ASSESSING THE EFFECTIVENESS OF INTERMEDIATE SANCTIONS IN MULTNOMAH COUNTY, OREGON

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June 2008

Suggesting citation: Andres F. Rengifo and Christine S. Scott-Hayward. *Assessing the Effectiveness of Intermediate Sanctions in Multnomah County, Oregon*. New York: Vera Institute of Justice, 2008.

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Executive Summary

In the 1990s the Department of Community Justice (DCJ) in Multnomah County, Oregon, initiated a series of evidence-based reforms intended to shift resources and change its supervision approach. This study by the Vera Institute of Justice is one of a number of studies the DCJ has solicited to look at particular questions about its system. It provides an overview of the patterns and practices of adult probation and post-prison supervision, based on Vera's quantitative and qualitative analysis of the use of intermediate sanctions in response to violations of probation conditions. Specifically the authors seek to answer three main questions:

- What are the most frequent condition violations among clients on supervision and the most frequent sanctions associated with those violations?
- What is the incidence and prevalence of jail sanctions?
- Is there an association between sanctions and short- and long-term outcomes?

Overall, we found that most of the people on supervision in Multnomah County did not receive any type of sanction or intervention while under supervision. Of 3,642 people discharged in 2005, only 29.4 percent registered at least one sanction or intervention. The most common condition violations for which sanctions were imposed were failure to report to the parole or probation officer and changing job or residence without permission. Together these were listed as the top condition violated for 39 percent of the administrative actions carried out by supervising officers. Jail was the most frequently employed sanction. Of those who received at least one sanction, 92 percent received a jail sanction, averaging 63.9 jail days over the course of their tenure.

In looking at short-term outcomes—i.e., whether people were able to complete their supervision successfully—we found that those who received intermediate sanctions were significantly more likely to experience an unsuccessful discharge. Controlling for demographic and crime related attributes, we found that people who received any sanction or formal intervention were 44 percent more likely to have their supervision revoked.

It is possible, of course, that those who receive jail sanctions might be different from clients who don't receive sanctions or who receive other sanctions. To account for this potential "bias," we used statistical analyses (propensity score matching) to create two samples of clients with a similar propensity to receive jail sanctions. Using these matched samples, we found that intermediate sanctions had a negative effect on long-term outcomes, both re-arrest and reconviction. The re-arrest rate for clients who received at least one sanction or intervention was 20 percent higher than that of the matched control group who received no sanctions. Similarly, the reconviction rate for clients who received

any sanction or intervention was 15 percent higher than that of the matched control group.

Based on our findings, we suggest four ways DCJ could improve supervision and outcomes:

1. Increase the use of sanctions and interventions other than jail; this would allow for this study to be expanded to look at the specific effects of actions other than jail.
2. Examine in more detail how jail is used, specifically the number of jail days given for each sanction.
3. Educate probation and parole officers on DCJ's practices and protocols to ensure accurate data collection.
4. Conduct future studies, which should include cost-benefit analysis, on the effect of sanctions other than jail.

Acknowledgments

The authors would like to thank several people who contributed to this report. First, we would like to acknowledge the staff of the Multnomah County Department of Community Justice (DCJ), particularly Charlene E. Rhyne, director of the department's Research and Evaluation Unit and Bill Penny, district manager. We would also like to thank DCJ director, Scott Taylor for his support of the research. In addition, Diane Manthe and Gail McKeel of the DCJ and Paul Schroeder of the Oregon Department of Corrections ensured that we had accurate data to work with.

We are also grateful to the Multnomah County parole officers and managers who participated in focus groups and interviews and to the senior managers who gave us valuable feedback on earlier versions of the report.

Finally, we would like to thank our colleagues at Vera. Reagan Daly and Neil Weiner gave us helpful feedback on the report, while the Communications Department, particularly Robin Campbell and Abbi Leman, provided exceptional editing support.

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I. Introduction

This study examines how intermediate sanctions—a stepped hierarchy of penalty options that may forestall a return to prison—and other formal interventions are used as responses when people on adult probation or under post-prison supervision in Multnomah County, Oregon, violate the conditions of their release. Specifically, our research focuses on three main areas:

1. *General patterns of intermediate sanctioning.* We look at the types of intermediate sanctions and formal interventions given to Multnomah County Department of Community Justice (DCJ) clients, as well as the violations associated with these sanctions. We also compare the use of sanctions in Multnomah County with their use in Washington and Clackamas counties to determine whether DCJ sanctioning patterns are different from those of other agencies.
2. *Use of jail-based sanctions.* In addition to general patterns of sanctioning, we look more specifically at the incidence and prevalence of jail-based sanctions (local control) and the types of violations for which jail was given as a sanction. As with the general patterns of intermediate sanctioning, we examine whether DCJ patterns of jail-based sanctioning are different from the patterns observed in Washington and Clackamas counties.
3. *Short- and long-term outcomes of supervision and the effect of sanctions on outcomes*. Finally, we examine the distribution of short-term outcomes of supervision as measured by the type of discharge (e.g., successful completion, revocation, administrative discharge) and investigate the effect of sanctions and interventions on these outcomes. We also look at long-term outcomes as measured by re-arrest and reconviction after discharge to see whether there is an association between short- and long-term outcomes of supervision and to gauge any impact of sanctions on long-term outcomes.

Background

The Multnomah County Department of Community Justice (DCJ) is responsible for supervising all people on probation, parole, or post-prison supervision who reside in the county.[1] Since the 1990s, it has been a national leader in innovative practices in the criminal justice system. In 1997, DCJ officials began redesigning the department's operations using evidence-based practices (practices shown to be effective based on

[1] Oregon abolished parole in 1989 when it adopted sentencing guidelines. However, there are people who were sentenced prior to 1989 who are still released on parole. People sentenced after 1989 are required to serve a period of time in the community following release from prison—this is referred to as post-prison supervision.

empirical research). They began by developing specialized caseloads for particular populations, such as people convicted of sex offenses and clients with mental health issues, and new programs and sanctions. They also eliminated services and programs that were considered ineffective or insufficiently evidence-based and began concentrating resources on clients who were at medium and high risk of re-offending (rather than low-risk clients). This process of change continued in 1999 when the DCJ developed an enhanced needs assessment that would allow them to tailor services to meet individual clients' specific psychological, emotional, and educational needs.

While these reforms were being enacted locally, structured intermediate sanctions were being developed at the state level.[2] In 1993, Oregon's legislature developed a structured sanctions process for people on felony probation. This innovation provided probation officers (POs) with a range of sanctions that correspond to particular violations. The structured sanction process uses a sanction grid similar to a sentencing guidelines grid.[3] This grid, which originally targeted people on felony probation, was later adopted by the State Board of Parole and Post-Prison Supervision to be used with a wider number of people on parole and under post-prison supervision. The legislature's goal was, in part, to reduce the numbers of revocations to prison for non-criminal violations, such as failure to attend a required meeting with a PO.[4] The DCJ adopted this structured sanctions process in 1995 and subsequently developed a sanction process for people on misdemeanor probation.[5] More recently, in 2001, as part of a systemwide effort to free up jail beds, the DCJ reduced the number of jail days that could be imposed as a sanction.

As part of this overall process, the DCJ established a Research and Evaluation Unit to ensure that system decisions were grounded in research and data analysis. However, in addition to conducting its own internal research and data analysis, the DCJ has also relied on external researchers. This project by the Vera Institute of Justice is one of a number of studies that have been solicited to look at particular questions about the county system.

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[2] In the context of community supervision, intermediate sanctions are sanctions given to a person when he or she violates a condition of supervision. Intermediate sanctions are generally given in lieu of revoking probation or parole and sending people back to prison.

[3] National Institute of Corrections, *Topics in Community Corrections Annual Issue 2006: Effectively Managing Violations and Revocations* (Washington, DC: NIC, 2006,) p. 22. (Hereafter, referred to as *Topics in Community Corrections.)* In Multnomah County, intermediate sanctions are described as sanctions or interventions. The most common sanctions are jail, inpatient treatment, community service, and restitution, while interventions include day reporting, outpatient treatment, curfew, cognitive intervention, and modification of conditions.

[4] *Topics in Community Corrections.*

[5] Wayne Salvo, *The Use of Structured Intermediate Sanctions in Multnomah County, November 1997 through March, 2001* (Portland, OR: Multnomah County Department of Community Justice, Research and Evaluation Unit.) (Hereafter, referred to as *The Use of Structured Intermediate Sanctions in Multnomah County.)*

Data and Methods

This study is based on the analysis of client-level administrative records compiled by the DCJ and stored by the Oregon Department of Corrections. These records contain variables traditionally associated with the performance of people under community-based supervision, including key demographics, risk assessment scores, and information on prior criminal involvement. The sample comprises people who ended community-based supervision in 2005.[6] It includes both clients who successfully completed their supervision term as well as those whose supervision was revoked. We compiled information on these people in order to include events that occurred between their release from prison and their discharge from supervision (for those with a prison sentence), or between the beginning of their supervision period and their discharge from supervision (for those without a prison sentence).[7] Although our research focuses on processes and outcomes in Multnomah County, we use patterns detected in two neighboring jurisdictions, Clackamas and Washington Counties, for comparison. Overall, 7,542 people were discharged from supervision in these three counties in 2005, almost half from Multnomah County (3,642).

Our analysis of administrative records is supplemented by information derived from a series of semi-structured interviews with DCJ supervising officers as well as focus groups with DCJ line officers, all completed in July 2007. We conducted two focus groups, one with line officers who had generic caseloads and one with line officers who had specialized caseloads (including people convicted of domestic violence offenses and sex offenses and people who were mentally ill). We also interviewed three supervising officers and met on multiple occasions with several DCJ managers and researchers. Gathering this qualitative data helped us understand the practices of supervision and intermediate sanctions in Multnomah County. It also contributed to our interpretation of patterns detected through our statistical analysis of the administrative records.

As noted earlier, in addition to describing patterns of intermediate sanctioning, we sought to associate sanctioning processes with short- and long-term supervision outcomes. We defined short-term outcomes using administrative records on type of discharge from supervision. Essentially, we reclassified these discharges into several categories of success and failure. To look at long-term outcomes we followed a subset of clients discharged from supervision in 2005 to determine how many were re-arrested or reconvicted in Multnomah County.

By applying standard multivariate statistical techniques to the data derived from the administrative records, we were able to assess the effectiveness of jail-based intermediate

[6] In Oregon, community-based supervision is a county-level function that includes the supervision of both people leaving prison (parole or "post-prison supervision") and those sentenced locally to a term of probation.

[7] For people with multiple sentences we focused on their last release from prison or their last admission to probation.

sanctions on short- and long-term outcomes. Specifically, we developed a series of logistic and Cox-regression models estimating the likelihood of short-term failures (i.e., being discharged in 2005 due to a revocation) controlling for demographic and crime-related factors. We used a similar approach to examine the long-term outcomes (i.e., being re-arrested or reconvicted after discharge). For both analyses we explored multiple measures of intermediate sanctioning practices, focusing on jail-based sanctions. We supplemented this approach with the study of a reduced sample that we created using propensity score matching (PSM).[8] This technique accounts for any selection "bias" implied by the administration of jail-based sanctions (i.e., clients receiving jail-based sanctions may be different than clients without sanctions or clients receiving other types of sanctions). Using PSM, we created two samples of clients with a "similar" propensity to receive jail-based sanctions and compared their long-term supervision outcomes.

Outline of the report

The remainder of the report is organized into four sections. In Section II we present a brief profile of the clients included in our dataset of administrative records, looking at their demographic characteristics, risk assessment scores, and key elements of their involvement with the criminal justice system. Section III examines the nature and frequency of condition violations and the use of intermediate sanctions. In particular, it looks at the use of jail as a sanction, both individually and in combination with other sanctions. Section IV presents our findings on the effect of jail and other sanctions on short-term and long-term outcomes and discusses prior research on the effect of intermediate sanctions on recidivism. Finally, in Section V we summarize the findings of the report and suggest ways the DCJ can use these findings to improve supervision practices in Multnomah County. Detailed descriptions and results of the multivariate data analyses discussed in Section IV can be found in the appendices.

[8] See Appendix I.

II. Profile of Clients on Community-based Supervision

During 2005, 7,542 people exited from community-based supervision in the counties of Multnomah, (48.3 percent of all discharges), Washington (32.1 percent), and Clackamas (19.6 percent). As the data in Figure 1 show, overall, women represented only 21 percent of discharges. On average, people were approximately 33 years old when admitted into community-based supervision. White clients comprised more than 75 percent of the total discharges, with Hispanic comprising 11.2 percent and black clients comprising 10 percent.

