An Examination of the Effectiveness of Child Endangerment Laws in Preventing Child Fatalities in Alcohol-Involved Motor Vehicle Crashes

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ABSTRACT. Objective: The aim of this study was to assess the impact of U.S. child-endangerment laws on the prevalence of child passengers fatally injured in motor vehicle crashes in which the adult driver was drinking. **Method:** We used data from the 2002–2012 Fatality Analysis Reporting System. We conducted both bivariate and multivariate analyses using Heckman selection models. **Results:** After adjusting for several cofactors, including driver demographics and blood alcohol concentration, child seat positioning, and seat belt laws, we found that passing a DUI child-endangerment law may have no impact at all on the likelihood

of finding impaired drivers among those driving with children. **Conclusions:** There are a number of reasons why DUI child-endangerment laws have not been effective in saving the lives of young passengers who are driven by adult drinking drivers. These reasons include lack of publicity and education, as well as issues related to enforcement. Potential solutions are suggested that include examining sanctions and strengthening of DUI child endangerment laws. (*J. Stud. Alcohol Drugs*, 77, 828–833, 2016)

ALMOST 200 CHILD PASSENGERS WILL DIE this year in motor vehicle crashes in which their driver, old enough to be their parent, is alcohol impaired. This number has not changed for almost 20 years. Quinlan and colleagues (2000) reported that, from 1985 to 1996, approximately 198 child passenger deaths occurred each year when a drinking adult was transporting a child. Years later, both Kelley-Baker and Romano (2014) and Quinlan et al. (2014) found that, in the last decade, between 2001 and 2012, 177 children died each year as passengers of drinking adults. These rates are unexpected given that, overall, deaths related to alcohol-impaired driving have declined during the past decade (Kelley-Baker & Romano, 2014). Further, with vehicle safety technology advances and child seat and restraint improvements, one would expect significant reductions.

Child endangerment laws (CELs) are intended to protect children from those who would physically or emotionally abuse them, as well as those who victimize children by putting them in the way of harm. Driving impaired and/or recklessly with a child in the car falls under this definition, and, within the past decade, CELs have become a new component in protecting underage passengers. Yet 9 of 51 U.S. jurisdictions have not enacted policies protecting young passengers

from their drinking drivers. Further, within the 42 U.S. jurisdictions that have driving-under-the-influence (DUI) child-endangerment laws, the policies vary significantly in type and strength.

The limited reduction in child passenger fatalities by adult drinking drivers inspired our research group to examine U.S. child endangerment policies and assess their effectiveness. Specifically, we examined whether driving-under-the-influence child-endangerment laws (DUI-CELs) affect the prevalence of fatally injured child passengers in motor vehicle crashes with an alcohol-impaired adult driver.

Method

Data

For this study, we analyzed crash data from the Fatality Analysis Reporting System (FARS), a census of all crashes on U.S. public roads that result in a death within 30 days (National Highway Traffic and Safety Administration, 2015). FARS contains an estimate of the blood alcohol concentration (BAC) of every driver involved in a fatal crash, either an actual measurement or an imputed value based on other crash factors (Subramanian, 2002). Information available from FARS includes driver demographics, use of seat belt, number of passengers, and other information relevant to the crash (e.g., speeding). We examined crashes occurring between 2002 and 2012 (the most recent year available in the FARS database at the time this study was conducted). By excluding earlier crashes, we attempted to minimize the impact that vehicle safety technology improvements may

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have had on the outcome measures. We discarded fatalities with mentally challenged drivers; death by non-driving condition; driving a bus, snowmobile, or farm tractor; police chases; and nonmoving traffic violations. We also eliminated fatalities with an unknown age of passenger.

The concept for enacting DUI-CELS is to protect children from being driven by drinking adults, as specified by many states that even impose specific age gaps between the children and the driver (Thomas et al., 2014). This way, DUI-CELS implicitly recognize the different risk causations that take place when teenagers are driven by drinking adults or by drinking peers. To better capture the spirit of DUI-CELS, we discarded crashes with drivers younger than 21 years, thus discarding crashes in which teenagers were driven by drinking peers.

To identify DUI-CELS, we performed original legal research via the online legal research tool Westlaw. The data set includes statutes that specifically criminalize operation of a motor vehicle by a driver under the influence of alcohol and with a child passenger. Statutes with general language that might be interpreted to prosecute a driver under these conditions were not included. A detailed description of the legal data collection process, as well as characteristics of DUI-CELS in each jurisdiction, appears in Thomas et al. (2014). As of 2012, 41 states and the District of Columbia had a DUI-CEL in place, compared with 29 in 2002. Among jurisdictions with a DUI-CEL, 25 specify a maximum age for children to be covered by the law, with ages ranging from 11 to 18 years—the most common being 15 and 17 years. Nine jurisdictions also required drivers to be of a minimum age, usually between 18 and 22 years. Two jurisdictions required a 3-year gap in age between the passenger and driver, and one also required the driver to be the child's parent or custodian for the DUI-CEL to apply.

Measures

Three groups of jurisdictions were identified and compared, including those (a) with a DUI-CEL in place for the entire study period, (b) that implemented a DUI-CEL between 2002 and 2012, and (c) that never passed a DUI-CEL.

