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Removing Release Impediments and Reducing Correctional Costs: Evaluation of Washington State's Housing Voucher Program

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Homelessness is a persistent problem facing offenders returning to the community from prison. Many offenders were homeless prior to incarceration, and often return to homelessness after release. Additionally, the costs of incarceration have led policy-makers to consider large-scale alternatives to rapidly and effectively reduce correctional costs. The Washington State Department of Corrections' Housing Voucher Program (HVP) is a reentry program that seeks to divert offenders from homelessness by paying for returning offenders' rent expenses in private housing for up to three months following their release. The current study provides an impact evaluation and cost assessment of HVP. Findings demonstrate support for the program and indicate dramatic reductions in associated correctional costs.

Keywords community corrections; parole; housing; reentry

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When inmates complete their prison sentence, obtaining suitable housing is difficult and can delay reintegration. Gone are the days when offenders were provided a bus ticket home and a caution to not return. As research has begun to demonstrate the link between housing issues and recidivism, many states have enacted policies that require an inmate to obtain a suitable living arrangement prior to release from incarceration. Unfortunately, because many offenders released from prisons and jails were homeless or had unstable housing situations prior to their incarceration, they have few or no acceptable options upon their release. As a result, such offenders are often forced to seek temporary shelter with friends or family. For those offenders without any of these options, homelessness is a strong possibility (Rodriguez & Brown, 2003). Additionally, the communities to which offenders return often lack employment opportunities and affordable housing which serve only to exacerbate offenders' difficulties and increase their probability of becoming homeless.

Because many prisoners are homeless prior to incarceration, and many remain or become homeless following their release (Harding & Harding, 2006; Petersilia, 2001; Roman & Travis, 2004), correctional prerelease programs were created to assist offenders in establishing stable housing situations during their return to the community. For those released from prison and into community corrections, a suitable residence must be identified and approved by the department of corrections prior to release. Possessing the resources to obtain a private residency upon release is a difficult and somewhat rare occurrence. Returning offenders therefore often look to family and friends for initial housing; however, when that option is not available, correctional or other public assistance may be utilized. In some cases, correctional prerelease planning may arrange for an offender reentering the community to reside in a homeless shelter should there be no other options for more permanent housing. In addition, a selected residence may have to be approved prior to release by correctional staff, as some housing or neighborhoods may be restricted due to the terms of an offender's community supervision. If an approved residence cannot be found in a timely manner, offenders may subsequently be held in prison or jail beyond their expected release. In light of the rising costs of prison (Taifa & Beane, 2009), retaining inmates in a correctional institution is certainly an unwanted extra expense.

Securing stable housing in a safe and healthy environment is a necessary first step for recently released offenders in the long process of maintaining employment, meeting supervision conditions, and adhering to treatment (Lutze & Kigerl, 2013). Failure to acquire a suitable place of residence can interfere with these other conditions of reintegration and may make desisting from crime more difficult. For example, it is possible that offenders may get stuck in a negative feedback loop between homelessness and incarceration, as a disproportionate number of offenders do not have stable housing prior to their incarceration (Harding & Harding, 2006), and therefore have no place to return when they are released into community supervision (Petersilia, 2001). Homelessness can exacerbate tendencies to engage in crime, and extensive

incarceration can weaken ties to the community, further increasing the chances of being homeless upon release (Rodriguez & Brown, 2003).

One type of intervention implemented in the hopes of ameliorating offenders' issues with homelessness includes housing assistance programs. These programs aim to provide subsidized rent in an effort to smooth an inmate's transition back into community life. Critics argue that such programs decrease public safety (through early release) and incur an unnecessary monetary burden for the State. However, recent evaluations of housing assistance programs have not only been found to decrease recidivism, but have also identified substantial cost savings. For example, supportive housing provided to homeless nonoffender samples has demonstrated reductions in subsequent incarceration costs after placement that greatly reduced the initial program expenses (Culhane, Metraux, & Hadley, 2002).

The effects of housing programs have been difficult to isolate, however, as many interventions utilize housing assistance as only one component of a larger program of integrated reentry services. Furthermore, not all studies rely on offender samples and some include samples that are mixtures of offenders and homeless populations. Many of the housing services provide rent as subsidies paying only a portion of the participants' total expenses, or provide housing in controlled environments with high levels of supervision (i.e. halfway houses), and thereby make it difficult to relate such results to the larger general returning offender population. Some housing assistance programs also exclude many types of offenders (e.g. sex offenders, some types of drug offenders), further decreasing external validity.

Prior to 2009, Washington State inmates who were scheduled to return to community supervision, but who were unable to establish approved housing arrangements, were held past their earned release date (ERD) until such housing could be secured. The Washington State Housing Voucher Program (HVP) was implemented to address this problem. Prison inmates faced with difficulties procuring and maintaining suitable housing prior to their release were allowed to request housing vouchers which paid for the entirety of their rent expenses in private housing for up to three months following release. The program was implemented broadly and was successful in providing vouchers to over 95% of applicants. The current study provides an impact evaluation of the intervention and seeks answers to two questions regarding whether the HVP (1) affects recidivism relative to a historical comparison group and (2) accrues a cost savings resulting from inmates' early release.

Criminal Offending and Homelessness

Individuals who are homeless (either living on the street or in a shelter) at the time of their own arrest are overrepresented among prison populations. Twenty percent of offenders entering prison report being homeless in their recent past (Roman & Travis, 2004). At the time of incarceration, one-third of

offenders are not in permanent housing (temporarily residing with family or friends), if not completely homeless (Harding & Harding, 2006). Additionally, 10% of those on parole are homeless (Petersilia, 2001).

Research has also established a link between homelessness and increased rates of offending (Gelberg, Linn, & Leake, 1988). Kushel and colleagues (2005) interviewed 1,325 homeless individuals in San Francisco and found that 23% had spent time in prison during their lifetime, spending a median of four years incarcerated. A synthesis of 60 studies of homeless populations found that, on average, 18% had been incarcerated for a felony conviction and 32% had been incarcerated for misdemeanor charges (Shlay & Rossi, 1992).

Some have suggested that the prison experience itself may have an impact on an offender's chances of securing stable housing. In a survey of 230 inmates, Dyb (2009) found that those who had been incarcerated for less than two months had a higher likelihood of having a permanent home in which to live after release compared to those who had spent one year or more incarcerated. Furthermore, he found that the duration of one's incarceration tended to weaken relationships with family and friends over time, relationships which could have been relied upon to help secure assistance when transitioning back into the community. Incarceration also predicts shelter use. Metraux and Culhane (2004b) found that compared to inmates released from prison, jail releasees were more likely to experience a shelter stay and stayed longer for each use of a shelter. The authors argued that jail plays a larger role among extremely poor populations, and that homeless individuals often cycle in and out of shelters and jails regularly. Shelter use also predicts incarceration. A cohort of 48,424 persons released from New York State prisons revealed that roughly 11% of the sample experienced at least one postrelease shelter stay and over 30% returned to prison within two years following release (Metraux & Culhane, 2004a). Those entering shelters after release have been found to be three times as likely to abscond from parole and possessed higher rates of drug use, greater difficulty securing work, and were engaged in more criminal activity (Nelson, Deess, & Allen, 1999).

In addition to shelter use, housing instability is also associated with criminal offending and recidivism. Housing instability is typically measured by the number of housing transitions in a community (moving to a new location). A higher number of housing transitions has been found to predict treatment failure and rearrests after controlling for days at risk in the community (Broner, Lang, & Behler, 2009; Schram, Koons-Witt, Williams, & McShane, 2006).

Flavin (2004) suggested that securing stable housing or living arrangements for returning offenders is important for increasing economic capital and reducing recidivism. Subsequently, having friends and family members awaiting the offender in the community is almost a necessity for reintegration, specifically in regard to living arrangements. However, because some offenders may have alienated family and friends, securing housing can be more difficult in many cases (Shapiro & Schwartz, 2001). The difficulty prolonged incarceration

can impose on offenders reentering the community can exacerbate already troubled housing situations. As a result, correctional intervention may be warranted to aid a returning offender's ability to secure a transitional place of residence to ease the process of reestablishing ties to the community.

