid for by the county.

Discussion

The evaluation findings indicate that homelessness among the most disadvantaged and vulnerable members of society can be ended by providing housing and ongoing services and supports. The Pilot helped participants with long histories of homelessness locate, obtain, pay for, and keep housing. Once safely and stably housed, the participants had the energy and space to address a host of previously untreated issues that had contributed to a cycle of instability.

Achieving housing stability with this population is a noteworthy accomplishment. It also set the stage for providers to engage and establish ongoing relationships with participants. These relationships served as an anchor for participants, allowing them to make other gains in their lives. The data indicate that among Pilot participants, mental health improved, chemical use decreased, and satisfaction with services was high.

The needs of Pilot participants were complex. They entered the Pilot with multiple, co-occurring disorders, carrying a lifetime of traumatic experiences and few, if any, sustaining relationships to build on. Given this profile, it is not surprising that Pilot participants were well-known to service systems before enrollment. Changes in costs and service use indicate the Pilot impacted the way participants accessed mainstream services. While overall service utilization increased for Pilot participants and a matched comparison group, important differences are present for subgroups, including a shift away from inpatient care for single adults, and cost offsets for adults in families.

Single participants' use of routine outpatient mental health care and pharmaceuticals increased relative to the comparison group. Pharmaceutical costs more than doubled for single participants while increasing only marginally for their matched counterparts. Inpatient mental health care showed a decline, though this difference was not statistically significant. Prison costs for the comparison group increased while Pilot participants saw a marked decline in those costs. *Generally, these results suggest a desirable move away from costly and disruptive institutional services and toward necessary routine health care that improves quality of life.*

For adults in families, overall cost offsets are driven by a few key factors. Families saw decreases in use of inpatient medical care. Simultaneously, families did *not* see the increase in pharmaceutical utilization seen by single adults, which drove a large portion of cost increases for that group. These factors may be related to a difference in the nature and severity of illness among adults in families. While outcome data indicate both single adults and adults in families experienced similar overall rates of mental and physical health problems, it is possible that single adults, who had been on the streets longer than adults with children, faced more severe and persistent illnesses and needed more intensive care. For example, the rate of serious mental illness such as schizophrenia, while high in both groups, was almost twice as high in single adults compared with family adults (28 percent versus 15 percent).

These changes were made possible by an innovative housing and service delivery model characterized by small case loads, flexible service provision, access to specialized care, and dedicated service providers. The Pilot borrowed from established best practices, including intensive case management, assertive community treatment, supportive housing, and motivational interviewing, and combined these approaches according to the individualized needs of the participants. Operating within this creative program model, service providers developed trusting relationships with participants, which served as the linchpin of effective services.

Once engaged in services, participants needed a combination of intensive, nontraditional support as well as clinical treatment for co-occurring mental illness, chemical dependency, and chronic physical health conditions. Nontraditional supports were highly individualized and included helping participants move into housing, working extensively with them to organize their households, helping them grocery shop and cope with the isolation of their new lives, and accompanying them to appointments. Clinical services included managing their primary care and medication, as well as costly interventions such as cardiac surgery, various forms of psychotherapy, and residential substance abuse treatment.

"If it wasn't for those guys, I'd be underneath a tree. I wouldn't be able to walk around and apply for jobs at Ramsey County or Regions Hospital. I'd be too burned out sleeping underneath the tree with mosquito welts on my face from being bit all the time. I'm very pleased with this program. I couldn't be happier with anything."

Ending homelessness among people who have spent a long time on the streets and have a host of challenges requires investment. Achieving the Pilot's outcomes cost about $4,408 per person per year for both the costs of the Pilot and slight increases in mainstream service use. These costs are due to the complex needs of the participants, the recurring nature of substance use and mental health issues, the challenges of engaging people who have lived on the streets for long periods, and the requisite intensity of service delivery.

Stakeholders must decide if this investment is worth it, perhaps by wrestling with the question posed by Robert Rosenheck, M.D., in a recent review of the literature: "Should society be willing to pay for services that are both more effective and more expensive?" (Rosenheck, 2000). In a review of eight programs for seriously mentally ill, homeless single adults, Dr. Rosenheck found that achieving improved outcomes in housing stability, mental health status, and quality of life was often associated with increased costs, due to the difficulty of engaging the population and the complexity of their service needs once they were engaged. The extent to which society agrees to invest in better outcomes must ultimately be driven by an understanding of the long-term costs of homelessness, weighed against the costs of programs and the gains they achieve.

