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A Note on the Effectiveness of the House-Arrest Alternative for Motivating DWI Offenders to Install Ignition Interlocks

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Abstract

Problem—The effectiveness of ignition interlocks at reducing drunk driving has been limited by the ability of driving-while-intoxicated (DWI) offenders to avoid court orders to install the devices.

Methods—In a pilot program in New Mexico, four Santa Fe County judges imposed home confinement (via electronic monitoring bracelets) on offenders who claimed to have no car or no intention to drive. Interlock installation rates for Santa Fe County were compared with all other counties in New Mexico over a 2-year program and 2-year post-program period.

Results—During the two program years, 70% of the drivers convicted of DWI in Santa Fe County installed interlocks, compared to only 17% in the other counties, but when the program was terminated, the Santa Fe installation rate fell by 18.8 percentage points.

Summary—Mandating the alternative sanction of house arrest led to the highest reported interlock installation rate for DWI offenders.

Impact on Industry—Impaired driving is a substantial expense to employers, particularly when it bars driving that interferes with employment. Interlocks provide a method of protecting the public while permitting the offender to drive sober. This study was directed at increasing interlock use by DWI offenders.

Keywords

Interlocks; DWI; Recidivism; Drunk Driving; House Arrest

INTRODUCTION

Interlocks are Effective

The effectiveness of alcohol ignition interlocks in reducing recidivism has been well-documented. Individual studies (Voas, Marques, Tippetts, & Beirness, 1999; Beck, Rauch, Baker, & Williams, 1999; Roth, Voas, & Marques, 2007a, 2007b), and a meta-analysis of 13

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studies (Willis, Lybrand, & Bellamy, 2004), reported an average 64% reduction in repeat offenses while the interlock was installed on the offenders' vehicles, an effect that was similar for first and multiple offenders.

Penetration Is Low

With the basic efficacy question answered, a practical effectiveness problem has remained—the resistance of DWI (driving-while-intoxicated) offenders to install interlocks. This has been documented in programs that allow suspended DWI offenders to install interlocks for some portion of their suspension period when they otherwise could not drive legally. Characteristically, these discretionary programs attract only about 10% of arrested offenders (DeYoung, 2002; Voas & Marques, 2003). Until a majority of DWI offenders in a jurisdiction install interlocks, their impact on highway safety will be limited.

Given the efficacy of the interlock, there has been considerable interest in raising the penetration of the devices with DWI offenders to improve road safety. A legislative approach to this goal has been enactment of laws that make interlocks mandatory as a condition of probation for convicted DWI offenders. Potentially, a court mandate to install an interlock would ensure an offender's compliance because failure to do so would subject the offender to additional court sanctions, including jail time. However, most mandatory laws have loopholes. Even in New Mexico where the interlock laws are very strong, offenders can avoid installing interlocks by claiming not to have a vehicle or by simply stating they will not drive their vehicle during the license suspension period. An offender's resistance to an interlock may also play a role in plea-bargaining and sentence negotiations, which may lead to avoidance of an interlock (Voas & Marques, 2003). Consequently, the proportion of interlock offenders who actually drive under an interlock restriction is much lower than the number convicted of DWI. In the United States, the rate of interlock penetration is barely 10%-15% of the 1.4 million drivers arrested for DWI each year.

Impact of a More Severe Alternative

Through the late 1990s and early 2000s, Judge Richard Culver of Hancock County, Indiana, closed the interlock loophole by adopting the policy that the alternative to installation of an interlock would be electronically monitored home confinement (e.g., house arrest). In a study of a small sample of offenders, researchers found that this more restrictive and much less appealing alternative sanction resulted in 62% of convicted offenders installing interlocks (Voas, Blackman, Tippetts, & Marques, 2002). This installation rate, in turn, led to a 40% reduction in first-offender DWI recidivism for Hancock County, and a 22% reduction in multiple-offender rearrests, compared to six adjacent suburban/rural counties. This study was the first to document a jurisdiction-level reduction in repeat DWI offenses because of a judicial practice that made interlocks the more appealing of two alternatives.

