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Facilitating Access to Supportive Services for Adults on Probation: A Review of the DOORS Program

SUPPLEMENT A

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This supplement provides a more detailed description of the analyses presented in the brief. It includes information on the data sources used for the qualitative and quantitative analyses, and how those data sources are used to create an analysis sample. Additionally, the supplement delves into the main quantitative analysis by providing a detailed description of each step in the quasi-experimental analysis.¹

Data Sources

The implementation study relies on multiple qualitative and quantitative data sources:

Semistructured Interviews with Program Staff Members and Probation Officers. The study team interviewed 18 Developing Opportunities and Offering Reentry Solutions Community Reentry Center (DOORS) program staff members and 8 probation officers from the Reentry Opportunity Center (the ROC) and Centinela offices. Interviews took place from September 2022 to February 2023, lasted about one hour each, and took place over Zoom or in person. Topics included:

- Everyday experiences and routines of probation officers and DOORS personnel
- Client recruitment, intake, and enrollment
- Client screening, assessments, and referrals
- DOORS services and engagement
- Staffing and management
- Relationship dynamics between the ROC probation officers and DOORS personnel
- Staff member-client relationships
- Perceived participant experiences
- Operational challenges and successes

Semistructured Interviews with Program Participants. The study team interviewed a total of nine individuals who participated in DOORS between July 1, 2019 and June 30, 2022. The team selected participants who were referred to various DOORS service providers to capture a variety of experiences with DOORS. Interviews lasted approximately one hour and took place in person. Topics included:

- Service receipt and engagement
- Client referrals to DOORS
- Service satisfaction and expectations
- Staff member-client relationships
- Goals, needs, and responsibilities beyond DOORS

CHAMP. The Comprehensive Health Accompaniment and Management Platform (CHAMP) is a case management system operated by the Los Angeles Department of Health Services (the team that operated DOORS was formerly within this department and was reassigned to the Justice, Care, and Opportunities Department, also known as JCOD, during the program period). It tracks client enrollments, consent forms, assessments, demographic characteristics, needs, goals, and referrals to services, including within DOORS.

The quantitative study relies on two data sources: DOORS referral data through the CHAMP system (described above) and administrative records from several Los Angeles County agencies that are maintained in a data repository called “Infohub.”

InfoHub. The Los Angeles County Chief Information Office (CIO), which sits in the Los Angeles Chief Executive Office, manages InfoHub, an administrative data repository that merges individuals’ service-use data from multiple county information systems. Of the many county service systems that provide data to InfoHub, the CIO provided data from six Los Angeles County agencies for this report: the Department of Mental Health, Substance Abuse Prevention and Control (a division within the Department of Public Health), the Department of Health Services, the County Sheriff’s Department, the Superior Court, and the Probation Department. Data compiled for this analysis include an individual’s history related to:

- Probation case information (such as beginning and ending dates)
- Probation disposition information (such as revocations and terminations)
- Court case disposition information (such as charges and convictions)
- Jail bookings
- Mental health admissions
- Substance use treatment admissions

CIO, in conjunction with JCOD, provided MDRC with a de-identified dataset that includes all of the data fields described above where a unique person can be tracked across each data field.² The way this is accomplished is that CIO matches the CHAMP and InfoHub files to identify common individuals prior to their transfer to MDRC and then de-identifies the records to ensure data security and privacy. In place of individual identifiers, every person in the sample was given a sample ID: an anonymous ID that allowed the MDRC research team to connect individuals across the CHAMP and InfoHub datasets without using any personal identifying information.

Propensity Score Analysis Process

The outcome analysis used quasi-experimental propensity score analysis (PSA) to create comparable research groups out of the pool of individuals on probationary supervision. For this analysis, the propensity score is the probability that a unit, or individual, had an opportunity to receive a DOORS referral based on observed characteristics such as race, gender, or the extent of prior contact with the criminal legal system. Propensity scores were used to determine which individuals in the sample of individuals on probationary supervision at a comparison site (the Centinela and South Central probation offices) would best match individuals supervised by the ROC probation office who had the opportunity to receive a DOORS referral. This process ensures that the research groups are substantially similar with regard to their propensity to participate in DOORS, increasing confidence in any effects on measured outcomes that are estimated in the outcomes analysis are due to the program and not other factors. Additionally, the rigor of the method is bolstered by the fact that the individuals under probationary supervision by the ROC probation office had an opportunity to receive a DOORS referral by virtue of having been assigned to that probation office (even though many individuals still did not receive a referral), which is based on one's geographic location and not on one's choice. In this brief, any individual that was referred to DOORS is considered a "DOORS participant."³