For the upfront investment of $11,000 to $14,000 per household, the Pilot housed families, improved outcomes, and stopped the cycle of homelessness for 518 individuals, parents, and children in Minnesota. The Pilot's return on investment may last years. Mental illness, alcohol abuse, and drug abuse, each of which decreased for participants in the Pilot, are among the top five most costly public health problems in the country (Office of National Drug Control Policy, 2002) exceeding tobacco in direct (health care) and indirect (lost wages) costs to society.

The economic impact of these issues is far-reaching. Serious mental illness alone exerts a societal impact calculated to be as high as $193.2 billion in lost earnings (Kessler et al., 2008). This staggering figure does not begin to account for the multi-generational impact of mental illness. Even moderate improvements in maternal depression can reduce the incidence of mental health diagnoses in children by more than 33 percent (Weissman et.al, 2006). The Pilot's evaluation has taken a very conservative approach in reckoning costs and benefits, accounting only for currently used services and not extrapolating to future benefits that might accrue from participation in the Pilot. It is clear, however, that supporting families, particularly by reducing symptoms of mental illness, builds a healthier generation, less likely to need costly interventions such as criminal justice, special education, or mental health care.

The Pilot helps delineate the real investment required to end homelessness. Without commitment to real solutions, the nation will continue to spend billions of dollars each year on shelters, jails, prisons, and emergency medical care and still not bring an end to homelessness. To fully address a complex, costly social issue such as homelessness, programs like the Pilot must be replicated. Doing this requires increasing the pools of funding available for housing and services and ensuring that both specialized and mainstream services are available and accessible. These programs must also continue to be studied, with the goal of determining if costs can be reduced without compromising quality, and if there are changes in service use and outcomes over a longer period than the two years studied here.

Where does this information come from?

The Supportive Housing and Managed Care Pilot included an independent, in-depth evaluation conducted by the National Center on Family Homelessness. The evaluation was comprised of four studies designed to illuminate different aspects of the Pilot: an annually repeating **qualitative study**; a quantitative **outcome study** of adults; a quantitative **child study**; and an extensive **cost study**.

Qualitative Study

From 2002 to 2005, while the Pilot was at the peak of its operations, researchers conducted qualitative interviews and focus groups with participants, staff members, and other project stakeholders during annual site visits. Interviews and focus groups gathered three types of information: descriptive information about the structure and operation of the Pilot (e.g., what services were delivered, how they were organized); process information concerning the Pilot's development (e.g., challenges in implementing the service model, lessons learned in working with the Pilot population, participants' views about the services they were receiving); and outcome information concerning changes that participants' experienced, in their own words. Each year the qualitative data was analyzed and fed back to Pilot stakeholders via an annual qualitative report. These reports are available at the web address below.

Quantitative Outcome Study

To characterize changes in participants' lives quantitatively, researchers conducted standardized research interviews with a designated adult participant from each Pilot household as soon as possible after enrollment, and again nine and 18 months later. Interviews were conducted from October 2002 to November 2005. A total of 132 participants completed interviews across all three waves. These interviews, which lasted one to two hours, captured change in key project outcomes using standard quantitative research instruments. The primary outcomes assessed were housing stability, physical health, mental health, substance abuse, traumatic experiences, quality of life, and satisfaction with services. Detailed results from this study are available in three reports at the address below.

Child Study

To gain further insight into the status of children, researchers interviewed a subset of Pilot children, age 8 and older, and their parents at two points in time, one year apart. The parent interviews focused on describing characteristics of the child, including their experiences and current environment. Direct interviews with children assessed the child's mental health and developmental status. Results from this study are available in a separate report.

