

Supportive Housing for Returning Prisoners:

Outcomes and Impacts of the Returning Home-Ohio Pilot Project



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Executive Summary

Introduction

The Returning Home—Ohio (RHO) pilot program is an innovative reentry program intended to link prisoners with disabilities who have a history or risk of housing instability to supportive housing as they are released to the community. The program, funded largely by the Ohio Department of Rehabilitation and Correction (ODRC), is based on evidence showing that the provision of supportive housing to individuals with homelessness and mental health histories reduces their use of and costs to the corrections, emergency services, and shelter systems (Burt and Anderson 2005; Culhane, Metraux, and Hadley 2002; Culhane et al. 2007). While there is a robust literature base on the effectiveness of supportive housing programs for individuals with chronic homelessness histories and disabilities, there is scant empirical evidence on the effectiveness of supportive housing targeted *directly* to the reentry population as they leave correctional facilities. Given the evidence on supportive housing models—and the known criminal justice costs associated with high returns to incarceration following release—expanding these programs to target the reentry population has the potential to reduce systems use and costs significantly.

With the goals of reducing recidivism, homelessness, and the costs associated with multiple system and service use among disabled prisoners returning to Ohio communities, ODRC partnered with the Corporation for Supportive Housing (CSH) to design RHO over several months in late 2006 and early 2007. The housing pilot was developed following an extensive planning process among ODRC, CSH, and other Ohio agencies to implement a supportive housing pilot focused on prisoners at risk of returning to ODRC upon release (see Delgado 2010 for more information on the planning process). The RHO program targets those soon to be released from prison who have a disability and were homeless at the time of their arrest and/or at risk of homelessness upon release. Initially, RHO was implemented in 10 correctional facilities across Ohio and later expanded to three additional correctional institutions. For RHO, disabilities are broadly defined to include developmental disorders, severe addiction, and behavioral health problems. Individuals who met the eligibility criteria were able to receive coordinated prerelease reentry planning within the correctional institutions and housing and supportive services in the Dayton, Cincinnati, Cleveland, Columbus, and Toledo communities, where nine supportive housing providers associated with the pilot were based. At implementation, RHO had funding for 84 housing units divided across the participating providers. RHO providers were a mix of agencies with experience housing and serving the chronically homeless, disabled, and/or indigent population in Ohio through scatter- and/or single-site housing with supportive services.

Shortly after RHO's implementation in spring 2007, the Urban Institute (UI) began working with CSH and its partners on a process, impact, and cost evaluation of RHO. The evaluation relied on multiple methods and data sources to determine whether RHO met its short- and long-term goals. The study sample was

Supportive housing defined

Supportive housing is the combination of permanent affordable housing with supportive services, intended to help residents maintain residential stability. Supportive services typically include coordinated case management, mental health and health services, substance abuse treatment, and vocational and employment services, among other services.

drawn using a prospective sample of prisoners released from the target prisons. Individuals receiving supportive housing through RHO (treatment group) were compared to a contemporaneous cohort of released prisoners who were eligible for RHO but did not receive services (comparison group). Affirmative research consents were requested from every individual referred to the pilot. Participation in the research was not a condition of participation in the program; therefore, evaluation findings are limited to the sample from which UI received an informed consent.

To support the process evaluation, UI researchers conducted multiple semi-structured interviews with various RHO stakeholders, including CSH program staff who oversaw implementation, ODRC staff who facilitated the RHO recruitment process, and the housing provider staff associated with the pilot. In addition, program data on participants' self-reported characteristics and experiences with RHO services were collected from CSH and the providers. To support the impact and cost evaluation, administrative data on outcomes and costs were collected from government agencies, including ODRC, the Ohio Department of Mental Health (ODMH), the Ohio Department of Alcohol and Drug Abuse Services (ODADAS), and five government and nonprofit agencies that managed the homeless management information systems (HMIS) data in the five communities where RHO participants were housed. Identifiable program data from providers and CSH, as well as administrative data from ODRC, ODADAS, and ODMH, were collected for individuals who consented to participate in the research study only. The agencies that provided HMIS data on residential instability gave the research team deidentified data only, due to challenges acquiring proper release information from RHO study participants. Sample enrollment proceeded over two years, yielding a research sample of 244 individuals, 121 of whom were provided housing. For various reasons, such as slow enrollment into the research sample, all outcomes and impacts observed by the research team are censored at one year. The final report details the logic, progress and performance, and impacts and costs of RHO, as observed by the UI research team. The following is a brief overview of the highlights from the evaluation.

Process Evaluation

The process evaluation was designed to assess the progress and performance of RHO and the extent to which the program met its short-term goals or outputs, chiefly (1) increased access to housing, and (2) increased access to supportive services among program participants. Dozens of site visits and interviews were conducted from spring 2007 through fall 2010, and data were collected through annual semi-structured interviews with RHO stakeholders; field observations of operations, services, and facilities in the community; reviews of program materials; and frequent teleconferences with CSH and other stakeholder staff. Using these data, UI found that RHO's programmatic efforts were focused primarily on systematizing the prerelease referral, enrollment, and linkage process. While the goal of RHO was providing supportive housing to participants, each provider independently managed its own implementation of supportive housing for its participants. Therefore, the program logic identified by the research team is focused primarily on what has been learned through the referral, enrollment, and linkage process, not on the logic underlying each provider's implementation of the RHO program.

Findings and Lessons Learned

Individuals are recruited into RHO through a four-step process. Correctional staff, CSH, and the providers each play a critical role in the RHO enrollment process; each makes independent decisions within their own sources of knowledge, experience, and agency mission on whether an individual is suitable for the program (concurrent with the inmate's decision about whether they want to participate).

1. **Identification:** Corrections staff identifies appropriate individuals in the institution using administrative data systems, their own knowledge of inmates and discussions with potential

participants. Corrections staff involved in the identification process includes staff within the 13 participating institutions and staff in ODRC’s centralized agency, called the Bureau of Community Sanctions (BCS), which manages community-based correctional facilities and postrelease programs.

2. **Referral:** Corrections staff refers inmates to one of the community-based housing and service providers associated with RHO.
3. **Provider Contact and Program Enrollment:** Providers contact referred inmates, deciding whether to accept or reject them into their program. Providers make the final determination of program enrollment.
4. **Housing and Service Delivery:** Inmates receive housing with supportive services following prison release, ideally as close to release as possible.

RHO’s progress on its short-term goals was not achieved in isolation, but was heavily influenced by the circumstances in the state of Ohio and contingent on the depth of the RHO partnership. Some of the main findings, highlighted below, are unique to the challenges facilitating the reentry process within correctional institutions and others are unique to the circumstances surrounding RHO’s implementation.

- **Identification and referral of potential participants took longer than expected**—Prerelease identification and referrals were established for RHO in order to create a seamless transition from prison to housing, and therefore to minimize the opportunity for participants to engage in risky behavior and/or experience residential instability. Although CSH staff engaged in a number of efforts to facilitate the process, the identification and referral of program participants took longer than expected for a host of reasons, including confusion over the referral process among ODRC/BCS and provider staff, low levels of engagement by ODRC facility staff, staff turnover, and challenges in streamlining the referral process within ODRC/BCS. As a result, enrollment into the program was much lower than expected, which led some providers to recruit from the community. Low referrals also compromised the rigor of the research study.
- **Pathways to supportive housing, beginning prerelease, varied considerably**—CSH recruited a mix of providers with histories working with the target population and provided those organizations with training and technical assistance to facilitate the prerelease identification, referral, and enrollment process. Yet, in practice, there were numerous individual pathways into housing for RHO participants, and for some participants, there was a significant departure from the ideal pathway. Three primary participant pathways to housing were found: 45 percent of RHO participants were referred and enrolled prerelease; 18 percent were identified and referred prerelease but released before being contacted and enrolled by a provider; and another 17 percent were released before any contact with the program through ODRC or a provider. The pathways to housing were varied for several reasons, such as the inherent challenges facilitating the reentry process prerelease, which was exacerbated in RHO due to the number of correctional institutions involved in the pilot.
- **Provision of supportive housing upon release varied considerably**—Due chiefly to the variation in the availability of housing and supportive services offered by RHO providers, the timing of supportive housing placement for RHO participants differed from person to person. RHO provider agencies varied in their exclusionary criteria (e.g., sexual offenders, arsonists), population targeted (e.g., chronically homeless, severe mental illness), housing model (e.g., scatter-site, single-site), and city/county. Some of the providers had greater control over the provision of supportive housing, either because they managed a single-site facility or had long-standing relationships with private landlords, whereas other providers needed time to establish landlord relationships or to find housing deemed suitable by an RHO participant, which could not begin until after the participant was released from prison. Immediate housing placement was further challenged when providers received incomplete or inaccurate information on participants’ release date, disabling conditions,

and other demographic information. As a result, some RHO participants were in the community for a considerable number of days (even months) before being placed into supportive housing.

- **Enrollment process took time, careful attention and coordination, and troubleshooting**—Ongoing communication between ODRC/BCS, CSH, and the providers was necessary to make sure referrals were appropriate and that potential participants were matched to providers accurately. CSH's requirement that providers attend trainings and meetings and to report on successes, challenges, and outcomes facilitated the enrollment process and postrelease housing and service delivery. In the end, while there was significant and perhaps unavoidable variation in the pathways to housing and housing placement, RHO successfully housed and served individuals who, for the most part, had some type of disability, history of homelessness, and mental illness. Further, a wide range of services was recommended and delivered to RHO participants, depending on participant need.

Impact and Cost Evaluation

Using a quasi-experimental design, the impact evaluation was intended to test whether the program met its long-term goals to (1) reduce recidivism and (2) reduce residential instability among disabled returning Ohio prisoners. A third focus of the impact evaluation was RHO's effect on the use of services, since the third goal of RHO was a reduction in costs associated with multiple service use among disabled returning prisoners. Three different data sources were used to test whether the program met its goals: administrative data on rearrest and reincarceration outcomes from ODRC; administrative data on returns to emergency shelter from HMIS providers; and administrative data on service claims reported to ODMH and ODADAS by county and state mental health providers. Demographic data on the sample were also obtained from ODRC. In total, 244 individuals consented to participate in the research, of which 239 were located in the ODRC data system. Of those 239 individuals, 121 participated in RHO (treatment group) and 118 did not (comparison group).

Demographic data from ODRC were captured on the sample's gender, age, race/ethnicity, time served in prison, number of previous incarcerations, security level in prison, risk level at release, and postrelease supervision status. Three variables related to program eligibility—homelessness at arrest, presence of a primary or secondary disability that included any mental illness, and presence of a primary or secondary disability that included alcohol or drug abuse (AOD)—were also captured by ODRC data. On average, the sample was 42 years old, two-thirds male, with nearly two previous incarcerations. Fifty percent of the sample was classified as being white. More than 15 percent of the sample was homeless at the time of their arrest, approximately two-thirds had a primary or secondary mental health disability and approximately one-third had a primary or secondary AOD disability. Approximately half were released under postrelease ODRC supervision.

Among these key demographic and program eligibility variables, there were significant differences between the treatment and comparison group members with respect to race/ethnicity, security level, and AOD disability. The comparison group comprised significantly more whites than the treatment group. In addition, on average, the treatment group's prison security level was rated significantly higher than the comparison group and a significantly greater percentage of the treatment group had a primary or secondary AOD disability than the comparison group. Differences in these variables suggest that the treatment group was at a higher risk of recidivism and relapse than the comparison group. Furthermore, analyses showed that several variables predicted group assignment. Therefore, the multivariate models employed propensity score weighting to balance the samples and reduce selection bias. Key findings of the impact and cost evaluation follow, including bivariate and multivariate analyses on the observed outcomes. Multiple multivariate models were estimated according to the outcome of interest. Key findings from the multivariate analyses highlight models that include all of the covariates and propensity weights given the potentially biased selection process by which program participants were selected.

Bivariate Analyses

- **Low rates of rearrest and reincarceration were observed for both groups**—27 and 37 percent of treatment and comparison group subjects, respectively, were rearrested. Misdemeanor rearrests were higher than felony rearrests for both the treatment and comparison groups. Reincarceration rates for the treatment and comparison groups were slightly greater than 6 and 10 percent, respectively. Reincarceration rates were driven largely by reincarceration rates for new crimes, not technical violations, among both groups. The time to the first rearrest was approximately 5.5 months for both treatment and comparison group members.
- **Nearly one-third of the sample received ODMH- and ODADAS-billable services**—37 and 23 percent of the treatment and comparison group subjects, respectively, were delivered ODMH- and ODADAS-billable services. The treatment group had a greater number of days of services delivered within one year of release and the number of days to the first delivery of services was shorter for the treatment group than the comparison group—approximately 2.9 months and 3.4 months, respectively.
- **Returns to emergency shelter were very low**—Only 25 individuals in the research sample (or approximately 10 percent) returned to emergency shelter. Thirteen of these individuals were in the treatment group and 12 were in the comparison group. Given that very few individuals in the research sample were observed to have returned to shelter, multivariate analyses could not be conducted on this outcome.

Multivariate Analyses

- **RHO participants were significantly less likely to be rearrested**—RHO participants were 40 percent less likely to be rearrested than the comparison group subjects. The significant difference in the rates of rearrest is largely driven by significant differences in misdemeanor offense rearrest rates: RHO participants were 43 percent less likely to be rearrested on a misdemeanor charge than comparison group members. There was no significant relationship between RHO participation and felony rearrests.
- **RHO participants were significantly less likely to be reincarcerated**—RHO participants were 61 percent less likely to be reincarcerated than the comparison group subjects. According to the models estimating rates of reincarceration for a new crime, there appeared to be no impact of RHO participation (non-significant findings are likely due to a small number who were reincarcerated for a new crime).
- **RHO participants who were rearrested had significantly more rearrest events**—While RHO participants were significantly less likely to be rearrested, among RHO participants who were rearrested, they were rearrested significantly more times than the comparison group subjects who were rearrested. Overall, RHO participants had 150 percent more rearrest events than the comparison group. A greater number of rearrests among RHO participants may be due to the fact that RHO participants were under greater supervision than comparison group subjects. Treatment participants were not more likely to be on postrelease ODRC supervision, yet they were in frequent communication with RHO program staff, which could affect the number of rearrest events for those who were reoffending.
- **RHO participants were in the community for a significantly longer period of time than comparison subjects before their first rearrest**—The length of time from release to rearrest was significantly longer for those in RHO than the comparison group.
- **RHO participation significantly increased the incidence and prevalence of state-billable behavioral health services and the timing of when those services were delivered**—The treatment group was 41 percent more likely than the comparison group to receive at least one ODMH- or ODADAS-billable

service. Similarly, the treatment group averaged 2.9 times more service days than the comparison group and the treatment group was served more quickly following release from prison than the comparison group. While RHO wanted to reduce costly services and systems use, a goal of the program was not to decrease systems use, *per se*. Indeed, by the nature of the RHO program, returning prisoners were provided a host of services directly or through provider referrals. Therefore, it is logical that the treatment group's services outcomes would exceed the comparison group's services outcomes. In addition, an increase in services following release from prison could be viewed as an unequivocal benefit of RHO participation if those receiving services were previously unserved or underserved.

- **RHO was associated with increased system costs**—Consistent with the impact evaluation findings, particularly the outcomes on service use at one year, regression models showed that RHO was not cost-beneficial using the available data. Participation in the treatment group increased costs by more than \$9,500 per person per year. RHO participants had lower criminal justice costs and higher mental health and substance abuse service costs than comparison group subjects. Each individual's one year postrelease cost was computed to be the sum of the cost of ODMH and ODADAS services provided, the cost of the RHO program, and the costs associated with any new criminal justice costs. While more than half of the sample did not receive any specific ODMH- or ODADAS-billable service or experience a rearrest or reincarceration, over 70 percent of the sample generated some cost—driven mostly by the cost of the RHO program. Given the increase in service use costs and the costs of the RHO program itself, it is not surprising to find that the program was not cost beneficial when examining one year outcomes. Program investments focused on increasing human capital are, by definition, more costly than business as usual, particularly in the short term.

Conclusions and Implications

It is worth mentioning first that a significant finding from the evaluation was the extent to which decisions and judgments were made by ODRC, the providers, and CSH throughout the identification, enrollment, and housing process that were not possible to measure objectively. While the evaluation found that selection into the housing program was related to certain characteristics using administrative data and tried, to the extent possible, to account for these differences in the multivariate models, the evaluation did not account for more latent participant characteristics that could be related to RHO participation and better outcomes (e.g., motivation, readiness for change, aptitude, and ability). While this is a limitation of nearly all quasi-experimental evaluations where assignment into the treatment is not random, it is nevertheless worth mention here. Testing the impacts of RHO on outcomes using an evaluation design where placement into RHO is randomly assigned may show different results.

Therefore, the findings and implications should be interpreted with the understanding that quite a bit of discretion (and bias) was built into the selection of which individuals received supportive housing.

Notwithstanding the limitations of the research design, there are several lessons for policy and practice as well as future research stemming from the evaluation. First, it is clear that RHO successfully housed and served a group of returning prisoners who exhibited characteristics making them suitable for supportive housing generally. To the extent that it fulfilled a previously unmet need among disabled Ohio prisoners, the program should be viewed as a success. Second, the RHO program resulted in clear reductions along several key recidivism measures while also increasing state-billable service use; the latter outcome is arguably a benefit of program participation. Future research that extends the outcome period beyond one year and has access to additional data sources might find that RHO offsets the use (and cost) of other intensive behavioral health services.

As previously mentioned, a significant finding from this evaluation and others in reentry housing is the challenge of housing people following prison release. What RHO was able to demonstrate—particularly

through the impact evaluation—is that the strongest benefits from the program were likely due to contact with the program. Given that levels of actual housing provided to program participants within the one year postrelease period varied, the consistent program “benefit” that is being evaluated is provider contact with RHO participants (and the provider services associated with that contact). While provider contact is a part of the supportive housing benefit, it certainly is not all of it. Therefore, it could be argued that the benefits of RHO participation are underestimated in this evaluation, given the focus on one year outcomes. RHO benefits could be greater over a longer period (i.e., more than one year) when *more* RHO participants could receive *more* housing. Similarly, to the extent that benefits of RHO participation led to more significant reductions in costly services, findings from the cost evaluation may show different results if focused on a longer follow up period.

As reentry issues and reentry programming receive increased attention at the national and local levels, increased collaborative partnerships between correctional agencies and community-based providers should facilitate a smoother reentry process. However, no matter how streamlined the discharge or reentry process, facilitating permanent housing immediately postrelease is likely to be an elusive goal. Given some desire to provide individuals with actual choices in their housing placement and the need to find landlords willing to rent to a particular tenant (for example), it’s likely that immediate housing placement can happen only when using a single-site facility managed by an agency that is able to conduct some form of reaching in to prisons. Nonetheless, correctional agencies that can develop systems to more accurately track inmate release dates and facilitate meetings between inmates in need of housing and agencies that can provide housing would make the transition from prison to housing smoother.

Another lesson for future reentry housing programs is that RHO was relatively successful despite the variation in housing and service delivery. CSH believes that a mix of housing and services approaches is the key to success. RHO providers played to their strengths, largely recruiting prisoners they believed could be successful in their particular program, and provided services accordingly. RHO showed that recruiting a mix of providers, with their own program goals, likely led to short- and long-term successes (e.g., housing placements, retention, and services). The programs executed their own business-as-usual supportive housing programs, yet simply extended their models to a population that was released directly from prison. This type of model implementation is arguably better than recruiting providers that must learn an entire new way of doing business. RHO providers extended what they had already learned through working with indigent, homeless, mentally ill, and/or disabled populations in their cities to those who exhibited these characteristics and were released from prison. In the end, the variation makes it difficult to articulate precisely what about the housing program led to benefits. Therefore, research that empirically measures and tests different aspects of the housing and services “package” would be a logical next step.