An interlock program initiated in 2003 in Santa Fe County, New Mexico, provided an opportunity to replicate the Indiana study with a much larger sample of offenders. All three judges of the Santa Fe County Magistrate Court and the judge of the Santa Fe City Municipal Court adopted the policy of making electronically monitored house arrest the alternative to installing the interlock for two years (between 2003 and 2005). This provided an opportunity to replicate the Hancock County study by determining whether the use of the less desirable home-confinement sanction would produce an increase in the rate of interlocks installed in Santa Fe County compared to other counties in New Mexico, none of which adopted the house-arrest alternative.

The judges not only mandated interlocks for all convicted multiple offenders and first aggravated¹ DWI offenders, as required by the New Mexico Mandatory Interlock Law, but

also required the interlock for nonaggravated first offenders (an option in the law at that time). In addition, they required house arrest as an alternative for all offenders who claimed either not to have a vehicle or to have given up driving. The house-arrest alternative was dropped at the end of the 2-year period when a state court ruled against substituting a general sanction (e.g., jail or house arrest) for the interlock sanction that was specified in the law. This interruption in the program provided an opportunity to determine the installation rate in the absence of the house-arrest alternative.

METHOD

Research Design

Interlock installation rates were calculated to compare Santa Fe County with all other counties in New Mexico for the two years (June 1, 2003, to May 31, 2005) while the house-arrest policy was in place in Santa Fe County and for the two years (January 2006 to December 2007) following termination of the policy. All New Mexico courts were operating under the same mandatory interlock laws and the same discretionary law for nonaggravated first-time offenders during the first period from June 2003 to May 2005. Aside from the Santa Fe policy of requiring the house-arrest alternative for all DWI offenders, the only other variation from statewide practice during the 2003-2005 period was requiring interlocks for nonaggravated first offenders. In the 2006-2007 period, after dropping the house-arrest program, a new state law was in place mandating interlocks for all first offenders, not just those committing an aggravated offense.

Subjects

To account for the 2003-2004 difference between Santa Fe County and other New Mexico counties in the application of the interlock to first offenders, we divided first offenders into several subgroups for comparisons between counties. We compared five subgroups of first offenders across counties: (a) nonaggravated with a BAC <0.16, (b) aggravated with a BAC \geq 0.16, (c) aggravated offenders who refused to give a breath sample, (d) all aggravated first offenders, and (e) all first offenders. In addition, DWI offenders with second, third, and fourth or more offenses were compared across counties.

Installation Rates

The number of DWI convictions during the 2003-2005 study period in each of those conviction categories in Santa Fe, six other large counties, and all other counties combined are shown in Table 1. To cover both interlocks installed in anticipation of a conviction and those installed as a result of a conviction, we included all installations between arrest and one year after conviction². Those interlock installations are shown in Table 2.

RESULTS

Based on the convictions in Table 1 and the installations in Table 2, installation rates were calculated and displayed in Table 3 for the 2-year period when the house-arrest alternative was being applied in Santa Fe.

Table 4 shows the rates in the 2006-2007 period when the New Mexico law mandated interlocks for all convicted offenders and the house-arrest alternative was no longer being applied in Santa

¹In New Mexico, a DWI is "aggravated" if the offender blows a BAC of 0.16% or higher, refuses to give a breath sample, or is in a crash with a serious injury. So "nonaggravated" means an offender with a measured BAC <0.16%.

²Those who install interlocks before conviction have two benefits. They can drive legally, and they appear remorseful before the judge.

Fe County. The rates in Santa Fe decreased, and the rates in all other counties, except San Miguel, increased.

Table 5 shows the overall installation rates for each county in each period and the change in installation rates. All of the changes from the 2003-2005 period to the 2006-2007 period showed positive and significant increases ($p < 0.001$), except for Santa Fe and San Miguel. Santa Fe showed an 18.8 percentage point decrease ($p < 0.0001$) when the judges stopped using the house-arrest option. San Miguel was an anomaly as the only county that had not been using the house-arrest alternative but still showed a 8.8 percentage point decrease ($p < 0.01$) when interlocks became mandatory for first nonaggravated offenders. This decrease was mainly due to the surprising 31.2 percentage point decrease in the county's interlock installation rate for subsequent offenders (from 59.3% to 28.1%). Figure 1 shows the overall installation rates for each county in each period.