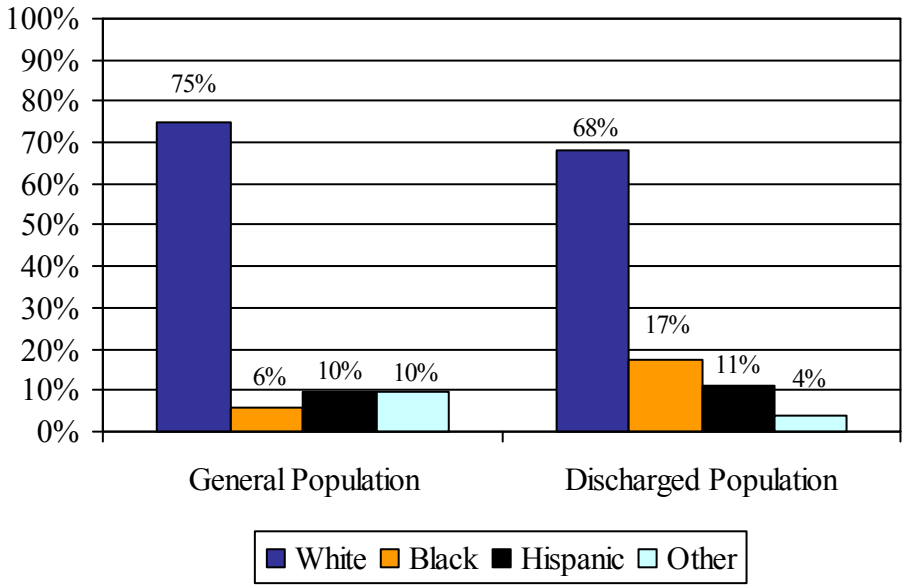
Figure I: Demographic attributes by county[9]

	Overall	Multnomah	Clackamas	Washington
Total clients	7,542	3,642	1,480	2,420
Gender				
Percent female	20.8	19.9	20.1	22.4
Race/Ethnicity				
Percent white	75.8	68.0	89.3	79.3
Percent black	10.0	17.2	1.6	4.1
Percent Hispanic	11.2	11.0	6.7	14.2
Percent other	3.1	3.8	2.4	2.5
Age at admission				
Mean	33.1	33.2	34.1	32.2
Range	15-81	15-80	17-77	15-81

Although the age and gender of the study sample were consistent across the three counties, there were substantial differences in the racial breakdown. As Figure 1 shows, the percentage of minority clients in Multnomah County (28.2 percent) was significantly higher than in Clackamas and Washington counties (8.3 percent and 18.3 percent respectively). Multnomah County also showed a higher level of racial disparity than the other counties. For example, as Figure 2 shows, the percentage of black clients discharged in 2005 is almost triple the percentage in the general population of Multnomah County (17 percent compared with 6 percent).

[9] Due to rounding, percentages in this (and other tables) may not add to 100.

Figure 2: Multnomah County general population and discharged population, by race



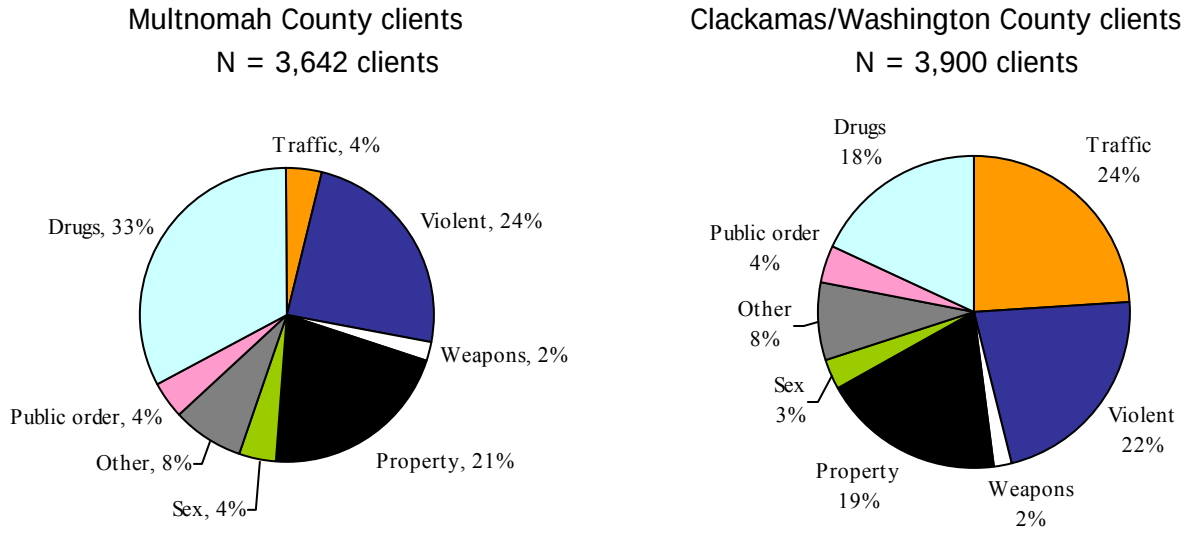
There are also differences among the counties with respect to crime-related attributes. As shown in Figure 3, Multnomah County supervises a greater percentage of post-prison supervision clients (34.6 percent) than the other counties and its clients remained on active supervision longer, on average (40.1 months). We also found that Multnomah clients had more serious involvement in criminal activities as indicated by their current offense level and their criminal histories.

Figure 3: Crime-related attributes by county

	All	Multnomah	Clackamas	Washington
Total clients	7,542	3,642	1,480	2,420
Type of supervision				
Percent probation	74.4	65.4	83.5	82.3
Percent post-prison	25.6	34.6	16.5	17.7
Criminal history				
Percent none	45.4	28.9	60.3	60.6
Percent A – D	9.7	13.7	6.0	6.2
Percent E – I	44.9	57.4	33.6	33.2
Current offense				
Percent class A felony	9.1	13.4	5.3	5.2
Percent other felony	53.9	67.8	41.4	41.1
Percent class A misdemeanor	32.1	15.6	51.3	44.6
Percent other misdemeanor	4.9	3.2	2.0	9.1

Differences among the counties are particularly significant in the distribution of the most current offense of conviction. As Figure 3 shows, most clients in Multnomah County were convicted of a felony (13.4 percent of a class A felony) whereas in Clackamas and Washington a slight majority of cases involve misdemeanor convictions and only about 5.3 percent were convicted of a class A felony. Figure 4 presents a further breakdown of Multnomah and Clackamas/Washington clients by current offense. DCJ clients are significantly more likely to have been convicted of a drug-related crime than other clients (33 percent vs. 18 percent). In Clackamas and Washington counties, on the other hand, the proportion of offenses associated with traffic violations was substantially higher (24 percent compared with 4 percent in Multnomah County).

Figure 4: Current offense, by county



Differences among the counties are also seen when we look at the results of risk assessments. Each client is assessed at intake using the Revised Oregon Initial Risk Assessment Instrument and the County Violence Triage Tool.[10] Over the course of their supervision, clients are reassessed periodically using the Revised Oregon Reassessment Risk Instrument (the reassessment). The scores generated by the repeated risk assessments combined with result from the Violence Triage Tool determine the required

[10] The Violence Triage Tool is a screening tool and contains three items for males and four items for females but does not directly impact the initial risk score. For more information on the tool, see Garth Davies and Kelly Dedel, "Violence Risk Screening in Community Corrections," *Criminology and Public Policy* 5 no. 4 (2006): 743-770. As we will see subsequently, it may result in an override to the calculated supervision level.

level of supervision. The initial needs assessment tool also provides a baseline for each client's service plan.

As Figure 5 shows, on average, DCJ clients have higher initial assessment and reassessment scores than clients in Clackamas and Washington counties. The most significant variation is in the reassessment score: The average reassessment score for DCJ clients is 4.84, compared with 1.99 and 3.46 for Clackamas and Washington clients respectively. The assessment score (either initial or reassessment) corresponds directly to the level of supervision assigned to a client—the "calculated supervision level." However, for reasons to be discussed later in this report, which include the results of the Violence Triage Tool, this level may be overridden. In such cases, the actual level of supervision would be reflected as the "community supervision level." Figure 5 shows differences among the three counties in the calculated supervision levels assigned to clients. Just 19 percent of Clackamas and Washington clients received a calculated supervision level of *medium* or *high* compared with 32 percent of DCJ clients.

Figure 5: Assessment scores and levels of supervision, by county

	All	Multnomah	Clackamas	Washington
Total clients	7,542	3,642	1,480	2,420
Initial assessment (N = 6,032)				
Mean score	2.92	3.49	3.25	2.21
Mean substance abuse score[11]	0.68	0.69	0.70	0.64
Last reassessment (N = 3,943)				
Mean general score	3.99	4.84	1.99	3.46
Mean substance abuse score[12]	0.58	0.67	0.40	0.52
Calculated supervision level (IA)				
Percent high	8	10	5	6
Percent medium	18	22	14	13
Percent low	42	41	42	43
Percent limited	32	27	39	38
Community supervision level (IA)				
Percent high	11	13	9	9
Percent medium	51	45	60	56
Percent low	16	17	9	20
Percent limited	22	25	23	16

[11] Question R8 in the Revised Oregon Initial Risk Assessment Instrument reads "Substance abuse problem in the community during the three years prior to the current offense?" A client receives a score of 0 for No and 1 for Yes.

[12] Question RA8 in the Revised Oregon Risk Reassessment Instrument reads "Substance abuse problem in the community?" The question asks about behavior since the last assessment. A client receives a score of 0 for "No use/possession," 1 for "Occasional use," and 2 for "Frequent abuse."

Figure 5 shows that there are many instances where the calculated supervision level is different from the community supervision level. As a result of discretionary overrides by POs, the percentage of cases actually supervised at a medium or high level is lower in Multnomah County than in Clackamas or Washington Counties (58 percent compared with 69 percent and 65 percent respectively). Although we don't know why there are so many overrides outside of Multnomah County, when we asked DCJ staff about the overrides, officers and managers alike noted that in the past there were more of them, many of which were arbitrary. Current policy consequently requires a manager to approve all overrides. Although some officers told us there were financial pressures from management to have more medium- and high-level cases because they received more funding for those cases, most officers attributed overrides to concerns about public safety: SJ, a manager, told us "overrides usually occur in cases where there is someone dangerous and there are high public safety needs." Frequently, the override is necessary because of the limitations of the state risk assessment tool. According to one officer, the violence triage tool may lead to an override because "the state tool measures recidivism but not violence." SJ told us that the risk assessment tool gives property crime more weight than other crime types, which does not reflect current crime demographics in the county: "Many officers use other risk assessment tools based on best practices…these give a better of view of where the offender stands." Finally, we were told that there are certain crimes for which clients must be supervised at a high or medium level for the first six months out of prison, which leads to an automatic override.

III. Violation of Conditions of Supervision and the Use of Intermediate Sanctions

This portrait of the clients supervised in Multnomah County suggests that DCJ officers supervise a greater number of parole clients with more serious offenses and more prolonged contact with the justice system than neighboring counties. These circumstances affect the nature of community-based supervision in multiple ways. For example, the average supervision tenure in Multnomah is significantly longer than in Clackamas and Washington (40.1 months vs. 30.1 months).

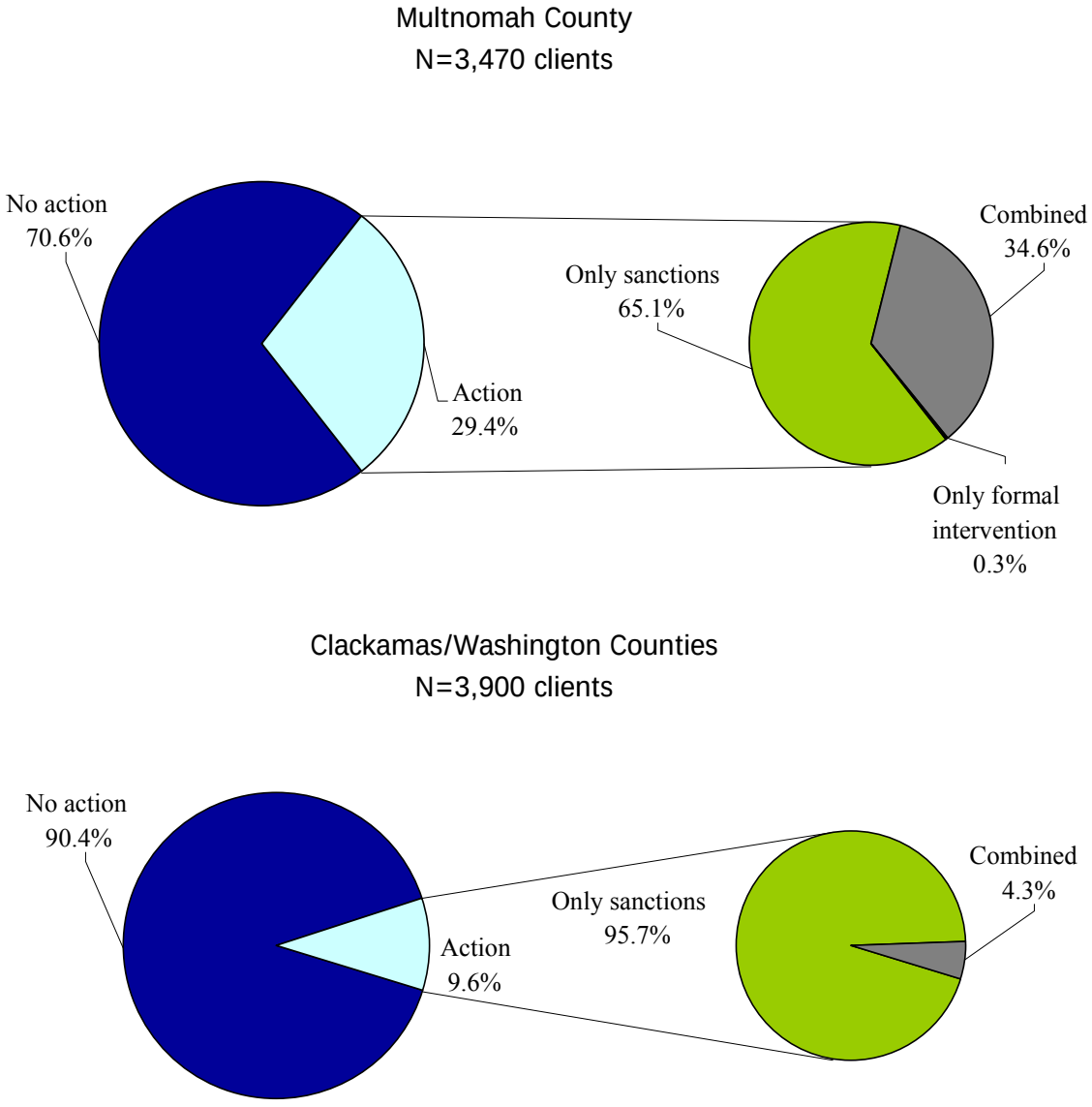
Given these differences, we might expect to see a greater number of condition violations and intermediate sanctions, as well as more serious sanctions in Multnomah County compared with the surrounding counties. We found, however, that despite the relative seriousness of its client-base and the longer tenures on supervision of probation and parole clients, most people supervised by DCJ discharged in 2005 did not receive any type of structured action in the form of sanctions (jail, inpatient treatment, etc) or other formal interventions (curfew, day reporting, etc.).[13] In fact, more than two-thirds of those included in the study cohort monitored in Multnomah County were terminated without any sanction or formal intervention by their supervising officers (70.6 percent). The remaining 29.4 percent of the clients received at least one sanction or formal intervention during their tenure on community-based supervision. As expected, in Clackamas and Washington, the percentage of clients receiving sanctions was significantly lower (9.6 percent).