Cost Study

The cost study examined publicly funded service utilization and associated costs for Pilot participants relative to a matched comparison group. A comparison group was constructed by identifying people likely to have been homeless in the Pilot counties and similar other counties during the time period of Pilot operations. This was done using the MAXIS system, which handles eligibility and enrollment for public income support and medical programs. Records were selected from MAXIS when the county

financial worker had checked the box indicating current homelessness; the address for the client indicated homelessness (e.g., "HOMELESS", "LIVING IN CAR" or similar); the client had a GENERAL DELIVERY address, frequently used by homeless persons as a way of getting benefit checks with no fixed address; or the address matched that of a known homeless shelter. Costs were tracked for two years before and after participants enrolled, and each participant was matched to a comparison group member in the same time period on the basis of their costs during the two-year "pre-" period. The total span of data covered March 1999 to August 2006. This study utilized data from multiple sources as shown in the table below.

Agency(ies)	Data System	Contents Used in Cost Study
Minn. Department of Human Services	MAXIS	Demographics, homelessness indicators, entitlement and benefits payments.
	MMIS – Medicaid Management Information System	Medical claims for publicly funded health care programs.
	SSIS - Social Services Information System	Child out-of-home placements and maltreatment incidents (de-duplicated against MMIS).
	DAANES – Drug and Alcohol Abuse Normative Information System	Detox stays and chemical dependency treatment episodes funded by means other than state medical programs.
	CMHRS – Community Mental Health Reporting System	Stays by adults in residential treatment centers.
Minn. Department of Corrections	COMS – Corrections Operations Management System	Adult incarcerations in state prisons.
	DIS – Detention Information System	Adult incarcerations in county correctional facilities.
Ramsey, Hennepin, Blue Earth, Olmsted, and Clay counties sheriffs & corrections	County jail systems	Adult incarcerations in county correctional facilities.

This cost study differs from previous ones in two key respects. First, the breadth of services covered is larger than in many other studies. Similar studies have often tracked only a few services, such as emergency room visits and detox stays. In contrast, this study aggregated extensive data on state-funded medical and behavioral health care with criminal justice and child welfare data.

Despite this broad coverage, the study still lacks data in three domains, the inclusion of which may have led to differing results: Minnesota's Group Residential Housing (GRH) program; emergency shelter, homeless services and housing costs not borne by the program; and uncompensated medical care. In the case of GRH, some data are included in the study, but as the report was being finalized, additional data validation revealed that a significant portion of these costs were not captured in the data assembled for this analysis. Accessing cost data for shelter, homeless services, mainstream housing costs and uncompensated care was logistically infeasible because individually identified service use records in these areas are not centralized. Collecting this type of information would have required obtaining data from individual service organizations (e.g., individual shelters, local housing authorities, and individual hospitals). Furthermore, these data may not exist in comparable formats and with consistent quality, if they exist at all. In the future, the state's Homelessness Management Information System (HMIS) will address this gap in the homeless service domain, but its data did not cover the full time window needed for this study.

While centralized data on shelter and housing from non-Pilot providers was not available to the study, these services were an important component of the resources that the Pilot marshaled to serve participants. The grid below illustrates, in broad terms, the categories of costs that we are able to estimate for Pilot and comparison group members, in the pre- and post periods.

	Pre-	Post
Pilot Participants	■ Pilot Service Cost: **None** ■ Pilot Housing Cost: **None** ■ Mainstream Service Cost: **Known** ■ Mainstream Housing Cost: *Unknown*	■ Pilot Service Cost: **Known** ■ Pilot Housing Cost: **Known** ■ Mainstream Service Cost: **Known** ■ Mainstream Housing Cost: *Unknown*
Comparison Group	■ Pilot Service Cost: **None** ■ Pilot Housing Cost: **None** ■ Mainstream Service Cost: **Known** ■ Mainstream Housing Cost: *Unknown*	■ Pilot Service Cost: **None** ■ Pilot Housing Cost: **None** ■ Mainstream Service Cost: **Known** ■ Mainstream Housing Cost: *Unknown*

We do not know the costs of housing provided by mainstream programs for either group in either time period. We can estimate costs for mainstream services used by both groups across both time periods. Pilot related costs occur only for Pilot participants in the post-period. We can estimate the amounts the Pilot spent on both services and housing for participants during this period. However, because we do not have sufficiently complete estimates of housing provided by mainstream providers, we do not include Pilot provided housing in the cost calculations. This strategy allows an "apples to apples" comparison between Pilot and Comparison group by ignoring housing costs from both sides. While it would be preferable to include housing costs on both sides, it is acceptable to exclude them since typical shelter and subsidy costs are smaller (e.g., $30/day for shelter) compared to expenditures in the areas of health, mental health, and substance abuse (e.g., per-diem costs ranging from several hundred dollars to around $1,000 for inpatient services). It is important to note, however, that the success of the Pilot in interrupting the cycle of homelessness was predicated on the availability of rental assistance funds for Pilot participants.