While judges were mandating house arrest for offenders who claimed “no car” or “not driving,” Santa Fe County accounted for 1,870 of the 22,395 DWI arrests and 8.4% of the DWI convictions in New Mexico (Table 1) and enlisted 1,304 of the 4,740 or 27.5% of all the state DWI offenders who installed interlocks (Table 2). As shown in Table 3, Santa Fe produced a 69.7% overall installation rate compared to the 21.2% statewide rate. The Santa Fe rate was 60.6% for first offenders, 85.3% for second offenders, and 97.1% for third offenders. Santa Fe County had a significantly higher installation rate, $p < 0.01$, for every DWI conviction group than the other large counties and for the state as a whole. Only in San Miguel County did offenders with four or more convictions exceed the Santa Fe installation rate.

An additional test of the impact of the house-arrest alternative became available when a state court ruling rejected the use of that alternative. Santa Fe was the only county with such a program in place. As shown in Table 5, in the two years following the program's termination, the interlock installation rate declined 18.8 percentage points ($p < 0.0001$). In contrast, all but one of the comparison counties *increased* significantly. Since 2005, a new state law required interlocks for first offenders with low (< 0.16) and high (≥ 0.16) BACs (a policy already in place in Santa Fe as shown in Table 3).

Figure 1 summarizes the overall installation rates during and after the period when Santa Fe County was the only county using a house-arrest alternative to interlocks and mandating interlocks for all first offenders. After the new law mandated interlocks for all convicted offenders, installation rates increased significantly ($p < 0.0001$) in all counties except San Miguel and Santa Fe. The highly significant ($p < 0.0001$) decrease in installations in Santa Fe County reflected the elimination of the house-arrest option. The 8.8% percentage point decrease in San Miguel County was an anomaly, possibly due to the large decrease in the installation rate for subsequent offenders as indicated above.

DISCUSSION

The results of this Santa Fe County study provide evidence that motivating interlock installation by providing a less desirable alternative to the interlock can substantially increase the number of DWI offenders who install interlocks. This result confirms the earlier Hancock County study and adds to the confidence that providing a less desirable alternative to the interlock is an effective method for increasing the number of DWI offenders who install interlocks. This should inform safety advocates and legislators searching for methods to increase the overall effectiveness of interlock programs. The percentage of DWI offenders installing interlocks is limited by the ability of offenders to avoid interlocks by claiming not to have a car despite having access to vehicles registered in the names of family members or employers. Research has shown that offenders not in interlock programs have higher recidivism rates than offenders

who accept the interlock. Currently, offenders not on the interlock save about \$1,000 per year by avoiding the interlock fee. The cost-saving benefit perceived by offenders needs to be counterbalanced by at least an equivalent sanction. Courts should have the power to impose alternative sanctions, as was done in Santa Fe.

The findings of this study are limited by the inability to assign offenders at random to the house-arrest and no-house-arrest alternative. It leaves open the issue of whether offenders in Santa Fe County differed in ways not measured in the study that resulted in their higher installation rates. Although the installation rates in Santa Fe were higher than in nearly all other counties, the fact that installations in one much smaller county (San Miguel) on the border of Santa Fe County, which did not use house arrest, approached those of Santa Fe County indicates that some other unmeasured factor may have influenced installation rates. On the other hand, the fact that Santa Fe County's installation rate declined when the house-arrest policy was abandoned supports the hypothesis that the house-arrest alternative was motivating the higher installation rate.

Evidence that a less-desirable alternative sanction increases participation in interlock programs supports the current trend in state laws requiring a period on the interlock as a prerequisite for reinstatement. These laws provide an alternative to the interlock that would be expected to be a less desirable choice, namely, to continue to be suspended and never be able to drive legally in the future. Other possible alternatives to the interlock for those who claim to have no car or to not drive include a fee for the enhanced supervised probation required to ensure they are not driving that would be equivalent to or greater than the cost of an interlock or for participation in a sobriety-monitoring program, such as the one using the Secure, Continuous, Remote Alcohol Monitoring (SCRAM) device. The interlock should be appealing to judges, legislators, and safety advocates because it has been shown to be more effective than license suspension in reducing recidivism. It is also less likely to affect the family's economic status because it allows the offender and other family members to use an interlock-equipped vehicle for employment and other transportation needs. Despite this, DWI offenders clearly perceive the interlock differently. In addition to the approximately \$1,000 annual cost of the program, offenders probably view use of the unit as an embarrassment and as an interference to their drinking choices and freedom. This has been demonstrated by numerous studies that show resistance by multiple offenders to installing an interlock. A more controlling or less desirable alternative appears to be an effective way to increase the use of this effective method for controlling the impaired driving of DWI offenders.