Figure 6, below, provides a visual representation of the county-level differences in the use of intermediate sanctions and other formal interventions. It shows that not only is the incidence of actions greater in Multnomah County but also that a greater percentage of clients in this jurisdiction received a combination of sanctions and formal interventions during their supervision tenure (34.6 percent of those registering at least one action compared with 4.3 percent in Clackamas/Washington).[14] It was rare for a client to receive only a formal intervention.

[13] In Multnomah County, intermediate sanctions are described as sanctions or interventions. The most common sanctions are jail, inpatient treatment, community service, and restitution/work center. Interventions, meanwhile, include day reporting, outpatient treatment, curfew, cognitive intervention and modification of conditions. However, DCJ staff more commonly refers to "jail only sanctions" and "jail plus a program" sanctions. Generally, sanctions are perceived as being more severe than interventions.

[14] In Multnomah County, sanctions can either be initiated by the court or by a line officer. Because we are interested only in how the DCJ administers sanctions, we exclude court-initiated sanctions from our analysis.

Figure 6: Incidence of intermediate sanctions and other formal interventions by county



Note: Figure 6 excludes clients given only court-based sanctions/interventions or cases transferred from other jurisdictions.

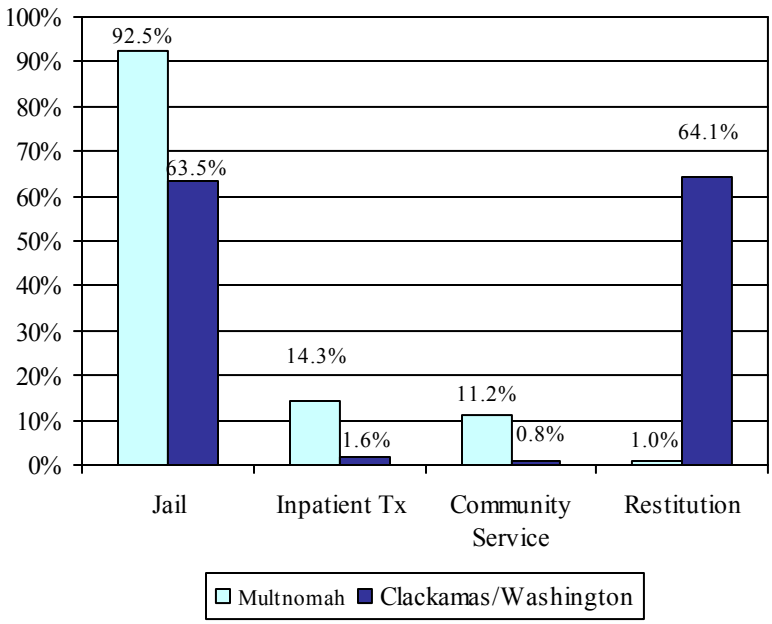
Structured actions initiated by supervising POs are classified in the case management system as sanctions and other formal interventions. As shown in Figure 6, a majority of structured actions are sanctions. In Multnomah County, 65.1 percent of clients receiving at least one action were exclusively given sanctions (one or more) by their supervising PO. Almost all remaining clients received a combination of sanctions and interventions (34.6 percent). Among those receiving an action in Clackamas or Washington, 95.7

percent were given only sanctions, with only 4.3 percent receiving a combination of sanctions and interventions. On very few occasions, formal interventions were the only type of intermediate action employed (0.3 percent in Multnomah). Overall, while structured actions are used more frequently in Multnomah than in Clackamas or Washington, there is also more diversity in the type of structured action in Multnomah.

When asked about their use of treatment programs, DCJ staff monitoring generic caseloads and those on specialized caseloads expressed different views on how the system operates. Generic officers complained that it is often difficult to get clients into programs—not because of skepticism about the programs' effectiveness, but because there isn't always a bed available. They cited long waitlists for many treatment programs and said that specialized units have an easier time getting clients a slot—an assertion that officers with specialized caseloads confirmed. The generic caseload officers also said that they would use jail sanctions less often, "if there were more resources that were easy to use."

Figure 7 provides a more detailed examination of the patterns of intermediate sanctioning. As shown, most of the sanctions given to the study cohort were jail-based measures. In Multnomah County, 92.5 percent of clients receiving a sanction were given jail. However, jail was registered as the only type of sanction for about 65.8 percent of this subset of clients. The remaining 34.2 percent received jail in combination with other types of sanctions administered throughout the tenure of supervision. Likewise, about one-third of those receiving at least one jail sanction also received at least one formal intervention throughout their supervision tenure. In the two comparison counties the percentage of clients given jail was significantly lower (63.5 percent in Clackamas/Washington vs. 92.5 percent in Multnomah). Very few clients in Multnomah County received a sanction in the form of restitution/work center (1 percent of those receiving a sanction) whereas in the two comparison counties, almost two-thirds of those sanctioned were given restitution/work center (see Figure 7 below).

Figure 7: Top-used sanctions by proportion of sanctioned clients, by county. [15]

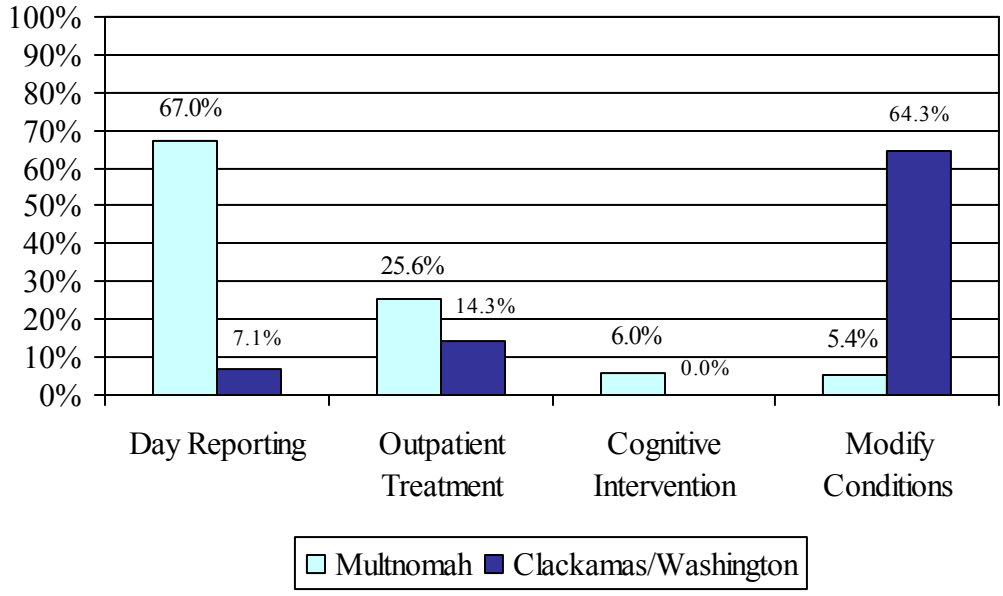


Note: Figure corresponds to PO-based sanctions reported in the "given sanction" field. Percentages do not add to 100 percent because on some occasions clients received a combination of sanctions.

Our examination of formal interventions also revealed significant differences across counties. As Figure 8 shows, while in Multnomah, the most frequent formal intervention given (to those who received at least one formal intervention) was day reporting (67 percent), in the two comparison counties, day reporting was only given to 7 percent of clients. Instead, clients receiving formal interventions in Clackamas and Washington were more likely to be given a modification of conditions (64 percent). It should be pointed out that the number of clients who received formal interventions was much higher in Multnomah County than in the other two counties (see Figure 6). This difference should be taken into account when interpreting the magnitude of these differences in percentages. They may partially reflect the low prevalence of formal interventions in comparison counties.

[15] This figure includes the most frequent sanctions given by POs in the three counties under study. Together, the four sanctions included in Figure 7 represent over 90 percent of all sanctions given (94.9 percent in Multnomah and 99.3 percent in Clackamas/Washington).

Figure 8: Top-used formal interventions by proportion of clients receiving interventions, by county.



Use of jail-based sanctions

Consistent with previous research on the use of sanctions in Multnomah County, jail sanctions were the most frequently employed sanction given by supervising officers.[16] In Multnomah County, 941 clients received such sanction either as the only action recorded throughout their supervision tenure or as part of a series of other types of PO-based administered sanctions. These 941 clients represent 92.1 percent of those given at least one intermediate action, but only 27.1 percent of all people discharged and supervised in Multnomah County in 2005. In Clackamas/Washington, the percentage of people receiving a jail sanction was significantly smaller—63.3 percent of those with at least one action recorded, and only 6 percent of all people discharged in 2005.

On average, people discharged in Multnomah County who received at least one jail sanction were given 63.9 jail days. In total, the 941 DCJ clients who received at least one jail sanction spent 60,141 days in jail while active on their most recent period of supervision. Individually, clients received a wide range of jail days throughout their supervision tenure with approximately one-third of them receiving from 8 to 30 jail days between admission into DCJ supervision and discharge in 2005 (Figure 9). However, 37 percent of the total jail days were accounted for by the 82 clients (8.7 percent of those receiving at least one jail sanction) who received more than 180 days of jail while on active supervision (see Figure 10). Conversely, while many clients (20.6 percent)

[16] *The Use of Structured Intermediate Sanctions in Multnomah County*.

accumulated less than 7 jail days, the overall impact of these stays was relatively small (1.5 percent of the total number of jail days).

Figure 9: Clients by total number of jail days given, Multnomah
N=941 clients with jail sanctions

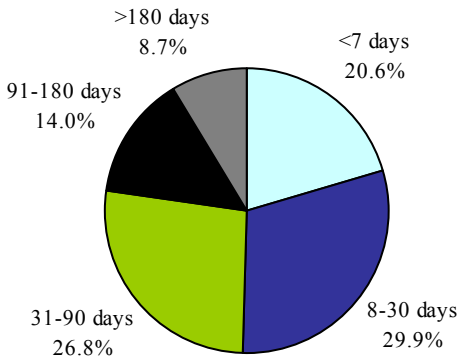
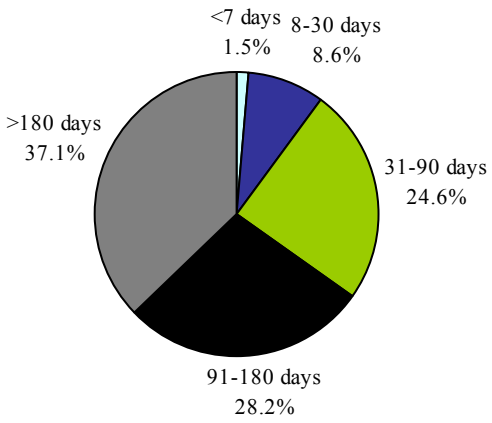


Figure 10: Jail days by total number of days given, Multnomah
N=60,141 jail days



In Multnomah County, people with at least one custodial sanction received an average of two separate jail-based intermediate sanctions, and each individual jail sanction was for a median period of 18 days (mean = 25 days). Overall, when we count all sanctions accumulated, about half of the clients given at least one custodial sanction received a total of 30 jail days during their tenure on supervision (mean = 64 days).[17]

Figure 11 below provides an overview of the main differences between clients discharged in Multnomah County who never received a PO-based sanction or formal intervention while on active supervision (2,449 or 70.6 percent), those who received at least one sanction or formal intervention (1021 or 29.4 percent) or, within this latter group, those who registered at least one jail-based sanction (941 or 27.1 percent). Each column presents a breakdown of the subpopulation of clients in each category, first by demographics and then by criminal involvement. Our examination of these profiles reveals that the subpopulation of clients given jail sanctions had a higher proportion of black clients and a slightly higher proportion of males. Compared to clients without reports of intermediate sanctions, people given jail during their supervision tenure were more likely to be serving a felony sentence, more likely to be on parole, and more likely to have had significant prior involvement with the justice system. We also noted that clients receiving intermediate sanctions or formal interventions had significantly longer supervision tenures and higher initial assessment scores. Approximately 6 percent of

[17] The contrast between the two measures of central tendency reflects the fact that there is a great dispersion in the total number of jail days spent by DCJ clients with several people experiencing very long periods of custodial supervision.

clients without sanctions were classified as "high risk," for example, compared to 18 percent of clients who were given at least one sanction (see calculated risk level, Figure 11, below).