Second, the study features a matched comparison group selected from the same database, merged together from the above data systems that provided the information on Pilot participants. Many studies have not used a comparison group, which can lead to biased results since many outside factors can shape service use over time (e.g. changes in data system coverage or eligibility rules, increases or decreases in funding streams, closing of facilities, etc.). When comparison groups are used, they need to be carefully constructed. Some studies have constructed comparison groups by comparing program participants with a *different* comparison group for *each* administrative data system being analyzed. This approach can lead to biased results because in each comparison it draws upon only the subset of people who used services tracked by a given data system. These results are then amalgamated across systems, but, because they are based on the (differing) subsets of people who used services in each system, they can bias results towards high-end users.

In contrast, this study took the more difficult, but less potentially biased approach, of *first* merging together data across systems, and *then* selecting a comparison group from that merged data. Within the main groups of single adults, family adults, and children, Pilot participants were matched to people who had similar costs in the time period before the Pilot person's enrollment. The matching appeared to work well; the average cost in the comparison group differed by only $249 from Pilot participants.

The cost study findings are presented in this document integrated with findings from the other three evaluation components. The cost study was the final evaluation component to be completed, and its findings are best understood within the context of the other evaluation findings related to implementation and outcomes. For detailed reports from the other studies, which have been released previously, please see *www.familyhomelessness.org/HearthConnection* or *www.hearthconnection.org*.

For readers who wish to understand more specifically which costs are included in the calculations, the following table shows how costs were built up from data in the various data systems. The total is comprised of costs from mainstream services and of the Pilot program itself. Underneath mainstream services, the costs are further divided into the major service domains of income support, medical, mental health, chemical dependency, pharmacy, child welfare, and criminal justice. Some of these domains have further sub-divisions as well.

	Domain	Subdomain	Data Sources
Mainstream Service Costs	Income Support Costs		**From the MAXIS system:** Entitlement and benefits payments for the following programs: Diversionary Work (DW), Minnesota Family Investment Program (MFIP), Emergency Assistance (EA), Food Support (FS), General Assistance (GA), Group Residential Housing (GRH, payments to individuals only), Minnesota Supplemental Aid (MSA), Emergency Minnesota Supplemental Aid (EMSA).
	Medical Costs	Inpatient Medical Costs	**From the MMIS system:** Minnesota Health Care Program (MHCP) fee-for-service claims for inpatient, long-term care, professional services provided in an inpatient setting, and regional treatment centers where the primary diagnosis associated with the claim is neither mental health nor chemical dependency related.
		Outpatient Medical Costs	**From the MMIS system:** MHCP fee-for-service claims for outpatient and professional services provided in an outpatient setting where the primary diagnosis associated with the claim is neither mental health nor chemical dependency related. **From the MMIS system:** MHCP fee-for-service pharmacy claims regardless of diagnosis.
		Prepaid Healthcare Costs	**From the MMIS system:** MHCP monthly capitation payments paid by the state to health plans for participants in prepaid health plans.
	Mental Health Costs	Inpatient Mental Health Costs	**From the MMIS system:** MHCP fee-for-service claims for inpatient, long-term care, professional services provided in an inpatient setting, and regional treatment centers where the primary diagnosis associated with the claim is related to mental health. **From the CMHRS system:** Imputed costs for mental-health related regional treatment center stays for adults only. **From the SSIS system:** Imputed costs for child placements in Rule 5 residential treatment facilities, with stays duplicating records in MMIS removed.
		Outpatient Mental Health Costs	**From the MMIS system:** MHCP fee-for-service claims for inpatient, long-term care, professional services provided in an inpatient setting, and regional treatment centers where the primary diagnosis associated with the claim is related to mental health.
	Chemical Dependency Costs	Inpatient Chemical Dependency Costs	**From the MMIS system:** MHCP fee-for-service claims for inpatient, long-term care, professional services provided in an inpatient setting, and regional treatment centers where the primary diagnosis associated with the claim is related to chemical dependency. **From the DAANES system:** Imputed costs for stays in hospitals, residential facilities, extended care facilities, and half-way houses where the stay is paid for by a source other than a MHCP or the Consolidated Chemical Dependency Treatment Fund.
		Outpatient Chemical Dependency Costs	**From the MMIS system:** MHCP fee-for-service claims for outpatient and professional services provided in an outpatient setting where the primary diagnosis associated with the claim is related to chemical dependency. **From the DAANES system:** Imputed costs for outpatient chemical dependency treatment that was paid for by a source other than a MHCP or the Consolidated Chemical Dependency Treatment Fund.