Setting Up the Analysis Sample

The analysis sample included only individuals with active probation cases at some point during the period from July 1, 2019 to June 30, 2022 – the evaluation period for DOORS. The sample was restricted to individuals who were on probation, even though DOORS also served people in the community. This restriction was intended to test the underlying theory of the DOORS program that colocation of direct services and probation systems will better connect individuals on probationary supervision to important services and that receiving those services will lead to a reduction in contact with the legal system. The primary dataset used is the matched dataset described in the Data Sources section that includes InfoHub data for individuals with a probation case between July 1, 2017 and March 31, 2022 from the ROC, Centinela, and South Central probation offices. As such, the analysis sample included individuals from only these three probation offices.

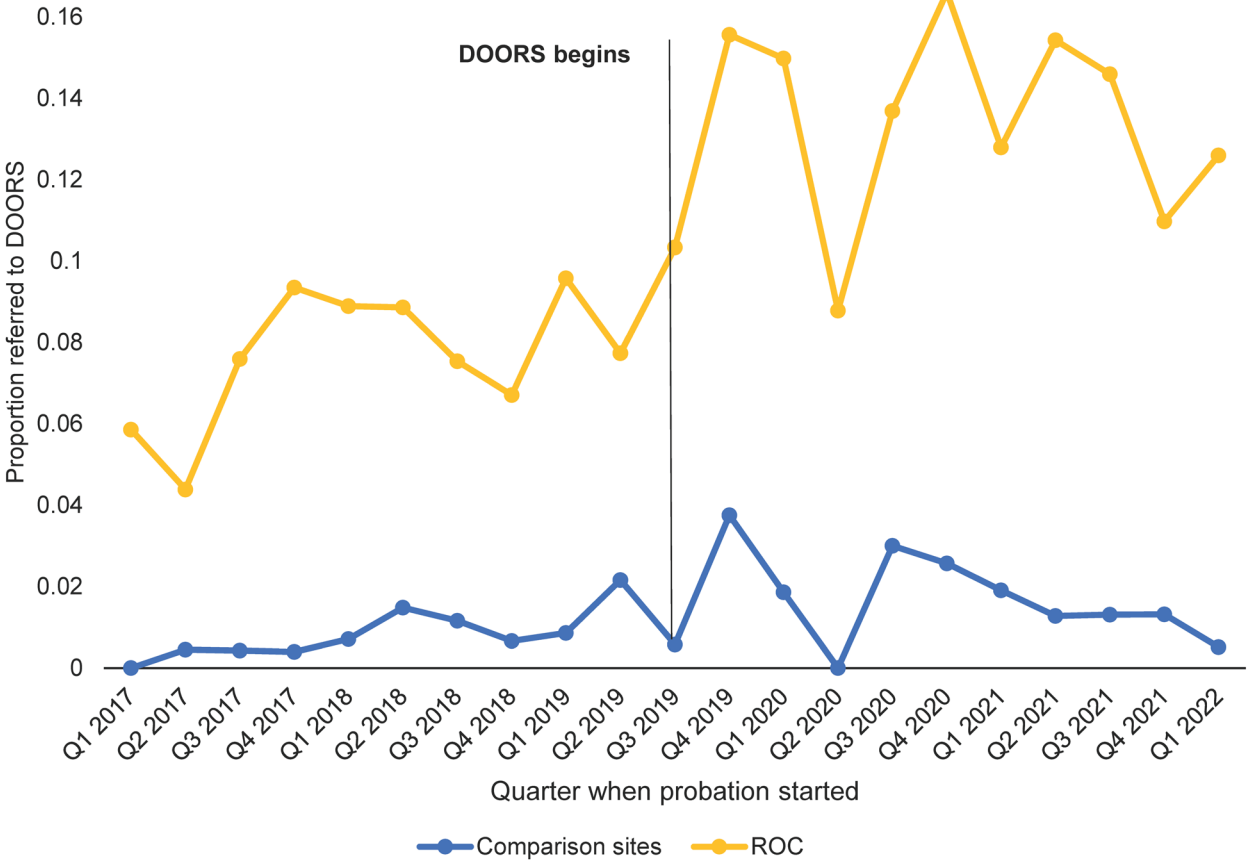
The analysis sample was constructed by linking to each individual ("ID") one probation case – termed the "index probation case." Many people had multiple probation case records, and so the team devised a protocol for compressing the probation case records to select the index probation case for each ID. To do so, the team started by matching an ID to information about probation cases and DOORS program data, to identify whether that ID was a DOORS participant and thus had a DOORS referral date, as some rules would depend on the DOORS referral date.⁴ For IDs in the sample that had overlapping probation cases, the team first aggregated all such cases into one case, taking the earliest probation case start date and latest probation case end date per set of grouped cases to delineate by distinct probation periods. When an ID had multiple (non-overlapping) probation cases within the period of analysis, the team had to choose one index probation case. The team deployed selection logic dependent on whether the ID was referred to DOORS. For those referred to DOORS, the team selected as the index probation case the probation case that encompassed the participant's DOORS referral date. For those in the analysis sample not referred