Finally, a natural next step in the evaluation of RHO would be to extend the period during which outcomes are observed. As mentioned, the evaluation likely underestimates the value or benefit of RHO program participation due to the one year follow up period. As more individuals benefit from the crux of the RHO program, namely placement in supportive housing, it is likely that outcomes would be even better. Similarly, to the extent that benefits of RHO participation led to more significant reductions in returns to reincarceration or in costly services, findings from the cost evaluation may show different results if focused on a longer follow up period.

I

Introduction

With the goals of reducing recidivism, homelessness, and the costs associated with multiple system and service use among disabled prisoners returning to Ohio communities, the Ohio Department of Rehabilitation and Correction (ODRC) partnered with the Corporation for Supportive Housing (CSH) to design an innovative reentry housing pilot over several months in late 2006 and early 2007. The housing pilot, called Returning Home—Ohio (RHO), was developed following an extensive planning process among ODRC, CSH, and other Ohio agencies to implement a pilot that was focused on prisoners at risk of returning to ODRC upon release. The pilot was part of ODRC’s long-standing goal to address prisoner reentry as a way to reduce the state prison population. ODRC’s partnership with CSH, an agency whose mission is to prevent and end long-term homelessness by helping communities create supportive housing, was consistent with CSH’s programmatic and policy efforts at that time.

Since 2001 and continuing today, CSH has been working at the national and local levels under its Returning Home Initiative to develop and implement supportive housing policies and practices to reduce system use and the associated costs among disabled adults reentering communities at the highest risk of housing instability (for more information, see Fontaine, Roman, and Burt 2010; Roman, Fontaine, and Burt 2009). The logic behind the Returning Home Initiative is that expanding supportive housing programs, which have been shown to be effective for the chronically homeless population,¹ to those released from incarceration may be a way to break costly cycles of homelessness, incarceration, and system use. Following a series of discussions and negotiations between ODRC and CSH, in consultation with other Ohio stakeholders, the RHO pilot was implemented in spring 2007 in select Ohio prisons (for more information on the planning process, see Delgado 2010). The stakeholders decided that individuals were eligible for RHO if they were homeless at the time of arrest or at risk of homelessness upon release and had a disability, broadly defined.

This report—the final of three reports² written by the Urban Institute (UI) on RHO—details the logic, progress and performance, and impacts of RHO, as observed by the research team. Since shortly after RHO’s implementation, UI has been working with CSH and its partners on a process, impact, and cost evaluation of RHO using multiple data sources. The three different evaluation components are complementary, intended to produce a rigorous assessment of RHO’s short- and long-term outcomes and impacts. The process evaluation describes the logic of RHO and whether the program met its short-term objectives, such as successful in-reach into pilot prisons and increased access to housing and supportive services for returning Ohio prisoners. The impact evaluation, using a quasi-experimental design, tests whether RHO met its long-term objectives, such as reductions in recidivism and homelessness. Finally, using findings from the impact evaluation, the cost evaluation tests whether the benefits of RHO outweigh its costs.

Findings from the process, impact, and cost evaluation are detailed over five remaining sections in this report. This section concludes with an introduction to the RHO program and details the research study and its design. The next three sections of the report discuss findings from the process evaluation, impact

¹ See Burt and Anderson 2005; Culhane, Metraux, and Hadley 2002; Culhane, Parker, Poppe, Gross, and Sykes 2007.

² In March 2009, UI produced an interim process report on the first RHO participant cohort (see Fontaine, Nadeau, Roman, and Roman 2009). In October 2010, UI produced an interim outcome report, focusing on rearrest outcomes for a cohort of RHO participants and comparison subjects in the research sample at that time (see Markman, Fontaine, Roman, and Nadeau 2010).

evaluation, and cost evaluation, respectively. A final section provides some concluding remarks on the evaluation, including implications for future practice and research.

Returning Home—Ohio Program Overview

The RHO program is part of CSH’s Returning Home Initiative, which focuses on establishing supportive housing for individuals with histories (and at risk) of housing instability and disabilities leaving prisons and jails. Supportive housing is the combination of permanent affordable housing with supportive services, intended to help residents maintain residential stability. Supportive services typically include coordinated case management, mental health and health services, substance abuse treatment, and vocational and employment services, among other services. CSH has implemented several programs across the country under its Returning Home Initiative, most of which are focused on those released from incarceration at the highest risk of recidivism and housing instability. Given its focus on those with extensive homelessness, incarceration, and mental health histories, the population targeted by the Returning Home Initiative is typically those hardest to engage and serve. Each program that CSH has developed has been tailored to each jurisdiction or community, depending largely on the opportunities for innovation and the partnerships present in each jurisdiction (Fontaine et al. 2010). Yet, each has the following three goals in common: to reduce recidivism; to reduce homelessness/decrease shelter usage; and to decrease the costs associated with multiple service system use across the criminal justice, housing/homelessness services, and mental health services systems. Programs developed under CSH’s Returning Home Initiative are based largely on a “housing first” approach.³

RHO is funded primarily through ODRC and CSH’s Returning Home Initiative. Focused on the three aforementioned goals, RHO targets those soon to be released from prison who have a disability and were either homeless at the time of their arrest or at risk of homelessness upon release. For RHO, disabilities are broadly defined to include developmental disorders, severe addiction, and behavioral problems. Consistent with the Returning Home Initiative’s three larger goals, CSH designed the program with several key aspects:

- **Coordination across systems** that serve the disabled reentry population in Ohio, including ODRC, the Ohio Department of Mental Health (ODMH), the Ohio Department of Alcohol and Drug Addiction Services (ODADAS), and supportive housing providers;
- **Coordination of prerelease planning** through a unit manager administrator,⁴ reentry coordinator, case manager, or other correctional staff at each participating prison and referral management by ODRC’s Bureau of Community Sanctions (BCS); and
- **Provision of housing and supportive services** in five cities across Ohio.

RHO was first implemented in 10 correctional institutions across Ohio and later expanded to three more, to include the Allen, Chillicothe, Grafton, Hocking, London, Lorain, Madison, Marion, Pickaway, and Trumbull Correctional Institutions as well as the Ohio Reformatory for Women and the Franklin and Northeastern Prerelease Centers. Individuals who met the eligibility criteria were able to receive housing and supportive services in the Dayton, Cincinnati, Cleveland, Columbus, and Toledo communities, where

³ “Housing first” models are based on a harm reduction model. Targeted to homeless individuals, housing first models combine housing placement with assertive engagement, case management, and supportive services. The housing first approach places emphasis on using supportive housing to stabilize homeless individuals and to provide services and support, as necessary. Tenancy is typically not dependent on participation in services or maintaining sobriety (see National Alliance to End Homelessness 2006; U.S. Department of Housing and Urban Development 2007).

⁴ Unit management administrators are responsible for implementing and sustaining a system of caseload management, ensuring that unit staff comply with the department’s policies for reentry assessment and planning, meetings with inmates on their caseloads, and ensuring that contact information is documented in inmates’ official department records.

the nine housing and supportive services providers were based. At implementation, RHO had funding for 84 housing units divided across the participating providers, depending on provider capacity.

The providers for RHO represent a mixture of agencies with experience serving and housing the chronically homeless, disabled, and/or indigent population in Ohio through scatter- and/or single-site housing with supportive services. Supportive housing providers for RHO were—

- **Miami Valley Housing Opportunities**, located and operating in Dayton, provides permanent housing for the indigent population and persons with disabilities;
- **EDEN, Inc.**, located and operating in Cleveland, is a nonprofit housing development agency focused on housing the low-income and disabled population;
- **Mental Health Services, Inc.**, located in Cleveland and also serving Cuyahoga County, provides mental health and supportive services for vulnerable populations; Mental Health Services partners with EDEN, Inc. for RHO, providing the supportive services for individuals housed by EDEN;
- **Volunteers of America—Ohio River Valley**, located and operating in Cincinnati, works with indigent populations having difficulty achieving self-sufficiency and runs several programs for ODRC, including transitional housing and postrelease alcohol and substance abuse and sex offender programs;
- **Community Housing Network**,⁵ located and operating in Columbus, is a nonprofit organization focused on housing individuals with serious mental illnesses;
- **Amethyst, Inc.**, located and operating in Columbus, uses supportive housing to assist women having trouble maintaining sobriety to achieve self-sufficiency;
- **YMCA of Central Ohio**, located and operating in Columbus, owns and manages hundreds of supportive single-room occupancy housing units for the indigent population;
- **Neighborhood Properties, Inc.**, located in Toledo and also serving Lucas County, uses housing and supportive services to end homelessness for persons with serious mental illnesses and addictions; and
- **Volunteers of America—Northwest Ohio**, located and operating in Toledo, operates homeless shelters, transitional housing, and supportive housing for men, women, and children with histories of homelessness, disabilities, criminal justice involvement, and drug and alcohol issues.

Evaluation Design and Sample Enrollment

The UI evaluation relies on multiple methods and data sources to determine whether RHO met its short- and long-term goals. Since 2007, UI researchers have conducted multiple semi-structured interviews with various RHO stakeholders, including CSH program staff overseeing RHO implementation, ODRC staff facilitating the RHO recruitment process, and each of the housing provider staff in the five Ohio cities where the pilot was implemented. Program data on participants' self-reported characteristics and experiences with RHO services were also collected from CSH and the housing providers to support the process evaluation. To support the impact and cost evaluation, administrative data on outcomes and costs were collected from ODRC, ODMH, ODADAS, and five government and nonprofit agencies that managed the homeless management information systems (HMIS) in the communities where RHO participants were housed.

The impact evaluation, using a quasi-experimental design, focused on a prospective sample of prisoners released from the target prisons. Individuals receiving permanent supportive housing through RHO

⁵ Community Housing Network dropped out of RHO after the first year of program operations.

(treatment group) were compared with a contemporaneous cohort of released prisoners who were eligible for RHO but did not receive services (comparison group). The research team requested signed, affirmative research consents from every individual referred to RHO, which were then matched with data from CSH and the providers on which individuals received housing postrelease. Ideally, the consent was to be administered by the institution staff prerelease to every individual referred to RHO. In some cases, provider staff administered the research consent *after* the individual was released and served by the program.⁶

Research consents were critical for capturing identifiable data on outcomes, particularly service use. Identifiable program data from providers and CSH as well as administrative data from ODRC, ODADAS, and ODMH were collected for individuals who consented to participate in the research study only. Participation in the research was not a condition of participation in RHO; therefore, information on the research sample discussed in this report is limited to those individuals from whom UI received an informed consent. The government and nonprofit agencies that provided data on residential instability provided the research team with deidentified data only.

The research design was based on the informed assumption that interest in and referrals to RHO would exceed provider capacity—creating a natural comparison group.⁷ Assuming RHO would serve at least 85 individuals—since some percentage of potential participants would be served and quickly discharged from the program, leaving housing slots open for other referrals—the final evaluation plan was to recruit 300 individuals into the research study. Yet, for reasons that are discussed in subsequent sections of this report, such as low referrals into the housing program in particular, enrollment into the research sample did not reach 300 (table 1.1). In total, 244 individuals consented to participate in the research, 121 of whom were provided housing.

Table 1.1. Quarterly Sample Enrollment, by Year [treatment group in brackets[^]]

Quarters	2007	2008	2009	Total
January–March		9 [8]	42 [21]	
April–June		12 [1]	39 [12]	
July–September		30 [15]	26 [4]	
October–December	44 [33]	23 [15]	19 [9]	
Total	44	74	126	244

Note: Enrollment into RHO, for the UI evaluation, began in the fourth quarter of 2007 and ended in the fourth quarter of 2009. During sample enrollment, UI received refusals of research participation from 25 participants; therefore, true program enrollment over this time period differs only slightly from the numbers in the table.

[^] Provider data, which were necessary for identifying program enrollment, are missing for 3 RHO participants (treatment group).

As shown in table 1.1, sample enrollment proceeded over two years. Over the two years of sample recruitment, an insufficient number of individuals consented to participate in the research study to detect impacts of RHO participation among those in the community for more than one year following prison release.⁸ Further, because referrals to the program were extremely low—particularly in the first

⁶ Some individuals were already housed and served by RHO before the evaluation was funded.

⁷ Analyses by staff at ODRC and discussions with CSH led the research team to estimate that at least 15 prisoners per month would meet the RHO eligibility criteria.

⁸ Power analyses conducted by the research team at the start of the evaluation suggested that a sample size of 300 total participants, 100 of whom received housing, would support a rigorous evaluation. Given that sample recruitment of 300 participants took longer than expected and options for an evaluation design in the absence of research consents was not

year of program implementation—the treatment group was in the community for significantly more days following prison release than the comparison group (i.e., they experienced a longer risk period).⁹ Recruitment into the comparison group occurred more slowly than recruitment into the treatment group. Therefore, all outcomes and impacts discussed in this report are censored at one year.

supported by all of the agency partners, recruitment was extended and the sample size lowered, given optimistic projections on the potential for program impacts.

⁹ Interim analyses conducted by the research team in fall 2010 showed that the sampled treatment group experienced an average 717 days (or 1.96 years) in the community, while the comparison group experienced an average 434 days (or 1.19 years) in the community, a difference that was statistically significant ($p < 0.01$) (see Markman, Fontaine, Roman, and Nadeau 2010).

Logic, Progress, and Performance of RHO

RHO is an innovative reentry program that is intended to link prisoners with disabilities who have a history or risk of housing instability to supportive housing as they are released to the community. The program, funded largely by ODRC, is based on evidence showing that the provision of supportive housing to individuals with homelessness and mental health histories reduces their use of and costs to the corrections, emergency services, and shelter systems (Burt and Anderson 2005; Culhane, Metraux, and Hadley 2002; Culhane et al. 2007). While there is a robust literature base on the effectiveness of supportive housing programs for individuals with chronic homelessness histories and disabilities, there is scant empirical evidence on the effectiveness of supportive housing targeted *directly* to the reentry population as they leave correctional facilities. Given the evidence on supportive housing models—and the known criminal justice costs associated with high returns to incarceration following release—expanding these programs to target the reentry population has the potential to significantly reduce the use of and costs to systems.

Similar to the CSH's other reentry programs launched through its Returning Home Initiative, RHO intends to target individuals while they are incarcerated to create a seamless transition from prison to the community. The logic goes that by linking and then stabilizing individuals in supportive housing as they are released from prison, RHO can increase public safety and public health and save money by reducing costly returns to the prison system and shelter system, and the use of other emergency health services. Empirical evidence has shown that the moment of release is the moment of opportunity for released prisoners—that reentry programs that engage former prisoners at or shortly after release have the greatest potential to reduce their opportunities to engage in risky behavior. This can be particularly true for the population that has a history of cycling in and out of the criminal justice system.

To assess RHO operations, dozens of site visits and interviews were conducted from spring 2007 through fall 2010. Specifically, data were collected through—

1. Annual **semi-structured interviews** with RHO stakeholders, including staff from CSH, ODRC, and all nine housing service providers;
2. **Field observations** of provider program operations, services, and facilities in the community;
3. Reviews of **program materials**, including provider intake forms, providers' periodic follow-up assessment and discharge forms, as well as other CSH implementation reports; and
4. **Frequent teleconferences** with CSH staff on program processes and performance, as well as participation in various stakeholder meetings on program processes and performance.

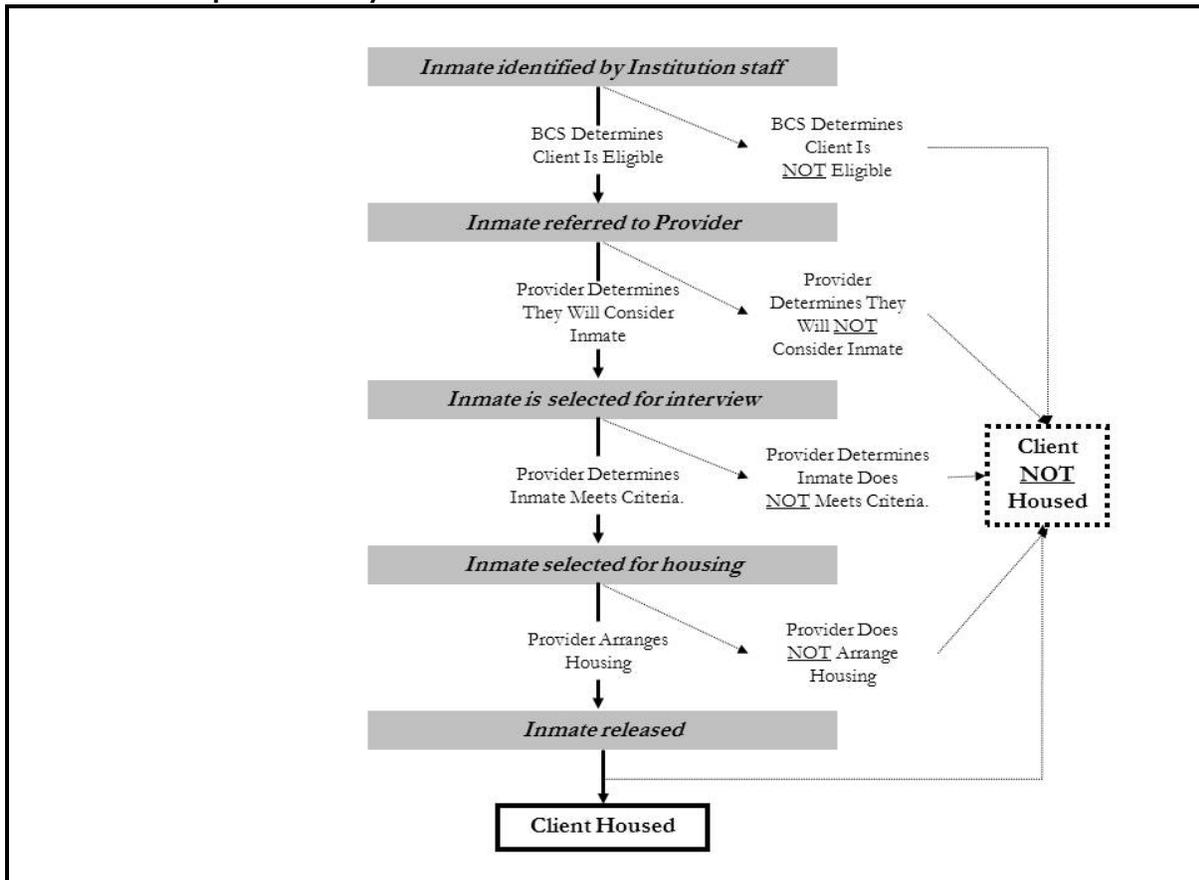
Using these data, it became clear that RHO's programmatic efforts were focused primarily on systemizing the prerelease referral, enrollment, and linkage process and not on systemizing postrelease housing and service delivery. To be clear, the goal of RHO was squarely on providing supportive housing to pilot participants, yet, each provider independently managed its own implementation of supportive housing for its participants. UI discussions with CSH, ODRC, and provider staff made it clear that service delivery varied considerably across providers. Therefore, the following discussion on the RHO program logic is focused largely on what has been learned through the referral, enrollment, and linkage process and less on the logic underlying each provider's implementation of the RHO program.

Logic of RHO

The mechanism to recruit individuals into RHO is a four-step process. First, corrections staff identify appropriate individuals in the institution using administrative data systems, their own knowledge of individual inmates, and discussions with potential participants (*identification*). Corrections staff involved in determining program eligibility include the staff at each participating RHO institution as well as staff at the Bureau of Community Sanctions (BCS), a centralized agency that manages community-based correctional facilities and postrelease programs, such as halfway houses, transitional control, and independent housing facilities for ODRC. Second, corrections staff refer an individual to one of the community-based housing and service providers associated with RHO (*referral*). Third, a provider will conduct an initial contact with the referred inmate, deciding whether to accept the inmate into its program (*provider contact and program enrollment*). Part of program acceptance includes a release plan for supportive housing. Finally, individuals receive housing with supportive services in the community upon release (*housing and service delivery*).

Thus, ODRC/BCS, CSH, and the providers each play a critical role in the RHO enrollment process. Each of these entities makes its own decision about whether an individual is suitable for the program (concurrent with the inmate's decision about whether to be part of the housing program). As briefly discussed above and further illustrated in the following sections, the providers manage their own programs and therefore make the ultimate decision whether to accept or reject a referred individual into their program. The ideal referral and enrollment mechanism is shown in figure 2.1.