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	Domain	Subdomain	Data Sources
Mainstream Service Costs	Pharmacy Costs		**From the MMIS system:** MHCP fee-for-service pharmacy claims regardless of diagnosis.
	Detox Costs		**From the DAANES system:** Imputed costs for stays in detox facilities.
	Child Welfare Costs		**From the SSIS system:** Imputed costs for child placements in family foster care, group residential care and correctional facilities with stays duplicating records in MMIS removed.
	Criminal Justice Costs		**From the COMS system:** Imputed costs for adult incarcerations in state prisons. **From the DIS system:** Imputed costs for adult incarcerations in Hennepin County Jail. **From county correctional facility data systems:** Imputed costs for adult incarcerations in Ramsey County Jail, Ramsey County Workhouse, Hennepin County Adult Correctional Facility, Blue Earth County Jail, Olmsted County Jail, and Clay County Jail.
Pilot Costs			**From Pilot financial reports:** Per-person, per-month cost for pilot services and per-person, per-month costs for pilot-financed rental assistance.

Acknowledgements

The Pilot's evaluation was a large and complex research project that would not have been possible without many hours of effort contributed by a wide array of Pilot stakeholders. In particular, the evaluation team at the National Center on Family Homelessness would like to thank and acknowledge the contributions of the following individuals and groups.

First and most importantly the Pilot participants, who during very difficult times in their lives contributed their time and their stories to the evaluation.

The people from the Pilot's four primary provider organizations: Blue Earth County Human Services, Amherst H. Wilder Foundation, Guild Incorporated, and Mental Health Resources were extremely helpful to the evaluation team throughout the course of the project. Beyond providing much of the rich, descriptive material for the process evaluation, primary provider staff helped coordinate, implement, and inform the other components of the project as well.

The staff at Hearth Connection, and in particular Eric Grumdahl, supported the evaluation in countless ways. Eric's unflagging energy, optimism, and ideas were critical throughout the course of the evaluation and his thoughtful input is reflected in all its products. Ann Viitala, Hearth Connection's lawyer, shepherded the evaluation request through the DHS privacy process. Hearth Connection's Board of Directors set the overall scope of the evaluation and provided strategic input along the way.

Hearth Connection's Evaluation Advisory Group provided helpful guidance throughout the course of the evaluation. Over its duration, members included:

- Sharon Autio, Minnesota Department of Human Services
- Ellen Benavides, independent consultant
- Leon Boeckermann, Ramsey County Community Human Services
- Don Broadwell, Blue Earth County Human Services
- Christine Eilertson Bronson, Minnesota House of Representatives
- Janel Bush, Minnesota Department of Human Services
- Mark Brooks, Hennepin County Health and Community Initiatives
- Bill Calmbacher, Mental Health Resources
- HungChing Chan, Medica
- Glenace Edwall, Minnesota Department of Human Services
- Moira Gaidzanwa, Family Housing Fund
- Carmen Hall, independent consultant
- Kelly Harder, Blue Earth County Human Services
- Darlene Hasselbring, independent consultant
- Nancy Houlton, Ramsey County Mental Health Center
- Mary Jarvis, Mental Health Resources
- Laura Kadwell, Minnesota Office to End Long-Term Homelessness
- Sara Kershner, Mental Health Resources