Figure 11: Characteristics of clients by subpopulation, Multnomah County

	Without sanctions	With sanctions	
		Any sanction	At least one jail sanction
Total clients (N = 3,470)	2,449	1,021	941
1. Demographics			
Gender			
Percent female	20.5	17.0	17.1
Race/Ethnicity			
Percent white	67.7	69.2	68.7
Percent black	14.0	24.2	24.8
Percent Hispanic	14.3	3.4	3.6
other	4.0	3.1	3.0
Age at admission			
Mean (years)	33.4	32.9	32.8
2. Crime and supervision			
Type of supervision			
Percent probation	76.9	63.8	32.5
Percent post-prison	23.1	36.2	67.5
Initial assessment			
Mean score	2.68	5.28	5.51
Risk – calculated/community			
Percent high	6.3 / 7.4	18.5 / 26.1	19.5 / 27.5
Percent medium	17.7 / 42.3	20.5 / 52.4	32.0 / 51.0
Percent low	42.8 / 18.5	37.2 / 11.0	35.6 / 11.0
Percent limited	33.1 / 31.8	14.7 / 10.5	12.9 / 10.4
Criminal history			
Percent A-D	9.1	23.5	24.2
Percent E – I	54.1	60.5	61.1
Percent None	36.8	16.0	14.7
Current offense			
Percent class A felony	13.5	13.3	13.4
Percent other felony	61.4	76.3	77.1
Percent class A misdemeanor	18.7	7.8	6.9
Percent other misdemeanor	6.4	2.6	2.6
Supervision tenure			
Mean (months)	39.4	44.2	45.0

We found that in Multnomah County not only does a relatively small proportion (35 percent) of violated clients receive more than one type of sanction or formal intervention over the course of their supervision tenure, but more importantly, it is rare for officers to respond to a particular violation with more than one type of sanction or formal intervention. This was surprising to us, as officers and managers emphasized that officers are generally supposed to add another sanction or intervention to jail and said they did: "Often it is a combination of things—jail with something else." One officer told us that "supervisors won't sign off on a sanction that is jail only, so you have to put something else on there so that the supervisor will sign it." Of course it is possible that another sanction is being imposed but not recorded. One manager told us that we would rarely see reprimands recorded because an officer will issue them but then not write the reprimand up because he or she doesn't have the time.

More generally, we were surprised by the fact that most supervised clients in Multnomah County do not receive sanctions, but when they do, they mostly receive jail-based sanctions. The DCJ officers and managers we spoke with all confirmed that jail is the most frequently used sanction: "There's not a lot of diversity in terms of sanctions." They agreed that jail is used more frequently now than in the past and said that this is because the current focus is on supervising medium- and high-risk clients: with a "highly criminal" population, they "use more jail now and more often." Some of those cases involve "graduated" sanctions, but that often means that they start with "a low sanction of 5 to 10 days" and then "quickly work up in length of time." Both managers and officers said they use jail when it is the most appropriate sanction based on the risk of the client: "The usual reasons for jail are flight risk, risk to the community, or risk to themselves." Officers on generic caseloads also agreed that once you have given jail for a violation, you cannot give a client a less severe sanction: "How will it look to the judge if you give them five days and then something less?"

Officers on generic caseloads also told us that jail was the "easiest" sanction to give: "It's a waste of time to use sanctions other than jail." One PO told us that "out of custody sanctions are ineffective and too much work." In part, this is because unlike other sanctions, jail requires no follow-up: "Once they're in jail, they're out of your mind." Some alternative sanctions were specifically cited as taking too much time that might otherwise be spent on other cases. No one, for example, wanted to impose increased reporting as a sanction: "We don't want to see [clients]. We want them to go away." Officers also noted that jail was often more comfortable for the clients—it can be a lot easier to spend a few days in jail than to try to complete a program. Some clients frequently fail to complete programs like community service so "they end up in jail anyway because you have to violate them for failing to complete the program." One officer told us that some clients see jail as not such a bad thing—"four hots and a cot." In addition, officers will sometimes send clients to jail for their own good—so they can get clean and thus be eligible for certain treatment programs.

Officers with specialized caseloads had varying views about what sanctions to impose, based on the types of clients they were dealing with. For example, for low/limited-risk clients, jail is used only as a last resort. Given the limited number of jail days available as a sanction, they might prefer to assign such clients to day reporting or community service, interspersed with a few jail days. By contrast, special supervision officers told us that their clients don't do well in treatment or on community service: "They would just find new victims or disrupt the group." Instead they just give them jail: "I impose the maximum or use a whole lot of discretion to throw them off balance, disrupt their whole cycle."

The officers and managers we spoke with acknowledged the county philosophy of graduated sanctions. One officer in particular emphasized the importance of going from "small interventions to small sanctions and then moving up." However, another officer pointed out that despite this philosophy, there is not a lot of consistency: while some officers follow the graduated sanctions model, others just give 15 or 30 days for every sanction.

The DCJ Administrative Sanctioning Guidelines state that officers can impose up to five days of jail or 30 units of another sanction, but that a supervisor must sign off on more onerous sanctions. Although the managers we interviewed took different approaches to supervising their officers' sanctioning practices, all emphasized the importance of officer discretion. One manager signs off on every sanction an officer imposes and will try to encourage the officers who are more "punishment-oriented" to use incremental means rather than just jail. Another works with his officers to "instill the notion…that they are trying to manage risk so they are not responding to one specific behavior but [dealing] with the overall issues." He tries not to override a sanction: "If it is within a range, then it's usually okay." If he doesn't agree with a sanction he will try to convince the officer and "challenge [the officer] to think differently." Occasionally he will bargain: "They want 30 days. I want 5. We may do 15." Officers agreed that generally they have discretion and come up with the appropriate sanction themselves. Yet some also noted that sometimes it is the supervisors who are derelict in their responsibilities, resulting in huge inconsistencies. Some supervisors take the time to look at each sanction and some actually work with officers to help them better articulate the reasons for certain decisions, they said; others approve everything and just act as a rubber-stamp, often because they don't have time to look in detail at every sanction.

Condition violations

The administration of intermediate sanctions and/or other formal interventions is triggered by a client's violation of one or more of the conditions of his or her parole or probation. We found that overall, clients in our study cohort were given a total of 9,531 violations. In response to these events, supervising officers implemented 4,530 administrative actions in the form of sanctions or formal interventions. Clients discharged

in Multnomah violated conditions on 6,932 occasions, resulting in 3,529 administrative actions by DCJ staff.

Although we found that a wide variety of conditions were violated, the most frequently reported incidents were associated with the absconding of clients from supervision (e.g., change of job/residence without permission and failure to report to the PO). In Multnomah, these two general condition violations were listed as the top violation for 38.6 percent of the 3,529 administrative actions. In Clackamas/Washington the incidence of these violations was lower, as shown in Figure 12 (below). Drug-related violations were significantly higher in Clackamas/Washington, accounting for approximately 21 percent of all administrative actions compared with 14 percent in Multnomah.

Figure 12: Top supervision condition associated with any sanction/formal intervention

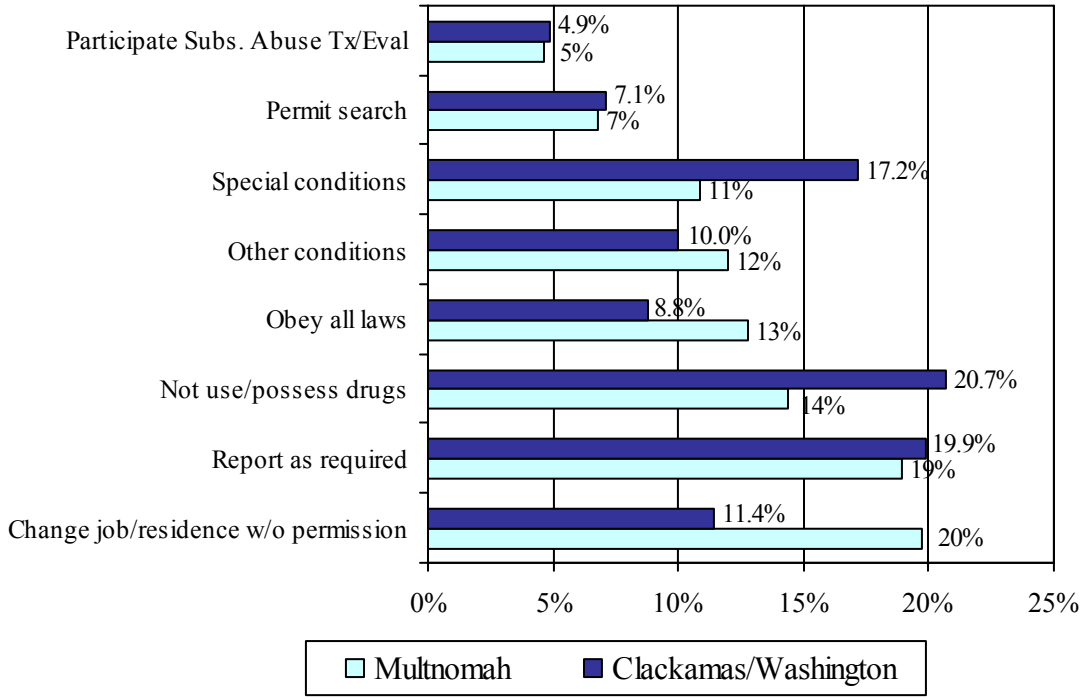


Figure 12 also shows that violations of special conditions of supervision were rare in Multnomah County. Only 11 percent of intermediate sanctions were the result of a violation of a special condition. In part this reflects the fact that these conditions cover a smaller pool of people on parole/probation. The most frequent special condition violated in Multnomah was the possession or use of "intoxicating beverages." Violations of this condition triggered 35.4 percent of the special conditions triggering administrative actions but only 3.8 percent of all the conditions triggering a response from supervising

officers. Despite their low incidence, violations of special conditions were generally more likely to result in custodial sanctions.

The frequency distribution of violations presented in Figure 12 is similar for violations resulting in a jail-based sanction. For example, in Multnomah County, 22.2 percent of the total number of custodial sanctions ordered were responses to unauthorized changes of job or residence, while violations involving failure to report to the supervising PO triggered about 18 percent of the jail sanctions. However, a condition violation was less likely to result in a jail-based sanction when the condition violated was specific. For example, 77 percent of violations in Multnomah County for failure to "obey all laws"—a non-specific violation—resulted in jail sanctions; by contrast, just 54 percent of the violations for failure to "participate in substance abuse programs"—a specific violation—resulted in jail sanctions. Moreover, DCJ supervising officers were more hesitant to initiate jail-based sanctions when violations involved a failure to comply with a program (community service work, behavioral interventions, etc.). However, even when confronted with these violations, jail was imposed in just over a third of the PO-initiated administrative actions (39 percent).

IV. Effect of Sanctions on Outcomes

One of the long-standing research questions in the field of community corrections has been whether or not there is a connection between core elements of the supervision process and the performance of clients. Measures of client performance have often involved indicators of compliance with treatment regimens and criminal recidivism. In addition, research on the nature of supervision processes has included a variety of assessments of the workload of probation/parole officers, the use of referrals, and the integration of services, among others. In recent years, an emerging body of research has begun to focus on sanctioning patterns for people on active supervision, moving beyond the description of these patterns to include the impact of sanctioning on client outcomes.

This project built upon this relatively new approach by associating the frequency and nature of the intermediate sanctions received by clients while on probation or post-prison supervision with short- and long-term indicators of their success and failure. In this analysis, short-term outcomes were measured using administrative discharge data and long-term outcomes were measured using re-arrest and reconviction data from Multnomah County, with an average follow-up period of 20 months.

Short-term outcomes

As previously stated, the main short-term outcome of interest in this analysis is whether or not a client was successfully discharged from supervision. Clients were discharged from probation and post-prison supervision for a variety of reasons, ranging from the expiration of sentences to termination due to administrative reasons (transfers, deaths, etc.).[18] Discharge data were reclassified as successful or unsuccessful using criteria from previous research. Successful discharges comprise terminations due to expiration of sentence, early release, and discharge from supervision.[19] The unsuccessful discharge category comprises revocations for new offense and revocations due to a technical violation (including absconders).[20] The remaining discharge types were reclassified as administrative terminations—these included the transfer of clients to other jurisdictions and the reversal of charges on appeal.

Using this classification system, we found that the majority of clients in the study cohort successfully completed their supervision term (59.5 percent). In Multnomah County, this percentage was significantly higher—79.1 percent of exits in 2005 were successful. Figure 13 provides a graphic representation of the distribution of these short-term outcomes of supervision.