Housing Barriers During Reentry

Many offenders often return to neighborhoods with serious economic deprivation and poverty, a lack of available jobs, and limited affordable housing (Rodriguez & Brown, 2003). These conditions make finding suitable housing extremely difficult. Subsequently, the criminal justice system has traditionally undertaken efforts to connect releasees to suitable housing, often termed *prerelease planning*. Some examples include requiring a verified address before one can be released or arranging tenancy in halfway houses or other transitional housing units (Roman & Travis, 2006). There are often limitations with this planning, however. For example, a 1997 national survey for state inmates found that only 13% of inmates who were soon to be released had participated in any type of prerelease planning program (Roman & Travis, 2006).

Offenders released into community corrections may have additional restrictions placed upon them that can create even more difficulties when attempting to secure stable housing. Some community corrections conditions require offenders to avoid specific neighborhoods and people, which can often create limits for habitation as well (Bradley, Richardson, Oliver, & Slayter, 2001). Although most released offenders (68%) return to live with family (Bradley et al., 2001); some community corrections conditions restrict families from sharing a residence. For example, offenders may be restricted from staying with their families if a relative is also currently under community corrections supervision (Rodriguez & Brown, 2003).

In addition to housing restrictions that may make family hesitant to take in returning offenders, securing tenancy in subsidized housing is often quite difficult. For example there are restrictions that can deny tenancy for offenders with histories of substance abuse or mental illness (Hammett, Roberts, & Kennedy, 2001). Because of such difficulties in locating affordable housing, released offenders may end up in homeless shelters. Such living arrangements mean that the offender has no permanent address or phone number at which he or she can be contacted. This can make finding employment extremely difficult. Additionally, shelter stays have also been linked to poor hygiene and lack of quality clothing, which can further impede success during a job interview (Rodriguez & Brown, 2003). To overcome barriers such as those restricting employment, barriers preventing access to affordable housing must first be eliminated. Therefore, because securing housing is necessary for any offender's plan to become fully reestablished in the community and independent of correctional oversight, it would be beneficial to broader societal and correctional goals to make this first step for returning an offender easier.

The Impact of Housing Services and Interventions on Recidivism and Costs

There are a range of services and interventions to provide housing or housing assistance for returning offenders and the homeless. Aside from the private housing market or living with family or friends, there are four primary methods of housing-based assistance. The first includes community-based correctional housing facilities, such as halfway houses. These are temporary living arrangements, often in the company of other releasees, which are highly regulated (Roman & Travis, 2004). There is also transitional service enriched housing, which is often funded by charities or grants, and is noncorrections based. Supportive housing is a third option where tenants are provided services such as counseling in a permanent housing environment. The services provided to tenants can be on-site in a congregate housing unit or from off-site in a scattered site approach with units located in multiple, separate apartment buildings (Kresky-Wolff, Larson, O'Brien, & McGraw, 2010). Lastly, there are federally subsidized housing options which can take three forms: (1) federally owned housing projects, (2) privately owned but subsidized housing projects, and (3) housing vouchers which can assist with the payment of rent for privately owned apartments (i.e. not limited to specific housing projects) (Roman & Travis, 2004). Housing vouchers often pay for about 30% of a tenant's rent, and have been associated with better health outcomes during follow up (Fortson & Sanbonmatsu, 2009), as well as decreased risks of returning to welfare among homeless populations (Bania, Coulton, & Leete, 2003).

Housing Service Evaluations

A number of these housing services have already been empirically evaluated. For example, the California Department of Corrections provided supportive housing units assisting homeless parolees' transition to independent living. Zhang, Roberts, and Callanan (2006) compared those enrolled in these treatment services with returning offenders who were not enrolled and found that those enrolled had lower recidivism rates at follow up. In Maryland, the Mental Hygiene Administration provided housing to offenders returning to the community. Housing was provided for up to five years for homeless offenders with serious mental illnesses returning from jail. Recidivism rates were relatively low (6%) for returning to jail (GAINS Center, 1999); however, the housing services were provided only to mentally ill releasees and no comparison group was utilized. Holtfreter and colleagues (2004) evaluated the provision of services to female probation and parolees from Oregon and Minnesota, including either housing or life skills training. Those receiving such aid were found to have lower rates of recidivism. Yet because multiple services were provided, it is difficult to disentangle if the observed program impacts were truly due to housing services.

Not all housing services have been associated with lowered recidivism, however. The now infamous Project Greenlight (GL) sought to use intensive multimodal treatment efforts for inmates during and after incarceration in New York City (Wilson & Davies, 2006). The program provided treatment regimens (e.g. cognitive skills training) and also worked to divert offenders away from shelter use after release. Contrary to expectations, it was subsequently found that GL subjects experienced rearrests more frequently than comparison subjects, thereby resulting in iatrogenic program effects.

Being assigned to a halfway house may also be linked to recidivism (Lowenkamp & Latessa, 2002). In Ohio, offenders released from a state institution to parole and placed in a halfway house had lower rates of recidivism than comparison subjects. However, halfway houses are often more highly regulated than subsidized housing, typically provide more treatment interventions and offering services to a single participant type (e.g. substance abusers) (Hamilton, 2011b). Thus, it is difficult to place halfway houses in the same category as other housing programs given the variation in populations served.

Costs of Housing Services

The potential financial costs and benefits of housing interventions have also been considered as a part of an evaluation's impact (Culhane et al., 2002). One sample of homeless persons placed in New York supportive housing was matched to individuals with similar characteristics who did not have supportive housing placement. Placement in supportive housing was associated with a 90% reduction in costs due to fewer days incarcerated at follow up. Moore (2006) conducted an evaluation and cost benefit analysis of a supportive housing program in Wisconsin for homeless populations. Housing placement was associated with a reduction in health care utilization and incarceration costs, with a total program cost reduction of nearly 36%. Lastly, a cost benefit analysis was conducted for the Maryland Reentry Partnership Initiative (REP), a program intended to provide various treatments and services, including assistance in securing transitional housing (Roman, Brooks, Lagerson, Chalfin, & Tereschenko, 2007). For every dollar spent on the REP program, there was a $3 return in the form of fewer rearrests.

Like much of the research described here, it is not clear what effect housing assistance has once separated from the other treatments and wraparound services[1] provided. Many studies also do not attempt to isolate the effects of housing assistance from other treatments. Some studies' samples consist of homeless populations, others of released inmates, and still others with systematic differences between their study groups (i.e. those with mental illnesses). Such issues make generalizations to broader correctional populations

1. Wraparound services are those designed to bridge the gap between prison and the community to assist participants with reintegration, which often includes an array of eclectic services addressing offender needs such as: employment, education, cognitive behavioral treatment, and family counseling (Wilson & Davis, 2006).

difficult. In addition, all of the housing interventions reviewed possess markedly different programmatic elements when compared to the current program of interest, the Washington State HVP; some subsidize only a portion of a subject's rent, some have greater supervision of residents, and some come with location restrictions regarding where an offender can reside in the community.

The Washington State HVP

Desiring a program that could provide released offenders with stable housing while also reducing the costs of incarceration, the Washington State Department of Corrections[2] created the ERD HVP. In Washington, persons convicted of a felony are subject to a sentence of incarceration, with a term of community supervision that will typically follow a prison sentence. Unlike other states' conceptualization of parole, this term of supervision is a mandate assigned at sentencing and is not utilized as a program for early release. Washington inmates may also accrue time off of their incarceration term for compliant behavior.[3] At the outset of their incarceration, a date is set for the completion of the incarceration portion of their sentence.[4] Days to be accrued for compliant behavior are provided upfront and calculated at admission into an individual's projected ERD. Behavior resulting in disciplinary action may move this date back, reducing the amount of good time provided. Depending on their date of conviction, level of risk, and offense committed, inmates may receive a 10—50% reduction of their prison sentence. If an individual is not sentenced to serve a term of community supervision, they are then released directly from prison on their ERD. If they are to serve time on community supervision, however, participants must have a release plan. One essential part of the release plan is that the participant must provide a viable and stable address to which he or she will return.