- Chuck Loban, Hearth Connection Board of Directors
- Mari Moen, Corporation for Supportive Housing
- Jill Sellers, participant representative and Hearth Connection Board member
- David Stewart, Ramsey County Mental Health Center
- Deb Swan, RS Eden
- Grace Tangjerd Schmitt, Guild Incorporated
- Lisa Thornquist, Hennepin County
- Claudia Wasserman, Amherst H. Wilder Foundation
- Katie Wheeler, Mental Health Resources
- Carol Wilkins, Corporation for Supportive Housing
- Pam Zagaria, Family Housing Fund

Major gifts from the Robert Wood Johnson Foundation and Family Housing Fund supported the evaluation, and contributions from other donors allowed Hearth Connection and its partners to establish and administer the Pilot.

The operations of the Pilot and its evaluation were deeply interconnected with state and county government. Further, the Pilot's cost study in particular required the participation of a range of state and county agencies in providing access to governmental data systems and extracting data from government systems.

For the Minnesota Department of Human Services (DHS):

- The interest and cooperation of DHS leadership was critical to the successful completion of the Pilot's evaluation, and in particular its cost study.
- Janel Bush, Sharon Autio, Jane Lawrenz, and Emily Farah Miller filled an important liaison role for the evaluation within that key agency.
- David Honan, Debbie Rielley, and the members of DHS's Institutional Review Board walked us through the important safeguards for DHS clients' privacy, and provided access to DHS data resources.
- The staff of DHS's Data Warehouse including Bill Hassinger, Nina Terhaar, and Tom Risor provided the core sample of cost study participants through some very involved database programming. Nina was subsequently critically important in working with counties and funneling their data to the evaluation.
- Sally Jershe at DHS worked tirelessly at several points to complete extremely complex data extractions from the MAXIS system. Sally's intelligence, experience, and great good nature made her invaluable to the project and a joy to work with. Connie Paulson also extracted MAXIS data early in the project and subsequently provided expert guidance on MAXIS and DHS programs.
- Vicki Kunerth, Carl Haerle, Troy Mangan, and Jeff Tenney provided data from DHS's MMIS and DAANES systems and over the course of many months helped us understand and properly interpret the data.
- Jean Swanson Broberg, Christeen Borsheim, Leesa Betzold, Pam Hodgson and Doug Lerud at DHS provided us with data from the SSIS system and shared their expertise concerning children's services. Doug also provided helpful information on the costs of children's services.
- Gary Mager and Deb Wesley at DHS were extremely helpful in providing data from the CMHRS system, as well as guidance on mental health services.

- Many others consulted with us on how DHS's enormous, complex, and evolving programs were represented in its enormous, complex, and evolving data systems. George Hoffman provided expertise and guidance concerning the complex financing of DHS services. Ramona Scarpace and Scott Chazdon performed similar services. Jerry Storck gave us critical advice at several times on mental health services financing. David West provided information on service costs. Duane Elg consulted with us on the complexities of the Group Residential Housing program.

Review, advice and support from the leadership of Minnesota Housing, the State's housing finance agency, was invaluable.

In Ramsey County government:

- Ramsey County leadership provided critical support in establishing the Pilot and in supporting its evaluation.
- Laurie Hestness and Cam Counters in Community Human Services facilitated the evaluation's access to key people and data systems.
- Dave Fenner and Ben Gong at the Sheriff's Department extracted data on jail incarcerations. Judi Winek provided per-diem rates for jail stays.
- Connie Nowacki, Judith Franklin, and Brad Wiski provided information on incarcerations in the County's Community Corrections Workhouse. Frank Mayers provided information on per-diem costs.

In Blue Earth County government:

- The commitment of Blue Earth County's leadership helped launch the Pilot and provided ongoing support for its evaluation.
- Kelly Harder and Don Broadwell in Human Services facilitated access to Blue Earth County data systems. Kelly, with the Pilot from the very beginning, provided hours of consultation concerning the operations of human service programs and data systems at the state and county levels.
- Kris Hoffmann and Shiloy Reinhart in Human Services were also data-savvy friends of the evaluation from the beginning. For the final analyses Kris greatly facilitated access to Blue Earth's criminal justice data, and extracted data on detox visits.
- In the Sheriff's department Lt. Paul Bogenschutz and Officer Jamie Thiesse extracted data on jail incarcerations.