Three criteria for identifying child passengers were used. The first looked at all children ages 18 years and younger. To further exclude children-drivers as peers, we also examined the impact of DUI-CELS on children ages 14 years and younger. In addition, we examined the impact of the law only on children of ages covered by the DUI-CEL. For example, in jurisdictions in which DUI-CELS apply only to children age 12 years and younger, the counts for those jurisdictions' fatally injured children only covered those analyses. Analyses based on this third criterion were not possible in the nine jurisdictions that have never passed a DUI-CEL. For the jurisdictions that passed a DUI-CEL between 2002 and 2012, however, we were able to make pre-policy versus post-policy

implications by extending this criterion to crashes occurring before the DUI-CEL was in place.

The Insurance Institute for Highway Safety (IIHS) provides detailed information about the type of safety belt laws implemented by each state (IIHS, 2015). From this source and for each year in the file, we assessed whether the state had a primary law, a secondary law, or no seat belt law in place, and used this variable to adjust the estimates of DUI-CEL effect.

The child passenger's position in the vehicle at the time of the crash was also included, indicated as either seated in the front row or in the second or further rows.

The impact of DUI-CELS was adjusted by the driver's age, gender, and race/ethnicity. We identified drivers at different BAC levels and/or speeding at the time of the crash. In 1982, only 54% of the drivers in FARS were tested, but in 2002, that figure climbed to 65% (Hedlund et al., 2004), remaining around that level since then. For those with no actual measure available, FARS provides imputed BAC measures developed using a multiple imputation technique by Subramanian (2002). When the driver was not tested for alcohol, we used the imputed measure. We also included a (1 = yes, 0 = no) explanatory variable indicating whether the driver had a previous DUI citation. We grouped crashes into the following categories: 6:00 A.M. to 9:59 A.M., 10:00 A.M. to 04:59 P.M., 5:00 P.M. to 7:59 P.M., and 8:00 P.M. to 5:59 A.M., and we grouped weekday and weekend crashes (with weekdays defined as between 9:00 P.M. on Sunday and 8:59 P.M. on Friday, and weekends defined as between 9:00 P.M. on Friday and 8:59 P.M. on Sunday).

Analytical models

We conducted the following gradual analytical strategy. First, we estimated the percentage of child passengers in jurisdictions that never implemented a DUI-CEL compared with those that did implement the law by examining 95% confidence intervals.

Next, and to account for possible confounders, we applied Heckman selection analysis (Heckman, 1979) to the 13 jurisdictions in which a DUI-CEL was enacted. Specifically, we used the selection model to take into account that passengers were present only in a subset of crashes ($n = 14,475$) and estimate the likelihood that (a) there was a child in a crash, and (b) the driver of the child was at a BAC of .08 g/dl or more. For the selection model, the dependent variable was a variable denoting passenger presence (1 = yes, 0 = no). For the models of interest, we used a variable indicating whether the passenger was a child (Table 2) and whether the passenger was a child riding with a driver at a BAC of .08 g/dl or more (Table 3). In each examination, we fitted three different models, each applying one of the three criteria for identifying children discussed above. To account for state-based enforcement and policy variations, in all models we included

TABLE 1. Percentage of fatally injured passengers who were children and percentage of fatally injured children driven by an individual with a blood alcohol concentration (BAC) of .08 g/dl or more at the time of the crash, in jurisdictions that never enacted a DUI-CEL, and in jurisdictions that have enacted a DUI-CEL (separately before and after implementation) by three different criteria to identify children

Variable	Criterion used to define children	Never had a DUI child endangerment law <i>n</i> or % [95% CI]	Before the DUI child endangerment law <i>n</i> or % [95% CI]	After the DUI child endangerment law <i>n</i> or % [95% CI]
No. of children		8,555	11,025	64,778
Percentage of fatally injured passengers who were children	Age ≤ 14 years	15.3% [14.5%, 16.1%]	12.2% [11.6%, 12.8%]	13.3% [13.0%, 13.6%]
	Age ≤ 18 years	29.1% [28.2%, 30.1%]	28.2% [27.3%, 29.0%]	27.2% [26.9%, 27.6%]
	Ages covered by DUI-CEL ^a	—	18.5% [17.8%, 19.3%]	15.7% [15.4%, 16.0%]
Percentage of fatally injured children driven by a driver with a BAC ≥ .08 g/dl at the time of the crash	Age ≤ 14 years	1,308	1,342	8,615
		10.7% [9.1%, 12.5%]	11.2% [9.5%, 13.0%]	10.2% [9.5%, 10.8%]
	Age ≤ 18 years	2,492	3,107	17,626
		15.5% [14.1%, 16.9%]	16.8% [15.5%, 18.2%]	15.2% [14.7%, 15.7%]
	Ages covered by DUI-CEL ^a	—	2,043	10,151
			12.8% [11.4%, 14.3%]	11.7% [11.1%, 12.3%]

Notes: Source: 2002–2012 Fatality Analysis Reporting System. DUI-CEL = driving-under-the-influence child-endangerment law; CI = confidence interval. Percentage of fatally injured passengers who were children is based on all fatally injured passengers in the file. Percentage of fatally injured children driven by an individual with a BAC of .08 g/dl or more at the time of the crash is based only on passengers who were children. Thus, there were 8,615 children ages 0–14 years fatally injured in jurisdictions with a DUI-CEL^a in place; they constitute 13.3% of all passengers fatally injured in those jurisdictions as indicated in the second row. ^a“Ages covered by DUI-CEL” focuses on children of ages covered by the DUI-CEL, which varies from jurisdiction to jurisdiction. For this outcome measure, the number of child fatalities and BAC ≥ .08 g/dl drivers counted before the policy was in place was based on children of the same age groups covered by the DUI-CEL after it was enacted.