When an inmate's ERD is approaching, his or her future residence must be approved prior to release. The Department of Corrections can deny the inmate's return address if it is not deemed viable or violates any other statutes or mandates of community supervision (e.g. lack of sponsor or living arraignment, community safety concerns, county of origin issues, or lack of cooperation in programming or conditions). Given the complexities surrounding a typical release, several rationales exist as to why a release to self-sustained or single occupancy residence is difficult and uncommon. If a residence is not

2. In conjunction with the state legislature.

3. These programs are often referred to as "Good Time" in many states (Petersilia, 2001).

4. It should be noted that all participants have committed a felony and are to be incarcerated by the Washington State DOC. Misdemeanant incarcerations occur at the county level and are not part of the DOC's jurisdiction. One exception to this division is time served, where an offender who detained prior to trail will accrue time that is put toward their felony incarceration. If the time remaining following the reduction for time served is less than one year, the offender will serve their time in a county jail facility. The HVP program is designed for the higher risk felony population and does not serve misdemeanants sentenced to serve their incarceration at the county level.

approved or cannot be obtained (e.g. no relative or friend will take them in), the inmate is held past their ERD and may end up eventually being released to a shelter or halfway house. Releases to these locations are based on bed space availability, however, which often results in an inmate staying in prison long after their ERD. Furthermore, these temporary placements are less than ideal for a releasee seeking employment.

In 2008, over 1,200 Washington State inmates were held past their ERD, totaling over 135,000 days (an average of 107 days per inmate), resulting in extra costs to tax payers (S. 5,525, 2009). In response to these figures, the Washington State Department of Corrections helped create and implement legislative initiative Senate Bill 5,525 (2009), the ERD HVP. The intent of this program was twofold: (1) to reintegrate inmates into their communities at the date/time earned release should be granted and (2) to reduce correctional costs associated with continued incarceration beyond an offender's ERD. The Statute was passed in May of 2009 and the DOC began implementation in July of 2009. The HVP provides state-paid vouchers to participants that cover the entire costs of their rent for up to three months (given continued financial need).

Eligible offenders in need of voucher assistance are allowed to apply for the program prior to their ERD. The Washington State Department of Corrections (WADOC) began accepting applications in July of 2009 and within the first few months, the program gained momentum and capacity, and by six months, the WADOC documented an application approval rate of 95%. The primary benefit of this program, as compared to those reviewed above, is that it allows for individuals to be discharged on their ERD without the need for offenders to obtain a stable living arrangement on their own, from a friend, or from a relative prior to release. Released offenders are therefore able to independently rent a residence until they find employment and are able to provide for themselves. As subsidizing rent in private housing ought to be less costly than offenders' continued incarceration, the provision of vouchers is expected to result in short-term correctional costs.

Unfortunately, all correctional interventions have their risks. As reviewed earlier, an individual living on their own, or without the support of family and friends, may lack the potential resources and emotional stability that are predicted to prevent reoffending (Shapiro & Schwartz, 2001). Furthermore, lacking resources and/or support is often intertwined with characteristics correlated with recidivism and revocation, such as personality disorders and substance abuse, which may have helped destroy or compromise their previous support systems. To counteract this potential risk, participants in the HVP must agree to comply with additional reporting and community supervision mandates, which not coincidentally result in a higher level of supervision.[5]

5. Supervision levels are established prior to release and mandate the frequency of minimum contacts between the releasee and their community supervision officer.

Even though inmates have earned an early release, one can also argue that additional incapacitation prevents all related recidivism costs, especially those costs associated with public safety. In other words, an early release results in a longer period of risk to the public's safety. Furthermore, releasing individuals into a less supportive environment than a typical residential placement with a family member or friend may also increase the risk to general public. Therefore, if a program is found to have iatrogenic effects, where participants have greater rates of failure, the costs of criminal offending will likely outweigh the initial incarceration savings provided by the program.

The current study examines the effectiveness of HVP in terms of both recidivism outcomes and related costs. It is expected that the HVP can accomplish two goals. One is to reduce costs by releasing inmates back into the community earlier, both preventing prolonged incarceration for the offender and maintaining correctional efficiency. The second is to make offenders' transitions back into society less stressful, such that they are then free of the stressors of securing a safe place to live while still having to be mindful of the myriad other concerns of which a returning offender must be vigilantly aware. If such an intervention can accomplish these goals, then there are positive implications for correctional institutions, broader society, and offender populations wishing to become independent members of the community.

Methodology

Sampling Frame

Using a purposive sample of eligible participants, a posttest only quasi-experimental design was constructed to compare HVP participants to a matched group of comparison subjects. All HVP participants who were released on or after 1 August 2009, received at least one month of housing vouchers, and were also assessed for risks and needs prior to release. Although more ideal, given the high rate of voucher application approval, a comparison group of only waitlist subjects could not be constructed from inmates released during the same time period as HVP subjects. Instead, a historical comparison group was gathered consisting of inmates released in the 18 months prior to the program's implementation. Comparison group subjects were eligible for study inclusion if they: (1) had at least 12 months of community supervision to serve, (2) were released on or after 1 October 2008,[6] (3) were assessed for risk and needs prior to release, (4) were currently incarcerated for their initial sentence (not for a revocation), and (5) had been held at a minimum of 30 days

6. The WADOC began entry of inmate's pre-release assessments on this date; therefore, only subjects released after this date would have the requisite data needed to complete the propensity score model.

beyond their ERD.[7] Using these eligibility criteria, 3,237 subjects were included in the sample, of which, 49% had received a voucher and 51% had not.

Propensity Score Modeling

Although a randomized design would ideally be constructed to eliminate biases stemming from group selection, ethical considerations along with feasibility restrictions prevented such a methodology. To reduce issues of selection bias, two safeguards were subsequently implemented. First, as described, all subjects were matched on all (four) eligibility requirements. To further reduce selection bias in the comparison group, propensity score modeling was utilized. To create the propensity score, a binary logistic regression model was used where predictor variables identify the probability of each subject being in the HVP group. This procedure allowed for the reduction of differences between the HVP and comparison subjects on demographics, criminal risk and needs, and all other theoretically relevant measures. The intended result was a comparison sample group that is statistically identical to the HVP group on key prerelease characteristics for which data are available. The propensity score modeling procedure used the releasee predictor characteristics to create a single summary measure (i.e. the propensity score). This summary measure represents the predicted probability of being an HVP participant.

Propensity score models take advantage of the pool of potential comparison group subjects. When this pool is large (typically three to four times the size of the intervention group), each intervention subject is matched to the comparison subject that possesses the same/similar propensity score, while all remaining comparison pool subjects are eliminated from the study analyses. However, when the pool of comparison subjects is proportionally small (less than twice the size of the intervention group), propensity score weighting is preferred. With a weighting procedure, no subjects are eliminated from the study sample. Instead, comparison subjects with propensity scores similar to the HVP group are allowed to have more influence (statistically) in the models examining study group differences, while those with dissimilar scores have reduced influence. With either procedure, the resulting model produces two groups that are equally balanced on all prerelease measures, allowing study groups to be compared without the need for sophisticated modeling procedures typically utilized to control for the influence of study confounds.

7. A minimum of 30 days as used as this is a known WADOC proxy indicator for housing residency approval restrictions. ERDs are uncommonly delayed for other reasons such as: delayed release planning/investigations, delays in required notification of release to local law enforcement, and those under consideration for civil commitment. These issues are often handled within a few days but sometimes take a few weeks to sort out. The WADOC indicated that all issues beyond residency denials are removed within 30 days. This pattern was confirmed though an investigation of ERD delays following the implementation of the housing voucher program.