Figure 2.1.
Ideal RHO Participant Pathway



Source: Urban Institute summary of interviews with RHO stakeholders.

Identification

Identification of potential RHO participants was expected to occur primarily through unit manager administrators located within the 13 correctional institutions. Shortly following initial implementation, RHO referrals were permitted from any individual who had contact with inmates, such as case managers, psychology assistants, or other mental health staff. During the pilot planning stage and periodically throughout the first year of RHO implementation, CSH conducted extensive training and outreach at all of the RHO pilot institutions to inform them about the program, the program's eligibility requirements, and RHO's goals and expectations of participants. Once institutional staff identified a potential participant, that person's case file was to be sent to BCS to determine final eligibility, from ODRC's perspective. BCS has oversight over all pre- and postrelease programs of ODRC and therefore made the first determination whether RHO was the best housing placement for a potential participant among available ODRC postrelease programs. Meanwhile, BCS was to send information about the inmate to the providers in the community, ideally in the neighborhood where the inmate had a social support network or connection (e.g., the neighborhood where the potential participant was arrested or lived before incarceration).

Referrals were expected to occur within 30 to 60 days prior to an individual's release date. Those who were referred earlier (e.g., 90 days prior to release) were placed on a waiting list, and those who were referred later (e.g., 15 days prior to release) were prioritized. Each provider had a maximum number of individuals who could be housed for the RHO program, depending on the size of the provider's program and its contractual agreement with CSH/ODRC. BCS's decision on program eligibility was to be made with the providers and through discussions with CSH, as necessary.

Referral

Although individuals were referred to a provider by BCS, the provider retained the authority to accept or reject a person into its program. Ideally, staff members at BCS were to send the provider information about the potential participant, such as a presentencing report and other background information, to assist in the enrollment decision. Each provider directed a different program in the five cities, based on the agency's mission, experience, and expertise. For example, one provider agency accepts only women into its single-site housing program and requires the women to participate in extensive onsite case management and supportive services, while other provider agencies operate scatter-site housing facilities with limited or no services available onsite. Some providers prefer—due to their agency's mission and expertise—to serve those with severe mental health issues, while others specialize in serving the chronically homeless or indigent population. Some providers do not take arsonists or sexual offenders, while others are not as selective. While referrals to providers were to be made with CSH's knowledge, the decision to accept or reject a potential participant lay with the provider. Inmates rejected by a provider were to form the comparison group for the research study, and were to be referred to business-as-usual services from BCS.

Provider Contact and Program Enrollment

Dependent on three factors—(1) the capacity of the provider in terms of staff resources; (2) what institution a referral was coming from and the proximity of the institution to a provider's offices; and (3) the length of time between a referral and the inmate's release date—the goal was to have providers contact potential participants *before* fully accepting them into the program. To assess whether individuals were suitable for their program, providers were able to contact them over the telephone, in person, or using videoconferencing, based on the referring correctional institution and provider capacity. Contact with potential participants was expected to occur before prison release, to facilitate the smooth transition from release to the community and to ensure that the inmate understood what to

expect from the provider once in the community (e.g., a gate pickup, food and furniture shopping, initial housing placement).

Housing and Service Delivery

Once individuals were released, they were to be placed in supportive housing. Each provider recruited for RHO maintained a different suite of housing units, from single-site housing to scatter-site housing units that were managed either by the provider agency or private landlords. Some providers owned or managed emergency shelters and transitional housing units as well, some of which had been used for the criminal justice-involved population in the past. Therefore, providers varied in their ability to place an individual directly into supportive housing following release from prison.

Findings: RHO Progress and Performance

The process evaluation was designed to assess the progress and performance of RHO and the extent to which the program met its short-term goals or outputs; chiefly, increased access to housing and supportive services among program participants. Thus, before focusing on the long-term goals of recidivism, homelessness, and cost reductions, the following outlines whether and how RHO met its short-term goals. The mechanism for increasing access to supportive housing among the disabled adults leaving select Ohio prisons was through the identification, referral, provider prerelease contact, and program enrollment process, followed by eventual housing and supportive services in the community.

Through semistructured interviews, field observations, reviews of program materials, and participation in meetings and stakeholder discussions, the research team assessed the extent to which RHO met its short-term goals. In doing so, the research team has made an independent assessment of the facilitators and barriers to program performance and operations. As mentioned previously, the program's outputs are reliant on a set of actors both inside and outside of the correctional department, each making independent decisions within their own sources of knowledge, experiences, and agency missions. Many of the outputs or short-term goals for RHO were not achieved in isolation, but were heavily influenced by the contextual circumstances in the state of Ohio and contingent on the depth of the RHO partnership, as discussed below.

Identification and Referral

Though RHO was eventually implemented in 13 correctional institutions throughout Ohio, the identification of program participants proceeded quite slowly over time. CSH and its partners expected to enroll 84 prisoners into the program relatively quickly given what was expected to be a high number of referrals to the program from the select prisons. RHO had an initial target of housing 50 individuals within the first six months of enrollment (see Delgado 2010). The enrollment of 84 prisoners into RHO took a considerable amount of time—much longer than expected—given the program's relatively loose eligibility criteria. Slow enrollment was due to several factors, which are discussed in turn below. Within the identification and referral process, slow enrollment was due to few individuals being identified as eligible for the program within the correctional facilities. Three correctional institutions were added to the initial 10 pilot prisons because of low identification of potential inmates for the program.

To facilitate the enrollment process, CSH staff engaged in a number of trainings, meetings, and troubleshooting discussions with ODRC and provider staff throughout the first year of RHO implementation, beyond the initial training and planning discussions. To facilitate the identification process further, CSH, provider, and ODRC staff placed posters announcing the RHO program throughout the institutions and tried to advertise the program through word of mouth. Yet the identification of potential RHO participants and referrals to BCS remained relatively low over time. UI discussions with

staff at ODRC, CSH, and providers revealed the following barriers to the prerelease identification process:

- *Staff turnover at ODRC/BCS*—Over the initial months of RHO implementation, there was staff turnover at ODRC due, in part, to budget cuts across the state. The staff turnover included the line staff engaged in the identification process within the select institutions as well as the BCS staff engaged in the provider referral process. As a result of the staff turnover, new staff needed to be trained on the identification and referral process for the program.
- *Too few referrals from institution staff*—Institution staff at the select prisons seemed slow to engage in the RHO referral process. Although additional outreach within the institutions by CSH and BCS staff was conducted throughout the initial year of RHO implementation, referrals from institutional staff remained low. In fact, in the later months of RHO implementation, BCS staff was more directly engaged in the identification of potential RHO participants through case and file reviews. Initially, only the unit manager administrators were supposed to engage in the referral process with BCS, but that was later expanded to any correctional staff that had any contact with an inmate. Though more institution staff was involved in referring potential participants, enrollment still proceeded slowly, which led some providers to recruit from within their own housing programs (discussed below).
- *Initial confusion over the referral process*—Referrals to the program were supposed to occur within approximately 30 to 60 days of an inmate’s release, from the unit management administrator to BCS. Inmates who were referred earlier than 60 days before their release date were put on a waiting list, and others were put on a waiting list if a potential provider did not have any available housing slots. Others were rejected from the program by BCS staff because of nonqualifying conditions (e.g., lack of a disability) or desire to be released to a neighborhood that did not have an RHO provider (e.g., Akron). Because of confusion over the referral process, the waiting list, and a lack of understanding that individuals could be rejected from the program, some correctional staff stopped making referrals to BCS.

Provider Contact and Program Enrollment

After potential individuals were identified within the institutions, they were to be referred to a housing/service provider in the community within 30 to 60 days of their release to allow time for an interview between the provider and the inmate. Recall that the proposed process of RHO enrollment was (1) identification by ODRC/BCS staff; (2) referral to provider for contact and program enrollment/intake; (3) release from prison; and (4) housing and service delivery (figure 2.1). As previously mentioned, the community-based providers were to make the final decision as to whether a person was enrolled in the program. Prerelease identification and referral to providers was established to create a seamless transition from prison to housing, to minimize the potential for risky behaviors among a population with a history of residential instability.

UI analysis of data from ODRC and provider staff has shown that individuals’ pathways to housing have varied considerably; and for some, there was a significant departure from the ideal pathway to housing. The program identified some RHO participants in prison, connected them with the supportive housing provider prerelease, and then placed them into housing almost immediately upon their release (ideal). The program struggled to connect other RHO participants with the provider prerelease, instead releasing them into the community without a connection to a provider. For a few others, their pathway into the program started entirely *after* their release from prison. These variations are illustrated in figures 2.2, 2.3, and 2.4. Even within these three primary pathways to housing, there was significant

variation in the time each RHO participant spent in each step (e.g., prerelease identification to provider contact/enrollment, provider contact/enrollment to release, and release to housing):¹⁰

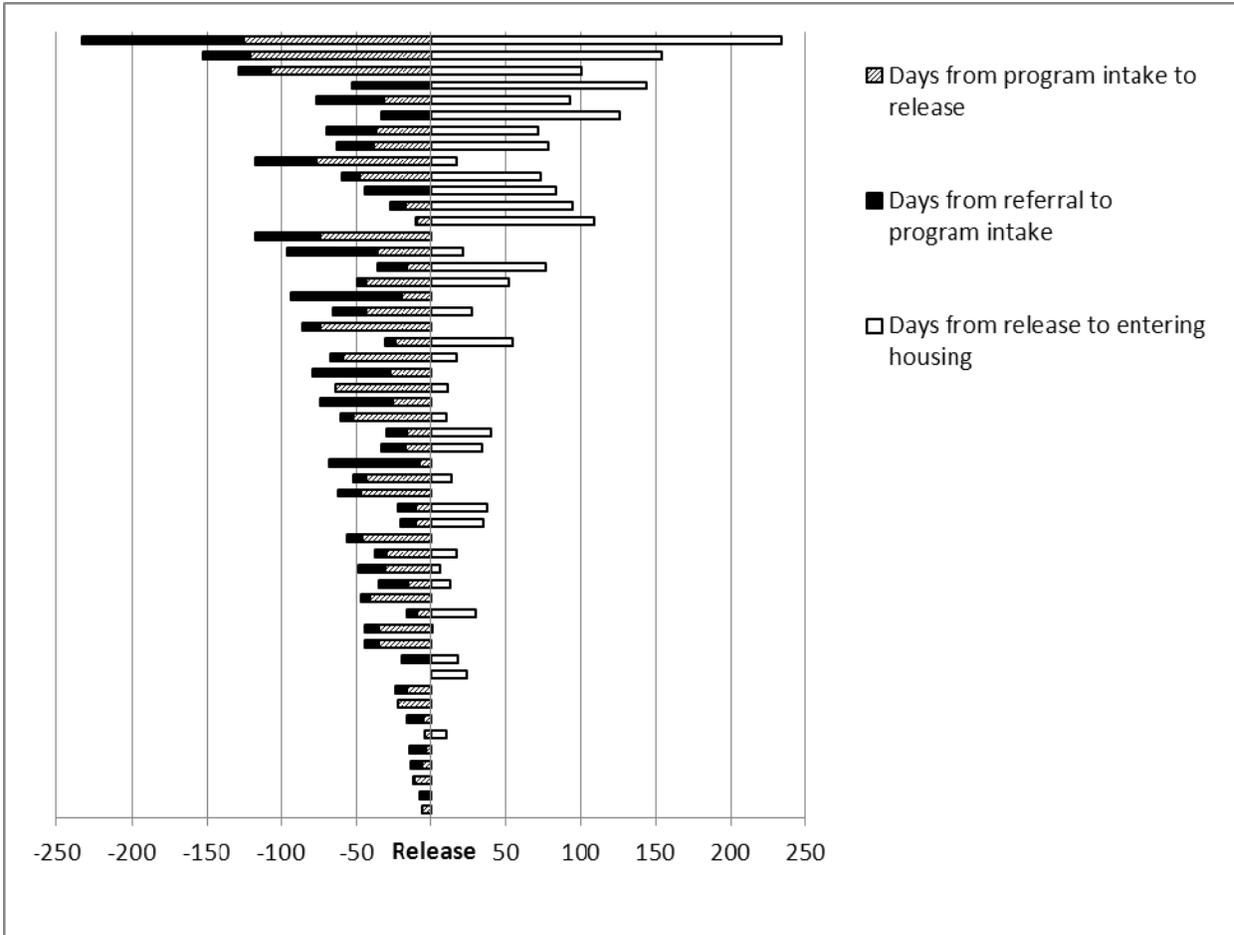
- *Pathway A (Prerelease Enrollment)* is the ideal pathway, which 53 of 118¹¹ RHO participants experienced (45 percent). Participants in Pathway A were referred to the program prerelease, and provider contact and intake was also conducted prerelease (figure 2.2). Within this pathway—though it was ideal—there was still considerable variation in the number of days participants spent after prerelease enrollment before release and from their release to supportive housing placement. How participants spent their time in the community before supportive housing placement varied, including placement in hotels, emergency shelters, or transitional housing facilities that providers did or did not manage. The participants in Pathway A averaged 22 days between referral to the program and contact by providers, 30 days between provider contact and release from prison, and 37 days from release to placement in supportive housing (figure 2.2).
- *Pathway B (Postrelease Enrollment 1)* is less than ideal, since individuals were released before being contacted by a provider, though they were identified and referred to the program prerelease (21 participants, or 18 percent of the RHO participants, followed Pathway B). Participants within this pathway spent an average of 22 days from referral to release, 11 days from release to provider contact, and 42 days from provider contact to housing. Similar to Pathway A, there was considerable variation in the number of days participants spent between their release from prison and placement into supportive housing (figure 2.3).
- *Pathway C (Postrelease Enrollment 2)* was the pathway for 20 RHO participants (17 percent). Participants enrolled through Pathway C were referred postrelease. This pathway is not ideal, since it indicates that individuals were not contacted by any RHO program stakeholder (ODRC, provider staff) during their incarceration. Participants in this pathway spent an average of 73 days from release to referral; 3 days from referral to provider contact; and 18 days from provider contact to housing. For many individuals in this pathway, housing followed very shortly after provider contact (figure 2.4).

Individuals' pathways into housing (the process of identification, provider contact, and housing placement) are an important factor in the study because these pathways may influence postrelease residential instability. For example, an individual placed into housing immediately upon release, following a contact with a supportive housing provider in a correctional institution, would be expected to be at a lower risk for residential instability than an otherwise similar individual released into the community with no housing or connection to a provider.

¹⁰ An additional 24 participants did not fall into any of these primary pathways. Nine of the participants had missing data; nine had pathways that were out of order (such as contact, intake, and housing occurring before ODRC referral); and six had inconsistent dates of provider enrollment (such as being enrolled by a provider, but later contacted or vice versa).

¹¹ Provider data are missing for 3 RHO participants.

Figure 2.2.
Pathway A: Prerelease Enrollment



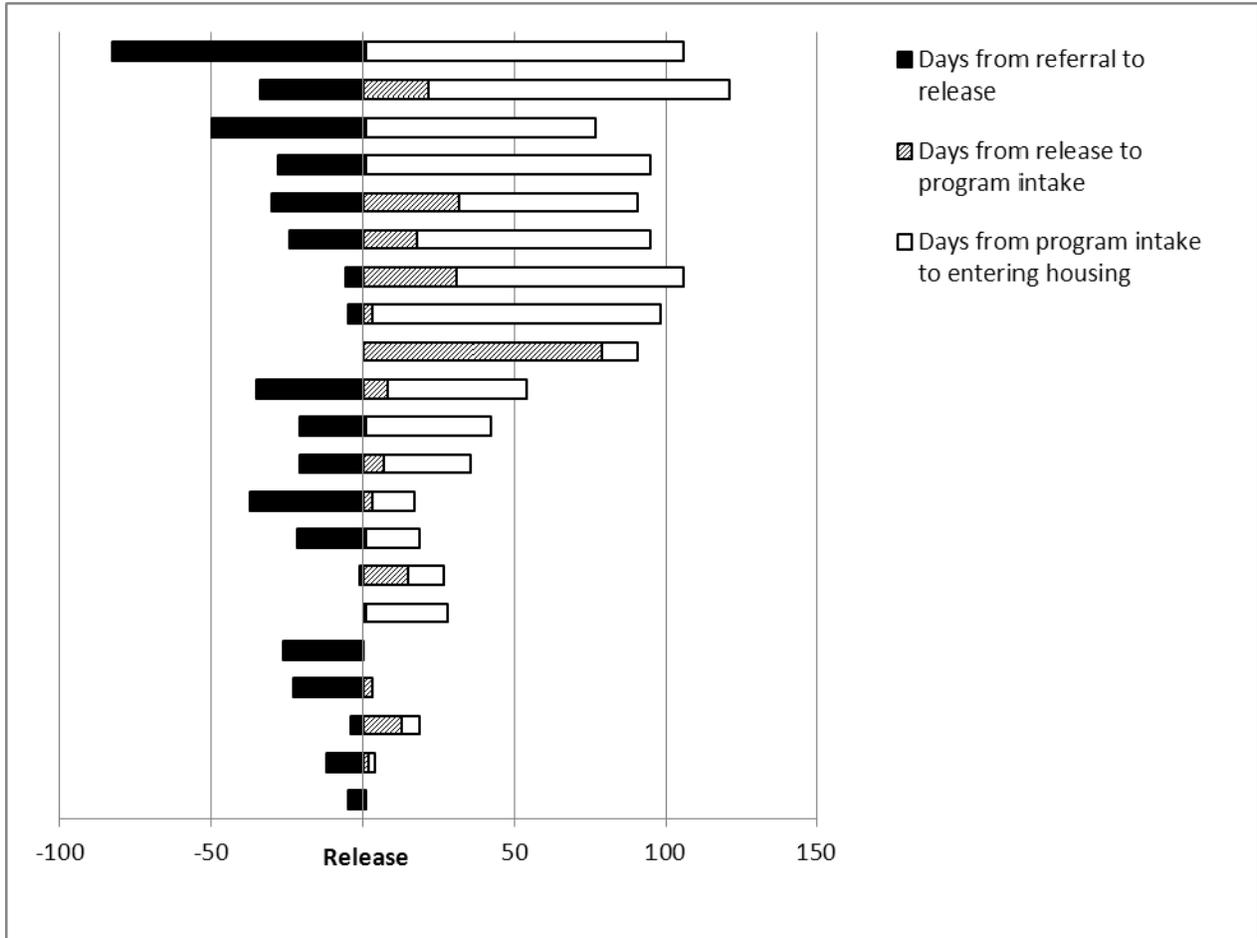
Source: Urban Institute analysis of data from ODRC and provider staff.

Note: Units are in days, where negative days indicate prerelease status. Each horizontal bar is an individual participant.

*Range in total days from referral to housing in Pathway A: 6 to 467 days.

**Number of participants in Pathway A: 53.

Figure 2.3.
Pathway B: Postrelease Enrollment 1



Source: Urban Institute analysis of data from ODRC and provider staff.