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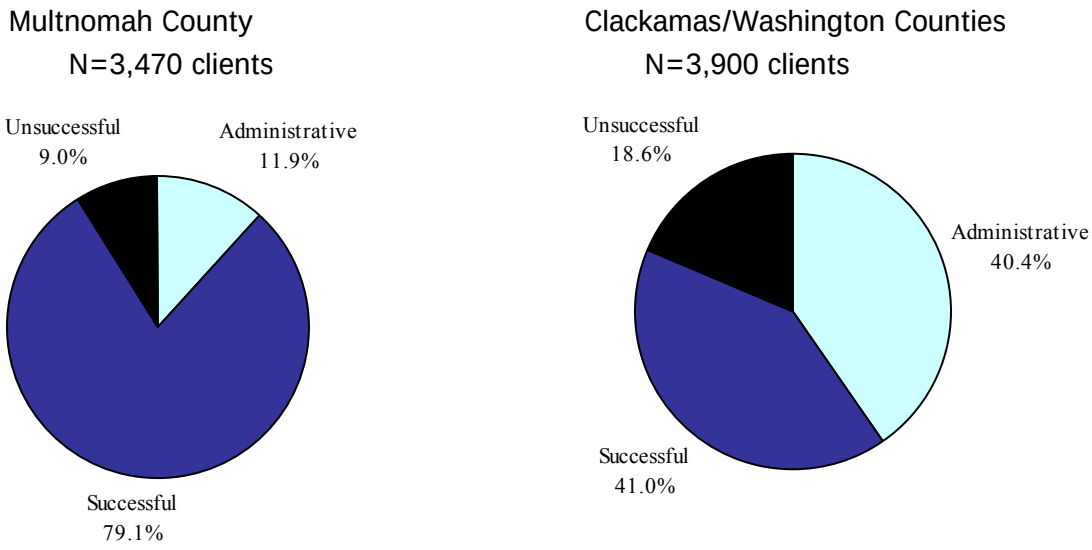
[18] Exit codes requested: EARL, BNPB, EXPI, DISC, DIED, RTNS, CRTR, SCOM, VACA, APPE, VIOL. These exits correspond to person discharges from supervision, rather that docket or case-level exits.
[19] EXPI, EARL, DISC.
[20] CTRT, ABEX, RTNS.

Figure 13: Clients discharged, by county



Our more specific goal was to measure the association between the use of intermediate sanctions or interventions, especially the use of jail-based measures, and the type of discharge recorded. Given observed differences across counties in supervision practices and the magnitude of the variations in the composition of their client-base, this analysis followed only those individuals discharged from Multnomah County. Further, we restricted our analysis to differences between successful and unsuccessful terminations, discounting exits triggered by administrative processes.

Figure 14, below, presents a basic cross-tabulation classifying discharges in Multnomah County by the relative use of intermediate sanctions. The study sample includes 3,470 clients. As previously mentioned, the majority of these discharges were successful (79.1 percent of the clients included in the analysis).[21] The columns in Figure 14 classify these clients into those without any record of intermediate sanctions/interventions (70.6 percent) and those receiving at least one sanction or intervention during their supervision tenure (29.4 percent). Results from the cross-tabulation indicate that 92.9 percent of those receiving at least one sanction or intervention were eventually successfully discharged. Among those without any recorded intervention the percentage of successful discharges was lower (88.3 percent).[22]

[21] However, this analysis does not include clients in Multnomah County who were administratively discharged (N=412). Therefore, the total for successful/unsuccessful discharges is 3,058 (see Figures 14, 15, and 16).

[22] A chi-square test indicated that this difference was statistically significant ($\chi 2=15.32$, $p<.001$).

Figure 14: Short-term outcomes by subpopulation (sanctions/interventions), Multnomah

Type of discharge	Subpopulation	
	Without sanctions/interventions	With sanctions/interventions
Successful (N = 2,745)	1,851 (88.3%)	894 (92.9%)
Unsuccessful (N = 313)	245 (11.7%)	68 (7.1%)
Total (N = 3,058)	2,096	962

Note: The cross-tabulation excludes clients who were administratively discharged.

We subsequently reproduced this analysis to look specifically at jail-based sanctions (Figure 15, below). The results are very similar to those presented above: About 92.7 percent of the clients receiving at least one jail-based sanction were successfully discharged from supervision. Among those without a jail sanction (or any sanction), the percentage was slightly lower (88.6 percent).[23]

Figure 15: Short-term outcomes by subpopulation (jail sanctions), Multnomah

Type of discharge	Subpopulation	
	Without any sanction	With a Jail sanction
Successful (N = 2,745)	1,919 (88.6%)	826 (92.7%)
Unsuccessful (N = 313)	248 (11.4%)	65 (7.3%)
Total (N = 3,058)	2,167	891

Note: The cross-tabulation excludes clients who were administratively discharged.

We also looked at clients discharged in Multnomah County who received a jail-based sanction *and* another sanction or intervention while on active supervision. In particular, we compared clients who were given exclusively custodial sanctions with those who received both jail and an additional sanction or intervention ("jail + program"). As shown in Figure 16, below, we found that about 88.8 percent of those receiving "jail only" were successfully discharged from supervision. In contrast, among those receiving programming in addition to jail, about 96.2 percent were successfully discharged.[24]

[23] A chi-square test indicated that observed differences were statistically significant ($\chi 2=11.88$, $p<.001$).
[24] A chi-square test indicated that observed differences were statistically significant ($\chi 2=17.99$, $p<.001$).

Figure 16: Short-term outcomes by subpopulation (jail vs. jail + program), Multnomah

	Subpopulation	
Type of discharge	**Jail + program**	**Jail only**
Successful (N = 826)	454 (96.2%)	372 (88.8%)
Unsuccessful (N = 65)	18 (3.8%)	47 (11.2%)
Total (N = 891)	472	419

Note: The cross-tabulation excludes clients who were administratively discharged.

The results presented in Figures 14 and 15 suggest that the use of sanctions and interventions correlates with lower rates of success for clients at discharge (short term). However, we also found that among clients who received a jail sanction, those who also participated in some type of program were more likely to be successfully discharged than those who did not (Figure 16). For the group who received jail and a program, success rates at discharge were approximately 96.2 percent compared to 88.8 percent for those receiving jail only and 88.3 percent for those without any sanction/intervention.

We also examined whether there was any association between the type of condition violated and variations in short-term supervision outcomes. As shown in Figure 12, sanctions and interventions were more likely to be given for certain violations. For example, 77 percent of violations in Multnomah County for failures to "obey all laws" resulted in jail sanctions; by contrast, just 54 percent of the violations associated with failures to "participate in substance abuse programs" resulted in jail sanctions. Building upon these findings, Figure 17, below, relates conditions violated to type of discharge from supervision (i.e., successful or unsuccessful). Results are limited to the most prevalent types of conditions violated among those who were eventually unsuccessfully discharged. Figures indicate that about 25 percent of clients who failed at discharge registered a failure to report sanction (General Condition #13). Similarly, about 15 percent of the clients with negative short-term outcomes (failure at discharge) received a sanction or intervention due to possession of controlled substances (General Condition # 2).

Figure 17: Short-term outcomes by subpopulation (jail vs. jail + program), Multnomah

Top condition violated	% Unsuccessful discharge
General Condition 13 – Failure to report to PO	25.0
General Condition 02 – Possession controlled substances	14.9
General Condition 07 – Failure to notify changes of address	10.1
General Condition 10 – Failure to obey all laws	10.8
General Condition 04 – Failure to participate in programs	6.8

The bivariate analyses presented earlier in Figures 14 and 15 showed significant associations. Yet, such measures may be biased due to the influence of third variables or other interactions between variables. For example, the association between the presence of intermediate sanctions and short-term failure at discharge may simply reflect the fact that clients with more serious criminal histories are more likely to receive sanctions and more likely to fail at discharge. A more robust approach is needed to assess the extent to which the correlation between sanctions and discharges exists independent of these other influences.

To address this question, we ran a series of stepwise logistic regressions examining the impact of both intermediate sanctions and a number of other explanatory factors on the likelihood of an unsuccessful discharge for clients terminated in Multnomah County. Results are presented in Figure 18, below, with each model representing a particular combination of factors. The percentages in Figure 18 indicate how much higher or lower the odds of unsuccessful discharge are given a particular factor.[25]

Figure 18: Percentage increase or decrease in the odds of unsuccessful discharge (N = 3,058 clients)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Female		-53*	-48*	-47*	-47*	-47*
Black		9	42	39	38	40
Hispanic		43*	109*	128*	136*	113*
Age (at admission)		-1	-1	-1	-1	-1
Criminal history			-8	-9	-10	-8
Felony offense			-92*	-92*	-92*	-92*
On parole (last status)			-98*	-98*	-98*	-98*
Tenure (in months)			3*	3*	3*	3*
Risk assessment score			17*	16*	16*	16*
Any sanction/intervention	-43*			44*		
Jail-based sanction					76*	
Total jail days given						0

* Indicates statistical significance

The first model in Figure 18 confirms the associations detected in the cross-tabulations above: clients given sanctions/interventions while on active supervision were less likely

[25] Full results from the logistic models are presented in Table A in Appendix II.

to experience an unsuccessful discharge. Model 2 predicts failure at discharge using a set of demographic controls. Results indicate that females have lower odds of failure, and being Hispanic increases the odds of failure by about 43 percent. In Model 3 we added to the estimation routine a series of covariates capturing crime-related and supervision-related attributes of clients. Estimates highlight the fact that the odds of failure are lower for people on parole and for people serving sentences for felony offenses. Clients staying longer on supervision increased their odds of failing at discharge as did clients with higher risk scores. Models 4, 5, and 6 test three different versions of intermediate sanctions: in all cases estimates indicate that once we control for demographic and crime-related attributes, people given jail or other forms of sanctions/interventions have higher odds of failure at discharge. Further, the odds of failure for clients receiving jail-based sanctions were significantly greater than estimates obtained when considering all types of sanctions/mandates suggesting that the use of jail has a heightened negative impact on the short-term outcomes of clients on supervision. Findings presented in model 6 indicate that the number of jail days given is not significant when predicting failure at discharge. Insignificant results were also obtained when comparing the effect of jail-only sanctions to other interventions that combined jail with other sanctions/interventions—that is, there was no difference in patterns of success or failure in terms of whether clients received exclusively custodial sanctions or were given custodial sanctions in addition to other programs while on active supervision.

While these logistic models allow us to estimate the independent impact of interventions on the success or failure of clients at discharge, they are still limited in the sense that they do not fully examine the relationships between supervision time (tenure), intermediate sanctions, and unsuccessful discharge. People who are unsuccessfully discharged quickly may have a greater propensity to engage in behaviors that lead to unsuccessful discharges than those who unsuccessfully discharge at a later point in time. Thus, it is more meaningful to examine the impact of various factors on time to failure. We used survival analysis and a series of Cox regressions to estimate the rate at which clients in Multnomah County experienced an unsuccessful discharge.[26] This is similar to the logistic regression (see Figure 18) but includes information on the time to unsuccessful discharge. We found that clients who were given at least one sanction or intervention were not only more likely to receive an unsuccessful discharge than clients who received no sanctions but that this discharge was more likely to happen earlier in their supervision tenure.[27] Consistent with the logistic regression results, we found that clients receiving jail sanctions failed faster than those receiving other sanctions/interventions. However, we did not find differences in the failure rates by type of jail-based sanction received ("jail only" vs. jail + programs).

[26] See Appendix I for a fuller description of this method.
[27] See Figures B, C, and D in Appendix II.

In sum, our assessment of short-term outcomes of probation/parole supervision in Multnomah County reveals that compared to other clients, people who received intermediate sanctions were not only more likely to experience an unsuccessful discharge but also to experience an unsuccessful discharge more quickly. Furthermore, the relationship between intermediate sanctions and unsuccessful discharge was maintained even when other competing influences were taken into account.

Long-term outcomes

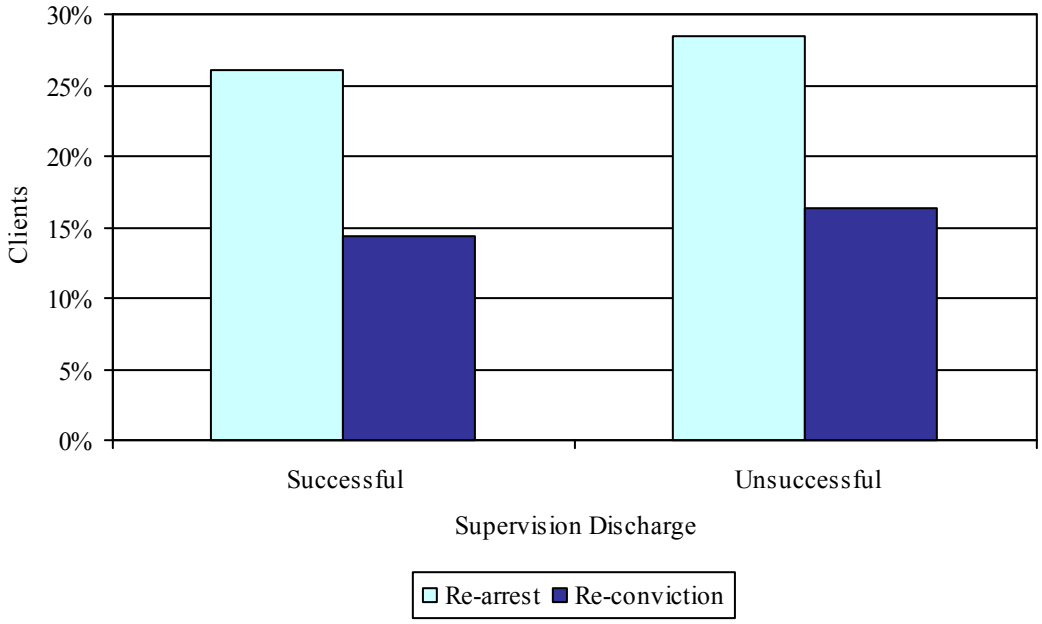
In addition to examining the impact of intermediate sanctions on the type of discharge from supervision, we also looked at the effect of intermediate sanctions on the performance of clients after discharge. In particular, we examined recidivism outcomes for people discharged in Multnomah County, using two different measure of recidivism: arrests and reconvictions in the jurisdiction.[28] Outcome data was obtained using records from local courts and law enforcement agencies and matched to the study cohort using state ID numbers, which uniquely identify people who have been monitored in Oregon. Arrests and reconvictions were tracked between January 2005 and August 2007, although the follow-up period is different for each person depending on his or her exact date of release. The average follow-up period was 20 months.