Due to the near equivalence of study group size, a propensity weighting procedure was conducted. Propensity scores for each subject were first computed. Weights were created by taking 1 divided by the propensity score for HVP subjects. For comparison subjects, the inverse was computed (1/1—Propensity Score). To reduce the effects of extreme scores, the weight was standardized by dividing each study group's weight by the associated group mean propensity score. The resulting standardized weight was then used to statistically balance the groups in the aforementioned outcome analyses.

Diagnostics were performed to examine the efficiency and validity of the propensity weighting procedure. Bivariate tests were used to compare groups prior to and following the weighting procedure. A total of 72 items (12 domains) were utilized in the propensity model, including: demographics, criminal history/risk, education, employment, peers, housing, family, substance abuse/use, mental health, aggression, attitudes/behaviors, and coping skills. Prior to constructing the weight, 43 of the 72 prerelease item means/proportions were found to differ significantly between the two study groups. Bivariate comparisons using the created propensity weight reduced the number of significant group differences to approximately one percent (1.4%), which is well within the acceptable five percent anticipated due to chance. The bivariate comparisons of the study groups are presented in Table 1 to not only provide sample descriptives, but to also demonstrate the functionality of the weighting procedure. Unfortunately, due to space considerations, only a selection of the 72 comparisons is provided.[8] Findings presented indicate that selection bias was reduced and the propensity weight was created successfully.

Measures

Two data sources were utilized for the analyses. The WADOC provided all measures used to identify study eligibility subjects and all prelease measures used in the propensity score weighting procedure. The final intervention measure identifies if someone received a housing voucher for any duration (1) and those comparison subjects who did not receive a voucher (0). The WADOC also provided data used to identify reincarceration and community supervision violations during the study period, as well as cost calculations for supervision services rendered. The Administrative Office of the Courts provided outcomes measures used to assess subjects' recidivism following release from incarceration.

We define study outcomes as: new charges, reincarcerations, and technical violations. New charges are a dichotomous measure indicating the presence (1)

8. The full table of descriptives used to create the PSM and examine match diagnostics is provided in Appendix I.

Table 1 Predictor characteristics of study subjects and PSM diagnostics—reduced ($N = 3,237$).

	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test p value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test p value
Study group	51.1	48.9	—	51.1	48.9	—
Age	37.4(.27)	38.1(.25)	.070	37.6(.27)	37.8(.26)	.567
Race white	62.8	63.9	.060	63.0	63.1	.907
Black	20.8	22.8		21.7	22.1	
Hispanic	8.5	6.9		7.9	7.2	
Other	7.9	6.5		7.4	7.5	
Male	93.5	91.3	.011	93.2	92.9	.715
Risk level						
High violent	46.3	56.5	<.001	52.2	52.7	.843
High nonviolent	22.5	26.0		23.3	23.9	
Moderate	14.6	8.6		11.7	10.9	
Low	16.6	8.9		12.8	12.4	
Number of prior incarcerations	2.0(.034)	2.4(.041)	<.001	2.2(.04)	2.3(.04)	.173
Residence in last six mon. in community			.015			.833
Stable housing	71.6	67.6		65.7	64.8	
Homeless/transient	18.2	18.9		25.8	26.7	
Group home/res. treatment	10.2	13.5		8.5	8.5	
Readiness for change			<.001			.850
Taking steps toward change	36.8	31.7		34.4	33.5	
Desire for change but no steps	47.6	56.7		52.1	53.1	
Does not see reason for change	12.3	9.0		10.5	10.1	
Hostile/unwilling to change	3.5	2.6		3.0	3.3	

(*Continued*)

Table 1 (*Continued*)

	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test *p* value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test *p* value
Education needs score	1.7(.06)	1.5(.05)	.095	1.6(.06)	1.6(.06)	.903
Employment needs score	10.1(.14)	9.8(.11)	.095	9.9(.13)	9.9(.13)	.798
Peers needs score	2.9(.06)	2.9(.05)	.979	2.9(.06)	2.9(.06)	.575
Residential needs score	4.1(.09)	5.6(.10)	<.001	4.9(.10)	5.0(.10)	.513
Family needs score	0.9(.04)	0.8(.03)	.019	3.7(.06)	3.7(.06)	.466
Drug needs score	6.7(.10)	6.0(.08)	<.001	6.3(.10)	6.2(.10)	.716
Mental health needs score	2.0(.07)	2.4(.09)	.001	2.1(.03)	2.1(0.3)	.702
Aggression needs score	4.9(.07)	4.0(.06)	<.001	0.3(.01)	0.4(.01)	.333
Attitudes/behaviors needs score	7.0(.09)	5.9(.07)	<.001	5.0(.10)	5.0(.10)	.919
Coping needs score	2.6(.07)	2.9(.07)	.008	3.7(.05)	3.7(.05)	.763

or absence (0) of a new criminal charge brought by the state/city within the one-year follow-up period.[9] These charges are further broken down by severity, examining group differences with regard to misdemeanors and felonies. The measure of reincarceration indicates the presence (1) or absence (0) of a conviction that resulted in a new prison commitment. Technical violations are measured as any violation of community supervision conditions (1) or the absence of recorded violations within the follow-up period (0). Because technical violations are a common occurrence, States (including Washington) often provide some system of graduated sanctioning. Depending on the severity of the violation, sanctions often start with a warning and then graduate to jail confinement or even revocation. To account for the variation in outcomes resulting from sanctioning, we also created a dichotomous measure for technical violations that resulted in confinement. In Washington State, short-term confinement is often used as an alternative to incarceration where participants committing violations may be sanctioned for repeated violations with jail confinement sanctions of 30, 60, 90, or 120 days. Participants receiving a confinement sanction during the follow-up period indicate a more serious infraction (1) while those without a confinement do not indicate the infraction (0). Revocation of community supervision resulting in reincarceration is the final outcome event measured and is dichotomized as committing the event (1) or remaining on community supervision (0) during the follow-up.

For the subsequent cost-benefit analysis, three different cost types are estimated. The first is the cost of the voucher program. This includes both the total rent expenses paid out to participants in the voucher group as well as additional staff salary costs for the extra supervision and administrative expenditures required of the voucher program. Rent expenses are summed per offender over the one to three months for which rent payments had been disbursed. Voucher recipients in the sample spent on average 68 days residing in voucher subsidized housing.[10] Administrative and supervision costs included six additional staff required for the program earning about $55,000 a year each over the course of two years and two months the program was in effect.

Lastly, the costs of each crime are also estimated. Crime costs include the expense of arrest, conviction, and financial loss to the victim (if any) and are estimated for the State of Washington by the Washington State Institute for Public Policy (Aos, Phipps, Barnoski, & Lieb, 2001). The original figures are adjusted for inflation from 1995 to 2011. The study distinguished crime types by either felony or misdemeanor. Aos and colleagues (2001) break down the costs of felonies into multiple crime types (property, drug, etc.) and these costs are averaged to produce an estimate for felony costs ($32,852.22),

9. A potential instability exists when using new arrests as an outcome measure. Often subjects are arrested (sometimes on multiple counts), only to be released or have several counts dropped from the final arrest charge. To diminish this issue new charges were used.

10. Although participants may receive up to three months of vouchers, those that secure employment to sustain housing costs ameliorate the need for voucher provision, terminating their participation in the program.

excluding murder due to a lack of incidences. Misdemeanor costs were estimated at $1,623.60 per crime.