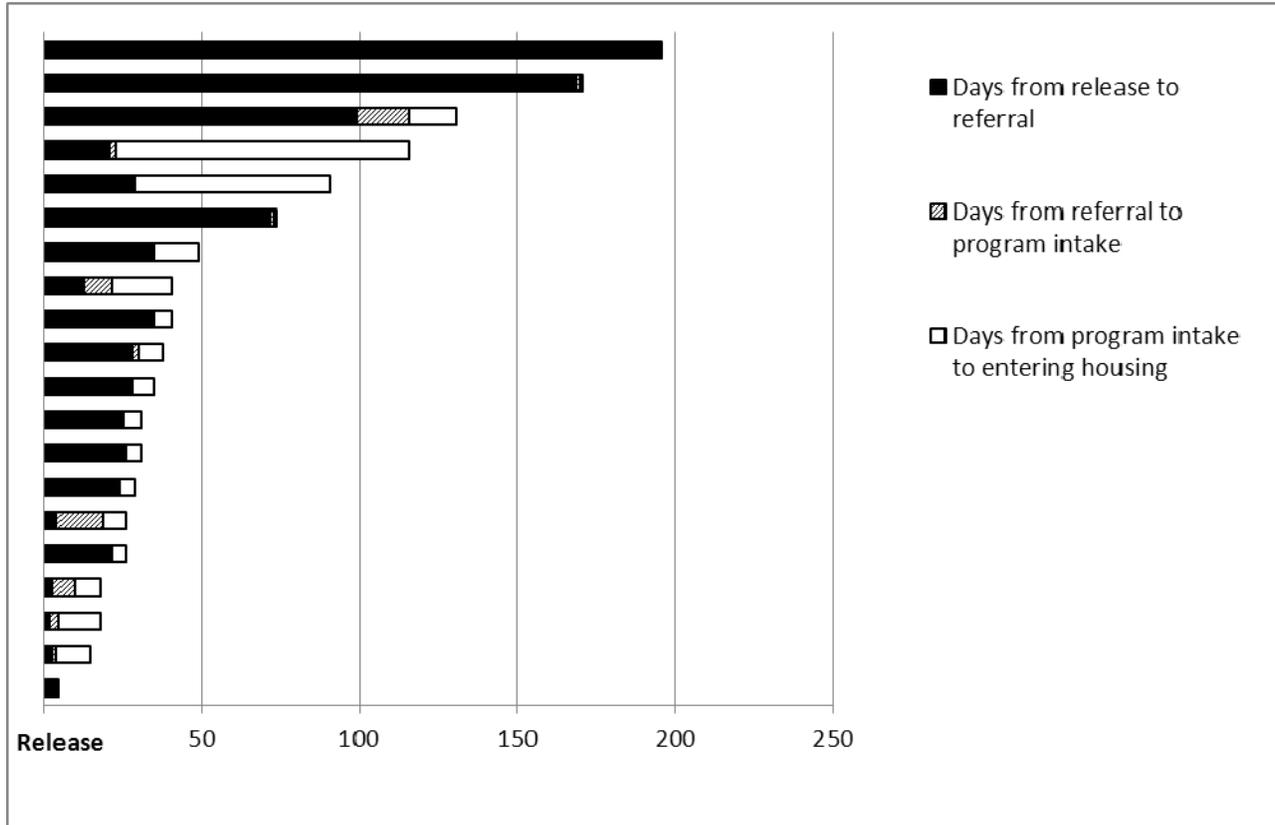
Note: Units are in days, where negative days indicate prerelease status. Each horizontal bar is an individual participant.

*Range in total days from referral to housing in Pathway B: 6 to 189 days.

**Number of participants in Pathway B: 21.

Figure 2.4.

Pathway C: Postrelease Enrollment 2



Source: Urban Institute analysis of data from ODRC and provider staff.

Note: Units are in days, where negative days indicate prerelease status. Each horizontal bar is an individual participant.

*Range in total number of days from referral to housing in Pathway C: 5 to 196 days.

**Number of participants in Pathway C: 20.

Prerelease identification and referral were facilitated by ODRC and BCS staff engagement in the referral process within 30 to 60 days of inmates' release. Further facilitating the referral process was the recruitment of some providers that had a history of working with the criminal justice-involved population and/or individuals with disabilities and chronic homelessness histories. All providers recruited for the project had a willingness to engage with ODRC directly for referrals, although not all had worked with ODRC before. CSH provided training and technical assistance to ODRC/BCS and providers throughout RHO implementation to smooth out the referral process and facilitate housing linkages. Yet, the pathways to housing were varied for several reasons, which persisted throughout the RHO project. UI discussions with staff at ODRC, CSH, and providers revealed the following barriers to a consistent pathway to housing, beginning prerelease, for RHO participants:

- *Challenges facilitating the reentry process*—As detailed in previous reports on reentry programs' implementation, there are inherent challenges implementing prerelease reentry programs for various reasons. Specific to this program, facilitating the RHO program prerelease was difficult due to challenges gathering accurate data on inmates' release dates; gathering the requisite data on inmates' homelessness history, mental illnesses, and disabilities; and facilitating providers' access to correctional facilities to conduct face-to-face discussions or teleconferences with potential participants. Prerelease identification for RHO required careful attention and coordination across a range of actors—the individual being released, the various correctional staff involved in the RHO process, and the community-based providers delivering the social service. Many RHO participants were referred to providers within only one to two weeks before their release, negating the possibility of prerelease contact and enrollment. The various steps in the RHO identification and referral process may suggest that 30 to 60 days is insufficient time in which to complete all of the identification and enrollment steps for this program or similar programs.

Ideally, reentry planning should be part of the discharge planning process, that is, while participants are still incarcerated and *before* they have to face the act of reentering society. People are at the highest risk of being rearrested in the first few days and weeks after their release, particularly the group of individuals RHO is designed to target. A provider that is working with people at the moment of their release is tremendously helpful in getting people into a housing facility and linked to social supports. The challenge that faced this program, like other reentry programs, is how to routinize the discharge planning process, facilitate social service providers' access to prison facilities, and coordinate assistance leading up to the moment of release. The variation demonstrated in the previous figures is not a failure of the program *per se*, but highlights the challenge in facilitating the reentry process.

- *Number of correctional institutions involved in the pilot*—In addition to the challenges inherent in reentry planning, the 13 correctional institutions involved in the pilot each had its own processes. Each institution has a different staff of unit manager administrators, case managers, and rules and abilities to coordinate prerelease teleconferences, videoconferences, and/or face-to-face discussions. The inconsistency in these processes, from the perspective of the providers, challenged a smooth prerelease identification and enrollment process *across* the RHO program. In addition, the distance of some facilities from the provider's offices meant that coordinating prerelease enrollment and the moment of release was difficult to manage for some RHO participants.
- *Too few referrals to providers*—As previously mentioned, the identification of potential participants and referrals were low initially. In addition, though the ideal pathway to housing was intended to begin prerelease, discussions among the RHO stakeholders did suggest that enrollment of participants within two months after release was appropriate from the perspective of CSH and ODRC. Therefore, some providers recruited program participants from within their own housing programs, including emergency shelters or halfway houses that they managed—particularly at the

beginning of RHO implementation. Other providers accepted individuals who simply walked through their doors needing housing supports, as well as those referred to them by parole officers or through homeless outreach programs.

- *Incomplete information on prospective participants*—The difficulty of getting accurate data on potential participants from the correctional institution meant that many providers were unable to identify appropriate housing placements in the community before an individual was released. Many providers expressed dissatisfaction with the information provided to them from ODRC because it was not thorough enough for them to make a determination of program suitability. Many providers waited until an individual was released to conduct their own assessment of housing and service appropriateness before placing them in supportive housing.
- *Variation in availability of supportive housing, by provider*—Some of the providers associated with RHO had much greater control over the provision of supportive housing, either because they manage or maintain a single-site facility or because they have long-standing, ongoing relationships with private landlords. Other housing providers needed time to establish relationships with potential landlords for suitable supportive housing options. Further, some providers could not place RHO participants in scatter-site supportive housing units managed by private landlords until the participants were released. Some of the providers had a strong desire to allow participants to decide where they wanted to be housed in the community. Therefore, individuals could not be transitioned into supportive housing immediately following release, since the decision process may have taken a few days or weeks. Providers varied in the type of housing model they managed, which led to variation in the time that RHO participants spent in the community before being placed into housing.

Housing and Service Delivery

Understanding individuals' pathways into the program and the variation across these pathways is incomplete without focusing on the providers—a critical part of the process. Each of the RHO program providers is unique; they were selected by CSH and ODRC to participate in the pilot given their expertise and history serving the target population (e.g., populations with substance abuse, mental health, and homelessness histories and the criminal justice-involved population). CSH's initial goal was to recruit providers that had a history of serving those that research has shown are most likely to be successful in supportive housing (e.g., people with mental illness, chronic homelessness histories). Meanwhile, ODRC saw RHO as a potential way to house the hard-to-house population, such as sexual offenders or those with no housing placements due to severed family ties, and therefore expanded the number of providers that did not have an explicit history of serving the typical supportive housing population.

Therefore, the nine supportive housing providers associated with RHO represent a mix of agencies with a mission of serving different target populations. Each uses a different housing model. Further, the nine providers are located in and serve five different Ohio cities/counties, jurisdictions that have their own unique sets of resource opportunities and challenges. UI discussions with provider staff revealed that there was considerable variation in their delivery of housing and services to program participants. There was also considerable variation in the expertise and background of the service provider staff, dependent largely on the type of supportive housing services offered by the provider agency. Provider staff varied widely, from clinical staff trained to serve and house those with severe mental illnesses to staff trained in counseling and criminal justice issues. Some provider agencies staffed the RHO program with one case manager or program director, while others had a team of case managers focused on different aspects of RHO participants' needs (e.g., residential manager, employment specialist, clinical specialist).

Table 2.1. Snapshot of RHO Providers' Housing and Service Delivery Models

Provider	City	Target Population	RHO Housing Type	Services Requirement[^]	Exclusions
MVHO Miami Valley Housing Opportunities, Inc.	Dayton	Mentally ill, veterans, disabilities	Scatter-site, owned by MVHO	No	Seriously violent, arsonists
EDEN/MHS* EDEN, Inc., and Mental Health Services	Cleveland	Severely mentally ill, homeless	Scatter-site, working with private landlords	No	None
ORV Volunteers of America—Ohio River Valley	Cincinnati	Indigent population	Scatter-site, working with private landlords	No	Seriously violent, serious drug abuse, severely mentally ill
CHN** Community Housing Network	Columbus	Serious mental illnesses	Scatter-site, working with private landlords	No	None
AME Amethyst, Inc.	Columbus	Women only, Substance abuse	Single-site, owned by Amethyst	Yes	None
YMCA YMCA of Central Ohio	Columbus	Indigent population	Single-site, owned by YMCA	No	Sexual offenders, arsonists, women
NPI Neighborhood Properties, Inc.	Toledo	Mental illnesses	Single-site, owned by NPI and scatter-site, owned by private landlords	No	Sexual offenders
NWO Volunteers of America—Northwest Ohio	Toledo	Indigent population	Single-site, owned by Volunteers of America	No	Sexual offenders, arsonists

Source: Urban Institute summary of interviews with provider staff.

[^]Outside of frequent contact with the RHO program staff, such as the program director or case manager assigned to the project.

*Unlike other providers in the program, EDEN and MHS are both contracted RHO partners: EDEN provides the housing and MHS provides the supportive services for RHO participants.

**CHN participated in the first year of RHO operations only.

The numerous trainings, meetings, and reports that CSH required of the providers facilitated streamlined referrals and consistency in services. Yet, as illustrated in table 2.1, providers varied in the housing and services offered to RHO participants. Providers vary in the population their agency has a mission to serve as well as the population their agency explicitly excludes from their program. Exclusions from the program were due both to the type of housing offered to participants (e.g., inability to house arsonists in a single-site facility) and to provider staff's own challenges housing certain types of offenders (e.g., inability to find private landlords willing to house sexual offenders).

The variation in providers' ability and willingness to serve the inmates referred to them from ODRC/BCS required ODRC/BCS to focus actively on appropriately matching inmates to providers. The extent of the matching was likely more than ODRC/BCS staff envisioned at the start. Indeed, nearly all of the providers mentioned instances of inappropriate referrals from ODRC/BCS to their specific program. Complicating this further is the reality that some RHO participants are naturally more suitable for services with some providers and not with others. Paradoxically, while some providers said their referrals were too mentally ill or disabled to be successful in their specific housing program, others argued that their referrals did not need the intensive services for which their program was most suitable. As table 2.2 makes clear, the self-reported demographic characteristics of RHO participants varied tremendously by provider.

Despite the variation in provider's mission, housing model, and exclusionary criteria, RHO participants were all offered and received some type of housing and services after release from prison. Though it took longer than expected, the program successfully housed and served more than 84 adults released from ODRC. The program successfully housed and served individuals who, for the most part, had some sort of disability, history of homelessness, and/or mental illness. Although some providers questioned whether all ODRC/BCS referrals were appropriate for the program, the participants housed generally exhibited characteristics that suggest they would benefit from supportive housing.

To support this evaluation, UI requested that providers capture information on program participants upon their entry into the housing program after their release from prison and every six months they were housed and served by the program (up to one year of RHO participation). The program entry form captured the individuals' self-reported housing and homelessness, criminal justice, mental health, and disabilities histories and other demographic data. In addition to demographic information from the participant, the data collection forms captured information from the providers on their contact with each RHO participant and the extent to which services were recommended and delivered. Self-reported data from the RHO participants, through the providers, were captured for 118 of the 121 individuals in the evaluation.¹² Baseline, self-reported information from the RHO participants showed the following key findings:

- *Mental Health:* More than three-quarters of the RHO participants who responded (78 percent) reported having an Axis I mental health diagnosis; of the RHO participants responding, a little more than 78 percent self-reported to a provider as having a primary mental health diagnosis from a mental health assessment (the remaining 20 percent reported no mental health diagnosis). More than 42 percent reported a primary diagnosis of a mood disorder and 20 percent reported a psychotic disorder as their primary mental health diagnosis.
- *Housing and Homelessness:* Of the RHO participants responding, the average number of times they self-reported to have been homeless over their lifetime was 2.4. Immediately before their most recent incarceration, nearly 34 percent of RHO participants responding self-reported living with their family, 26 percent were living alone, 15 percent were living in a shelter, with the remaining few reporting to have lived in supportive housing, being homeless, or living with friends.

¹² Valid N's vary across the questions.

- *Criminal History and Drug Use:* RHO participants self-reported an average of 14 lifetime arrests at the time of program entry and 9 lifetime convictions. The average self-reported age at first arrest and conviction was 21 and 23, respectively. The primary charges self-reported by RHO participants for their most recent incarceration varied considerably. The overwhelming majority (92 percent) of RHO participants self-reported drug use in the year prior to their most recent incarceration.
- *Age:* The average age of RHO participants at program entry was 44 years.
- *Race:* The majority of RHO participants self-identified as black or African-American (57 percent), and another 38 percent self-identified as white or Caucasian.
- *Gender:* More than three-quarters of RHO participants self-identified as male.
- *Marital Status:* More than two-thirds of RHO participants self-identified as single at the time of their entry into the RHO program.
- *Educational Status:* The majority of RHO participants self-reported as having not graduated from high school at the time of program entry; 40 percent self-reported as having received their GED.

Table 2.2. Select Self-Reported Demographic Characteristics of RHO Participants, by Provider

	MVHO	EDEN/ MHS	ORV	CHN	AME	YMCA	NPI	NWO
Percent Male	67	79	86	88	0	100	87	80
Percent Black	67	21	45	64	20	60	50	50
Average Age (years)	45	44	46	45	37	44	44	47
Number of Lifetime Arrests	10	9	11	12	18	22	11	21
Percent with Axis I Diagnosis	93	95	79	100	78	78	88	78
Percent Recently Homeless	8	5	7	11	29	29	0	40

Source: Urban Institute analysis of data from providers.

Of the 121 RHO participants in the evaluation, at least one follow-up form was collected for 71 RHO participants (or nearly 59 percent of the initial sample) and a second follow-up form was collected for 20 RHO participants (or 17 percent of the initial sample) within one year of prison release.¹³ Given the low number of RHO participants from whom a second follow-up form was collected, the following discussion focuses on services recommended and received at the first follow-up. Since a follow-up form is missing for nearly 40 percent of the RHO participants, who are likely to vary considerably from the sample that stayed in housing and engaged with a provider, tentative conclusions can only be drawn about the extent of service delivery to RHO participants by providers following program entry.

UI analysis of the follow-up data showed that all 71 RHO participants that had a follow-up form collected within six months to one year of program entry were recommended at least one service by a provider. The vast majority (94 percent) of participants were delivered at least one service. Each of the 71 participants checked in with a provider at least monthly. On average, there were 10 check-ins between the RHO participant and the providers. From the perspective of the providers and RHO participants, as shown in the data, service delivery was generally quite effective. At the first follow-up, 81 percent of all

¹³ The precise timing of the follow-up data collection varied across RHO participants, ranging from six months from program entry (defined as housing in the community) to one year from program entry. The timing varied because the evaluation was funded after RHO implementation began, and providers were asked to collect baseline and follow-up data on everyone in their program from whom the research team had collected consents (as long as they were within one year of program entry and still in housing). In addition, providers varied in the timing of the collection of data from the RHO participants.

services that were recommended to the RHO participant were ultimately delivered. This relationship, however, was dependent on the type of service being recommended. Not only were mental health services the most likely to be recommended, but the ratio of services delivered to recommended was also the highest. In contrast, the substance abuse services delivery rate was much lower, and the majority of recommended education services went undelivered (table 2.3).

Table 2.3. Service Recommendation and Delivery among RHO Participants, by Service Type

	Recommended	Delivered
Number of services at follow-up (average)	5.1	4.1
Mental health services (average)	2.4	2.2
Substance abuse services (average)	1.4	0.8
Education services (average)	0.2	0.1
Other services recommended (average)	0.3	0.2

Source: Urban Institute analysis of data from providers.

Valid N = 71.

This gap in service recommendation versus service delivery is more vivid when focusing on individual services. For example, while the same proportion of RHO participants were recommended supportive therapy and Alcoholics Anonymous, more than 90 percent of RHO participants recommended supportive services received them, while only 68 percent of RHO participants recommended Alcoholics Anonymous services received them (table 2.4). This specific disparity—between mental health service delivery rates and substance abuse service delivery rates—is likely attributable, in part, to participants’ refusal to take services. Refusal to take recommended services was frequently cited by the providers as a problem with substance abuse services. Recall that, with the exception of one RHO provider, participants were not required to accept services as a condition of their RHO enrollment.

Other services that were frequently recommended that did not fall into educational, mental health, or substance abuse categories included engaging the participant in community service, access to a gym, anger management, and financial literacy training. Providers also helped participants navigate the process of receiving government benefits (e.g., Social Security, the Supplemental Nutrition Assistance Program). All of the services—both recommended and eventually delivered—should be considered as consistent with providers’ standard service delivery model. Since the providers made the final decision on RHO enrollment, it is reasonable to assume (and discussions with stakeholders suggest) that providers selected former prisoners they believed would be successful in their particular program.

Table 2.4. Services Recommended and Delivered to RHO Participants

	Recommended	Delivered
Medication or drug therapy for mental health (percent)	70.4	60.4
Supportive therapy for mental health (percent)	62.0	56.3
Outpatient counseling for substance use (percent)	49.3	31.0
Alcoholics Anonymous/Narcotics Anonymous or other substance abuse support group (percent)	62.0	42.3

Source: Urban Institute analysis of data from providers.

Valid N = 71.

Finally, as part of RHO, providers were asked to report data on the reasons a participant was discharged from or exited the program. Consistent with other data sources used for the evaluation, UI censored the

discharge data at one year of placement in RHO. More than one-third (34.7 percent) of the 121 RHO participants in the evaluation were discharged within one year of their placement in the program. For the 42 participants who were discharged within one year, the average time from program entry to program discharge was approximately 216 days or seven months. Reasons for participants' discharge from RHO varied across positive and negative reasons, as shown in table 2.5. A majority of RHO participants were discharged voluntarily and the most common reason for discharge was voluntary exit and cessation of services. By and large, these moves were seen as positive improvements that were encouraged by provider staff. This is in contrast to program termination, which most often resulted from rearrest, but also included failure to pay rent and leaving without notice.

Table 2.5. Reasons for RHO Participant Discharges

<i>Program termination (percent)</i>	40.5
Modal category: Rearrested for new offense (percent)	21.4
<i>Voluntary exit (percent)</i>	57.1
Modal category: Moved to new housing location and no longer receives services (percent)	43.1
<i>Relocation (percent)</i>	4.8
Modal category: Moved with family, friend, or significant other (percent)	4.8

Source: Urban Institute analysis of data from providers.

Note: Categories are not mutually exclusive; providers could choose multiple reasons for program discharge.

Valid N = 42.