to DOORS, the team limited probation cases to those that were active during the DOORS program and, from those cases, selected as the index probation case the case with the earliest probation period start date. The resulting sample ID, index probation case start and end date, and DOORS participant status fields were used to match across the CHAMP and InfoHub datasets (described above) to create baseline and outcome measures.

The participant group for the study was selected solely from individuals supervised by officers at the ROC probation office, and the comparison group was selected from individuals supervised by officers at the Centinela or South Central offices (that is, the comparison sites) only.⁵ Constructing the groups along probation office lines mitigated the risk of selection bias because it is more likely that the PSA could match participants with nonparticipants who would have been referred to DOORS, if not for the exogenous circumstance of probation office assignment. Both program design and implementation differences across offices meant that DOORS participation was largely dependent on which office probationers were assigned to. Interviews conducted for the implementation study, described in the main analysis, found that probation officers from the ROC were more likely than those from the comparison sites to know about DOORS and refer their clients to the program. Additionally, the data on caseloads from the three probation offices, which include all caseloads associated with each office, confirm that referrals to DOORS were much more likely to come from probation officers at the ROC than the comparison sites. This is illustrated in Supplement Figure A.1, which shows DOORS referrals over time (based on the date the index probation case started) from each of the probation officers at the ROC and the (aggregated) comparison sites.⁶ Consistently, within a given time period, referrals from ROC probation officers are more than five times greater than referrals from the other two offices. This suggests that individuals supervised by probation officers at the ROC were more likely to be referred to DOORS, not because of a greater willingness to participate or a particular need but because of geographic factors that were out of their control. To avoid simply excluding the small number of people referred to DOORS from the comparison sites, who may have different potential outcomes than those that were not referred to DOORS, the analysis matched the DOORS participants from the Centinela and South Central offices to similar participants from the ROC office based on outcomes and filtered these individuals out of the study sample.⁷ All nonparticipants from the ROC office were excluded from the sample as well.

Supplement Table A.1 describes attrition from the participant group in the study sample. The analysis sample begins with 704 participants who were referred to a DOORS provider during the analysis period and had an index probation case supervised by a ROC probation officer. Attrition occurred due to both data quality issues and to decisions made by the team. For example, there were 28 individuals who had both a DOORS referral and an index probation case from the ROC, but the dates of the probation case did not overlap with the referral date and so those individuals were dropped from the analysis. Additionally, the decision described above to remove individuals referred to DOORS from a comparison site by matching to other ROC participants meant a reduction in 62 individuals from the participant sample. More decisions are discussed below that led to reductions in the study sample.

Supplement Figure A.1. Proportion of Individuals Referred to DOORS, by Probation Office and by Probation Start Date



NOTES: Comparison sites include individuals whose probation case was assigned to either the Centinela or South Central probation offices. ROC is the Reentry Opportunity Center, the probation office that implemented DOORS. DOORS stands for Developing Opportunities and Offering Reentry Solutions. The DOORS program launched in July 2019.

Estimating a Propensity Score

To create the propensity scores, the analysis team used logistic regressions to estimate the predictive ability of individual and index probation case characteristics on an individual being referred to DOORS (that is, the “participant group”). In selecting covariates, the team followed the research literature on PSA, which indicates that covariates known to be predictive of research group assignment or outcomes should be included in the model and that including additional covariates thought to be predictive of research group or of outcomes is likely not harmful.⁸ Therefore, covariates were selected based on findings from past research regarding predictors of criminal legal system involvement for justice-involved people.⁹

Supplement Table A.1. DOORS Attrition Table

Reason for Attrition	ROC Participants Lost to Attrition	Number of ROC Participants Remaining in the Sample
-	-	704
ROC participants who had a probation case within the study timeframe but who were not on probation at the time of their DOORS referral	28	676
ROC participants referred to DOORS between April 2022 and June 2022 who were dropped from the sample because the last cohort had to be cut short to have a full year of outcome data for all people in the final analysis	76	600
Any individual who, in the booking data, had a booking with a missing release date followed by a new subsequent booking was dropped due to concerns with data reliability. A subsequent booking implies that the individual was released from jail after the previous arrest	13	587
ROC participants were matched with DOORS participants from the comparison sites based on follow-up period outcomes. Both groups were dropped from the sample	62	525
Dropped before the PSA process because of missing values for the booking release date in the booking that occurred before the DOORS referral	4	521
Did not have a match in the PSA process (match rate = 97%)	15	506
After the 1:1 matching, any pairs where the comparison unit was in jail at the start of the outcomes follow-up period were dropped	46	460

NOTES: The first row is the total number of participants in the sample before attrition.