Preliminary descriptive analysis indicates that of the 3,058 people successfully or unsuccessfully discharged in 2005 in Multnomah County, 26.2 percent were re-arrested at least once during the follow-up period in this jurisdiction. Furthermore, as of August 2007, 14.5 percent of the members of the exit cohort were reconvicted locally. Despite the relative magnitude of these recidivism rates, figures also indicate that most clients discharged in 2005 did not experience further local contacts with the criminal justice system—about 3 in 4 were not re-arrested and an even greater proportion were not reconvicted.

We found a weak association between short- and long-term outcomes of supervision: the re-arrest rate for clients with an unsuccessful discharge was 28.4 percent whereas for successful clients the rate was 26.0 percent; a similar gap was observed for reconviction figures (see Figure 19 below). In other words, clients who were successfully discharged in 2005 were slightly less likely to be re-arrested or reconvicted at follow-up. However, a chi-square test indicated that observed differences were not statistically significant ($\chi 2$=.91, p=.341).

[28] People discharged in Multnomah County who were re-arrested or reconvicted in other jurisdictions in Oregon are not included in this analysis.

Figure 19: Recidivism of Multnomah clients by type of discharge



Consistent with our analysis of short-term outcomes of supervision, our examination of long-term outcomes also includes a more rigorous analysis that controls for the influence of competing explanatory factors on re-arrests and reconvictions. We ran a series of logistic models that predict the likelihood of these two outcomes based on a number of demographic and crime-related factors, including short-term outcomes of supervision. Results of our estimation procedures for re-arrests are presented in Figure 20.[29]

[29] Full results from the logistic models are presented in Figure E in Appendix II.

Figure 20: Percentage increase or decrease in the odds of re-arrest
(N = 3,216 clients)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Female		-24*	-8	-5	-6	-6
Black		132*	90*	84*	84*	87*
Hispanic		-71*	-70*	-59*	-60*	-68*
Age (at admission)		-1	-1*	-1*	-1*	-1*
Criminal history			9*	6*	6*	8*
Felony offense			-43*	-43*	-43*	-44*
On parole (last status)			56*	9	4	29*
Risk assessment score			9*	8*	8*	8*
Short-term failure			51*	38	33	50*
Any sanction/intervention	344*			217*		
Jail-based sanction					226*	
Total jail days given						1*

* Indicates statistical significance

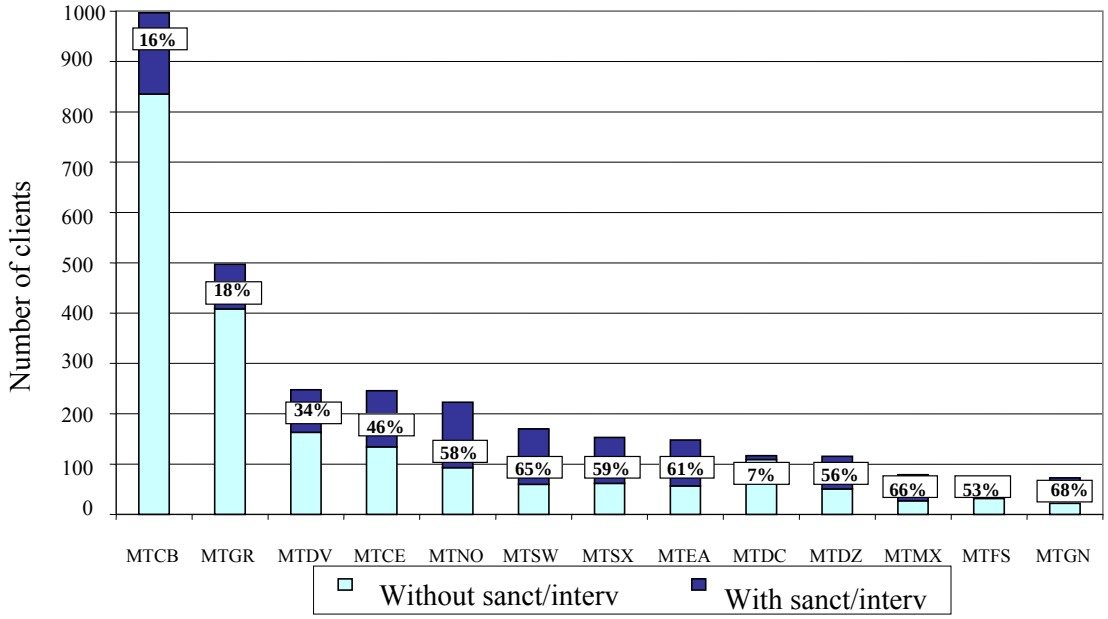
Our first model showed that clients who were given sanctions/interventions while on active supervision generally had greater odds of re-arrest after their initial discharge. Models 2 and 3 focused on a series of individual-level covariates, indicating that the odds of re-arrest were higher for black clients, as well as those with more serious criminal histories and heightened levels of supervision. By contrast, younger clients as well as those of a Hispanic origin had lower odds of recidivism. Consistent with our descriptive assessment, we found a positive association between short- and long-term client-based measures of performance—those successfully discharged had lower odds of re-arrest when controlling for other factors. However, the significance of this relationship was inconsistent. Models 4, 5, and 6 re-introduce intermediate sanctions/interventions in a multivariate setting. Results suggest that controlling for individual-level factors, (demographics, crime-related, and supervision-related) clients who were given sanctions/interventions had greater odds of re-arrest at follow-up.[30] These results hold across different specifications of intermediate sanctions/interventions (i.e., any sanction, jail-only, etc.). However, we found that the increase in the odds of failure was the lowest when clients were given a combination of jail and programs (that is, while still associated with a heightened risk of recidivism at follow-up, clients receiving jail and programs were at a lower risk than those who were only receiving jail).

[30] Despite the importance of these observations, indicators of the overall goodness of fit of these models suggest that the explanatory power of these estimations was moderate—covariates only explained about 11 percent of the variation in re-arrest rates across clients. (Pseudo R2 ranged from .05 to .14, see Figure E in Appendix II).

Next we focused on the factors associated with a greater likelihood of reconviction at follow-up for the cohort of Multnomah discharges.[31] As expected, our results replicate earlier findings on the relationship between various client-level predictors and reconviction at follow-up. They also indicate that clients who were given sanctions/interventions had greater odds of reconviction (these results were consistent across measures of sanctions/interventions). Despite the significance of these results, however, multivariate regressions do not provide accurate assessments of the unique effect of a given action on individual-level outcomes (i.e., effect of intermediate sanctions/interventions on recidivism of clients discharged from supervision). Specifically, these techniques have the potential to confuse the effect of such actions with a selection bias by which particular groups of people are more likely to be exposed to the action under consideration. We found some evidence of this selection bias: for example, people receiving intermediate sanctions/interventions were more likely to be black and less likely to be Hispanic.

Perhaps more significantly, the incidence of sanctioning patterns was linked to varying types of supervision arrangements. For example, clients receiving any type of intervention were more likely to be on parole supervision and more likely to exhibit a more serious criminal profile. Also, as shown in Figure 21, below, clients supervised by specific field offices (North County for example) exhibited a greater likelihood of sanctions/interventions.

Figure 21: Percentage of clients given sanctions/interventions by caseload size and type[32]



Note: We omitted the four smallest caseloads (less than 34 clients each): MTDX, MTAP, MTST, MTPN.

[31] See Figure F in Appendix II.
[32] For a list of Multnomah County caseload types, see Appendix III.

Figure 22, below, lends more insight into differences between people who received intermediate sanctions/interventions and those who did not. This table presents results from significance tests, which indicate whether or not differences that exist between the two groups with respect to demographic, crime-related, and supervision-related factors are statistically significant (rather than due to chance). As shown, clients given intermediate sanctions are significantly different than those who were not with respect to a number of factors. In fact, aside from parole status and age, there were significant differences in all of the covariates examined. Results were the same when the analysis was limited to jail-based sanctions.

Figure 22: Differences in baseline characteristics by exposure to sanctions/interventions, prior to matching

	Without sanction/intervention n=2,449	**With sanction/intervention n=1,021**
Percent female*	21.7	17.3
Percent black*	14.1	24.2
Percent Hispanic*	15.9	3.3
Age at admission (mean)	33.0	32.7
Criminal history (mean)*	2.0	3.6
Percent felony offense*	79.0	90.4
Percent on parole (last status)	24.2	64.3
Supervision tenure (mean)*	34.1	44.5
Risk assessment score (mean)*	2.74	5.3

* Indicates statistical significance

Given the significance of the differences among sub-samples of clients with or without intermediate sanctions/interventions, we resolved to develop a selection model to generate comparable sets of clients with similar degrees of exposure to sanctions. Creating such matched samples could neutralize the possibility that variables influencing the selection of clients for intermediate sanctions may not be independent of the variables associated with criminal recidivism. Specifically, we used a technique called propensity score matching to create a comparison sample that includes cases that have similar statistical odds for receiving a sanction but did not receive one during the study period.[33] The differences in the treatment (with sanctions) and comparison (without sanctions) groups are presented in Figure 23.

[33] See Appendix I for a fuller description of this method.

Figure 23: Differences in baseline characteristics by exposure to sanctions/interventions, matched sample

	Without sanctions/intervention n=226	With sanctions/intervention n=226
Percent female	21.5	18.5
Percent black	21.5	19.5
Percent Hispanic	3.8	6.2
Age at admission	32.7	33.1
Criminal history (mean)	2.5	2.1
Percent felony offense	77.4	80.6
Percent on parole (last status)	31.7	30.5
Supervision tenure (mean)	34.6	35.9
Risk assessment score (mean)	3.7	3.4

* Indicates statistical significance

Using the matched sample, we examined the effect of intermediate sanctions/interventions on client performance after discharge (re-arrests and reconvictions). Results are presented in Figure 24, below.[34] The average treatment on the treated (ATT) is the difference between the probability of recidivism for those who actually received sanctions—given that these were actually given to them—and the probability of recidivism of clients who did not receive any sanction. (In other words, it allows us to compare the likelihood of failure among those who received treatment to the likelihood of failure among a comparable group of people who did not receive treatment.) Results indicate that the re-arrest rate for clients who received at least one intermediate sanction/intervention while on supervision is 20 percentage points higher than of the matched control group members. The significance and direction of the estimated relationship between sanctions/interventions and re-arrest is further confirmed by the average treatment effect (ATE), which measures the average difference in the likelihood of re-arrest between two randomly-selected individuals from the treatment and the comparison groups.

[34] Full results are presented in Figure G in Appendix II.

Figure 24: Estimates of treatment (sanction) effects using matched sample

	Re-arrest	Reconviction
Likelihood of failure by:		
Treatment (with sanctions/intervention)	39.8%	24.8%
Comparison (without sanctions/intervention)	19.9%	9.3%
Average treatment on the treated (ATT)	19.91*	15.49*
Average treatment effect (ATE)	19.24	15.04

* Indicates statistical significance

Figure 24 also shows that results for the estimation of recidivism based on reconvictions are similar to those obtained for re-arrest models. Among clients who received sanctions/interventions while on supervision, the reconviction rate was 24.8 percent at follow-up (vs. 9.3 percent of the clients not exposed to these events). On average, the rate of reconviction was 15 percentage points higher for clients who received at least one sanction or intervention while on active supervision. Results were consistent when restricting our analysis to clients who were successfully discharged from supervision regardless of their exposure to intermediate sanctions/interventions.

Figure 25: Estimates of treatment (jail) effects using matched sample

	Re-arrest	Reconviction
Likelihood of failure by:		
Treatment (with sanctions/interv)	47.37%	27.63%
Comparison (without sanctions/interv)	20.17%	11.40%
Average treatment on the treated (ATT)	27.19*	16.23*
Average treatment effect (ATE)	26.99	16.15

* Indicates statistical significance

When we supplemented our analysis of supervision processes and outcomes by focusing on the use of jail-based sanctions only, we found that clients who received jail-based sanctions while on supervision were more likely to recidivate than those who did not (see Figure 25, above).[35] Results were consistent when restricting our analysis to clients who were successfully discharged from supervision regardless of their exposure to intermediate sanctions/interventions. Our analyses presented in Figures 24 and 25 also

[35] Full results are presented in Figure H in Appendix II.

indicate that the recidivism of those receiving exclusively jail-based sanctions appears to be higher than for the more general group of clients receiving any type of sanction/intervention (comparison of ATT for re-arrest and reconviction in Figures 24 and 25).

Overall, results from the analysis of matched samples indicate that clients who received sanctions or interventions while on active supervision were more likely to recidivate after discharge from DCJ. The negative effect of sanctions/interventions is consistent across model specifications (i.e., different sets of predictors, different approaches to the matching of cases). However, while all models suggest that intermediate sanctions/interventions do influence the performance of offenders after release, different types of exposure to these events have different effects on recidivism: clients who received "jail-only" sanctions have the greatest likelihood of failure compared to other clients with different patterns of sanctioning. Clients who were given "jail + program," while still more likely to recidivate than clients who did not receive any sanctions, have a lower likelihood of failure compared to the "jail-only" sub-sample.