It became clear through discussions with CSH, ODRC, and provider staff that service delivery varied across providers. The variation was expected; it was built into the RHO program from the outset. In general, tables 2.3 and 2.4 show the range of services recommended and delivered by providers in total. The goal of the evaluation was not to focus on the logic of each provider's delivery of the RHO program given the resources inherent in the task of evaluating nine different programs within five cities and because CSH's efforts to implement RHO were not focused on systemizing the postrelease housing and service delivery. Indeed, CSH largely allowed each provider to manage its own implementation of supportive housing to its participants, understanding that each agency was recruited to participate in the pilot given its previous experience. Nevertheless, CSH further facilitated implementation of postrelease supportive housing throughout the pilot by: requiring provider staff to report regularly on housing progress and RHO participant successes and challenges; administering and overseeing required training sessions for provider staff; hosting quarterly meetings for provider staff that facilitated cross-agency learning and networking; and maintaining oversight through their contractual agreements with the providers.

Conclusions

Through the articulation of RHO's logic, progress, and performance, it is clear that while the program had some challenges to the identification and enrollment process, individuals with histories of disabilities and housing instability were eventually housed and served by the program. In the three years that UI observed it, the RHO program achieved its ultimate goal of placing 84 former prisoners into supportive housing. The process took time, careful attention and coordination, and troubleshooting. While there were significant and perhaps unavoidable variations in individuals' actual pathways to housing, the impact evaluation discussed subsequently focused on whether the key to successful reentry and longer-term behavioral change was the actual housing and provider contact, from which, fortunately, all the program participants eventually benefited.

3

Impact Evaluation

Using a quasi-experimental design, the impact evaluation was intended to test whether the program met its long-term goals to (1) reduce recidivism and (2) reduce residential instability among disabled prisoners returning from ODRC. A third focus of the impact evaluation was whether RHO had an impact on the use of services, since one of the three RHO goals is a reduction in costs associated with multiple systems and services use among disabled returning prisoners. Three different sources of data were used to test whether the program met its long-term goals: administrative data on rearrest and reincarceration outcomes from ODRC; administrative data on returns to emergency shelter from HMIS providers; and administrative data on service claims reported to ODMH and ODADAS by county and state mental health (mental health, substance abuse, and dual diagnosis) providers. The agencies providing data to the evaluation required active informed consent from research participants. The comparison group included a contemporaneous cohort of RHO-eligible participants who were referred to the program but were not provided housing in the community.

Table 3.1 provides a snapshot of the key demographic characteristics observed in the sample, by group assignment, as captured in ODRC records. In total, 244 individuals consented to participate in the research. All 244 consenting individuals' names and identifying information were provided to ODRC, of whom 239 were located in the ODRC data system. Of those 239 individuals, 121 participated in RHO (treatment group) while the remaining 118 did not (comparison sample).

Table 3.1. Sample Demographics

	Treatment	Comparison
Male (percent)	76.9	78.8
Age at Release (years)	41.6	42.4
Percent White***	40.5	60.2
Time Served in Prison (in days)	907.4	1289.7
Number of Previous Incarcerations	1.8	1.6
Homeless at Arrest (percent)	23.1	14.9
Primary or Secondary Disability is Mental Health Illness	62.8	65.4
Primary or Secondary Disability is Alcohol/Drug Abuse***	31.4	20.6
Security Level [^] **	2.61	2.43
Risk Level at Release [#]	1.18	1.18
Any Postrelease Supervision (percent)	50.4	53.0

Source: Urban Institute analysis of data from ODRC.

[^] Security level ranges from 1 to 5, where level 1 is the lowest security level and level 5 is the highest.

[#] Risk level ranges from negative 1 (basic risk) to 8 (intensive risk), which is ODRC's classification of an inmate's risk of reincarceration.

Valid N: 121 treatment, 118 control.

Note: Various statistical tests of differences in the means of the treatment group and the comparison group tested whether the differences were significantly different from 0; significance testing: *p < 0.10; **p < 0.05; ***p < 0.01.

On average, the sample was 42 years old, largely male, with nearly two previous incarcerations before the incarceration that led them to be eligible for the RHO program/study. On each of these primary demographic variables, there were no statistically significant differences between the treatment and comparison groups. The comparison group comprised significantly more whites than the treatment group; while 40 percent of the treatment group was classified by ODRC as white, 60 percent of the comparison group was classified by ODRC as white. ODRC data captured several key variables related to reentry risk for the sample, including the percentage of the sample that was homeless at arrest,¹⁴ the percentage that had a primary or secondary disability that included any mental illness, and the percentage that had a primary or secondary disability that included alcohol or any drug abuse (AOD). On these three key variables—each of which is related to program eligibility—a significantly greater percentage of the treatment group had an AOD as their primary or secondary disability than the comparison group. No significant differences in the percentage of the treatment and comparison group with a mental health disability were observed. On average, two-thirds in each group were classified by ODRC as having a mental health disability. Finally, there appeared to be no statistically significant differences between the groups on their average risk and postrelease supervision levels; however, the treatment group’s average security level in prison was significantly different (higher) than the comparison group’s average security level. In summary, there were several key variables demonstrating that the treatment group was at higher risk of recidivism and relapse than the comparison group.

Data Sources

Identifiable administrative data were drawn from ODRC, ODMH, and ODADAS for all consenting research participants who could be located in the ODRC data systems (n=239), and deidentified program data were drawn from the government and nonprofit agencies that manage the HMIS in the five cities/counties where RHO was implemented.

Recidivism Data

Data from **ODRC** were the richest, most complete set of information describing the characteristics of the research participants along with their recidivism outcomes. In addition to demographic data, ODRC provided the following data to the evaluation:

- **Incarceration histories:** Details of all prior incarcerations in ODRC, including the crime leading to the most recent incarceration, time served, risk, and security level.
- **Mental health data:** Information on all diagnoses and classifications of inmates’ mental health statuses as well as levels of service receipt within ODRC.
- **Physical Health data:** Information on the physical health classifications and service receipt within ODRC.
- **Substance abuse treatment programming:** Information on inmates’ participation in substance abuse treatment programming during incarceration and under community supervision postrelease.
- **Rearrest outcomes:** Information on rearrests in Ohio following release, up to one year. Arrest data were developed by ODRC from law enforcement data sources in the Ohio Law Enforcement Gateway search engine, as well as county clerk of court websites. Rearrest data captured information on whether the arrest was for a felony or a misdemeanor.
- **Reincarceration outcomes:** Information on returns to ODRC following release, up to one year. Reincarceration data captured whether the reincarceration was for a community supervision violation or a new crime.

¹⁴ Homelessness at arrest is determined by ODRC staff based on court sentencing records and prison intake records.

Data on Mental Health, Alcohol and Drug Addition Services

Data from **ODMH** included mental health billing and hospitalization records to capture the type, volume, and cost of services provided to the research participants. Data were drawn from state-run hospital records and from the Multi-Agency Community Services Information System (MACSIS), which tracks billing information for ODMH-funded services provided by county mental health providers. Similarly, data from **ODADAS** included billing records for AOD services to capture the type, volume, and cost of services provided to the research participants drawn from MACSIS. In addition, data from ODADAS included intake data for each service, which were used to track individual status outcomes.

Residential Instability Data

Finally, data from the five agencies that manage the HMIS/continuum of care systems in each of the five cities/counties were collected on emergency shelter system use following release, up to one year. The following agencies provided data: the **Community Shelter Board of Columbus, Dayton/Kettering/Montgomery County Homeless Management Information System; Cleveland-Cuyahoga County Office of Homeless Services; The Partnership Center, Ltd.** (Cincinnati, Hamilton County); and the **Toledo-Lucas County Homelessness Board**. Due to challenges acquiring a proper release of information from RHO study participants, the HMIS providers supplied a deidentified data set to UI, retaining information on returns to emergency shelter, sample group assignment, and limited demographic variables for analytical purposes.

Methodology

Using the aforementioned data sources, multivariate data analyses were used to tease out the marginal effect of RHO participation on an array of outcomes. Models were estimated dependent on the outcome of interest. In total, 14 outcomes were tested to determine the extent to which RHO achieved its intended long-term goals. Eight outcomes focused on public safety/recidivism, five outcomes focused on public health/behavioral health system use, and one outcome focused on residential instability/homelessness.

To test the impact of RHO participation on recidivism outcomes within one year of release, logistic regression models were generated to estimate the probability of any rearrest; a felony rearrest; a misdemeanor rearrest; any reincarceration; and a reincarceration for a new crime (to tease out any potential differences between the probability of a reincarceration for a new crime versus a community supervision violation).¹⁵ Zero-inflated negative binomial regression¹⁶ was used to estimate whether RHO participation had an impact on the number of rearrests; and the number of reincarcerations. Finally, Cox proportional hazard models were used to estimate the impact of RHO participation on the: time/days to rearrest.

For each of the eight recidivism outcomes, six models were estimated. The first three models are unweighted and the remaining three models are weighted by propensity score measures (inverse, normalized scores). The choice to estimate propensity-weighted models is based on interim analyses conducted by the evaluation team (see Markman et al. 2010) and more recent statistical tests that showed that several control variables predicted group assignment.¹⁷ Propensity score measures

¹⁵ An additional logistic regression estimating the likelihood of being incarcerated for a technical violation was originally estimated, but the model failed to converge due to too few observations.

¹⁶ Zero-inflated negative binomial regression was used to adjust the count models for a large number of zeros.

¹⁷ Full results are not shown, but are available from the authors. In particular, logistic regression models estimating the extent to which demographic, mental health, homelessness, and risk- and security-related variables were related to the probability an inmate was placed in the treatment group showed that race/ethnicity (being nonwhite), disability diagnosis

efficiently use all of the information in the data to reduce selection bias. Thus, the coefficient in any single variable, including the group assignment variable, is less reliable when calculated in an unweighted model. Using propensity weighting reduces this bias. The propensity score measures take into account demographics, mental health assessment, most recent offense, most recent living situation (homelessness), and most recent incarceration to form a single weight equal to the inverse of the estimated propensity to be assigned to the observed group. The propensity model was initially modeled using all available data and any variable that had a p-value greater than 0.5 was retained to form a model predicting group assignment.

Each pair of models—weighted and unweighted—iteratively adds additional covariates. The first and fourth models, weighted and unweighted, include basic demographic, mental health, disability, and security variables. The second and fifth models, weighted and unweighted, add correlates of service receipt and postrelease supervision, including homelessness, incarceration, release risk, and postrelease supervision. The third and sixth models, weighted and unweighted, add detailed mental health diagnoses.

There is a tension in choosing between a model that reduces bias (e.g., using propensity-weighted models) and increases precision (e.g., including covariates). Given the potentially biased selection process by which RHO participants were selected, the models that include all of the covariates and propensity score weights are highlighted (“doubly robust” models). Though these models may sacrifice precision, they also most adequately control for bias—the most salient problem in this type of analysis. The doubly robust models produce estimates that have magnitude and levels of statistical significance similar to those with fewer covariates or without propensity weights, indicating that attempts to control for the additional bias do not hamper or obfuscate the results. Indeed, almost all of the findings presented in this report on the impact of RHO on recidivism and service use are statistically significant and in the same direction. The present analysis is less concerned about the precise estimates of the covariates on outcomes.

To measure the impact of the program on service utilization, reported in the ODMH and ODADAS systems through MACSIS, five models were analyzed. Logistic regression was used to test the impact of RHO participation on the probability of any service delivery. Negative binomial regression was used to measure the impact of RHO participation on the number of days of any service delivery. Cox proportional hazard models were used to estimate whether RHO participation had an impact on the number of days until the first service delivery. Consistent with the regression models for recidivism, four models were estimated for the outcomes, two unweighted and two weighted by propensity scores. For each pair of models, one model includes demographic variables, street days, mental health assessment, and security assessments, while the second model adds most recent living situation (homelessness), variables measuring drug use, and specific mental health diagnoses. Covariates were added in a same manner as the recidivism outcome analyses.

Finally, given the stripped data sets provided by the HMIS providers on returns to shelter and the relatively low level of variation found in the data provided, independent sample t-tests (bivariate analyses) tested whether the difference in returns to shelter between the treatment and comparison group means were statistically different from zero. Multivariate analyses estimating the probability of returning to shelter, the number of shelter returns within one year, and the time to the first return to shelter were not possible with the data provided to the research team.

(having a diagnosis for an AOD-related disability), and a higher security level in prison increased the chance of being placed in the treatment group. Identifying as being homeless at arrest also increased the probability of being placed in the treatment group. Spending a longer time in prison prior to release and a personality disorder diagnosis were related to a lower probability of being in the treatment group.

Bivariate Analyses on Recidivism, Service Use, and Residential Instability

Within one year of release, 27 and 37 percent of treatment and comparison subjects, respectively, were rearrested. Misdemeanor rearrests were higher than felony rearrests for both the treatment and comparison groups. The average number of rearrests was less than one rearrest for the treatment and comparison group—an average skewed downward given that the majority of treatment and comparison group subjects were *not* rearrested. Reincarceration rates for the treatment and comparison groups were slightly greater than 6 and 10 percent, respectively, with the majority of those reincarceration rates driven by reincarceration for new crimes among the treatment and comparison groups. The number of days to the first rearrest was approximately 5.5 months for the treatment and comparison group members, of those who were rearrested. With respect to services delivered, more than two-thirds of the treatment group was delivered services within one year of their release, compared to less than one quarter of the comparison group. The treatment group also had a significantly greater number of days of services delivered within one year of release than the comparison group. The number of days to the first delivery of services was shorter for the treatment group than the comparison group—approximately 2.9 months and 3.4 months, respectively.

Table 3.2. Bivariate Sample Outcomes by Recidivism and Service Measures, by Group Assignment

	Treatment	Comparison
Any Rearrest (percent)*	27.3 (n=121)	37.3 (n=118)
Felony Rearrest (percent)	18.2 (n=121)	17.8 (n=118)
Misdemeanor Rearrest (percent)*	18.2 (n=121)	27.1 (n=118)
Any Reincarceration (percent)	6.6 (n=121)	11.0 (n=118)
Reincarceration—New Crime (percent)	5.8 (n=121)	8.5 (n=118)
Reincarceration—Technical Violation (percent)^	0.8 (n=121)	2.5 (n=118)
Number of Rearrests	0.628 (n=121)	0.720 (n=118)
Time to First Rearrest (days)	162.35 (n=34)	173.98 (n=45)
Time to First Reincarceration (days) ^	277.36 (n=8)	240.42 (n=12)
Any Service Delivery (percent)**	37.2 (n=121)	22.9 (n=118)
Number of Days of Services Delivered***	12.61 (n=121)	3.71 (n=118)
Time to First Service Delivery (days)	91.16 (n=45)	104.19 (n=27)

Source: Urban Institute analysis of data from ODRC, ODMH, and ODADAS.

Note: Significance testing: *p < 0.10; **p < 0.05; ***p < 0.01.

^ These outcomes were not estimated using multivariate models because there were too few valid data points.

Within one year of release, only 25 individuals in the research sample (or approximately 10 percent) returned to emergency shelter. Given that very few individuals in the research sample were observed to return to shelter within one year of release, multivariate analyses on this outcome could not be conducted. Instead, table 3.3 provides a description of the 25 individuals observed to return to shelter and their demographic breakdown using the limited data provided by the HMIS agencies. Though there are sizable differences in the means observed between members of the treatment and comparison groups who returned to shelter in terms of their race/ethnicity, gender, and mental health diagnosis, none of these differences were significantly different from zero at or below the 0.10 level of significance. Null findings on statistical tests of differences between the groups are likely due to the small number of observed returns to shelter during one year following prison release in the HMIS data provided to the evaluation team. The only difference observed between the groups was in the average

days to the first return to emergency shelter. The treatment group was observed to return to shelter in significantly fewer days following prison release than the comparison group.

Table 3.3. Bivariate Outcomes by Residential Instability Measure, by Group Assignment

	Treatment (n=13)	Comparison (n=12)
Race—Black (percent)	15.4	41.7
Gender—Female (percent)	84.6	66.7
Mental Health Diagnosis (percent)	69.2	58.3
Homeless at Arrest (percent)	23.1	16.7
Multiple Visits (percent)	53.8	41.7
Time to Return (average days)	2.08***	125.25***

Source: Urban Institute analysis of data from the HMIS providers.

Note: The independent sample t-test tests whether the difference in the means of the treatment group and the comparison group is significantly different from 0.

Significance testing: ***p < 0.01.

Multivariate Analyses on Recidivism and Service Use

For each recidivism measure, six models were estimated. Each of these iterations can be found in tables A.1-A.7 in the appendix, including three unweighted models and three weighted models using inverse propensity score weights. Likewise, three models are estimated for service delivery, which are shown in tables A.8-A.10 in the appendix, including two unweighted models and two weighted models using inverse propensity score weights. The Akaike Information Criterion (AIC)—a measure of model fit where lower numbers imply a better fit—is relatively inconsistent across models and outcomes. Yet, the final model (estimating six recidivism outcomes and three service outcomes) includes the most covariates in addition to the inverse propensity score weights; therefore, it reduces observable bias to the greatest extent possible. Correlations, not reported here but available from the authors upon request, indicate that the covariates in the final models are not heavily collinear, further suggesting that these models provide the least biased estimate of the impact of RHO participation on outcomes. The results reported here focus on the impact of the treatment on outcomes as shown by the propensity score weighted and covariate models (models 6 for recidivism outcomes and models 4 for service use outcomes). Table 3.4 summarizes the main effect of treatment group participation on outcomes. Results from all models can be found in the appendixes (tables A.1-A.10). In general, the estimates do not differ greatly by model specification.

Models predicting rearrest and reincarceration indicated that, holding everything else constant, being in the treatment group reduced the probability of rearrest and reincarceration one year following prison release. According to the models, the odds of being rearrested if placed in RHO are only 43 percent of the odds of being rearrested in the comparison group (table A.1). Stated differently, RHO participants were 40 percent less likely to be rearrested than comparison group subjects. The difference in the probability of rearrest is driven largely by the differences in the probability of misdemeanor offense rearrest rates. Indeed, though there is no observable difference between the treatment group and comparison group on felony rearrest outcomes, the odds of being rearrested for a misdemeanor are 2.5 times higher for the comparison group than the treatment group (tables A.2 and A.3). In addition, the odds of reincarceration are four times less than the odds of reincarceration for the comparison group (table A.4). This means that the treatment group was 61 percent less likely to be reincarcerated than the comparison group. According to the models estimating a reincarceration for a new crime, there

appeared to be no impact of RHO participation (table A.5). A logistic model estimating the probability of being reincarcerated for a parole violation failed to converge because there were too few data points to detect sufficient variation across model parameters. The zero-inflated negative binomial regression model showed that RHO participants had significantly more rearrests within one year after release than the comparison group (table A.6). The coefficient suggests that participation in RHO increased the number of rearrests by 150 percent. Finally, the Cox proportional hazard model showed that the length of time from release to rearrest was significantly greater (longer) for those in RHO than the comparison group (table A.7). With respect to service delivery, every model estimated shows a statistically significant relationship between RHO participation and service use in one year. The treatment group was 41 percent more likely to be delivered at least one service relative to the comparison group (table A.8). Likewise, the treatment group averaged 290 percent more service days than the comparison group (table A.9) and was delivered services more quickly following release from prison than the comparison group (Table A.10).

Table 3.4. Summary of the Impact of RHO on Recidivism and Service Use Outcomes, Using Inverse Propensity Weights and Covariate Models (model 6 for recidivism outcomes, model 4 for services outcomes)

Model	Coefficient Estimate—Treatment	Coefficient Interpretation—Treatment
Any Rearrest	-0.851***	Decreases probability
Felony Rearrest	0.034	NS
Misdemeanor Rearrest	-0.918**	Decreases probability
Any Reincarceration	-1.404*	Decreases probability
Reincarceration—New Crime	-7.738	NS
Number of Rearrests	0.924***	Increases number
Time to First Rearrest (days)	-0.615**	Increases time
Any Service Delivery	0.915***	Increases probability
Number of Days of Services Delivered	1.366**	Increases number
Time to First Service Delivery (days)	0.731***	Decreases time

Note: Significance testing: *p < 0.10; **p < 0.05; ***p < 0.01; NS: not significant at or below p < 0.10.