Hypotheses

Below, we propose three hypotheses to test the positive effects of HVP on recidivistic and community supervision events and cost savings. Two hypotheses are used to test the impact HVP has on two forms of postrelease offending relative to the comparison group. The third considers how HVP affects the relative costs of the program compared to prolonged incarceration past a subject's earn released date.[11][12]

> *H1: Study groups will not differ significantly with regard to the proportions of recidivistic events observed during the follow-up period.*

> *H2: Study groups will not differ with regard to community supervision violation events observed during the follow-up period.*

It is important to note that due to the design of our study, the implementation of the program, and the provision of only housing services, *we do not expect the HVP to decrease recidivism or community supervision violation rates for participants, as compared to their study counterparts*. Because our historical comparison group is comprised of *incarcerated offenders* released in the 18 months prior to the intervention's implementation, held in prison past their ERD, and who, by definition, have zero chance of recidivating or committing violations during the HVP intervention period, it is not appropriate to predict those rates across groups will differ or be lower for the HVP group. Subsequently, for the purposes of this study, we consider a null finding (no significant differences) between the groups to be a positive result. That is, as long as the program does not pose any greater danger (i.e. rates of recidivism and violations stay the same) to the public than treatment as usual (keeping offenders incarcerated), then the program can, and should, be viewed as a success in regards to public safety. Therefore, only in the case where we observe an iatrogenic outcome (i.e. an increase in recidivistic events or violations), should the HVP be considered to have a negative (adverse) effect on public safety. Given the anticipated null effect with regard to recidivistic events, the focus of the results then shifts to the analysis of costs.

11. Recidivist events include measures of any new criminal charge, misdemeanor charges, felony charges, and reincarcerations for new convictions.
12. Community supervision violation events include any technical violation, technical violations that result in a confinement sanction, and violations that result in revocation of community supervision.

H3: Voucher recipients will be associated with a costs savings per dollar investment in the program in the form of decreased prison costs.

As explained in more detail above, we do anticipate a positive (desired) effect of the HVP on cost savings, as compared to the prolonged incarceration of comparison subjects. Therefore, across all three hypotheses, study group comparisons of recidivism and community supervision violation events that indicate a null effect of HVP should not substantially detract from cost savings to the State drawn from early releases from the more expensive comparison intervention (incarceration).

Analytic Plan

As discussed above, a null program effect of group recidivism and violation events indicates a positive overall effect (i.e. the lack of iatrogenic findings and the presence of cost savings) of the HVP. A positive impact is therefore defined as a nonsignificant difference with regard to the proportion of recidivism and violation events observed. A key advantage of propensity scores is that it removes the need for complex modeling of outcomes, where testing of hypotheses can be completed with a comparison of study group means and proportions. As such, seven cross-tabulation models comparing group proportions were utilized and chi-square tests of significance were used to gauge support for Hypotheses 1 and 2.

To assess significant differences in study group costs, seven additional *t*-tests were conducted. The first involved the mean initial institutional costs combining voucher rent expenses, additional administrative and supervision costs associated with the voucher program,[13] and early release savings. Five recidivism measures in the form of felony charge, misdemeanor charge, prison incarceration, jail sentence duration, and total costs of recidivism combining the four preceding measures were also tested. Finally, total cost differences were assessed by combining all expenses mentioned here. All tests were weighted via subjects propensity score.

In addition to mean costs per offender, total weighted costs were tabulated to determine the entire costs savings (if any) to the WADOC. The difference in total costs between the two study groups (in terms of recidivism, violation, and incarceration expenses) were then compared to the total amount spent on housing vouchers and salaries for additional staff associated with the voucher program to determine the ratio of costs to benefits for providing voucher assistance.

13. Six new staff members were hired to support the additional supervision and administrative demands of the program. The average salary was calculated at 55,000 for all members over two years. These costs were incorporated into the estimates provided to support Hypothesis3.

Results

The seven cross-tabulations comparing the HVP and comparison groups are presented in Table 2. As anticipated, nonsignificant differences were identified when comparing study group proportions of all recidivism outcomes, including any new charges, misdemeanor charges, felony charges, and reincarcerations. These results support Hypothesis 1. It is also interesting to note, one marginally significant finding ($p = .072$) indicating that voucher participants were *less* likely to be reincarcerated compared to comparison subjects. This was unanticipated and ultimately a positive programmatic effect, although it does not exceed the traditionally established levels of significance. Furthermore, although again not significant, the directions of effects for measures of recidivism favor the HVP group. Support was not found for Hypothesis 2 regarding a null effect of community supervision violations. Notably, for technical violations, violations resulting in jail sanctions and revocations of community supervision, HVP subjects were found to possess significantly greater proportions of violation events ($p < .05$).

The results of seven independent samples t-tests to assess significant cost differences between study groups are presented in Table 3. For each test, HVP subjects were associated with significantly fewer costs, supporting Hypothesis 3. Furthermore, initial institutional and voucher program costs indicate that

Table 2 Outcome event comparisons by study group ($N = 3,237$)

Outcome	Comparison %	Voucher %	Chi-square	*p* value
Any new charge	36.0	33.7	1.963	.161
New misdemeanor charge	25.3	22.9	2.560	.110
New felony charge	24.3	22.1	2.149	.143
New crime resulting in reincarceration	15.2	13.0	3.241	.072
Any technical violation	56.9	61.8	7.778	.005
Technical violation any confinement	55.7	59.4	4.541	.033
Technical violation resulting in reincarceration	49.8	53.3	3.860	.049

Table 3 Average costs in USD per offender by study group ($N = 3,237$)

Outcome	Comparison M	Voucher M	*t*	*p* value
Initial institutional and voucher costs	5,373.96	2,780.14	11.857	<.001
Cost of new felony charge	12,107.96	9,502.02	4.819	<.001
Cost of new misdemeanor charge	615.95	515.11	3.714	<.001
Cost of days in prison at follow up	2,752.39	2,195.48	3.493	<.001
Cost of days in jail at follow up	2,157.52	1,782.08	2.725	.006
Total recidivism costs at follow up	17,633.83	13,994.68	5.435	<.001
Total costs	23,007.79	16,774.82	9.095	<.001

even when adding in the costs of voucher rent expenses and extra supervision costs, the later release (past ERD) for the comparison group is still more expensive than the HVP group ($p < .001$). The five recidivism outcome measures all suggest lower costs for HVP offenders. Note that costs of days in jail are also lower for HVP members, even though this group was more likely to commit a technical violation. Days in jail were only recorded for offenders committing a technical violation that results in a sanction, indicating that, while HVP participants were more likely to commit a violation, they were sentenced on average to fewer days in jail for said violation. Lastly, the differences in total costs of recidivism, late release, and voucher program costs between the two groups indicate a total cost savings accrued by HVP offenders ($p < .001$).

The total weighted costs of rent expenses paid out to voucher recipients and administrative and supervision costs of the program for the duration of the study were $2,198,254.80. However, paying such expenses was associated with lower initial incarceration costs via earlier release to the community, amounting to $2,640,875.53 for the HVP group and $9,218,643.44 for the comparison group (difference of $6,577,587.91). In addition, recidivism costs were also lower amongst the voucher sample, resulting in $21,296,793.00 worth of new crimes for the HVP group, and $30,248,975.28 worth of new crimes for the comparison group (difference of $8,952,182.28). The amount spent on the voucher program relative to the sum of the two cost differences (early release and recidivism) equates to a cost benefit ratio of 1:7.06, where every dollar invested in paying for an offender's voucher expenses saved over 7 dollars in other costs through HVP.

Discussion

Study findings demonstrate the positive effects for the provision of subsidized housing in lieu of incarceration. At the outset, the program was intended to provide a cost savings by reducing the number of days participants would spend in prison following their ERD. The only foreseeable negative was that the early release would provide an added risk to public safety by extending offenders' time free of incarceration and releasing them into a less supportive environment than a typical residential placement with a family member or friend. Because those receiving housing vouchers had earned an early release, the vouchers allowed the WADOC to provide their approved release in a timely manner. Due to this and the fact that our comparison group had been released 18 months prior to the intervention group, our hypotheses did not anticipate a reduction of recidivistic or violation events by the HVP group when compared to the comparison group, only that the two groups would not differ significantly (and that there would not be an iatrogenic effect). Support was found for Hypothesis 1. Participants of the HVP were found to commit fewer recidivist events, but differences between the two study groups did not reach significant levels.