Impact on Industry

Impaired driving is a substantial expense to employers, particularly when it bars driving that interferes with employment. Interlocks provide a method of protecting the public while permitting the offender to drive sober. This study was directed at increasing interlock use by DWI offenders.

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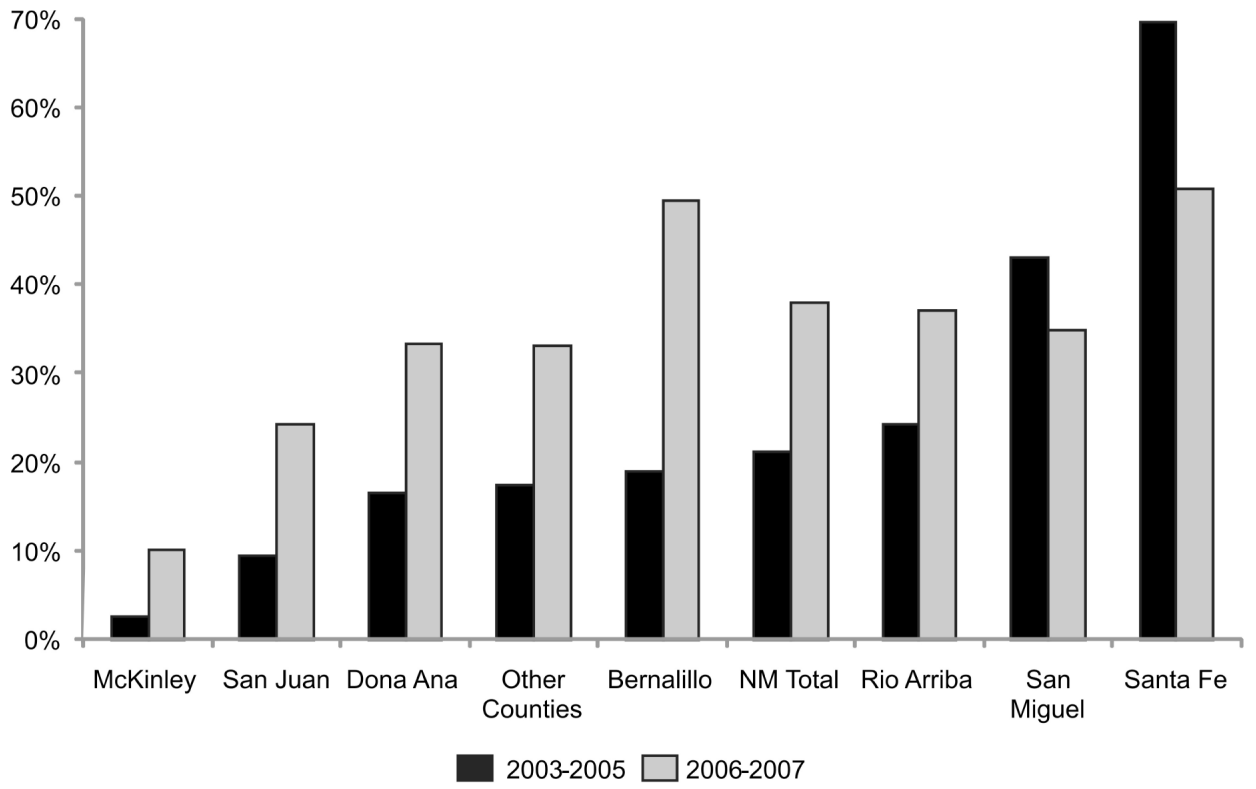


Figure 1.
Installation Rate During and After House-Arrest Alternative in Santa Fe County

New Mexico DWI Convictions, June 1, 2003, to May 31, 2005

Table 1

Conviction Group	Bernalillo	Dona Ana	McKinley	Rio Arriba	San Juan	San Miguel	Santa Fe	Other Counties	New Mexico Total
1 st BAC<0.16	2,312	613	213	92	565	111	555	1,985	6,446
1 st BAC≥0.16	1,480	556	357	81	511	111	401	1,491	4,988
1 st refused	474	155	88	25	148	27	123	584	1,624
1 st aggravated	1,954	711	445	106	659	138	524	2,075	6,612
All 1 st offenses	4,266	1,324	658	198	1,224	249	1,079	4,060	13,058
2 nd offense	1,172	472	366	112	652	151	415	1,599	4,939
3 rd offense	511	217	173	64	352	77	205	798	2,397
4+ offense	419	142	211	52	338	101	171	567	2,001
County Total	6,368	2,155	1,408	426	2,566	578	1,870	7,024	22,395