Limitations

Notwithstanding the significant findings along many of the outcomes of interest, there are several limitations of the analysis worth mention. The main challenge in this research was the limited follow-up period for analysis. While RHO had been enrolling individuals into the research sample since 2007, there was a consistent follow-up period of only one year for the entire research sample. As such, the outcomes were restricted to this time period and no conclusions can be made as to the longer-term effects of RHO participation on recidivism and service delivery outcomes. Since the samples were enrolled unevenly—that is, comparison participant enrollment was skewed toward the end of the sample enrollment period—a subsample analysis focusing on outcomes greater than one year could not be completed. Given the relatively small sample size enrolled in the research, subsample analysis likely had low power.

The relatively short follow-up period is also potentially problematic given the findings from the process evaluation. Indeed, the pathway models shown in figures 2.2, 2.3, and 2.4 indicate that despite the best efforts of the program, not every RHO participant entered housing immediately after prison. For more

than a handful of RHO participants, housing placement occurred months following release. Therefore, findings that use a longer follow-up period may differ substantially from the present analysis if the effects of supportive housing have not been fully realized among those who had a delayed entry into the housing. One might expect to find the effect of RHO participation to be even greater given longer exposure to supportive housing among program participants.

One outcome for the evaluation, residential instability, was particularly difficult to assess due to the nature of the data collection and maintenance. The measure of residential instability for the evaluation was returns to emergency shelter in one of the HMISs where RHO was implemented. As stated previously, very few records were located in the local HMISs on returns to emergency shelter, which limited the scope of the analysis. While the outcome reported—less than 10 percent of the treatment sample returned to shelter within one year—is a positive one, it must be interpreted with caution. The records located were from the five HMISs using available identifying information (e.g., name, Social Security number, date of birth, gender, and race). However, these data systems are difficult to search, primarily owing to inaccurate information provided by shelter clients and recorded in HMISs by providers (Poulin, Metraux, and Culhane 2008; U.S. Department of Housing and Urban Development 2005). Thus, there may be more records for the research participants that were not included in the analysis.

Moreover, a major limitation was posed by the fact that each HMIS provider records its own data and does not report to a centralized data system. Ohio does not have a statewide database recording the use of homeless services. UI researchers had to request data from the HMISs in each of the five cities where the RHO program operated. However, participants may have used services in other localities not assessed by the researchers. Further, there are strong reasons to suspect that the effect of this bias is *not equal* across the sample because the comparison group was likely not linked to housing or programming in a particular locality within one year of release, while the RHO group certainly was. There is reason to suspect that the comparison group was more likely to use emergency shelter services in a city/county outside of the five included in the RHO pilot than the treatment group, since the latter was connected to a provider in one of the five RHO cities/counties, at least initially.

Data detailing service receipt were also limited due to the nature of the state billing system. The MACSIS only reliably captures services that were funded through Medicaid and delivered by state-run mental health hospitals and county behavioral health service providers. Services funded without the support of Medicaid or other state funding were not included in this analysis. While this limits the generalizability of the findings on overall service receipt, this limitation is mitigated in the impact analyses by several factors. First, given their socioeconomic statuses and mental health diagnoses, members of the research sample had limited personal funding for services that were not Medicaid-billable or state provided. This reduces the level of bias introduced by the claims data used in the analyses. Second, assuming that the use of personal funding was equally likely across the treatment and comparison groups, the statistical significance of the findings would be unbiased.

Finally, it must also be noted that the service delivery data do not capture services rendered by nonstate-funded mental health and physical health providers. This includes all physical health care, such as an emergency room visit for a drug overdose, as well as traditional services provided by a nonapproved provider. That is, a provider not approved by the county or state to bill for its behavioral health services is not included in this analysis. Given the propensity of the population to use costly, acute emergency care systems, this limitation poses a more substantial threat to the generalizability of this analysis than the fact that service claims are limited to those captured in MACSIS. The RHO program intended to pair participants with housing and supportive services to reduce their use of costly

emergency service systems as well as billable services. Successful fulfillment of the first goal—reduction in emergency services—is not fully captured by the available data.

Conclusions

Aside from the limitations of the evaluation in making firm conclusions on RHO's impact on residential instability, the evaluation did find significant relationships between RHO participation and service use and recidivism outcomes at one year following prison release. Based on the above analyses, the participants in the supportive housing program were more likely to have services delivered, to be delivered more days of services, and to be delivered services more quickly than individuals that did not participate in RHO. Whether this shows that RHO met its goals on this outcome is not entirely clear. While RHO wanted to reduce costly services and systems use, a goal of the program was not to decrease overall service system use, *per se*. Indeed, by the nature of the RHO program, returning prisoners received a host of services from providers directly or through provider referrals. Many of the providers associated with RHO used Medicaid or state-billable services or referred participants to these types of services. Therefore, it is logical that the treatment group's service delivery outcomes would exceed the comparison group's services outcomes.

Whether their use of services is less costly overall than the comparison group is the focus of the cost evaluation in the following section. Further, it could be that participant use of services attenuates over time. The RHO program logic is not clear whether service use among program participants is expected to increase or decrease in the short or long term or whether general services—offered through the RHO program or otherwise—are expected to supplement more intensive services in the short and/or long term. What's more, an increase in services following release from prison could be viewed as an unequivocal benefit of program participation if those delivered services were previously unserved or underserved.

A stronger conclusion, based firmly in the RHO program logic and goals, is that RHO was associated with some recidivism reductions. Those in RHO were less likely to be rearrested and their time to rearrest was greater (longer) than comparison subjects' rearrests—mostly driven by the difference in misdemeanor rearrests rather than felony rearrests. The treatment group was also less likely to be reincarcerated. Yet, there appeared to be no significant difference between the treatment and comparison groups with respect to felony rearrests and whether the reincarceration was for a new crime (though nonsignificant findings on the latter outcome are likely due to the small number reincarcerated for a new crime). While the findings on the probability of rearrest and reincarceration are promising, the evaluation showed that treatment participation increased the number of rearrests. Treatment group participants were rearrested more times than those in the comparison group. A greater number of rearrests among treatment participants may be due to a higher level of supervision associated with RHO participation. While treatment participants were not more likely to be on community supervision, they were in frequent communication with program staff, which could affect the number of rearrests for those who were reoffending. Quite simply, it is logical to assume (though the evaluation does not have firm data to this effect) that the treatment group participants were observed more often than comparison subjects. That is, the treatment group's (bad) behavior may have been more likely to come to the frequent attention of someone likely to report it to legal authorities.

4

Cost Evaluation

The purpose of the cost evaluation was to determine the costs to the state in terms of system use, to explore whether RHO met its third goal: to reduce costs associated with multiple system and service use among disabled prisoners returning to Ohio communities. The cost evaluation was conducted in two steps (1) monetizing inputs and outcomes that are costly to the state and (2) evaluating to what extent the costs differ by treatment and control condition using multivariate regression. The multivariate regression, which includes the propensity weight to adjust for selection bias and a vector of covariates, is easily interpreted. In an ordinary least squares (OLS) regression, if the coefficient is positive and statistically significant, then the value of that coefficient is the added cost associated with RHO participation, as compared to the comparison group.

Methodology

Monetizing Inputs and Outcomes

To conduct a cost-benefit analysis, the cost each individual in the sample generated must be known. First, the prices of services were estimated for each individual in the sample (both treatment and control). Since many of the services included in the evaluation were billed to a third-party payer such as Medicaid, the services costs were known at the individual level. Next, the cost of each new contact with the criminal justice system was estimated, including the cost of police time for any new rearrest and the cost of any subsequent reincarceration. The daily cost of prison was estimated using data from ODRC (2012), and then multiplied by the number of days an individual in the sample was incarcerated, resulting in an individual estimate of reincarceration costs. The cost of an arrest was estimated following Cohen and colleagues (1994) and Miller and colleagues (1996) and then multiplied by the number of rearrests, resulting in an individual estimate of rearrest costs. Combined, these are the criminal justice costs associated with each individual. Finally, for the treatment group, the total cost of participating in the program was deflated by the number of days an individual was in the program postrelease, as reported by the providers, CSH, and ODRC, for a period of up to one year. This was then multiplied by the average program per diem cost, using data from CSH. For each individual, each cost category was summed to estimate the amount of resources each person consumed during the year following prison release.

Cost-Benefit Analysis

Multivariate analyses were used to determine whether, controlling for observable differences between the treatment and comparison groups, RHO was cost beneficial. The cost of each individual at one year postrelease is computed to be the sum of the cost of RHO, the cost of services provided, and any new criminal justice costs. Specifically, the total cost is equal to the sum of each of the aforementioned costs.

Typically, OLS regression models are used to evaluate the net benefits of a program like RHO. However, total costs were observed to be non-normally distributed and approximated a distribution more commonly found in count data. To determine the most appropriate model specification, several types of regression models were tested for fit with the data. Between various iterations of Poisson and negative binomial regression models, a zero-inflated negative binomial (ZINB) regression model was found to have the best measure of model fit as determined by the AIC. The ZINB regression model accounts for the fact that there are a greater number of individuals with zero costs at one year than predicted by a

standard negative binomial distribution. The interpretation of the ZINB model is a ratio of net treatment benefits to net comparison benefits. For ease of interpretation, OLS regression models were also estimated. As noted above, in OLS regression models, the per person cost is regressed on an indicator of whether an individual was in the treatment group or not, and the parameter estimates the net benefit of the program.

Six models were estimated as part of the cost evaluation, with the dependent variable being the total cost for each individual, shown in the appendix. All of the models are weighted by propensity score measures (inverse, normalized scores). The first three models in table A.11 report the results from the OLS regression, while the second three report the results from the ZINB regression. The first and fourth models, OLS and ZINB respectively, include demographic, mental health, disability, and security variables as controls. The second and fifth models, OLS and ZINB, also include correlates of service receipt and postrelease supervision, including living situation (homelessness), previous incarceration, release risk, and postrelease supervision. The third and sixth models, OLS and ZINB, add detailed mental health diagnoses.

Findings

Table 4.1 reports descriptive statistics for the entire sample. Overall, more than half of individuals did not receive any specific ODMH- or ODADAS-billable service, commit a new crime, or serve a new period of incarceration. However, more than 70 percent of the sample generated some cost within one year of prison release. The total costs are driven by the cost of the RHO program: the mean cost of the RHO program is more than two-thirds of the mean total cost. Table 4.2 compares costs by group assignment and corroborates the findings of the impact evaluation—simply, that program participation increases service use but decreases criminal justice system involvement. As shown in this table, the cost of the RHO program dwarfs the other cost inputs. Although the cost differences are plainly observable, the only differences in costs between the treatment and comparison group that are statistically significant from zero are substance abuse treatment and program cost.

Table 4.1. Summary Statistics of Individual-Level Costs at One Year

Type of Cost	Mean	Median	Maximum	> Zero
Mental Health Service	\$941	\$0	\$23,089	39%
Substance Abuse Service	\$340	\$0	\$23,089	18%
Criminal Justice Costs	\$552	\$0	\$17,286	33%
Incarceration	\$530	\$0	\$17,286	7%
RHO Program	\$4,747	\$0	\$11,498	49%
Total	\$6,519	\$5,810	\$57,675	70%

Note: Valid N=239; with the exception of 233 for RHO program costs.¹⁸

In tables 4.1 and 4.2, the results are presented as the average cost spread across *all program participants*, including those who did not incur that specific cost. This means that each average is a function of both the percentage of the sample that incurs costs (percentage greater than zero) and the cost intensity of each subsection. For example, though incarceration is highly cost intensive, the mean cost per person is very low because so few people were reincarcerated within one year. In contrast, many more people in both the treatment and comparison groups received mental health services, leading the average per person cost of mental health services to be much higher than the average per

¹⁸ There are six individuals in the treatment group with incomplete program entry or discharge information. As noted in the process evaluation, the pathways for entry were often suboptimal, and a few participants have incomplete information.

person cost of incarceration. Yet, the average cost of mental health services *for those receiving such services* was less than two thirds the average cost that of incarceration *for those who were reincarcerated*. For example, the average cost per person of mental health services for those who received mental health services was \$2,400 while the average cost per person of incarceration for those who were reincarcerated was \$7,600. As previously mentioned, the low reincarceration costs are likely an artifact of the short follow-up period. If the evaluation used a longer follow-up period, it is likely that a larger proportion of the sample would have been reincarcerated and therefore much higher average costs of incarceration would have been observed.

As shown in table A.11 in the appendix, six multivariate regression models—three OLS and three ZINB—were used to estimate whether the housing program was cost efficient for the participants in the research sample. The regression models estimate whether the above costs vary by treatment condition, holding all else constant. Across all of the model types and specifications, the coefficient on treatment is positive and statistically significant, which indicates that being in the treatment group increases an individual’s total costs, holding all other observable information constant. The sixth and final regression model (ZINB), which includes all of the available covariates and uses propensity weights, indicates that being in the treatment group increases the average cost by almost 270 percent. The comparable OLS model is consistent with this finding and shows that being in the treatment group increases costs by more than \$9,500.¹⁹

Table 4.2 Summary Statistics on Costs by Treatment Condition

Type of Cost	Treatment			Control		
	Mean	> Zero	N	Mean	> Zero	Valid N
Mental Health Service	\$1,195	44%	121	\$680	35%	118
Substance Abuse Service*	\$534	18%	121	\$140	17%	118
Criminal Justice Costs	\$320	27%	121	\$790	39%	118
Incarceration	\$300	6%	121	\$767	9%	118
RHO Program***	\$9,617	100%	115	\$0	0%	118
Total***	\$11,580	100%	115	\$1,587	40%	118

Note: T-tests were used to test whether the difference in means between the treatment group and the comparison group was significantly different from 0; significance testing: *p < 0.10; **p < 0.05; ***p < 0.01.

Though the models are consistent in estimating that RHO is not cost beneficial, the models’ fits are inconsistent. The AIC (for which lower numbers demonstrate better fit and which is used to determine the fit of negative binomial models) is consistently an order of magnitude higher for each of these analyses than for the recidivism and service use models discussed in the previous section.

Limitations

Since many of the inputs to the cost evaluation analyses were measured in the recidivism and service use analyses in the previous section, most of the aforementioned limitations in that section apply to the cost analysis. Limited data were available for the cost analysis. In terms of service utilization, only those services that were billed to the state or Medicaid were recorded in the analysis. As the study population is also likely to have used emergency and other nonstate-billable health services, it is likely that the total

¹⁹ Additionally, each cost outcome—service use, criminal justice use, and program cost—was modeled as the dependent variable in similar regressions. Except for the cost of CSH (for which the outcome is of no surprise), these models produced highly inconsistent results and are not reported here.

costs of service use for some research participants were underestimated. Further, the data provided by the HMIS providers on emergency shelter use were insufficient to construct a meaningful metric of the costs associated with emergency shelter use; therefore, another potential cost driver was omitted from the analysis. If the analysis had included some of these additional measures, the results might have been different.

Another substantial limitation is that this analysis only examines the cost-effectiveness of RHO one year following prison release. Because the program is designed to improve long-term outcomes, an observation of changes in service use and recidivism for longer than one year might have led to different conclusions. Recall that one of the program's goals is to reduce long-term costs. In addition, one very expensive potential program benefit, reductions in new prison sentences, is unlikely to be observed one year following prison. The small number of prison returns observed in the data supports this limitation. In summary, the cost analysis may underestimate the benefits of implementing RHO.

A further limitation with this cost evaluation is that it does not incorporate the social costs of victimization. Victimization costs cannot be directly observed and are highly variable even within crime type (Roman 2011). Further, there is significant debate over to what extent crimes that have not been solved may have been committed by those who were rearrested for other crimes. Official, administrative crime data only capture crimes that come to the attention of authorities. Though best practice in cost-benefit analysis would call for multiplying rearrest rates by a factor to account for some of these unsolved crimes (for example, see Aos et al. 2011; Downey, Roman, and Liberman 2012), there is significant debate about what that factor should be, or even if it should exist (Aos et al. 2011; Gottfredson and Hirschi 1986; Piquero, Farrington, and Blumstein 2003,). Including victimization costs would therefore impose several not insignificant assumptions upon the observed outcomes that could potentially drive the analysis. The purpose of this cost evaluation was to determine the costs to the state in terms of system use (services and criminal justice). Thus, including the victimization data could have muddled these more germane findings and instead reflect particular assumptions and methodological decisions. Further, it is unclear by what factor observed behavioral health service rates should be multiplied to account for behavioral health episodes that are not reflected in the official, administrative MACSIS data.

Conclusions

Despite the limitations of available data (or perhaps because of them), the cost evaluation findings are consistent with the recidivism and service use outcomes findings outlined in the previous section. Those analyses indicated that while treatment group participation decreased recidivism, treatment group participation was associated with an increased number of rearrests. Similarly, the service use models show that those in the treatment group were more likely to use services and to use more service days than those in the comparison group. These services are costly, as is the RHO program, which also explains much of the findings.

Taken together, these results indicate that although RHO is effectively reducing the probability of recidivism, these gains are more than outweighed by the cost of the program and the increased use of services by those in the treatment group. Setting aside the aforementioned limitations, the cost-benefit analysis suggests that inclusion in the treatment group almost quadruples costs, by almost \$10,000 per person. This highlights an important limitation of cost-benefit analysis of programs designed to increase human capital. Whether the human capital acquisition is in education, public health, or homelessness, these program investments are by definition more costly than business as usual, and thus a finding that the system costs outweigh the benefits in this short time horizon is not unexpected.

5

Conclusions and Implications

It is worth mentioning first that a significant lesson in this evaluation is the extent to which discretion and judgments were made by ODRC, the providers, and CSH throughout the identification, enrollment, and housing process that were not possible to measure objectively. Further, ODRC, CSH, and the providers did not clearly articulate their preferences for which individuals were most suitable for housing, perhaps because they used more instinctive feelings about the potential success (or failure) of participants based on their previous knowledge and experiences, which are naturally harder to articulate. Indeed, while the evaluation found that selection into the housing program was related to certain characteristics using administrative data and tried, to the extent possible, to account for these differences in the models, the evaluation did not account for more latent participant characteristics that could be related to RHO participation and outcomes. These characteristics include motivation, readiness for change, or concepts such as aptitude and ability that would increase an individual's chance of selection for RHO and for postrelease success. While this is a limitation of nearly all quasi-experimental programs where assignment into treatment is not random (see Reichardt 2009 or Salzberg 1999 for discussion), it is nevertheless worth mention here. Testing the impacts of RHO on outcomes using an evaluation design where placement into RHO is randomly assigned may have different results. Therefore, interpretation of the findings and implications should be with the understanding that quite a bit of discretion (and bias) was built into the selection of which individuals received supportive housing.

Notwithstanding the limitations of the research design, based on the findings from the process, impact, and cost evaluation, there are several lessons for policy and practice, as well as future research. In general, it is clear that RHO successfully housed and served a group of returning prisoners who exhibited characteristics that made them suitable for supportive housing generally. The RHO program resulted in a reduction along several key recidivism measures, while also increasing service use, which is arguably a benefit of program participation. Given the increase in service use costs and the costs of the RHO program itself, it was not surprising to find that the program was not cost beneficial when focusing on one year outcomes. Further, as mentioned in the conclusion section of the cost evaluation, program investments are by definition more costly than business as usual, particularly in the short term.

Policy and Practice

A significant finding from this evaluation and others in reentry housing (see Fontaine, Gilchrist-Scott, and Horvath 2011) is the challenge of housing individuals following prison release. What RHO was able to demonstrate—particularly through the impact evaluation—is that the strongest benefits from the program were likely due to *contact* with the program. Given that levels of actual housing provided to program participants within the one year postrelease period varied, the consistent program “benefit” that is being evaluated is provider contact with RHO participants (and the services associated with that contact). Recall that the participant housing pathways’ figures demonstrated that some received none of the actual housing benefit within even several months of their release from prison. While provider contact is a part of the supportive housing benefit, it certainly is not all of it. Therefore, it could be argued that the benefits of RHO participation are underestimated in this evaluation, given the focus on one year outcomes. RHO benefits could be even greater over a longer period (i.e., more than one year) when *more* RHO participants could receive *more* supportive housing. Similarly, to the extent that

benefits of RHO participation led to more significant reductions in costly services, findings from the cost evaluation may show different results if focused on a longer follow-up period.