ROC stands for the Reentry Opportunity Center, which is the probation office that supervises the individuals from which the participant group is created. Participants from the comparison sites were those individuals that were supervised by a probation officer in either the Centinela or South Central probation offices.

PSA stands for propensity score analysis, the methodology used in the study. The one-year analysis period starts on July 1, 2019, when Developing Opportunities and Offering Reentry Solutions Community Reentry Center (DOORS) was first offered, and runs through March 31, 2022.

By virtue of the analysis sample being created only out of individuals who were on probation during the study period, all potential research group members have some prior involvement with the criminal legal system. As such, the analysis attempted to include enough variables so that the short-term and longer-term trajectories of criminal legal system involvement were accounted for. For example, the model would try to match those recently incarcerated to others that were also recently incarcerated (based on the discharge date of the most recent incarceration). Additionally, the length of time that people are on probation can vary enormously. This is due, in part, to differences in initial probation sentence lengths but can be exacerbated by sentence extensions, such as those that would be ordered in the case of new violations to the terms of probation. To avoid pairing people with vastly different probation lengths and thus to avoid pairing people at significantly different stages of their post-incarceration reentry, the research team included covariates aimed at capturing differences in probation length, such as “number of days since probation start date.” In addition, wherever possible, the analysis included measures of previous occurrences of key activities or service usage prior to DOORS enrollment that correspond to outcomes.¹⁰ Below are the variables that were used as covariates:

- Gender
- Age
- Race/ethnicity
- Days since the start of the index probation case
- Days since discharge from the most recent jail booking
- Number of days in jail in the six months before baseline
- Number of days in jail in the previous year
- Number of days in jail in the previous two years
- Ever arrested in the previous six months
- Ever arrested in the previous year
- Number of arrests in the previous year
- Ever arrested in the previous one to two years
- Ever arrested in the previous two to five years
- Ever arrested for a felony in the previous year
- Ever arrested for a felony in the previous one to two years
- Ever arrested for a felony in the previous two to five years
- Ever convicted of a felony in the previous two years
- Ever convicted of a felony in the previous two to five years
- Ever had probation revoked in the previous year
- More than one probation revocation in the previous year
- Ever had a mental health inpatient admission in the previous two years
- Ever had a mental health outpatient admission in the previous two years
- Had more than 10 mental health outpatient admissions in the previous two years
- Ever had substance use disorder (SUD) inpatient/outpatient admission in the previous two years
- Ever had a mental health inpatient/outpatient admission in the previous two to five years
- Ever had a SUD inpatient/outpatient admission in the previous two to five years
- Indicator for whether probation case is classified as Post-Release Community Supervision, a specialized probation caseload for individuals returning from prison

One complication in the analysis — as the comparison group did not have a referral date and there were no established criteria related to the amount of time since a probation start date by which someone had to be referred to DOORS — was establishing a common baseline date from which to calculate the measures in the logistic regression. Thus, the team constructed six cohorts where placement was based on either the DOORS referral date (for those in the participant group) or the period in which the index probation case was active (for those in the comparison group). This made it so that participant units could only be in one cohort, but comparison units could be in multiple cohorts if their index probation case spanned multiple cohorts.¹¹ Then, the team constructed baseline metrics for records in each of the six cohorts using a baseline date based on the first day of each cohort (for example, July 1, 2019 for the first cohort).¹² Supplement Table A.2 shows the relevant dates for each of these cohorts as well the sample size within each cohort.

Supplement Table A.2. Cohort Samples

Cohort	Time Span for Referral Date	Baseline Date	N Pre-Match (Participant/Comparison)	N Post-Match (Participant/Comparison)
1	July 1, 2019 - December 31, 2019	July 1, 2019	74/3,626	64/64
2	January 1, 2020 - June 30, 2020	Jan 1, 2020	166/3,484	155/155
3	July 1, 2020 - December 31, 2020	July 1, 2020	80/3,436	69/69
4	January 1, 2021 - June 30, 2021	Jan 1, 2021	69/3,311	58/58
5	July 1, 2021 - December 31, 2021	July 1, 2021	95/2,899	83/83
6	January 1, 2022 - March 30, 2022	Jan 1, 2022	37/2,562	31/31

NOTES: The pre-match sample includes 521 participants because that is the remaining sample size used for the propensity score analysis model after attrition. The post-match sample includes the attrition of participants for whom the matching process could not find an adequate match and the attrition of participant pairs that were dropped from the sample because either individual was in jail at the beginning of the outcome period. See Supplement Table A.1 for more sample size and attrition information.