This finding is a key for practitioners and policy-makers attempting to provide housing for returning offenders. Although housing has been examined as part of a larger intervention, or provided as a wraparound service, few studies have attempted to isolate the effects of housing as a singular provision. With respect to its sole provision, the findings suggest that there are improvements, although those improvements are not necessarily a reduction in recidivism. What the findings clearly display is that the provision of housing to reentering individuals, in place of an inmate's last few weeks of incarceration, does not increase risks to public safety.

We did not find support for Hypothesis 2; however, as the HVP group committed a greater proportion of violation events, violation events resulted in short-term sanctions and revocations. This effect is most likely due to "supervision effects" brought on by the HVP group receiving greater observation. As mentioned earlier, a stipulation of the intervention was that participants comply with additional reporting and other community supervision mandates, placing participants in a higher level of supervision. As previously identified in evaluations of Intensive Supervision Parole programs and Specialty Courts, greater observations of reentering offenders often provide for the unintended consequence of greater technical violations (Hamilton, 2011a; Petersillia & Turner, 1993). It should be noted, however, that these observed effects are not necessarily a result of the intervention group being more prone to commit violations of supervision, only that increased contacts with supervision agents provide for more opportunity to observe said behaviors. That is, there may have been no actual change in behavior, only an increased likelihood of HVP participants being caught for the same amount of baseline violations. Therefore, had the HVP *not* stipulated increased supervision, we anticipate that support for Hypothesis 2 would have been identified.

Fortunately, the additional violation behaviors observed in the HVP group did not impact the overall cost savings resulting from the program's implementation. The lower cost of subsidized rent versus additional time spent in prison was an intended program goal. Cost savings were further extended by the lower rates of charges and incarcerations among the HVP group. These savings more than offset the cost incurred due to the greater rates of technical violations among the HVP group. Furthermore, when temporarily sanctioned for violation behaviors, HVP participants were sentenced to fewer days in jail on average, indicating that, although they were flagged for more violations, those violations were less severe in nature and resulted in shorter sanction durations and lower costs for sanctions on average. Therefore, we identified overwhelming support for Hypothesis 3 with a net cost savings of 7 dollars saved for every dollar spent toward housing vouchers. This was the desired outcome of the Washington State Department of Corrections, to demonstrate a reduction in incarceration and associated costs while incurring no additional risks to the public. This study demonstrates positive effects that can influence the expanded use of housing programming as a way to reduce incarceration and state's constrained correctional budgets.

Limitations

Although the current study improves upon prior evaluations of housing program impacts by providing additional methodological rigor, it is not without its limitations. The primary limitation concerns the use of a historical comparison group. As mentioned, the exceedingly positive approval rate of applications and provision of vouchers severely limited our ability to gather a comparison group from a waitlist of eligible nonparticipants. We sought out the next best solution, gathering a cohort of individuals released in 2008, one year prior to the program's implementation. The contrast in the timing of comparison subjects' release introduced *historical effects* that may have confounded study findings. Specifically, in July of 2009, the Washington State Legislature passed SB 5,288, which, to a great extent, restricted community supervision caseloads to be comprised of only releasees assessed to be moderate to high risk.[14] In tandem with this targeted shift in supervision level was an increased focus on offender accountability and the unintended consequence of greater recidivism rates. This negative finding is worth exploring further in the future.

Finally, we note the short duration of the follow-up period—one year. This restriction was solely based on the data available at the time of the analysis. Some may argue that the extended impact of a program cannot be observed when outcomes are confined to a single year. However, we contend that the program duration was also short (one-to-three months) and thus the follow up was anywhere from four-to-twelve times the duration of the program itself. Proportionally, this duration-to-follow up ratio is in line with most evaluation periods. Furthermore, study group differences were restricted to the one-to-three month difference in subjects' early release and therefore it was anticipated that any negative program effects would occur in the first few months following release. That being said, future studies should attempt to extend the follow-up period and account for any issues related to duration of program participation.

Conclusions

Our findings add to the growing body of research identifying the positive effects of housing services for reentering offenders. Unlike prior studies of housing programs, the current study advances the existing knowledge base by isolating the effects of housing assistance. Furthermore, HVP was not a component of a larger treatment design and did not extend its reach to provide wraparound services or match participants to other programmatic needs beyond what is typically provided to all community supervision participants. It restricted its sample to only inmates returning to the community from prison.

14. Releasees assessed to be low risk were moved to a kiosk system, eliminating their requirement for face-to-face contacts with community supervision officers.

That being said, the reach of the program was wide with regard to eligibility and the provision of services, providing vouchers to 95% of applicants and, thus, demonstrating effectiveness for a large, generalizable sample of returning offenders. In addition, the program subsidized participants' entire monthly rental needs, relieving the financial burden (for up to three months) that can result from unstable living situations and/or a return to criminal activity. Finally, the large sample size and the methodological rigor utilized in the evaluation diminished doubt surrounding the existence and strength of the program's impact.

Unlike prior findings, the positive effects of the Washington State HVP are substantial and provide clear evidence for policy-makers. As the most recent recession began to impact State budgets, an unintended and positive consequence of the turmoil was that all States were forced to recognize the costly overuse of prison confinement that has gone largely unaddressed by legislative initiatives. Often without making big political splashes, State legislatures, in cooperation with Departments of Corrections, have initiated policies and programs that attempt to reduce prison confinement through innovative and constructive means. The success of the Washington State HVP provides an example of a progressive rededication to effective offender corrections and rehabilitation and is but one of several initiatives implemented in Washington State to restrict the prison and community supervision population to include only those who pose a high risk of recidivism (see S. 5,288). Such policies and programs serve as the antithesis to net-widening. Some may argue that this program merely addresses what was once an inadequacy of the State's early release policies. However, the findings demonstrated that housing vouchers represent an efficient alternative to incarceration that can reduce costs and increase offender reintegration with few discernible drawbacks to public safety, as compared to current standard practices. Furthermore, programs such as this one are encouraging to States looking to extend early release programs due to current fiscal demands and/or prison overcrowding.

Moving forward, policy-makers may examine the use of programs similar to Washington State's HVP as an alternative that can reduce the use of incarceration. The results do demonstrate that, as a base, housing can be provided to assist reentering offenders and potentially enhanced when combined in conjunction with other interventions that ameliorate offender needs. That being said, the current study provides an evaluation of the impact of housing overall, demonstrating general responsivity with a large population of individuals reintegrating from prison. Future studies, currently underway, will examine subsamples and interactions with supervision and other interventions. Specifically, the high rate of technical violators in the HVP group is concerning and should be examined further to help determine if certain predictors can be used to identify those at greatest risk of such violations. Doing so may potentially prevent such violations from occurring with additional supervision or programming. This will be necessary to identify factors related to specific responsivity by providing guidelines that will help optimally match subjects to housing

voucher interventions, identifying those most likely to benefit from these and other services. Additionally, future studies will examine the impact of housing vouchers and the location in which offenders return. This will serve to identify locations of return and their surrounding deficits and utilities that may be enhanced or inhibited by housing voucher provision.

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References

Aos, S., Phipps, P., Barnoski, R., & Lieb, R. (2001, May). *The comparative costs and benefits of programs to reduce crime* (Tech. Rep.). Version 4.0. Washington State Institute for Public Policy.

Bania, N., Coulton, C., & Leete, L. (2003). Public housing assistance, public transportation, and the welfare-to-work transition. *Citiyscape: A Journal of Policy Development and Research, 6*(2), 7-44.

Bradley, K. H., Richardson, N. C., Oliver, R. B. M., & Slayter, E. M. (2001). *No place like home: Housing and the ex-prisoner. Policy brief*. Boston, MA: Community Resources for Justice.

Broner, N., Lang, M., & Behler, S. A. (2009). The effect of homelessness, housing type, functioning, and community reintegration supports on mental health court completion and recidivism. *Journal of Dual Diagnosis, 5*(3—4), 323-356.