As reentry issues and reentry programming receive increased attention at the national and local levels, increased collaborative partnerships between correctional agencies and community-based providers should facilitate a smoother reentry process. However, no matter how streamlined the discharge or reentry process, facilitating permanent housing immediately postrelease is likely to be an elusive goal. Given some desire to provide individuals with choices in their housing placement and the need to find landlords willing to rent to a particular tenant, for example, it's likely that immediate housing placement can happen only when using a single-site facility managed by an agency that is able to conduct some form of reaching in to prisons. Nonetheless, correctional agencies that can develop systems to more accurately track inmate release dates and facilitate meetings between inmates in need of housing and agencies that can provide housing would make the transition from prison to housing smoother.

Another lesson for future reentry housing programs is that the program was found to be relatively successful despite the variation in service delivery. Providers played to their strengths, recruiting prisoners who they believed could be successful in their particular program, and provided services accordingly. Since CSH and ODRC gave providers considerable discretion regarding program enrollment, there was some tension across providers regarding which prisoners needed the services the most. Some argued that those referred were too disabled or mentally ill, while others argued that the referred individuals were not mentally ill or disabled enough to benefit from the program. It is likely that these comments were based not on ideas about the efficacy of supportive housing, but on the providers' perceptions of the efficacy of their own programs for the populations referred to them. RHO showed that recruiting a mix of providers, with their own program goals, likely led to short- and long-term successes (e.g., housing placements, retention, and services) because the providers could play to their agencies' strengths and missions. Stated differently, the programs executed their own business-as-usual supportive housing programs, simply extending their models to a population that was released directly from prison. This type of model implementation is arguably better than recruiting providers that must learn an entire new way of doing business. RHO providers extended what they had already learned through working with indigent, homeless, mentally ill, and/or disabled populations in their cities to people released from prison who exhibited these characteristics.

Future Research

A natural next step in the evaluation of RHO would extend the period during which outcomes are observed. As mentioned throughout this document, the evaluation likely underestimates the value or benefit of RHO program participation due to the one year follow-up period. As more individuals benefited from the crux of the RHO program, namely supportive housing, it is likely that outcomes would have been better. Similarly, to the extent that benefits of RHO participation led to more significant reductions in returns to reincarceration or in costly services, findings from the cost evaluation may show different results if focused on a longer follow-up period.

In addition to extending the follow-up period, future research on programs like RHO would next theoretically and empirically “unpack the housing and services bundle” to answer what is it about the program that leads to expected benefits (see Fontaine and Biess 2012 for discussion). As shown through the evaluation, there was quite a bit of variation in providers' contact with participants and housing and services offered. The nine providers were also located in five different counties across Ohio. In the end, that makes it difficult to articulate precisely what about the housing program led to benefits. Therefore, research that empirically measures and tests different aspects of the housing and services bundle would be a next step for research. Funding and time constraints did not permit a test of this kind in the current

evaluation. Furthermore, the small sample size recruited for the treatment group meant that parsing outcomes by provider (and services offered) would have resulted in models with low power.

As more reentry housing programs are designed, theory testing on why certain types of offenders are expected to benefit from certain types of housing programs would be another fruitful area of empirical inquiry. CSH has been a leader in designing and implementing reentry housing for the disabled population leaving prisons and jails across the country. Each of these programs is unique. “Disabled population” is a broad term, as is “supportive housing” (as clearly shown through RHO). The reentry housing field would benefit from a more robust understanding of the utility of the different types of programs, within different types of institutions and contexts, for yet very different population types.

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Table A.1.**Logistic Regression of Any Rearrest at One Year Postrelease**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.6757** (0.3077)	-0.7922** (0.3303)	-0.7284** (0.3472)	-0.6601** (0.2953)	-0.8086** (0.3156)	-0.8521*** (0.3224)
Age at release	-0.0154 (0.0167)	-0.0187 (0.0208)	-0.0215 (0.0209)	-0.0225 (0.0177)	-0.0282 (0.0207)	-0.0391** (0.0213)
Race – White	-0.0545 (0.2951)	0.3002 (0.3417)	0.2488 (0.3658)	-0.0149 (0.2977)	0.1888 (0.3418)	0.1825 (0.3516)
Gender – Male	0.6611* (0.3863)	0.4409 (0.4153)	0.0155 (0.4652)	0.1226 (0.3737)	0.1222 (0.4041)	-0.3608 (0.4406)
Mental Health Flag	0.7066 (0.5258)	0.4003 (0.6489)	0.4626 (0.7098)	0.187 (0.6198)	0.0417 (0.6634)	0.1666 (0.7192)
Alcohol and Other Drug Flag	0.6487 (0.5569)	0.0702 (0.6763)	-0.0756 (0.6851)	0.1074 (0.6295)	-0.1604 (0.6689)	-0.3414 (0.6719)
MH and AOD	-0.7189 (0.6483)	-0.3597 (0.766)	-0.2442 (0.7847)	-0.1186 (0.7227)	-0.0387 (0.77)	0.00489 (0.7812)
Security Level	0.2773 0.2162	0.3785 (0.2559)	0.2018 (0.278)	0.2308 (0.2103)	0.3061 (0.2482)	0.2124 (0.2602)
Homeless at Arrest	-	-0.1858 (0.4741)	-0.429 (0.4842)	-	0.4111 (0.4759)	0.0227 (0.464)
Previous Incarceration	-	0.3581*** (0.1006)	0.4221*** (0.1042)	-	0.3122*** (0.0955)	0.3862*** (0.0982)
Time in Prison	-	-0.00025 (0.000155)	-	-	-0.00038 (0.00019)	-
Supervision	-	0.0855 (0.362)	0.0219 (0.3685)	-	0.1695 (0.3692)	0.0031 (0.3662)
Release Risk	-	-0.1418 (0.4562)	-0.0513 (0.4623)	-	-0.3747 (0.443)	-0.2493 (0.4442)
Medical Status	-	-	-0.7318** (0.3456)	-	-	-0.402 (0.3371)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	-0.8193* (0.4699)	-	-	-0.8515* (0.4689)
-Substance Abuse Disorder	-	-	0.4425 (0.4483)	-	-	0.5308 (0.4343)
-Personality Disorder	-	-	0.7163 (0.4404)	-	-	0.5293 (0.4328)
-Mood Disorder	-	-	-0.1519 (0.4071)	-	-	-0.3274 (0.3948)
-Anxiety Disorder	-	-	-0.5795 (0.4002)	-	-	-0.1473 (0.3687)
-Other Disorder	-	-	0.656 (0.6168)	-	-	0.2727 (0.649)
AIC	302.51	271.97	274.33	290.45	274.93	286.55
N	236	225	223	223	223	223

Source: Urban Institute analysis of data from ODRC.

Note: Each column reports selected coefficients from a logistic regression. The treatment coefficient is the expected change in the odds of any rearrest from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group is more likely to be rearrested than the comparison group; negative values indicate that the treatment group is less likely to be rearrested than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.2.**Logistic Regression of Felony Rearrest at One Year Postrelease**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.1324 (0.3725)	-0.1625 (0.4038)	-0.0333 (0.4402)	0.0977 (0.3755)	0.0714 (0.4144)	0.0337 (0.4317)
Age at release	-0.0192 (0.0202)	-0.0193 (0.0249)	-0.0266 (0.0259)	-0.0211 (0.0221)	-0.0298 (0.0266)	-0.0428 (0.0279)
Race – White	-0.2526 (0.3591)	0.0258 (0.4157)	0.0619 (0.4567)	-0.1706 (0.3793)	0.1402 (0.4448)	0.3302 (0.4777)
Gender – Male	1.1737** (0.5708)	1.079* (0.6079)	0.7818 (0.7254)	1.1197* (0.6318)	1.1282* (0.6857)	0.6139 (0.7431)
Mental Health Flag	0.4875 (0.6419)	0.1924 (0.7946)	-0.1557 (0.8651)	-0.0471 (0.7071)	-0.1777 (0.7925)	-0.2345 (0.8718)
Alcohol and Other Drug Flag	0.0517 (0.6973)	-0.3769 (0.8433)	-0.6033 (0.8587)	-0.7633 (0.7601)	-0.951 (0.8406)	-1.2992 (0.8596)
MH and AOD	-0.4427 (0.8021)	-0.238 (0.9501)	0.2527 (0.979)	0.2661 (0.8781)	0.1454 (0.9772)	0.5291 (1.009)
Security Level	0.4959* (0.2649)	0.5869* (0.321)	0.2498 (0.3472)	0.3705 (0.268)	0.3709 (0.3292)	0.1137 (0.3665)
Homeless	-	-0.5744 (0.6492)	-0.8207 (0.6781)	-	-0.2845 (0.695)	-0.8124 (0.7173)
Previous Incarceration	-	0.2281** (0.1074)	0.3025*** (0.1128)	-	0.28** (0.1111)	0.3438*** (0.117)
Time in Prison	-	-0.00056 (0.000347)	-	-	-0.00055 (0.000375)	-
Supervision	-	0.4235 (0.4375)	0.3927 (0.4491)	-	0.6822 (0.475)	0.5367 (0.4731)
Release Risk	-	0.8365* (0.4938)	1.1159** (0.5119)	-	0.8621* (0.5106)	1.1435** (0.5348)
Medical Status	-	-	-0.5828 (0.4311)	-	-	-0.5413 (0.4584)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	-0.3671 (0.5429)	-	-	-0.5899 (0.5705)
-Substance Abuse Disorder	-	-	0.8818 (0.5983)	-	-	0.6213 (0.6179)
-Personality Disorder	-	-	0.5548 (0.5117)	-	-	0.7786 (0.5468)
-Mood Disorder	-	-	-0.4628 (0.4991)	-	-	-0.4337 (0.52)
-Anxiety Disorder	-	-	-0.8827* (0.5133)	-	-	-1.0336* (0.5441)
-Other Disorder	-	-	1.1722 (0.7164)	-	-	1.2843 (0.7938)
AIC	226.11	202.08	205.57	204.61	187.48	194.64
N	236	225	223	223	223	223

Source: Urban Institute analysis of data from ODRC.

Note: Each column reports selected coefficients from a logistic regression. The treatment coefficient is the expected change in the odds of a felony rearrest from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group is more likely to be rearrested for a felony than the comparison group; negative values indicate that the treatment group is less likely to be rearrested for a felony than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.3.**Logistic Regression of Misdemeanor Rearrest at One Year Postrelease**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.5945* (0.3413)	-0.7863** (0.3712)	-0.7434* (0.3896)	-0.6886** (0.3303)	-0.9258** (0.3623)	-0.9178** (0.3657)
Age at release	-0.0287 (0.0189)	-0.0414* (0.0237)	-0.0379 (0.0237)	-0.0381* (0.0201)	-0.0477** (0.0238)	-0.0572** (0.0247)
Race – White	0.4511 (0.3313)	0.8945** (0.3946)	0.7862* (0.4252)	0.351 (0.3321)	0.562 (0.3913)	0.5634 (0.4059)
Gender – Male	0.6166 (0.4311)	0.5387 (0.4822)	0.3809 (0.5369)	0.1637 (0.4077)	0.3964 (0.4703)	0.0984 (0.5068)
Mental Health Flag	0.4371 (0.6015)	0.2761 (0.7525)	0.6038 (0.8275)	0.4024 (0.8018)	0.1809 (0.832)	0.5354 (0.9061)
Alcohol and Other Drug Flag	0.6706 (0.625)	0.1119 (0.7784)	-0.0114 (0.7867)	0.7211 (0.7973)	0.2662 (0.8295)	0.15 (0.8325)
MH and AOD	-0.5485 (0.7313)	-0.0883 (0.8714)	0.0419 (0.888)	-0.4427 (0.8956)	-0.0305 (0.9323)	-0.0475 (0.9394)
Security Level	0.2053 (0.2424)	0.422 (0.2986)	0.3483 (0.3283)	0.1687 (0.2369)	0.3223 (0.2943)	0.2934 (0.3118)
Homeless	-	0.5013 (0.51)	0.3342 (0.5173)	-	1.0768** (0.5243)	0.7723 (0.5146)
Previous Incarceration	-	0.4256*** (0.1137)	0.4634*** (0.1162)	-	0.3461*** (0.1068)	0.4215*** (0.1102)
Time in Prison	-	-0.00012 (0.000168)	-	-	-0.00031 (0.000201)	-
Supervision	-	-0.418 (0.4046)	-0.4622 (0.4165)	-	-0.3604 (0.4193)	-0.5049 (0.4236)
Release Risk	-	-1.8146*** (0.6081)	-1.7574*** (0.6306)	-	-1.7606*** (0.5832)	-1.6727*** (0.6042)
Medical Status	-	-	-0.6564* (0.3866)	-	-	-0.2896 (0.3775)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	-0.9168* (0.5563)	-	-	-0.958* (0.5702)
-Substance Abuse Disorder	-	-	-0.0746 (0.4756)	-	-	0.3493 (0.4914)
-Personality Disorder	-	-	0.3588 (0.4756)	-	-	-0.0362 (0.4728)
-Mood Disorder	-	-	-0.102 (0.4787)	-	-	-0.4074 (0.4619)
-Anxiety Disorder	-	-	-0.5176 (0.4477)	-	-	0.00578 (0.4147)
-Other Disorder	-	-	0.5039 (0.6963)	-	-	0.0424 (0.7405)
AIC	259.31	233.23	237.61	250.14	233.64	244.96
N	236	225	223	223	223	223

Source: Urban Institute analysis of data from ODRC.

Note: Each column reports selected coefficients from a logistic regression. The treatment coefficient is the expected change in the odds of a misdemeanor rearrest from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group is more likely to be rearrested for a misdemeanor than the comparison group; negative values indicate that the treatment group is less likely to be rearrested for a misdemeanor than the comparison group.

Significance testing: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A.4.**Logistic Regression of Any Reincarceration at One Year Postrelease**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.6933 (0.5227)	-1.0759* (0.6167)	-1.4314** (0.7065)	-0.6109 (0.5098)	-0.9065 (0.6045)	-1.40361* (0.7238)
Age at release	0.00552 (0.0265)	0.0031 (0.0338)	0.00466 (0.0381)	-0.00672 (0.028)	-0.0125 (0.0353)	-0.012 (0.0429)
Race – White	-0.7288 (0.5128)	-0.8888 (0.6277)	-0.9031 (0.7058)	-0.906* (0.5352)	-1.1808* (0.6733)	-1.1136 (0.7646)
Gender – Male	0.8793 (0.7907)	0.7234 (0.8716)	-0.0163 (0.9884)	0.6488 (0.7805)	0.7146 (0.8778)	0.0725 (1.0429)
Mental Health Flag	0.5774 (0.8648)	0.7354 (1.1901)	0.5781 (1.4164)	0.228 (0.9634)	0.1108 (1.0944)	0.0727 (1.4053)
Alcohol and Other Drug Flag	-0.571 (1.0796)	-0.4597 (1.3807)	-0.8141 (1.4808)	-1.1289 (1.1271)	-1.0266 (1.247)	-1.4752 (1.4385)
MH and Alcohol	0.5274 (1.1963)	0.3744 (1.4889)	1.2036 (1.6472)	0.9062 (1.2527)	0.5801 (1.4029)	1.5329 (1.6805)
Security Level	0.6609* (0.3596)	0.6718 (0.433)	0.7649 (0.492)	0.6229* (0.3417)	0.5298 (0.4237)	0.526 (0.523)
Homeless	-	0.9553 (0.7485)	0.8016 (0.788)	-	1.2598 (0.8)	0.9789 (0.8627)
Previous Incarceration	-	0.2391* (0.142)	0.3607** (0.1557)	-	0.2222 (0.1455)	0.3532** (0.166)
Time in Prison	-	-0.0004 (0.000347)	-	-	-0.00047 (0.000371)	-
Supervision	-	0.6517 (0.6321)	0.4495 (0.6807)	-	0.861 (0.6766)	0.4869 (0.7396)
Release Risk	-	1.0446* (0.6322)	1.2971* (0.6701)	-	1.5728** (0.6173)	1.7883*** (0.6915)
Medical Status	-	-	-1.2734* (0.6674)	-	-	-1.2931* (0.7249)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	-0.0603 (0.732)	-	-	-0.2432 (0.794)
-Substance Abuse Disorder	-	-	0.2291 (0.8348)	-	-	0.0104 (0.9304)
-Personality Disorder	-	-	0.6045 (0.7175)	-	-	0.7759 (0.8121)
-Mood Disorder	-	-	0.4409 (0.6893)	-	-	1.0138 (0.7565)
-Anxiety Disorder	-	-	-1.8634** (0.8126)	-	-	-2.7228*** (1.0011)
-Other Disorder	-	-	0.7644 (0.9427)	-	-	1.0395 (1.063)
AIC	142.55	129.02	131.88	137.08	124.26	122.02
N	236	225	223	223	223	223

Source: Urban Institute analysis of data from ODRC.

Note: Each column reports selected coefficients from a logistic regression. The treatment coefficient is the expected change in the odds of any reincarceration from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group is more likely to be reincarcerated than the comparison group; negative values indicate that the treatment group is less likely to be reincarcerated than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.5.**Logistic Regression of Reincarceration for a New Crime at One Year Postrelease**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.4773 (0.5544)	-0.8467 (0.6661)	-1.2271 (0.774)	-2.4162 (1.5314)	-4.4648 (2.9385)	-7.7377 (27.6269)
Age at release	-0.00074 (0.0284)	-0.00576 (0.0382)	-0.00937 (0.0441)	0.055 (0.0787)	0.0801 (0.1083)	-0.0238 (1.1112)
Race – White	-0.6545 (0.5471)	-0.7378 (0.6924)	-0.7586 (0.8315)	-1.5502 (1.4041)	-2.6935 (1.8316)	-9.2968 (22.1777)
Gender – Male	1.4139 (1.0655)	1.4515 (1.1763)	0.9173 (1.3039)	-0.9278 (1.4993)	-2.7791 (2.5012)	-9.3866 (28.3775)
Mental Health Flag	0.5248 (0.8689)	0.777 (1.2057)	1.0373 (1.529)	-0.3998 (133.2)	-3.1105 (156.9)	-7.8461 (89.1962)
Alcohol and Other Drug Flag	-0.6329 (1.089)	-0.8176 (1.426)	-1.3927 (1.6131)	0.4498 (141.1)	1.6382 (166.6)	-4.2088 (83.8651)
MH and AOD	0.0393 (1.2284)	0.1012 (1.5484)	0.9606 (1.8154)	10.5446 (153.8)	12.3854 (180.5)	11.1693 (88.0198)
Security Level	0.5373 (0.3784)	0.5988 (0.4722)	0.7336 (0.5923)	1.5929 (1.0891)	1.9797 (1.768)	3.1846 (23.2507)
Homeless	-	1.4761* (0.8073)	1.4731 (0.9007)	-	-9.9335 (86.86)	-2.7541 (47.828)
Previous Incarceration	-	0.2659* (0.1498)	0.3981** (0.1719)	-	0.0452 (0.6644)	-0.1745 (12.9549)
Time in Prison	-	-0.00036 (0.00034)	-	-	-0.0019 (0.00294)	-
Supervision	-	0.1133 (0.6804)	-0.2066 (0.7619)	-	10.5481 (62.9894)	9.2374 (38.6842)
Release Risk	-	1.0966 (0.6926)	1.2583 (0.7711)	-	0.1068 (1.8538)	4.9315 (26.0946)
Medical Status	-	-	-1.5214* (0.7842)	-	-	2.2288 (36.2303)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	0.7899 (0.7889)	-	-	-21.4405 (46.4701)
-Substance Abuse Disorder	-	-	-1.2924 (0.9594)	-	-	16.7461 (36.41)
-Personality Disorder	-	-	1.1111 (0.8473)	-	-	0.8017 (28.5282)
-Mood Disorder	-	-	1.1536 (0.7647)	-	-	-7.6286 (44.2501)
-Anxiety Disorder	-	-	-2.6575** (1.1008)	-	-	-5.7587 (37.2847)
-Other Disorder	-	-	-0.1088 (1.1934)	-	-	11.6797 (27.4424)
AIC	129.14	115.42	115.01	39.20	42.08	40.06
N	236	225	223	223	223	223

Source: Urban Institute analysis of data from ODRC.