The data team then ran separate logistic regressions to estimate a propensity score for individuals within each cohort, starting with the earliest cohort.¹³ As the comparison group in this analysis is much larger than the participant group, the logistic regressions within each cohort still had large sample sizes. The logistic regressions produced coefficients that represent the relationship between each predictor and the likelihood that a client would be referred to DOORS. Clients' individual characteristics and factors were then multiplied by these coefficients to create a score between 0 and 1, where a score of 0 means that the client is estimated to be completely unlikely to have been in the participant group and a score of 1 means that the client is predicted to be certain to be a participant.

Propensity Score Matching and Diagnostics

The research team used one-to-one nearest neighbor matching to match program participants to the comparison group with similar propensity scores. This means that each program participant was matched to the closest unmatched score in the nonparticipant pool. The team ran the match without replacement, meaning that each person could only be matched once; once they were matched, the person was taken out of the selection pool. Nonparticipants in multiple cohorts were removed as potential candidates in subsequent cohorts once they were matched.¹⁴ To ensure that program participants were only matched with nonparticipants with a sufficiently similar likelihood of program participation, the research team used a caliper of 0.2. Using a caliper of this size prohibits the statistical computing software from matching two individuals who have propensity scores greater than 0.2 units apart on the 0 to 1 scale. The caliper size was chosen based on recommendations in the literature and established MDRC practice.¹⁵ The matching process produced a 97 percent match rate for DOORS participants (not shown).

To assess how well the model created treatment and comparison groups that were similar in observable characteristics the research team used two methods to assess covariate balance: standardized means comparison and logistic regressions. First, as shown in Supplement Table A.3, the team compared the covariate standardized means for the treatment and comparison groups to ensure that they were substantially similar. The standardized means are substantially similar across the research groups for all covariates. Second, the team performed logistic regressions predicting whether the full set of the covariates could predict the matched research groups. The full set of covariates produced an F-statistic equal to 0.45 (results not shown) that was not significantly different than 0, implying that after matching the (observed) covariates cannot predict whether one belongs to the participant group.

The team used several visual checks (not shown) to assess the score assignment process for each cohort.¹⁶ These include an examination of the region of common support using a histogram, a density plot of the slope of the probability distribution, and line graphs of the quantile of probability. All of these showed that the propensity scores generally followed the distribution the team expected.

Outcome Regressions

The study examined the following outcomes:

- Number of arrests in the year after the follow-up period
- Never arrested in the year after the follow-up period
- Number of felony arrests in the year after the follow-up period
- Never arrested for a felony in the year after the follow-up period
- Number of days spent in jail during the year after the follow-up period
- Number of probation revocations in the year after the follow-up period
- Never had a probation revocation in the year after the follow-up period

Supplement Table A.3. Post-Matching Balance of Covariates

Baseline Measure	Comparison Group	Program Group	Standardized Mean Difference
Demographic measures			
Age (%)			
18 to 24	17.0	17.6	0.02
25 to 34	40.7	35.2	-0.11
35 to 44	20.0	24.8	0.11
Over 45	22.4	22.4	0.00
Gender (%)			
Female	25.7	23.3	-0.06
Male	74.1	76.7	0.06
Unknown	0.2	0.0	-0.07
Race (%)			
Black	46.1	48.5	0.05
Hispanic/Latinx	39.3	38.0	-0.03
White	7.6	7.2	-0.02
Asian	0.7	0.7	0.00
Other	2.6	2.4	-0.01
Unknown	3.7	3.3	-0.02
Criminal justice measures			
Ever arrested within 6 months (%)	30.4	30.4	0.00
Ever arrested within 1 year (%)	50.9	51.7	0.02
Ever arrested within 1 to 2 years (%)	50.9	53.9	0.06
Ever arrested within 2 to 5 years (%)	62.8	65.4	0.05
Ever arrested for a felony within 1 year (%)	44.1	47.4	0.07
Ever arrested for a felony within 1 to 2 years (%)	45.0	47.2	0.04
Ever arrested for a felony within 2 to 5 years (%)	53.0	9.0	0.03
Number of arrests within 1 year	0.7	0.8	0.07
Days since last booking	413.5	387.3	-0.05
Number of days incarcerated within 6 months	17.9	20.7	0.07
Number of days incarcerated within 1 year	34.9	37.6	0.04