New Mexico Interlock Installations, June 1, 2003-May 31, 2005

Table 2

Conviction Group	Bernalillo	Dona Ana	McKinley	Rio Arriba	San Juan	San Miguel	Santa Fe	Other Counties	New Mexico Total
1 st BAC<0.16	181	30	2	8	12	13	313	145	704
1 st BAC≥0.16	131	85	4	13	50	31	254	216	784
1 st Refused	103	34	5	6	17	10	87	103	365
1 st Aggravated	234	119	9	19	67	41	341	319	1,149
All 1 st offenses	415	149	11	27	79	54	654	464	1,853
2 nd offense	485	139	6	39	92	83	354	457	1,655
3 rd offense	201	53	7	18	54	52	199	179	763
4+ offense	116	18	14	20	21	60	97	123	469
County Total	1,217	359	38	104	246	249	1,304	1,223	4,740

Table 3
Interlock Installation Rates in New Mexico Counties, June 1, 2003-May 31, 2005

Conviction Group	Bernalillo	Dona Ana	McKinley	Rio Arriba	San Juan	San Miguel	Santa Fe	Other Counties	New Mexico Total
1 st BAC<0.16	7.8%	4.9%	0.9%	8.7%	2.1%	11.7%	56.4%	7.3%	10.9%
1 st BAC≥0.16	8.9%	15.3%	1.1%	16.0%	9.8%	27.9%	63.3%	14.5%	15.7%
1 st Refused	21.7%	21.9%	5.7%	24.0%	11.5%	37.0%	70.7%	17.6%	22.5%
1 st Aggravated	12.0%	16.7%	2.0%	17.9%	10.2%	29.7%	65.1%	15.4%	17.4%
All 1 st offenses	9.7%	11.3%	1.7%	13.6%	6.5%	21.7%	60.6%	11.4%	14.2%
2 nd offense	41.4%	29.4%	1.6%	34.8%	14.1%	55.0%	85.3%	28.6%	33.5%
3 rd offense	39.3%	24.4%	4.0%	28.1%	15.3%	67.5%	97.1%	22.4%	31.8%
4+ offense	27.7%	12.7%	6.6%	38.5%	6.2%	59.4%	56.7%	21.7%	23.4%
County Total	19.1%	16.7%	2.7%	24.4%	9.6%	43.1%	69.7%	17.4%	21.2%

Table 4

Interlock Installation Rates in New Mexico Counties in 2006-2007

Conviction Group	Bernalillo	Dona Ana	McKinley	Rio Arriba	San Juan	San Miguel	Santa Fe	Other Counties	New Mexico Total
All 1 st offenses	52.0%	35.3%	11.9%	39.8%	28.0%	43.7%	52.8%	36.2%	41.7%
2 nd offense	51.3%	33.8%	11.7%	34.2%	26.7%	40.7%	54.1%	32.8%	38.7%
3 rd offense	40.2%	31.2%	9.1%	37.8%	24.2%	21.7%	50.9%	30.7%	32.4%
4+ offense	27.0%	17.9%	3.4%	28.3%	9.2%	15.0%	32.1%	16.9%	17.6%
County Total	49.7%	33.4%	10.3%	37.2%	24.3%	34.9%	50.9%	33.2%	38.1%

Table 5

Overall Installation Rates in Two 2-Year Periods

County	2003-2005	2006-2007	Change
Bernalillo	19.1%	49.7%	30.6% (p<.0001)
Dona Ana	16.7%	33.4%	16.8% (p<.0001)
McKinley	2.7%	10.3%	7.6% (p<.0001)
Rio Arriba	24.4%	37.2%	12.8% (p<.0001)
San Juan	9.6%	24.3%	14.7% (p<.0001)
San Miguel	43.1%	34.9%	-8.2% (p<.01)
Santa Fe	69.7%	50.9%	-18.8% (p<.0001)
Other Counties	17.4%	33.2%	15.8% (p<.0001)
New Mexico Total	21.2%	38.1%	16.9% (p<.0001)