Discussion

Over the past decade, a number of studies have looked at whether intermediate sanctions have an effect on long-term client outcomes, particularly recidivism. While most of these focus on a specific intermediate sanction, some examine them generally. The results of these studies are mixed: some intermediate sanctions have been shown to reduce crime outcomes, some increase re-arrest rates, and others have no effect at all.

The most recent comprehensive study of this issue was a meta-analysis of "what works" in adult correctional programs that also looked at the benefits and costs of these programs.[36] The only type of intermediate sanction in this study that showed a positive effect was treatment-oriented intensive supervision programs, which yielded a 16.7 percent decrease in crime outcomes. By contrast surveillance-oriented intensive supervision programs showed no effect. Participation in adult boot camps and electronic monitoring similarly showed no statistically significant reduction in re-offense rates. For example, one of the studies on electronic monitoring was a 2000 evaluation of three Canadian programs, which found that the use of electronic monitoring was unrelated to program completion or recidivism and that it actually had a net-widening effect.[37]

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[36] Steve Aos, Marna Miller, and Elizabeth Drake, *Evidence-Based Adult Corrections Programs: What Works and What Does Not* (Olympia, WA: Washington State Institute for Public Policy, 2006); Steve Aos, Marna Miller, and Elizabeth Drake, *Evidence-Based Public Policy Options to Reduce Future Prison Construction, Criminal Justice Costs, and Crime Rates* (Olympia, WA: Washington State Institute for Public Policy, 2006).

[37] James Bonta, Suzanne Wallace-Capretta, and Jennifer Rooney, "Can Electronic Monitoring Make a Difference? An Evaluation of Three Canadian Programs" *Crime and Delinquency* 46 no. 1 (2000): 61-75.

An older, but more inclusive study analyzed results from a survey that tracked probationers during the late 1980s.[38] Ninety-one percent of the sample received at least one sanction. The author looked at the relationship between intermediate sanctions and re-arrest rates and found that, overall, 45 percent of people on probation who received any intermediate sanction were re-arrested for a felony, compared with only 37 percent of those who were not sanctioned. This difference was statistically significant. When broken down by type of sanction, alcohol treatment, psychological counseling, day reporting, and community service were all found to be associated with statistically significant reductions in re-arrest rates within three years. Intensive supervision and split sentences, however, were associated with increases in re-arrest rates. There was no statistically significant effect for drug treatment, residential placement, drug testing, house arrest, supervision fees, and victim restitution. Of those sanctions that did have a positive effect, day reporting showed the largest effect: 25 percent of those sanctioned were re-arrested compared with 43 percent for those who were not.[39]

A different study examined the impact of general probation on outcomes of a group of 126 people who began a term of probation in Virginia between 1994 and 1996.[40] Relying on both self-reports and official records, the study found that, overall, probation by itself both reduced the overall numbers of offenders committing crimes and reduced the amount of crime committed by those who continued to offend. However, an examination of the impact of probation violations found no evidence that any response by a probation officer to violations had any impact on future crime or violations.

Even more relevant to Multnomah County, a 2002 report from the Oregon Department of Corrections (DOC) examined the effectiveness of community-based sanctions in reducing recidivism.[41] The study cohort consisted of all people on probation and parole who received their first sanction in 1999, 2000, or 2001, a total of 13,219 people. All were followed for 12 months after that sanction to measure the effect of the sanction on recidivism. The study examined three kinds of recidivism—reconviction of a felony, re-sanctioning for a violation, and re-arrest for any reason—and compared outcomes for people who received a jail sanction and those who received a community-based sanction. There was no clear indication that either jail or community sanctions affected either arrest rates or re-sanctioning for a violation; however, when comparing groups of people who had the same crime type and the same risk to re-offend, for all groups, those who were given a jail sanction were reconvicted at higher levels than those

[38] Patrick A. Langan, "Between Prison and Probation: Intermediate Sanctions" *Science* 264 (1994): 791-794.
[39] Day reporting, however, was one of the least frequently given sanctions. Only 1 percent of the sample received this sanction.
[40] Doris Layton MacKenzie, Katherine Browning, Stacy B. Skroban, Douglas A. Smith, "The Impact of Probation on the Criminal Activities of Offenders," *Journal of Research in Crime and Delinquency* 36(4) (1999): 423-453.
[41] Oregon Department of Corrections, *The Effectiveness of Community-Based Sanctions in Reducing Recidivism*. (2002).

who were given a community sanction. The differences were significant for all groups except people with medium-risk person offenses and those with high- or medium-risk sex offenses. The effect of jail stay length did not matter for people with high-risk offenses, but for those with medium-risk offenses, longer jail stays corresponded with higher recidivism.

There are two problems with this group of studies. First, few of them consider jail-based sanctions as intermediate sanctions and thus ignore any possible effect, either positive or negative, that using local control as a sanction might have on outcomes. The Oregon DOC study is the only one we found that looked at jail as a sanction. The second and more serious problem is that few of these studies take into account pre-existing differences and other characteristics of people on probation that might affect both their propensity to receive a particular type of sanction and their likelihood of recidivism. Again, the only study that takes any non crime-related factor into account is the Oregon DOC study, which looks at risk scores. Our study overcomes this important limitation by generating samples of clients with relatively similar degrees of exposure to sanctions and interventions. This approach allowed us to assess the significance of these events independent of the selection process by which some clients are more likely to receive sanctions compared to others.

Despite the unique approach taken in our study, we found similar results to the one study that looked at the overall re-arrest rate. We found that 39.8 percent of people on probation who received at least one intermediate sanction were re-arrested compared with 45 percent from a previous study.[42] However, the re-arrest rate for those who did not receive a sanction is much lower in our study than in the previous study (19.9 percent compared with 37 percent).

[42] Langan, 1994.

V. Conclusion: Findings and Recommendations

Main findings

General patterns of intermediate sanctioning. Overall, we found that most people we studied did not receive any type of sanction or intervention during their tenure on supervision. Of the 7,542 people discharged in 2005, only 21.4 percent (1,617) were given at least one sanction or intervention. The percentage of clients receiving a sanction was slightly higher in Multnomah County. Of the 3,470 who were discharged in 2005, 29.4 percent (1,021) received at least one PO-based sanction or intervention.

The group of people who did receive a sanction combined for 9,531 violations overall, 6,932 in Multnomah County (resulting in 3,529 separate administrative actions). The most common condition violations for which sanctions were imposed were failure to report to PO and changing job or residence without permission. Together these were listed as the top condition violated for 39 percent of the administrative actions carried out by supervising officers.

Use of jail-based sanctions. Jail was the most frequently employed sanction across the board. Seventy-four percent of clients who received at least one sanction received at least one jail sanction (1,196 out of 1,617). In Multnomah County, this percentage was even higher: of those who received at least one sanction, 92.1 percent received a jail sanction during their tenure. While the total number of jail days given to clients who received a jail sanction varied significantly, the average number of jail days given over the course of their tenure was 63.9 jail days.

Short- and long-term outcomes of supervision and the effect of sanctions on outcomes. We found that the majority of people in our study cohort successfully completed their supervision term (59.5 percent). In Multnomah County, this percentage was significantly higher—almost 80 percent of exits in 2005. Controlling for demographic and crime related attributes, we found that clients who received any sanction or formal intervention were 44 percent more likely to have their supervision revoked than clients who did not.

We found a weak association between short- and long-term outcomes of supervision: clients who were successfully discharged from supervision were slightly less likely to be re-arrested or reconvicted at follow-up. However, this relationship was not statistically significant in most of the multivariate models. The effect of sanctions on recidivism was similar to their effect on type of discharge. Based on our matched samples, we found that intermediate sanctions/interventions had a negative effect on long-term outcomes, both re-arrest and reconviction. The re-arrest rate for clients who received at least one sanction or intervention was on average 20 percent higher than that of the matched control group who received no sanctions. Similarly, the reconviction rate for clients who received any sanction or intervention was 15 percent higher than that of the matched control group.

The negative effect of sanctions and interventions is consistent across model specifications (i.e., different sets of predictors, different approaches to the matching of cases). However, while all models suggest that intermediate sanctions and interventions do influence the performance of offenders after release, different types of exposure to these events have different effects on recidivism: clients who received "jail-only" sanctions have the greatest likelihood of failure compared to other clients with different patterns of sanctioning. Clients who were given "jail + programs," while still more likely to recidivate than clients who did not receive any sanctions, have a lower likelihood of failure compared the "jail-only" sub-sample.

Recommendations

As these findings show, most DCJ clients successfully complete their period of supervision and are not re-arrested or reconvicted after discharge. However, while Multnomah County's innovations in criminal justice have been associated with improvements in probation processes and outcomes, significant areas for potential reform remain. For instance, although the county's current three-year probation recidivism rate is slightly lower than the state average (23.4 percent compared with 24.8 percent), its use of structured intermediate sanctions appears to remain largely dependent on custodial measures. (Outcomes effects aside, it bears mentioning that this over-reliance on jail as an intermediate sanction increases pressure on county resources.) More importantly, until this study, little was known about the effect of sanctioning on jail use and short- and long-term supervision success.

Few organizations have the courage to examine their own effectiveness in such a comprehensive way, and the DCJ's willingness to conduct this study shows that it is a learning organization that is constantly seeking to improve. Based on the findings described above, we suggest a number of ways in which the Department of Community Justice can improve its supervision processes and outcomes.

Increase the use of sanctions and interventions other than jail. The structured sanctions grid should be re-examined, and officers should be re-educated in its use. Currently it does not appear that officers are using all the sanctions available. Special emphasis should be placed on using sanctions other than jail. Some officers indicated that it is not always easy to access other sanctions and interventions; therefore, a service inventory should be conducted to ascertain whether an adequate continuum of options is available. Meanwhile, some managers indicated that officers are not using the services that currently exist. During the course of this study, we heard a number of complaints and suggestions about jail alternatives from both managers and officers. These included a need for more treatment beds, both residential and out-patient, increased use of electronic monitoring, establishing a work release or restitution center in Multnomah County, and re-examining the issue of community service. Although increasing the number of slots in

other sanctions will cost money, if less money is spent on jail stays, more money could be allocated to other sanctions.

Examine how jail is used. We found that on average clients who received a jail sanction spent 63.9 days in jail over the course of their supervision tenure. Although jail might be the appropriate sanction in many cases, the number of jail bed days given warrants scrutiny. We found that the number of jail days had a negative effect on outcomes in both the short and long term. It is therefore possible that shorter jail stays might be more cost-effective. In addition, Multnomah could follow the example of other counties in Oregon and strictly regulate the number of jail beds available for use as sanctions. Umatilla County, for example, allocates a specific number of jail units to individual teams, and these jail units must be shared by all the officers on the individual team.

Educate officers. Our findings raised the possibility that sanctions other than jail are being given but not being recorded, or they are recorded in a notes field rather than the designated sanctions field. The standards for recording sanctions should be examined and made clear to all officers. The importance of entering data accurately and consistently should be emphasized, especially given that management will continue to make decisions based on the results of data analysis. Moreover, we found that a group of officers is focusing more on punishment than rehabilitation or anything else. This is consistent with a recent internal study on the extent to which staff decisions aligned with the mission of the DCJ. That study found that a significant proportion (37 percent) of DCJ staff strongly agreed that punishing offenders was one of the most important things the DCJ does.

Future study and cost-benefit analysis. At the moment, because so few clients are given sanctions or interventions other than jail, it is not possible to replicate this study and look at the specific effects of sanctions other than jail. Once the use of other sanctions and interventions is increased, however, the DCJ should examine the effect of other sanctions and interventions on outcomes. That examination should include a cost-benefit analysis that examines, in addition to immediate costs and savings of different types of sanctions, the costs and savings associated with outcomes for people who receive these sanctions. For example, if a particular type of sanction costs less money up front but increases recidivism, this may actually make the sanction more costly in the long term. The DCJ could benefit from a cost-savings analysis that takes these secondary costs and savings into account as well. Further, the DCJ and researchers should consider the viability of a study on intermediate sanctions that is based on a true experimental setting.

Appendix I: Description of Methods

Short-term outcomes: Survival analysis and Cox regression

We use a series of specific proportional hazard models in order to account for the importance of "time" in models predicting success/failure at supervision discharge. Proportional hazard models are generally designed to explicitly account for the "time at risk" of a population modeling the period elapsed between a given set of events and variations in the proportion of the population experiencing such events. This technique is based on the examination of the hazard rate or "the probability of an event occurring in time t+1, given survival to time t." Applied to the current study, this indicator measures the rate at which clients in Multnomah County experienced an unsuccessful discharge. We used a Cox regression to estimate this pattern. This approach is similar to more traditional techniques based on logistic models because both approaches examine the effect of a series of covariates affecting the probability of occurrence of a given event (i.e., demographics, crime-related factors, etc.). Unlike logistic models, Cox regressions include information on the time to this event.

Cox regression is a specific type of proportional hazard models requiring a less stringent set of assumptions than other models.[43] For example, as a type of semi-parametric model, Cox regression does not assume a given distribution of the hazard rate—instead, model estimates are empirically derived. For this reason Cox models focus on the order of events rather than the actual time of occurrence of these events. Cox models are particularly appropriate when modeling relatively rare occurrences or occurrences for which it is very difficult to associate a sample of events to a theoretical distribution of these events in a given population. However, even in these cases, model estimates assume that there are no between-individual differences in the hazard rate. There are a growing number of studies that rely on Cox regression models to study offender-based performance. For this particular study we operationalize failure as the revocation of the probation/parole grant. The hazard ratio indicates the risk for revocation for any given offender in the study sample as a function of tenure on supervision and other individual-level covariates.