(continued)

Supplement Table A.3 (continued)

Baseline Measure	Comparison Group	Program Group	Standardized Mean Difference
Number of days incarcerated within 2 years	69.1	70.4	0.01
Ever convicted of a felony within 2 years (%)	60.0	62.2	0.04
Ever convicted of a felony within 2 to 5 years (%)	40.4	38.5	-0.04
Probation measures			
Post-Release Community Supervision indicator (%)	2.8	2.8	0.00
Days since probation start date	427.0	417.8	-0.02
Ever had probation revoked within 1 year (%)	17.2	19.1	0.05
Had more than one revocation within 1 year (%)	8.7	8.3	-0.02
Index probation case began before January 1, 2019 (%)	36.7	35.9	-0.02
Health measures			
Ever had inpatient mental health treatment within 2 years (%)	3.5	3.7	0.01
Ever had outpatient mental health treatment within 2 years (%)	25.2	25.4	0.00
Ever had mental health treatment within 2 to 5 years (%)	30.7	32.4	0.04
Had more than 10 mental health outpatient treatments within 2 years (%)	12.4	12.4	0.00
Ever had inpatient SUD treatment within 2 years (%)	9.1	8.9	-0.01
Ever had outpatient SUD treatment within 2 years (%)	13.0	9.1	-0.12
Ever had inpatient SUD treatment within 2 to 5 years (%)	4.6	3.3	-0.07
Ever had outpatient SUD treatment within 2 to 5 years (%)	6.9	5.7	-0.02
Sample size	460	460	

SOURCE: MDRC calculations from InfoHub.

NOTES: All time periods in the table are relative to the length of time before the baseline date, which is the first day associated with the particular cohort. (See Supplement Table A.2 for a description of the cohort dates.)

SUD stands for substance use disorder.

The U.S. Office of Management and Budget defines “Hispanic/Latino” as any person of “Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin.” See U.S. Census Bureau (n.d.). In recent years, some research publications and other sources have started using “Latinx” as a gender-neutral reference to this population.

A new outcome reference date was created by which to start the year after the follow-up period. The follow-up period start date is equal to the DOORS referral date for participants and the same date is imputed to the matched individual in the comparison group. The reason for this choice is that, as noted earlier, those in the comparison group do not have a referral date, which would usually serve as a good reference date for calculating outcomes in the year after the follow-up period. A common baseline date had been generated for each cohort earlier in the analysis, but this baseline date does not serve as an adequate date from which to measure outcomes because there may have been up to six months between the baseline date and the actual referral date for the participant. In that time, the outcome measures may be affected—the individual may be arrested and spend time in jail during the time before the individual was referred to DOORS.

The outcomes were chosen to represent desistance from the criminal legal system, the main goal of the DOORS model. The research team decided to exclude measures related to convictions due to the period of analysis being limited to one year, which can be a relatively short time for a case to be resolved in the court system.

As a result of this short time period between the baseline cohort and outcome dates, any matched pairs where the member of the comparison group was in jail on the day in which the outcome baseline date starts had to be filtered out of the sample. (Supplement Table A.1 shows that 46 matched pairs were dropped from the sample for this reason.) The team did this to ensure that the outcome measures were not unfairly biased by ongoing incarceration at the time of the follow-up period, as by definition those in the participant group could not be incarcerated at the start of the outcome period.

The outcome regression was a linear regression that included each of the same regressors listed above that were used in the logistic regression estimating the propensity score. The regressors were added to the model as a “double robustness” technique that can improve precision.¹⁷

Robustness Checks

The data team implemented multiple robustness checks to ensure that decisions made during the analysis did not drive the results. Each check is described below. Tables are not shown for each check but can be requested from the research team. The main analysis yielded positive but not statistically significant results on recidivism for the DOORS model and these checks showed the results to be robust to marginal changes in the model.

Pre-program analysis time period. To test whether, even after the propensity score matching process, those in the treatment group may have been different than the matched comparison group (possibly through differences in unobservable characteristics), the team ran the analysis on a pre-program sample. The sample was limited to eventual participants and nonparticipants who were on probation at least one year before the DOORS program went into effect in 2019, so as to test one year of outcomes during a follow-up period in which DOORS was not in effect.¹⁸ There were 134 eventual participants who met this criterion, who were matched one-to-one to similar eventual nonparticipants using propensity score matching.¹⁹ If the model used in the main analysis to match participants to a comparison group adequately matched individuals that would have

had similar outcomes without any treatment, then one would expect there to be null effects for the various outcomes during this synthetic follow-up period in which future DOORS participants were not actually receiving DOORS services. As shown in Supplement Table A.4, running this analysis confirmed null pre-program effects. In fact, while one may fear that the null results may be a consequence of the small sample, unlike the main analysis where the recidivism outcomes are consistently more positive for the participant group, the magnitudes of the outcome measures for this robustness check show no such pattern.