Note: Each column reports selected coefficients from a logistic regression. The treatment coefficient is the expected change in the odds of a reincarceration for a new crime from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group is more likely to be reincarcerated for a new crime than the comparison group; negative values indicate that the treatment group is less likely to be reincarcerated for a new crime than the comparison group.

Significance testing: * p < 0.10, ** p < 0.05, *** p < 0.01

Table A.6.**Zero-Inflated Negative Binomial Regression on the Number of Rearrests at One Year Postrelease**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.60912** (0.281516)	0.7737*** (0.281729)	0.8647*** (0.245489)	0.448709* (0.262304)	0.7041*** (0.243789)	0.9243*** (0.196925)
Age at release	-0.02298 (.)	-0.02189 (0.01469)	-0.03604 (.)	-0.02325 (.)	-0.03285* (0.018062)	-0.0487*** (0.012284)
Race – White	0.9121*** (0.290855)	1.3599*** (0.280298)	1.6026*** (0.277753)	0.8531*** (0.28324)	1.0183*** (0.32537)	1.1734*** (0.258014)
Gender – Male	0.16906 (0.337045)	-0.07331 (0.322872)	-0.04763 (0.308535)	-0.0601 (0.319371)	-0.12434 (0.29775)	-0.22846 (0.293796)
Mental Health Flag	0.658727 (0.416669)	0.558478 (0.434811)	0.674363 (0.430394)	0.398024 (0.530228)	0.370603 (0.490134)	0.017873 (0.563824)
Alcohol and Other Drug Flag	0.179285 (0.440045)	0.160853 (0.453228)	-0.03687 (0.427889)	-0.16108 (0.532945)	0.195296 (0.621314)	-0.29304 (0.507314)
MH and AOD	-0.43227 (0.527922)	-0.52721 (0.521243)	-0.46141 (0.494034)	-0.50588 (0.60914)	-0.78805 (0.571737)	-0.21098 (0.616286)
Security Level	0.707*** (0.216099)	0.667*** (0.18627)	0.619*** (0.200992)	0.373089* (0.20713)	0.136364 (0.24621)	0.196397 (0.153704)
Homeless	-	-0.33951 (0.336488)	-0.43006 (0.305084)	-	-0.10572 (0.384583)	0.059182 (0.329772)
Previous Incarceration	-	0.3092*** (0.065939)	0.3745*** (0.063828)	-	0.238456 (0.077095)	0.2974*** (0.062687)
Time in Prison	-	-0.00014 (.)	-	-	-0.00016 (.)	-
Supervision	-	0.447796* (0.252628)	0.272219 (0.232284)	-	0.345814 (0.29257)	0.394331 (0.26654)
Release Risk	-	-0.76521** (0.335008)	-0.8038*** (0.311586)	-	-0.8610*** (0.315432)	-0.8436*** (0.295571)
Medical Status	-	-	0.205773 (0.221731)	-	-	0.7630*** (0.233442)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	-0.04238 (0.302214)	-	-	0.005669 (0.318312)
-Substance Abuse Disorder	-	-	-0.02102 (0.299156)	-	-	0.352247 (0.308884)
-Personality Disorder	-	-	0.108817 (0.258986)	-	-	-0.25298 (0.272387)
-Mood Disorder	-	-	-0.35665 (0.270941)	-	-	-0.3858 (0.28782)
-Anxiety Disorder	-	-	0.00455 (0.258907)	-	-	0.252514 (0.26093)
-Other Disorder	-	-	0.208011 (0.35599)	-	-	0.243293 (0.393753)
AIC	504.50	468.31	447.73	491.43	486.86	493.09
N	236	225	223	223	223	223

Source: Urban Institute analysis of data from ODRC.

Note: Each column reports selected coefficients from a zero-inflated negative binomial regression. The treatment coefficient is the expected change in the number of rearrest events from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group (that was rearrested) had more rearrests than the comparison group (that was rearrested); negative values indicate that the treatment group (that was rearrested) had fewer rearrests than the comparison group (that was rearrested).

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.7.**Cox Proportional Hazard Regression on the Days to the First Rearrest at One Year Post Release**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.52329** (0.24458)	-0.57312** (0.25345)	-0.51779* (0.26766)	-0.5017** (0.24336)	-0.56977** (0.2498)	-0.61516** (0.25394)
Age at release	-0.01091 (0.01286)	-0.0123 (0.01489)	-0.0114 (0.01536)	-0.01617 (0.01387)	-0.02012 (0.01522)	-0.02669* (0.01563)
Race – White	0.05104 (0.23435)	0.25645 (0.25195)	0.17882 (0.27315)	0.04214 (0.24055)	0.1607 (0.26381)	0.14416 (0.27016)
Gender – Male	0.55706* (0.32594)	0.35173 (0.3398)	-0.01356 (0.37965)	0.13486 (0.30107)	0.08919 (0.32243)	-0.33137 (0.35134)
Mental Health Flag	0.68291 (0.44552)	0.3795 (0.50239)	0.36062 (0.56292)	0.27874 (0.52048)	0.1712 (0.51806)	0.20052 (0.58242)
Alcohol and Other Drug Flag	0.59501 (0.47156)	0.03412 (0.53723)	-0.07481 (0.54188)	0.1853 (0.5292)	-0.12138 (0.53229)	-0.2794 (0.54038)
MH and AOD	-0.6843 (0.54114)	-0.24779 (0.59642)	-0.08058 (0.61293)	-0.24344 (0.60162)	-0.0988 (0.60401)	0.0267 (0.61932)
Security Level	0.1899 (0.16388)	0.31469* (0.18861)	0.21667 (0.20589)	0.12846 (0.16045)	0.20944 (0.18886)	0.16205 (0.19948)
Homeless	-	-0.1053 (0.38739)	-0.35803 (0.40069)	-	0.31152 (0.36413)	0.03473 (0.3683)
Previous Incarceration	-	0.2258*** (0.06273)	0.2792*** (0.06391)	-	0.2332*** (0.06419)	0.2926*** (0.06512)
Time in Prison	-	-0.00022* (0.000136)	-	-	-0.00034* (0.000175)	-
Supervision	-	0.06745 (0.26466)	0.02214 (0.26914)	-	0.12729 (0.27997)	0.00789 (0.27312)
Release Risk	-	-0.2441 (0.34111)	-0.15128 (0.34013)	-	-0.38324 (0.33883)	-0.2505 (0.34096)
Medical Status	-	-	-0.61932** (0.26284)	-	-	-0.36365 (0.26564)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	-0.62783* (0.35494)	-	-	-0.66428* (0.36523)
-Substance Abuse Disorder	-	-	0.38132 (0.35717)	-	-	0.51769 (0.34992)
-Personality Disorder	-	-	0.5709* (0.30356)	-	-	0.38544 (0.3072)
-Mood Disorder	-	-	-0.07294 (0.31203)	-	-	-0.25872 (0.30641)
-Anxiety Disorder	-	-	-0.55024* (0.30231)	-	-	-0.28802 (0.28933)
-Other Disorder	-	-	0.64834 (0.44629)	-	-	0.42316 (0.48735)
AIC	807.22	763.29	754.34	768.46	753.05	763.17
N	236	225	223	223	223	223

Source: Urban Institute analysis of data from ODRC.

Note: Each column reports selected coefficients from a cox proportional hazard regression. The treatment coefficient is the expected change in the days to the first rearrest from being placed in the treatment group as opposed being placed in the comparison group. Positive values indicate that the treatment group was rearrested more quickly than the comparison group; negative values indicate that the treatment group was rearrested less quickly than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.8.**Logistic Regression of Any Service Delivery at One Year Postrelease**

	(1)	(2)	(3)	(4)
Treatment	0.7415** (0.3219)	0.8358** (0.3484)	0.8626*** (0.3098)	0.9148*** 0.3218
Days on the Street	0.0105 (0.00898)	0.012 (0.00879)	0.0103 (0.00878)	0.0137 0.00976
Age at release	0.017 (0.0175)	0.0228 (0.0191)	0.0157 (0.0187)	0.0231 0.0201
Race – White	0.2715 (0.3048)	0.4317 (0.3525)	0.2614 (0.3101)	0.3042 0.3461
Gender – Male	-0.6292* (0.3575)	-0.5054 (0.4193)	-0.7068* (0.3717)	-0.735* 0.4261
Mental Health Flag	0.1179 (0.5402)	-0.0132 (0.7677)	0.5772 (0.7121)	-0.0035 0.7877
Alcohol and Other Drug Flag	0.0974 (0.566)	0.4351 (0.7529)	0.6608 (0.7165)	0.4958 0.7398
MH and AOD	0.1192 (0.6635)	-0.2904 (0.8325)	-0.343 (0.8072)	-0.2869 0.8299
Security Level	-0.1326 (0.2166)	0.0191 (0.2475)	-0.2501 (0.2191)	-0.1954 0.2451
Homeless	-	0.1315 (0.4288)	-	0.1222 0.4578
Drug Treatment Flag	-	0.4201 (0.3926)	-	0.5625 0.3985
Drug Crime Flag	-	0.5317 (0.4457)	-	0.2483 0.4472
Mental Health Diagnoses				
-Psychotic Disorder	-	0.1194 (0.437)	-	0.0564 0.4488
-Substance Abuse Disorder	-	0.6918* (0.4177)	-	0.7925* 0.4241
-Personality Disorder	-	-0.6562 (0.4483)	-	-0.7697 0.4687
-Mood Disorder	-	0.4464 (0.3983)	-	0.5423 0.4022
-Anxiety Disorder	-	0.4439 (0.3696)	-	0.1058 0.3663
-Other Disorder	-	0.7896 (0.5735)	-	0.7919 0.6335
Supervision	-	-0.0683 (0.374)	-	-0.0968 0.3728
AIC	293.85	286.26	274.81	283.40
N	236	225	223	223

Source: Urban Institute analysis of data from ODRC, ODADAS, and ODMH.

Note: Each column reports selected coefficients from a logistic regression. The treatment coefficient is the expected change in the odds of being delivered of any ODADAS/ODMH-billable service from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group is more likely to be delivered services than the comparison group; negative values indicate that the treatment group is less likely to be delivered services than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.9.**Negative Binomial Regression on the Number of Days of Services Delivered at One Year Postrelease**

	(1)	(2)	(3)	(4)
Treatment	0.9687* (0.5305)	1.3474** (0.6048)	1.043** (0.5107)	1.3661** (0.549)
Days on the Street	0.0162 (0.0105)	0.0208 (0.0144)	0.015 (0.0102)	0.0195 (0.0137)
Age at release	0.0248 (0.0299)	0.0504 (0.0347)	0.0251 (0.0293)	0.042 (0.0324)
Race – White	0.2146 (0.5499)	0.8601 (0.6904)	0.2857 (0.5485)	0.6835 (0.6319)
Gender – Male	-2.0661*** (0.6427)	-1.7058** (0.7499)	-2.135*** (0.62)	-1.6757** (0.7169)
Mental Health Flag	0.7219 (0.7739)	0.0032 (1.0278)	0.4231 (0.8859)	-0.0971 (0.9896)
Alcohol and Other Drug Flag	-0.3405 (0.774)	-1.0602 (1.0091)	-0.717 (0.875)	-1.1389 (0.9367)
MH and AOD	-0.4187 (0.9907)	-0.5508 (1.2446)	0.0043 (1.0479)	-0.1294 (1.175)
Security Level	-0.2528 (0.3967)	0.0298 (0.5816)	-0.5224 (0.3897)	-0.3988 (0.5333)
Homeless	-	0.4848 (0.8217)	-	0.5561 (0.7917)
Drug Treatment Flag	-	1.0744 (0.781)	-	1.1485 (0.7667)
Drug Crime Flag	-	0.5148 (0.7124)	-	0.5219 (0.66)
Mental Health Diagnoses				
-Psychotic Disorder	-	1.2593 (0.9858)	-	1.2272 (0.9367)
-Substance Abuse Disorder	-	-0.0061 (0.7737)	-	-0.2124 (0.7134)
-Personality Disorder	-	-1.1384 (1.0193)	-	-0.8709 (1.0075)
-Mood Disorder	-	0.6887 (0.6793)	-	0.2924 (0.6337)
-Anxiety Disorder	-	0.3279 (0.6279)	-	0.3649 (0.5727)
-Other Disorder	-	0.5569 (0.9934)	-	0.5197 (0.9866)
Supervision	-	-0.5134 (0.6771)	-	-0.3467 (0.607)
AIC	839.06	821.53	807.16	820.10
N	236	225	223	223

Source: Urban Institute analysis of data from ODRC, ODADAS, and ODMH

Note: Each column reports selected coefficients from a negative binomial regression. The treatment coefficient is the expected change in the number of days of ODADAS/ODMH-billable services delivered from being placed in the treatment group as opposed to being placed in the comparison group. Positive values indicate that the treatment group is being delivered more service days than the comparison group; negative values indicate that the treatment group is being delivered fewer service days than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.10.**Cox Proportional Hazard Regression on the Days to First Service Delivery at One Year Postrelease**

	(1)	(2)	(3)	(4)
Treatment	0.68917** (0.27171)	0.69994** (0.28899)	0.7355*** (0.25404)	0.73093*** (0.25871)
Days on the Street	0.00897 (0.00807)	0.00937 (0.0076)	0.00898 (0.00798)	0.01008 (0.00809)
Age at release	0.013 (0.01401)	0.01955 (0.01513)	0.01142 (0.01489)	0.0185 (0.01571)
Race – White	0.301 (0.25106)	0.43405 (0.28886)	0.27874 (0.24941)	0.34972 (0.27621)
Gender – Male	-0.61601** (0.28325)	-0.57839* (0.3279)	-0.69132** (0.28603)	-0.73016** (0.32523)
Mental Health Flag	0.07645 (0.46566)	0.09964 (0.66938)	0.52171 (0.62908)	0.14225 (0.67293)
Alcohol and Other Drug Flag	0.01322 (0.48676)	0.3271 (0.67036)	0.47946 (0.63559)	0.34185 (0.64768)
MH and AOD	0.08691 (0.55975)	-0.25769 (0.72417)	-0.35115 (0.69797)	-0.31305 (0.70925)
Security Level	-0.13204 (0.1706)	0.04186 (0.19167)	-0.21692 (0.16759)	-0.10831 (0.18663)
Homeless	-	0.01644 (0.33933)	-	0.00824 (0.35192)
Drug Treatment Flag	-	0.38091 (0.30585)	-	0.47766 (0.29775)
Drug Crime Flag	-	0.44358 (0.35803)	-	0.21008 (0.35145)
Mental Health Diagnoses				
-Psychotic Disorder	-	0.05782 (0.3474)	-	0.00462 (0.35233)
-Substance Abuse Disorder	-	0.51027 (0.33844)	-	0.54569 (0.33869)
-Personality Disorder	-	-0.58741* (0.35261)	-	-0.63158* (0.35856)
-Mood Disorder	-	0.23492 (0.32846)	-	0.35178 (0.32871)
-Anxiety Disorder	-	0.36517 (0.28963)	-	0.08765 (0.28092)
-Other Disorder	-	0.54299 (0.42345)	-	0.36462 (0.45094)
Supervision	-	-0.00884 (0.3106)	-	-0.0734 (0.30315)
AIC	753.97	713.70	714.47	724.28
N	236	225	223	223

Source: Urban Institute analysis of data from the ODRC, ODADAS, and ODMH.

Note: Each column reports selected coefficients from a cox proportional hazard regression. The treatment coefficient is the expected change in the days to first ODADAS/ODMH-billable service delivery for the treatment group as opposed to the comparison group. Positive values indicate that the treatment group was delivered services more quickly than the comparison group; negative values indicate that the treatment group was delivered services less quickly than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01

Table A.11.**Ordinary Least Squares and Zero-Inflated Negative Binomial Regression of Total System Costs**

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	9642.4*** (512.7737)	9575.3*** (503.2369)	9626.0*** (499.0998)	1.1741*** (0.149017)	1.2166*** (0.149909)	1.3013*** (0.150885)
Age at release	-13.8612 (30.7134)	13.40979 (33.13015)	-13.6595 (32.30581)	0.004308 (.)	0.003525 (0.009193)	0.000213 (.)
Race – White	815.1633 (518.0241)	473.0993 (539.6961)	745.5937 (546.7117)	0.2988** (0.137566)	0.212199 (0.143859)	0.248083* (0.143075)
Gender – Male	-322.137 (656.4884)	90.35886 (666.857)	225.2829 (711.0688)	0.0242 (0.167112)	0.042912 (0.170176)	0.083171 (0.181042)
Mental Health Flag	926.9354 (1039.747)	779.8906 (1025.007)	234.6308 (1118.654)	0.180513 (0.3239)	0.060291 (0.331383)	0.12844 (0.340148)
Alcohol and Other Drug Flag	741.5337 (1057.726)	887.4114 (1044.065)	1083.206 (1044.902)	0.188163 (0.321995)	0.183137 (0.322259)	0.267369 (0.316401)
MH and AOD	-1640.41 (1227.446)	-1840.77 (1211.027)	-1669.25 (1213.514)	-0.48338 (0.363133)	-0.46255 (0.362968)	-0.55932 (0.359663)
Security Level	-360.61 (364.3695)	-537.139 (380.9361)	-619.598 (395.6505)	-0.01377 (0.101399)	-0.0621 (0.113766)	-0.09383 (0.113835)
Homeless at Arrest	-	1543.42** (740.9234)	1037.185 (710.7997)	-	0.214057 (0.190452)	0.154245 (0.190123)
Previous Incarceration	-	-252.928 (155.9789)	-190.341 (151.6061)	-	-0.03486 (0.042607)	-0.02297 (.)
Time in Prison	-	-0.41881** (0.16159)	-	-	-3.6E-05 (.)	-
Supervision	-	362.2385 (586.2666)	-57.2391 (585.7102)	-	0.231029 (0.154199)	0.208319 (0.153552)
Release Risk	-	1719.02** (722.5674)	1346.763* (724.1406)	-	0.27124 (0.19962)	0.154687 (0.191334)
Medical Status	-	-	156.312 (519.7061)	-	-	0.055599 (0.140729)
Mental Health Diagnoses						
-Psychotic Disorder	-	-	1499.41** (692.1609)	-	-	0.256586 (0.170698)
-Substance Abuse Disorder	-	-	38.453 (662.1752)	-	-	-0.26175 (0.176417)
-Personality Disorder	-	-	-417.754 (713.0007)	-	-	0.070213 (0.19644)
-Mood Disorder	-	-	1512.74** (627.2443)	-	-	0.34213** (0.150798)
-Anxiety Disorder	-	-	-1420.37** (587.203)	-	-	-0.22478 (0.162212)
-Other Disorder	-	-	29.66946 (959.5709)	-	-	0.154644 (0.256623)
Adj. R-Squared	0.6248	0.6399	0.6452	-	-	-
AIC	-	-	-	3165	3163	3170
N	217	217	217	217	217	217

Source: Urban Institute analysis of data from ODRC, ODADAS, and ODMH.

Note: Columns 1-3 report selected coefficients from an ordinary least squares regression, columns 4-6 report selected coefficients from a zero-inflated negative binomial regression. The treatment coefficient is the expected change in total system costs from being placed in the treatment group as opposed to being placed in the comparison group. For both regression types, positive values indicate that the treatment group has higher total system costs than the comparison group; negative values indicate that the treatment group has lower total system costs than the comparison group.

Significance testing: *p < 0.10, **p < 0.05, ***p < 0.01



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