At the Minnesota Department of Corrections:

- Leadership at the Minnesota Department of Corrections helped identify data that would be most critical to the evaluation's success.
- Dan Storkamp facilitated access to the relevant data systems.
- Deb Kerschner provided valuable consultation on criminal justice data systems and how county and state data collections relate.
- Deb, along with Vickie Tholkes, provided data extractions from the COMS and DIS systems to track incarcerations in state prisons and county jails.

At the Minnesota Bureau of Criminal Apprehensions:

- Julie LeTourneau Lackner and Eric Seaberg extracted data on arrests from statewide systems.

In Hennepin County government:

- Lisa Thornquist, on her own initiative, connected us with the Hennepin data resources so that we could include this major county in the evaluation.
- Brad Kaeter and Phillip Weber consulted on criminal justice data and per-diem costs for incarcerations. Pat Crosby contributed expertise on shelter and housing data.
- Tamra Boyce in Community Corrections facilitated access to data on incarcerations in the Hennepin County Adult Correctional Facility. Nancy Skilling extracted the data and dealt with complex and difficult legacy files to cover the entire evaluation time period.

In Clay County government:

- Rhonda Porter in Human Services facilitated access to data and provided extractions of detox stays.
- Julie Savat at the Clay County Jail provided an extraction of data on incarcerations.

In Olmsted County government:

- Jim Behrends in Community Services approved the project and facilitated our access to data.
- Craig Hilmer enthusiastically pursued, and ultimately provided, data extractions on detox stays and, through contacts of his in criminal justice, on jail incarcerations. Judy Indrelie provided per-diem rates for incarcerations.

Other researchers, analysts and data providers:

- Craig Helmstetter at the Wilder Research Institute and his staff provided the study with data on homeless shelter utilization. Greg Owen provided helpful guidance and perspective on a variety of topics pertaining to homelessness research in Minnesota.
- Kevin Campbell, the creator of the Link King software package for matching data records (http://the-link-king.com), consulted on the proper linking approach to take for this complex project, answered numerous questions, and even customized a version of the software to better fit our needs.
- Richard Frank and Mireille Jacobson at the Harvard University Medical School, Stephen Metraux at the University of the Sciences in Philadelphia, Dennis Culhane at the University of Pennsylvania, Debra Rog at Westat, Bill Sabol at the Government Accountability Office, and Garrett Fitzmaurice at McLean Hospital contributed methodological expertise at various points.

As these acknowledgements demonstrate, many people contributed to the success of this study. Any omissions from this list are unintentional and do not reflect the appreciation of the authors and the Pilot's stakeholders for the many people who facilitated its successful completion.

Appendix: Values for Selected Charts

Mean Annual Participant Costs Before Enrollment Broken Out By Participant Type and Major Service Domain

Cost Domain	Single Adults	Family Adults	Children
Income Support	2,011	1,528	1,451
Medical	2,869	1,962	2,039
Mental Health	4,299	492	48
Chemical Dependency	1,689	87	0
Pharmacy	1,086	247	49
Detox	673	8	0
Child Welfare	0	72	104
Prison/Jail	1,326	187	0

Mean Annual Mainstream Cost Differences Between Pilot and Comparison Group by Participant Type and Service Domain

Cost Domain	Single Adults	Family Adults	Children
Prison/Jail	-567	-100	0
Mental Health Inpatient	-516	-272	-452
Chemical Dependency Inpatient	-367	-89	0
Detox	-355	-4	0
Medical Inpatient	542	-713	1
Health Plans	45	-246	-61
Chemical Dependency Outpatient	15	-44	0
Child Welfare	274	300	-137
Income Support	430	-71	99
Medical Outpatient	432	-201	714
Mental Outpatient	1,173	530	45
Pharmacy	1,258	-64	88

Measures of Key Outcome Areas at Three Outcome Interviews

Outcome Measure	Baseline	9 Months	18 Months	Direction of Improvement
Average Number of Days Spent in Own Housing (out of 180)	64.5	144.4	146.0	Higher
Average Mental Health Symptom Score	34.6	31.3	29.6	Lower
Average Number of Days Using Drugs or Alcohol to Intoxication (out of 30)	14.6	8.4	9.4	Lower

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March 2009

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