Supplement Table A.4. One-Year Criminal Legal System Contact Pre-Program Outcomes (Sensitivity Analysis)

One-Year Outcomes	Program Group	Comparison Group	Impact Estimate	P-Value
Never arrested (%)	68.2	70.5	-1.3	0.810
Number of arrests	0.4	0.5	-0.1	0.341
Number of days incarcerated	22.6	16.2	5.8	0.248
Never arrested for a felony (%)	72.0	79.6	-6.5	0.210
Number of felony arrests	0.3	0.3	0.0	0.618
Never had probation revoked (%)	72.0	78.0	-3.3	0.518
Number of probation revocations	0.6	0.5	0.1	0.754
Sample size	132	132		

SOURCE: MDRC calculations from InfoHub.

NOTES: The p-value indicates the likelihood that the estimated difference would have been generated by a program with no true effect. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Removing recently jailed participants. A substantial portion of participants were referred to the DOORS program shortly after being released from jail. For this subset of individuals, it was harder to find an adequate match because the time difference between the cohort baseline date and outcomes baseline date could be up to six months, which meant that the participant’s jail spell could have occurred after the cohort baseline date. This meant that some participants’ baseline criminal legal history in the model underrepresented their contact with the criminal legal system in the recent past before the outcome period, which risks biasing the selection of the comparison group by selecting individuals with less recent criminal legal history than their participant counterparts.²⁰ To test whether this imbalance impacted the main analysis results, the team ran a robustness check that excluded the matched pairs in which the participant had been in jail in the 30 days prior to the outcome baseline date (n = 118, 59 in each group). Supplement Table A.5 shows that this check, as expected, improved the criminal legal system results for DOORS clients in terms of the magnitude of the point estimates, although only one measure — avoiding a future arrest — became statistically significant. Dropping this group also yielded a slightly worse covariate balance (not shown), particularly for short-term criminal legal system baseline characteristics. The implica-

Supplement Table A.5. One-Year Criminal Legal System Contact Outcomes for Sample of Participants not Recently Incarcerated (Sensitivity Analysis)

One-Year Outcomes	Program Group	Comparison Group	Impact Estimate	P-Value
Never arrested (%)	77.8	70.3	7.0 **	0.016
Number of arrests	0.4	0.5	-0.1 *	0.073
Number of days incarcerated	17.6	17.5	0.9	0.782
Never arrested for a felony (%)	80.1	74.6	5.2 *	0.060
Number of felony arrests	0.3	0.4	-0.1	0.151
Never had probation revoked (%)	81.0	80.8	-1.7	0.531
Number of probation revocations	0.4	0.5	0.0	0.745
Sample size	401	401		

SOURCE: MDRC calculations from InfoHub.

NOTES: The p-value indicates the likelihood that the estimated difference would have been generated by a program with no true effect. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

tion of this robustness check is that the decision made in the main analysis is a conservative one, in that it may be attenuating possibly positive results. Nevertheless, the research team believes keeping this group in the analysis is preferred.

Centinela-only comparison group. MDRC was only able to interview probation officers from one of the two comparison sites: Centinela. In these interviews, MDRC confirmed the approach Centinela probation officers took to providing referrals to the DOORS program. Not having this qualitative data from the South Central probation officers means that the team does not know for sure if officers from the South Central office followed the same approach. Left unassessed, this could risk overrepresenting people with poorer outcomes in the comparison group. As such, the team ran the analysis again limiting the comparison group to probationers from the Centinela office. This check produced qualitatively similar results as compared to the main analysis.

Most recent cohort first. As another check of the analysis and specifically the decision to use the cohort-based system for baseline metrics, the analysis was conducted again reversing the order of the cohorts in the matching process. Thus, the process started with the most recent cohort and worked its way backwards, excluding comparison units from subsequent cohorts as they were matched with a treatment unit. This produced substantially similar results compared to the main analysis.

Baseline date at end of cohort. Finally, a robustness check was done to ensure that using the baseline date at the beginning of the cohort, instead of the end of the cohort, would not influence the findings. Conducting the same analysis with a baseline date at the end of the cohort did not qualitatively change any results.