Culhane, D. P., Metraux, S., & Hadley, T. (2002). Public service reductions associated with placement of homeless persons with severe mental illness in supportive housing. *Housing Policy Debate, 13*(1), 107-163.

Dyb, E. (2009). Imprisonment: A major gateway to homelessness. *Housing Studies, 24* (6), 809-824.

Flavin, J. (2004). Employtment counseling, housing assistance … and aunt Yolanda?: How strengthening families' social capital can reduce recidivism *Criminology and Public Policy, 3*(2), 209-216.

Fortson, J. G., & Sanbonmatsu, L. (2009). Child health and neighborhood conditions: Results from a randomized housing voucher experiment. *The Journal of Human Resources, 45*(4), 840-864.

GAINS Center. (1999). *The courage to change: A guide for communities to create integrated services for people with co-occurring disorders in the justice system*. Delmar, NY: The National GAINS Center for People with Co-Occurring Disorders in the Justice System.

Gelberg, L., Linn, L. S., & Leake, B. D. (1988). Mental health, alcohol and drug use, and criminal history among homeless adults. *The American Journal of Psychiatry, 145*(2), 191-196.

Hamilton, Z. (2011a). Adapting to bad news: Findings from the Harlem Parole Reentry Court. *Journal of Offender Rehabilitation, 50*(7), 385-410.

Hamilton, Z. (2011b). *Treatment matching for substance abusing offenders: An assessment of responsivity*. El Paso, TX: LFB Publishing.

Hammett, T. M., Roberts, C., & Kennedy, S. (2001). Health-related issues in prisoner reentry. *Crime and Delinquency, 47*(3), 390-409.

Harding, A., & Harding, J. (2006). Includion and exclusion in the re-housing of former prisoners. *The Journal of Community and Criminal Justice, 53*(2), 137-153.

Holtfreter, K., Reisig, M. D., & Morash, M. (2004). Poverty, state capital, and recidivism among women offenders. *Criminology and Public Policy, 3*(2), 185-208.

Kresky-Wolff, M., Larson, M. J., O'Brien, R. W., & McGraw, S. A. (2010). Supportive housing approaches in the collaborative initiative to help end chronic homelessness (CICH). *Journal of Behavioral Health Services and Research, 37*(2), 213-225.

Kushel, M. B., Hahn, J. A., Evans, J. L., Bangsberg, D. R., & Moss, A. R. (2005). Revolving doors: Imprisonment among the homeless and marginally housed population. *American Journal of Public Health, 95*(10), 1747-1752.

Lowenkamp, C. T., & Latessa, E. J. (2002). *Evaluation of Ohio's community based correctional facilities and halfway house programs* (Tech. Rep.). Cincinnati, OH: University of Cincinnati.

Lutze, F. E., & Kigerl, A. (2013). The psychology of reentry. In J. Helfgott (Ed.), *Criminal psychology*: Vols. 1—4. Westport, CT: Praeger Publishers.

Metraux, S., & Culhane, D. P. (2004). Homeless shelter use and reincarceration following prison release. *Criminology and Public Policy, 3*, 137-180.

Metraux, S., & Culhane, D. P. (2004). Recent incarceration history among a sheltered homeless population. *Crime and Delinquency, 52*(3), 504-517.

Moore, T. L. (2006). *Estimated cost savings following enrollment in the community engagement program: Findings from a pilot study of homeless dually diagnosed adults* (Tech. Rep.). Portland, OR: Central City Concern.

Nelson, M., Deess, P., & Allen, C. (1999). *The first month out: Post-incarceration experiences in New York city* (Tech. Rep.). Vera Institute of Justice.

Petersilia, J. (2001). Prisoner reentry: Public safety and reintegration challenges. *The Prison Journal, 81*(3), 360-375.

Petersilia, J., & Turner, S. (1993). Intensive Probation and Parole. In M. Tonry (Ed.). *Crime and justice. A review of research* Vol. 17 (pp. 281—335). Chicago, IL: University of Chicago Press.

Rodriguez, N. & Brown, B. (2003). *Preventing homelessness among people leaving prison* (Tech. Rep.). Vera Institute of Justice.

Roman, C. G. & Travis, J. (2004). *Taking stock: Housing, homelessness, and prisoner reentry* (Tech. Rep.). Urban Institute Justice Policy Center.

Roman, J., Brooks, L., Lagerson, E., Chalfin, A., & Tereschchenko, B. (2007). *Impact and cost-benefit analysis of the Maryland Reentry Partnership Inititative* (Tech. Rep.). Urban Institute Justice Policy Center.

Roman, C. G., & Travis, J. (2006). Where will I sleep tomorrow? Housing, homelessness, and the returning prisoner *Housing Policy Debate, 17*(2), 389-418.

S. 5525, 61st Legislature (2009).

Schram, P. J., Koons-Witt, B. A., Williams, F. P., & McShane, M. D. (2006). Supervision strategies and approaches for female parolees: Examining the link between unmet needs and parolee outcome. *Crime and Deliquency, 52*(3), 450-471.

Shapiro, C., & Schwartz, M. (2001). Coming home: Building on family connections. *Corrections Management Quarterly, 5*(3), 52-61.

Shlay, A. B., & Rossi, P. H. (1992). Social science research and contemporary studies of homelessness. *Annual Review of Sociology, 18*, 129-160.

Taifa, N., & Beane, C. (2009). Integrative solutions to interrelated issues: A multidisciplinary look behind the cycle of incarceration. *Harvard Law and Policy Review, 283*, 289-290.

Wilson, J. A., & Davis, R. C. (2006). Good intentions meet hard realities: An evaluation of the Project Greenlight reentry program. *Criminology and Public Policy, 5*(2), 303-338.

Zhang, S. X., Roberts, R. E. L., & Callanan, V. J. (2006). Preventing parolees from returning to prison through community-based reintegration. *Crime and Delinquency, 52*(4), 551-571.

Appendix Table I. Predictor characteristics of study subjects and propensity score weight diagnostics ($N = 3,327$)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test p value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test p value
Study group	51.1	48.9	—	51.1	48.9	—
Demographics						
Age	37.4(.27)	38.1(.25)	.070	37.6(.27)	37.8(.26)	.567
Race						
White	62.8	63.9	.060	63.0	63.1	.907
Black	20.8	22.8		21.7	22.1	
Hispanic	8.5	6.9		7.9	7.2	
Other	7.9	6.5		7.4	7.5	
Male	93.5	91.3	.011	93.2	92.9	.715
Education						
High school diploma or GED	68.2	69.0	.628	68.5	68.4	.923
History of education problems	45.0	45.5	.749	45.4	46.3	.573
Education needs score	1.7(.06)	1.5(.05)	.095	1.6(.06)	1.6(.06)	.903
Education protective score	4.9(.04)	5.0(.04)	.596	5.0(.04)	5.0(.04)	.950

(*Continued*)

Appendix Table I (*Continued*)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test *p* value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test *p* value
Criminal history/risk						
Felony score	74.1(.62)	86.3(.66)	<.001	80.2(.67)	81.5(.68)	.178
Nonviolent score	56.1(.46)	64.8(.49)	<.001	60.7(.51)	61.5(.50)	.266
Violent score	37.9(.30)	42.7(.33)	<.001	40.7(.33)	41.0(.32)	.494
Risk level						
High Violent	46.3	56.5	<.001	52.2	52.7	.843
High nonviolent	22.5	26.0		23.3	23.9	
Moderate	14.6	8.6		11.7	10.9	
Low	16.6	8.9		12.8	12.4	
Instant offense			<.001			.975
Violent	33.3	32.6		33.4	32.6	
Drug	11.3	15.6		12.3	12.9	
Property	20.0	21.7		20.3	20.7	
Sex	34.5	29.4		33.1	33.0	
Other	0.8	0.1		0.9	0.8	
Sex offender registry	22.0	17.3	<.001	20.7	20.2	.733

(*Continued*)