Long-term outcomes: Propensity score matching

Given the impossibility of following an experimental approach to generate matched samples, we calculate a propensity score for each client reflecting the likelihood of receiving sanctions/interventions while on active supervision. These scores predict the placement of each person in the study or the comparison group using variables such as race, criminal history scores, etc. We fit a logistic model using patterns detected in Figure 22 highlighting significant differences in the two sub-samples, or the treatment and

[43] David R. Cox and David Oakes. *Analysis of Survival Data* (London : Chapman and Hall, 1984).

comparison groups (i.e., clients without sanctions/interventions vs. clients with sanctions/interventions). Next, people in the overall sample are matched on the basis of their propensity scores following different measures of "similarity." The resulting sample includes people who shared approximately the same risk of exposure to sanctions.

We tested several matching algorithms with varying assumptions about the strength and type of similarity required in order to produce a match between clients. In each case we evaluated the resulting match using a balance test—a procedure that calculates the reduction in the differences across covariates in the matched sample—as well as the number of cases dropped because no efficient match was produced. Using a nearest-neighbor matching procedure (caliper =.0001), we were able to significantly reduce the selection bias generated by demographic and crime-related variables. We restricted the matching algorithm to only consider one-to-one matches with a narrow difference in propensity scores (caliper was set at .0001). The implementation of this procedure resulted in a newly configured sample of 452 matched people.

Appendix II: Data Tables

Short-term outcomes

Figure A: Logistic models predicting unsuccessful discharges in Multnomah
N=3,058 clients

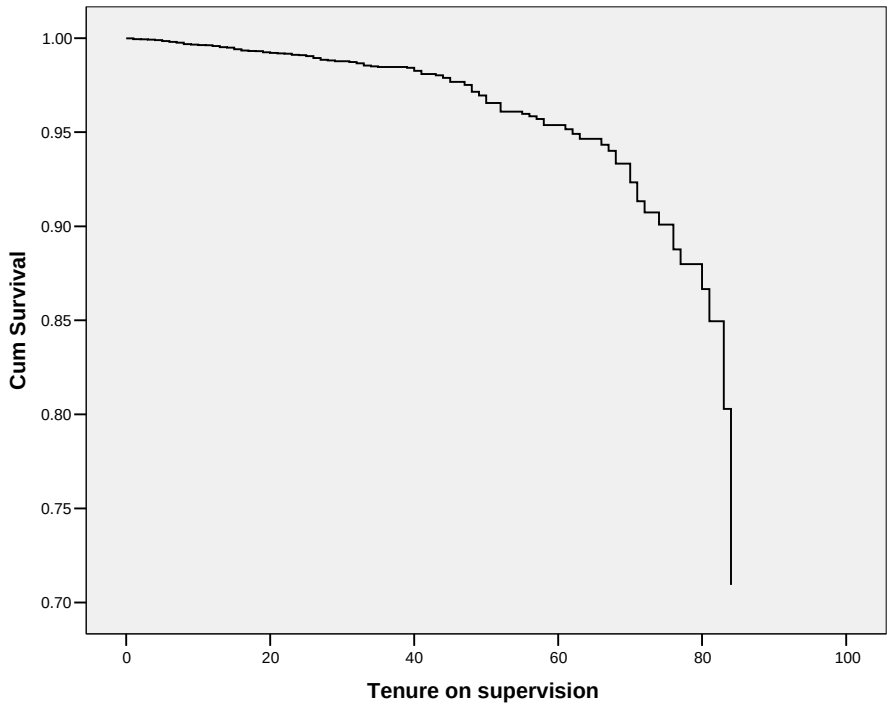
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Female[44]		.47***	.52*	.53**	.53**	.53**
Black		1.09	1.42	1.39	1.38	1.40
Hispanic		1.43*	2.09**	2.28***	2.36***	2.13**
Age (at admission)		.99	.99	.99	.99	.99
Criminal history			.92	.91	.90	.92
Felony offense			.08***	.08***	.08***	.08***
On parole (last status)			.02***	.02***	.02***	.02***
Tenure (in months)			1.03***	1.03***	1.03***	1.03***
Risk assessment score			1.17***	1.16***	1.16***	1.16**
Any sanction/interv.	.57***			1.44*		
Jail-based sanction					1.76**	
Total jail days given						1.00
Constant	.13***	.16***	.24***	.22***	.21***	.24***
Pseudo R2	.01	.02	.18	.18	.18	.18
-2 log likelihood	2003.4	1991.2	1182.5	1178.8	1174.4	1181.8
% correctly classified[45]	89.8	89.8	90.8	91.3	91.2	90.9

* p< .05 ** p <.01 *** p<.001 (two-tailed tests)

[44] The reference category for female is males, for black is non-black, and for Hispanic is non-Hispanic. These categories hold for all regressions described in this appendix.

[45] Indicators of goodness of fit for the six models are also included in Figure A. They indicate that the addition of control variables increases the predictive ability of the models, increasing the explained variation in the outcome variable (unsuccessful discharge). A series of post-estimation tests confirmed the overall goodness of fit of the models (for example, via the Hosmer-Lemeshow (2000) goodness of fit test and the visual inspection of other plots such as the area under the ROC curve).

Figure B: Survival function for Multnomah clients



Note: events censored at 84 months of supervision tenure. Mean values on all covariates (model 4).

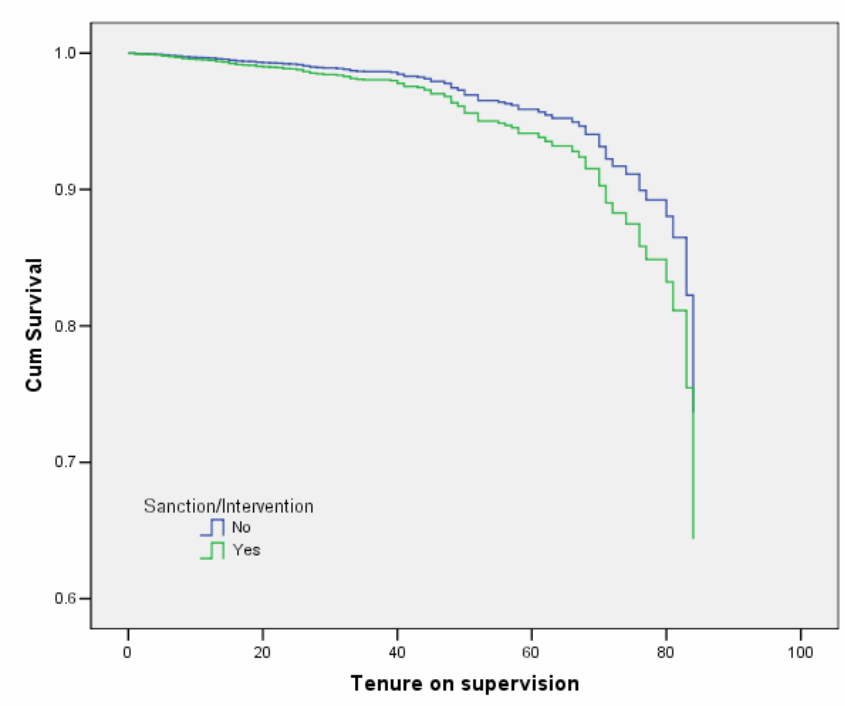
Figure C: Cox regressions predicting time to unsuccessful discharge
N=2,907 clients[46]

	Model 1	Model 2	Model 3	Model 4	Model 5
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Female		.53**	.64*	.64*	.66
Black		1.20	1.26	1.26	1.27
Hispanic		.67	.67	.67	.64
Age (at admission)		1.00	1.00	1.00	1.00
Criminal history			.96	.95	.95
Felony offense			.07***	.07***	.07***
On parole (last status)			.05***	.04***	.04***
Risk assessment score			1.13***	1.12***	1.12***
Any sanction/intervention	.64**			1.41*	
Jail-based sanction					1.78***
-2 log likelihood	2960.7	2955.4	2283.1	2278.2	2273.5
Change $\chi 2$	8.8**	13.4**	804.1***	805.9***	808.2***

* p< .05 ** p <.01 *** p<.001 (two-tailed tests)

[46] Supervision tenures varied widely in the study cohort, ranging from less than one month to 541 months. Given this highly skewed distribution, we censored the data to include only clients who were discharged prior to completing seven years of supervision time (84 months). This cut-off allows the retention of approximately 90 percent of the cases—2,761 out of the 3,058 cases in Multnomah with a successful or unsuccessful discharge. The rate of failures within the reduced sample is 7.6 percent (vs. 10.2 percent on total sample) reflecting the fact that people who ultimately failed at discharge exhibited longer tenures on supervision.

Figure D: Survival function for Multnomah clients, by exposure to sanctions/interventions



Note: events censored at 84 months of supervision tenure. Mean values on all covariates (model 4).

Long-term outcomes: Logistic regression

Figure E: Logistic models predicting re-arrest at follow-up in Multnomah
N=3,058

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Female		.76*	.92	.95	.94	.94
Black		2.32***	1.90***	1.84***	1.84***	1.84***
Hispanic		.29***	.30***	.41***	.40***	.32***
Age (at admission)		.99	.99**	.99*	.99*	.99**
Criminal history			1.09***	1.06*	1.06*	1.08***
Felony offense			.57***	.57***	.57***	.56***
On parole (last status)			1.56***	1.09	1.04	1.29*
Risk assessment score			1.09***	1.08***	1.08***	1.08***
Short-term failure			1.51*	1.38	1.33	1.50*
Any sanction/intervention	4.44***			3.17***		
Jail-based sanction					3.26***	
Total jail days given						1.01***
Constant	.20***	.44***	.41***	.28***	.31***	.40***
Pseudo R2	.09	.05	.10	.14	.14	.11
-2 log likelihood	3217.7	3368.4	3017.4	2887.9	2888.7	2981.0
% correctly classified	73.8	73.8	74.3	75.5	75.4	74.8

* p< .05 ** p <.01 *** p<.001 (two-tailed tests)

Figure F: Logistic models predicting reconviction at follow-up in Multnomah
N=3,058

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Female		.74*	.88	.92	.91	.91
Black		2.34***	1.86***	1.80**	1.80**	1.80***
Hispanic		.26***	.28***	.40**	.39**	.31***
Age (at admission)		.99	.99*	.99	.99	.99
Criminal history			1.07**	1.04	1.04	1.07*
Felony offense			.64*	.65*	.64*	.64*
On parole (last status)			1.92***	1.38*	1.31	1.54**
Risk assessment score			1.08***	1.07***	1.07***	1.08***
Short-term failure			1.62*	1.47	1.40	1.61*
Any sanction/intervention	4.67***			2.96***		
Jail-based sanction					3.14***	
Total jail days given						1.005***
Constant	.09***	.19***	.15***	.10***	.11***	.15***
Pseudo R2	.07	.03	.07	.10	.10	.09
-2 log likelihood	2320.2	2432.3	2196.5	2118.4	2112.6	2158.9
% correctly classified	85.5	85.5	84.9	84.7	84.6	85.1

* p< .05 ** p <.01 ***p<.001 (two-tailed tests)

Long-term outcomes: Propensity score matching

Figure G: Estimates of treatment (sanction) effects using matched sample

	Re-arrest	Reconviction
Cases included in the analysis	452	452
Likelihood of failure by:		
Treatment (with sanctions/interv)	39.82%	24.78%
Comparison (without sanctions/interv)	19.91%	9.29%
Average treatment on the treated (ATT)	19.91**	15.49**
Standard error	6.17	5.35
T-statistic	3.22	2.89
Average treatment effect (ATE)	19.24	15.04

Notes: Estimation uses bootstrapped standard errors (50 simulations) and is restricted to regions of common support. The matching is based on nearest-neighbor without replacement, with a caliper of (.0001).
Controls include race (black), ethnicity (Hispanic), age (years), criminal history, last offense (felony), parole status, length of supervision (tenure), and risk score.
* p< .05 ** p <.01 *** p<.001 (two-tailed tests)

Figure H: Estimates of treatment (jail) effects using matched sample

	Re-arrest	Reconviction
Cases included in the analysis	224	228
Likelihood of failure by:		
Treatment (with jail sanction)	47.36%	27.63%
Comparison (without jail sanction)	20.17%	11.40%
Average treatment on the treated (ATT)	27.19***	16.23**
Standard error	5.90	5.54
T-statistic	4.61	2.93
Average treatment effect (ATT)	26.99	16.15

Notes: Estimation uses bootstrapped standard errors (50 simulations) and is restricted to regions of common support. The matching is based on nearest-neighbor without replacement, with a caliper of (.0001).
Controls include race (black), ethnicity (Hispanic), age (years), criminal history, last offense (felony), parole status, length of supervision (tenure), and risk score.
* p< .05 ** p <.01 *** p<.001 (two-tailed tests)

Appendix III: Multnomah County Codes

MTCB: Reduced Supervision Team (Casebank)
MTGR: Gresham Office
MTDV: Domestic Violence Unit
MTCE: Central Office
MTNO: North Office
MTSW: Southwest Office
MTSX: Sex Offender Units
MTEA: East Office
MTDC: Centralized Intake (formerly Diagnostic Center)
MTDZ: High Risk Drug Unit
MTMX: Mentally Ill Offender Unit
MTFS: Family Services Unit
MTGN: Gang Unit
MTDX: DUI Unit
MTAP: African American Project Unit
MTST: Special Supervision Team (for Psychopaths)
MTPN: Peninsula Office (now defunct)