Notes and References

1. Quasi-experimental methods aim to estimate a program effect without using random assignment by instead using other methods to construct a control group that is as similar as possible to the participant group. The method used in this study is described in this Supplement.
2. CIO's mission is to provide the necessary data to county agencies, such as JCOD, to inform program evaluation efforts. See: <https://ceo.lacounty.gov/chief-information-office/>.
3. This decision was made in order to test all of the components of DOORS, which include (1) helping individuals that are referred to services within DOORS to actually take up those services and (2) providing such services to referred individuals.
4. Some IDs had multiple referral dates since each service provider has a unique referral date. Exploration of the data showed that these dates were overwhelmingly very close together. The team decided to use the earliest referral date for an ID as the ID's referral date.
5. There were no instances in which an ID was linked to more than one probation office.
6. The time period starts on January 1, 2017 and the likelihood of a DOORS referral for an individual before July 2019 is nonzero because probation cases could start before DOORS was implemented.
7. The intent of this procedure was not to match based on similar characteristics at baseline, but to match based on similar outcomes so that removing this group did not bias the outcomes in either direction.
8. See Elizabeth A. Stuart, "Matching Methods for Causal Inference: A review and a look forward," *Statistical Science: A Review Journal of the Institute of Mathematical Statistics* 25, 1 (2010): 1; Shenyang Guo, Mark Fraser, and Qi Chen, "Propensity Score Analysis: Recent Debate and Discussion," *Journal of the Society for Social Work and Research* 11, 3 (2020): 463–482.
9. For instance, a recent meta-analysis found that prior incarceration, prior convictions, prior arrests, a history of mental illness, and being male were consistently shown to be associated with recidivism among adults convicted and sentenced to custody. This meta-analysis also found being Black to be a predictor, due to the institutional racism in law enforcement and the judicial system. See Gary Goodley, Dominic Pearson, and Paul Morris, "Predictors of Recidivism Following Release from Custody: A Meta-Analysis," *Psychology, Crime & Law* 28, 7 (2022): 703–729. Another meta-analysis found that age, jail incarcerations, prior conviction, prior felony, and prior misdemeanors were all predictive of re-arrest among people awaiting trial. See Kristin Bechtel, Christopher T. Lowenkamp, and Alex Holsinger, "Identifying the Predictors of Pretrial Failure: A Meta-Analysis," *Federal Probation* 75 (2011): 78. One of the few studies that exclusively focused on people released from jails found that gender, race, ethnicity, age at release, criminal record, risk score, and time served were found to significantly influence an individual's likelihood of receiving a new charge, conviction, or incarceration term within three years post-release. See Alyssa M. Sheeran, "Examining the Influence of Individual and Neighborhood Characteristics on Jail Recidivism," (PhD dissertation, University of Wisconsin-Milwaukee, 2020). Lastly, a study found that among individuals released from provincial corrections institutes in Ontario, Canada, utilization of mental health services prior to incarceration were associated with higher rates of recidivism, higher rates of hospitalization, and lower rates of outpatient care. See Michael Lebenbaum, Fiona Kouyoumdjian, Anjie Huang, and Paul Kurdyak, "The Association Between Prior Mental Health Service Utilization and Risk of Recidivism among Incarcerated Ontario Residents," *The Canadian Journal of Psychiatry* 69, 1 (2024): 21–32.

10. For instance, one outcome in the analysis was whether clients were admitted to an outpatient mental health service. Therefore, this model included whether the individual had been admitted to such a service in the two years leading up to the baseline period.
11. When a probation case spans multiple cohorts, time-varying measures (for example, length of time on probation) will vary for the same individual across cohorts.
12. As described in the Robustness Checks section, the team conducted a robustness check to ensure that using the baseline date at the beginning of the cohort, instead of the end of the cohort, would not influence the results.
13. As described in the Robustness Checks section, the research team tested the model starting from the latest cohort and working backward to test whether the matching order of the cohorts impacted the resulting match.
14. As described, the team conducted a robustness check that started the analysis with the latest cohort and worked backward, which should mitigate concerns about this decision affecting the results.
15. Peter C. Austin, "An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies," *Multivariate Behavioral Research* 46, 3 (2011): 399–424.
16. These checks could not be conducted for the pooled sample of all cohorts since new propensity scores, using a new sample, were calculated for each cohort.
17. Stuart (2010).
18. The team used a reference date of July 1, 2018 (one year before DOORS went into effect) to create all baseline and outcome metrics.
19. The same model as in the main analysis was used. There was a match for 132 of the 134 participants.
20. The bias in this scenario would mitigate the results toward 0 in terms of the effect of DOORS on desisting from a new arrest.

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