Appendix Table I (*Continued*)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value
Number of prior incarcerations	2.0(.034)	2.4(.041)	<.001	2.2(.04)	2.3(.04)	.173
Months of most recent confinement	35.6(1.2)	27.8(0.8)	<.001	32.6(1.14)	31.2(.95)	.369
Employment						
Longest employment			<.001			.961
Never employed	10.5	6.4		8.7	8.2	
Less than six months	16.4	16.4		16.2	16.6	
six months to a year	17.0	19.1		17.4	17.6	
one to three years	23.8	24.6		24.6	23.9	
More than three years	32.3	33.4		33.1	33.7	
Not in work force	10.7	8.5	.019	9.3	9.3	.959
Primary income source			.662			.989
No income	16.5	15.9		16.2	15.6	
Employment	41.1	39.5		40.7	40.6	
Social/gov benefits	25.7	26.8		26.2	26.8	
Criminal behavior	12.7	14.0		13.2	13.2	
Other	4.0	3.8		3.7	3.7	
Monthly legal income			.007			.998
No legal income	34.8	38.9		36.2	36.6	
Under $1,000	33.6	31.5		32.8	32.2	

(*Continued*)

Appendix Table I (*Continued*)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value
$1,000 to $1,999	19.5	20.1		20.4	20.4	
$2,000 to $3,999	9.6	7.9		8.7	8.9	
$4,000 and over	2.5	1.4		1.9	1.9	
History employment problem	10.5	6.4	<.001	8.7	8.2	.590
Employment needs score	10.1(.14)	9.8(.11)	.095	9.9(.13)	9.9(.13)	.798
Employment protective score	8.6(.14)	8.1(5.4)	.009	8.4(.14)	8.4(.14)	.851
Peers						
Supportive peers	28.9	29.4	.767	29.8	29.5	.839
Antisocial unsupportive peers	86.3	86.0	.796	86.2	86.3	.952
Peers needs score	2.9(.06)	2.9(.05)	.979	2.9(.06)	2.9(.06)	.575
Peers protective score	1.0(.02)	1.2(.03)	<.001	1.1(.03)	1.1(.03)	.937
Housing						
Residence in last six mon.			.015			.833
Stable housing	71.6	67.6		65.7	64.8	
Homeless/transient	18.2	18.9		25.8	26.7	
Group home/res. treatment	10.2	13.5		8.5	8.5	
Residential support			.038			.963
Pro-social environment	20.5	18.1		19.3	18.8	

(*Continued*)

Appendix Table I (*Continued*)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value
Some antisocial	43.3	45.2		45.0	44.9	
Significant antisocial	32.0	33.8		31.9	32.6	
Remote/no neighborhood	4.1	2.9		3.7	3.7	
Residential needs score	4.1(.09)	5.6(.10)	<.001	4.9(.10)	5.0(.10)	.513
Residential protective score	1.7(.03)	1.4(.03)	<.001	1.6(.03)	1.5(.03)	.218
Family						
Ever married	65.3	70.2	.001	67.4	68.7	.379
Minor children	41.3	45.0	.021	43.0	44.1	.504
Family influence						
Positive influence	25.7	39.6	<.001	32.7	33.9	.483
Minimal influence	88.4	81.7	<.001	85.1	84.2	.458
Negative influence	1.8	2.3	.377	2.1	2.1	.997
Antisocial influence	3.1	2.5	.286	2.7	2.9	.782
Family history of drugs/alcohol abuse	5.0	5.0	.968	5.0	4.6	.570
Family history of crime/antisocial	4.0	3.6	.520	3.8	3.6	.695
Family conflict						
Minimal/no conflict	26.1	37.1	<.001	31.5	32.6	.490
Some conflict	11.9	16.1	<.001	14.1	14.3	.849

(*Continued*)

Appendix Table I (*Continued*)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test *p* value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test *p* value
Verbal conflict	2.6	2.4	.598	2.5	2.8	.632
Threats of violence	0.7	0.4	.237	0.7	0.6	.784
Domestic violence	0.3	0.5	.390	0.4	0.5	.720
Perpetrator domestic violence	0.9	1.0	.643	1.0	0.9	.599
Family support			.024			.992
Consistent support	52.0	58.5		56.1	55.8	
Some Support	34.1	31.1		32.3	32.9	
Not willing to Support	12.8	9.5		10.9	10.6	
Hostile, berating, and belittling	1.1	0.9		0.7	0.7	
Family member involved in life six mon.	61.5	59.6	.250	61.1	60.7	.800
Family needs score	0.9(.04)	0.8(.03)	.019	3.7(.06)	3.7(.06)	.466
Family protective score	3.5(.06)	3.9(.06)	<.001	0.8(.04)	0.8(.04)	.808
Substance abuse/use						
Alcohol/drug problem ever	85.1	88.5	.002	86.8	87.2	.713
Alcohol/drug problem six mon.	40.4	41.9	.334	40.7	41.3	.727
Substance used						
Alcohol	72.4	72.6	.905	72.1	72.4	.878
Cocaine/crack	45.5	55.2	<.001	50.0	50.6	.729
Meth	47.7	52.3	.005	50.0	50.5	.768

(*Continued*)

Appendix Table I (*Continued*)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/*t*-test *p* value
Heroin	18.1	25.4	<.001	21.7	22.8	.422
Marijuana	69.7	74.4	.002	72.3	72.9	.703
Other	31.4	34.8	.029	32.9	32.9	.965
Crime to support substance use	39.0	45.0	<.001	41.1	41.6	.781
Prior treatment	55.9	62.7	<.001	58.9	60.3	.395
Drug needs score	6.7(.10)	6.0(.08)	<.001	6.3(.10)	6.2(.10)	.716
Drug protective score	1.37(.03)	1.2(.03)	<.001	1.3(.03)	1.3(.03)	.661
Mental health issues						
Mental health problem ever	52.3	51.0	.441	51.9	51.3	.751
Mental health diagnosis			.048			.949
None ever	52.3	51.1		51.9	51.3	
Not known	30.0	33.3		31.3	31.6	
Diagnosis	17.7	15.6		16.8	17.1	
Prior mental health treatment	94.5	95.7	.119	94.6	95.3	.393
Mental health needs score	2.0(.07)	2.4(.09)	.001	2.1(.03)	2.1(0.3)	.702
Mental health protective score	2.1(.03)	2.1(.03)	.491	2.2(.08)	2.3(.09)	.446
Aggression						

(*Continued*)

Appendix Table I (*Continued*)

Domain/measure	Before PSW			After PSW		
	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test p value	Comparison %/M (SE)	Housing voucher %/M (SE)	χ^2/t-test p value
Aggression needs score	4.9(.07)	4.0(.06)	<.001	0.3(.01)	0.4(.01)	.333
Aggression protective score	0.3(.01)	0.4(0.1)	.129	4.5(.07)	4.3(.06)	.040
Attitudes/behaviors						
Readiness for change			<.001			.850
Taking steps toward change	36.8	31.7		34.4	33.5	
Desire for change but no Steps	47.6	56.7		52.1	53.1	
Does not see reason for change	12.3	9.0		10.5	10.1	
Hostile Toward/Unwilling to Change	3.5	2.6		3.0	3.3	
Believes in success			<.001			.971
Believes has the skills to succeed	29.4	25.1		26.6	25.9	
Believes will succeed but no skills	47.2	54.0		51.1	51.4	
Believes will succeed if external controls	14.0	14.6		14.5	14.5	
Does not believe will succeed	4.6	2.9		4.0	3.9	
Hostile to supervision	4.8	3.4		3.8	4.2	
Attitudes/behaviors needs score	7.0(.09)	5.9(.07)	<.001	5.0(.10)	5.0(.10)	.919
Attitudes/behaviors protective score	5.2(.10)	5.0(.10)	.092	6.5(.08)	6.4(.09)	.557
Coping						
Coping needs score	2.6(.07)	2.9(.07)	.008	3.7(.05)	3.7(.05)	.763
Coping protective score	3.7(.05)	3.8(.05)	.053	2.8(3.0)	2.8(3.0)	.563