“state” as an independent variable. In all our analyses we applied imputation-adjusted procedures to account for 10 BAC imputations per driver present in the FARS (Subramanian, 2002). We used Stata Version 11 (StataCorp LP, College Station, TX) for these analyses.

Results

Twenty-nine jurisdictions had DUI-CELS in place over the study’s 11-year period. Another 13 implemented the law during these years, and 9 had not passed a DUI-CEL. Table 1 shows the percentage of fatally injured child passengers in jurisdictions that never enacted a DUI-CEL and jurisdictions with the law in place, showing the percentage both before and after the law was implemented. In jurisdictions implementing a DUI-CEL, the percentage of fatally injured child passengers age 18 years and younger did not differ statistically before and after the law’s passage. However, when only considering children of ages covered by the law, the prevalence of those children among fatally injured passengers was significantly lower after the DUI-CEL was in place. Table 1 also shows the percentage of fatally injured children with a driver at a BAC of .08 g/dl or more. No statistically significant association between these percentages and the passing of a DUI-CEL was detected.

Tables 2 and 3 show the outcome of adjusting such associations by other relevant cofactors. Table 2 focuses on the likelihood that the fatally injured passenger was a child, and Table 3 that the driver was at a BAC of .08 g/dl or more.

The results appearing in the first data column in Table 2 correspond to the selection model, which estimates the likelihood that a passenger was present at the time of the crash. The results reproduce well-known gender and time

patterns of travel. Female drivers are more likely than males to drive with a passenger. Asian, Black/African American, Hispanic, or Native American drivers are more likely than White drivers to carpool, a finding that confirms previous reports in the literature (Chatman & Klein, 2009; McKenzie & Rapino, 2009). Legally intoxicated drivers (BAC ≥ .08 g/dl), particularly males, are more likely to drive alone than with passengers, as shown in the literature (Romano et al., 2012). The likelihood of finding a passenger in a fatal crash was higher on weekends than on weekdays. Overall, passengers were less likely to be found between 6:00 A.M. and 10:00 A.M. than any other time of day.

The remaining data columns in Table 2 focus on policy impact for the different definitions of child we used. Overall, the variables influencing the likelihood of finding a passenger in a car also affected the likelihood that the passenger was a child. Children were more likely to be driven by female drivers, ages 30–39 years, during the day, particularly by drivers who were not impaired (BAC < .08 g/dl). Also, most of the drivers ages 30–39 years with child passengers were not only less likely to drive at a BAC of .08 g/dl or more but also less likely to have been speeding. The place in which children were seated (first row vs. second and further rows) also explained a large portion of the outcome. Interestingly, Table 2 shows that, once all cofactors of interest were added to the model, the impact of the DUI-CEL on reducing the likelihood of finding children among fatally injured passengers was no longer statistically significant.

Table 3 focuses on child fatalities with a driver at a BAC of .08 g/dl or more and shows that, regardless of the definition of *children*, drivers showing a tendency to drink and drive in the past also tend to drive impaired even when driving with children. Table 3 also shows that the passing

TABLE 2. Outcome of Heckman selection model predicting the likelihood that the fatally injured passenger was a child, years 2002–2012, by three different criteria to identify children (Full model)

Variable	Selection equation		Model equations					
	Passenger in a car (vs. driver only)		Passenger age ≤18 years (vs. passenger age ≥19)		Passenger ages ≤14 years (vs. passenger age ≥15)		Ages covered by DUI-CEL (vs. all other passengers)	
	Coeff.	[95% CI]	Coeff.	[95% CI]	Coeff.	[95% CI]	Coeff.	[95% CI]
Post DUI-CEL			0.000	[-0.024, 0.024]	0.001	[-0.021, 0.023]	0.003	[-0.020, 0.025]
Ref.: Pre-Post DUI								
Secondary seat belt law			-0.032	[-0.187, 0.124]	-0.064	[-0.208, 0.079]	-0.040	[-0.186, 0.106]
Primary seat belt law			-0.021	[-0.177, 0.136]	-0.061	[-0.205, 0.084]	-0.033	[-0.179, 0.114]
Ref.: No seat belt law								
Seat Position: Second+ row			-0.247	[-0.263, -0.231]	-0.222	[-0.237, -0.207]	-0.230	[-0.246, -0.215]
Ref.: First row								
Driver at BAC ≥ .08	-0.353	[-0.380, -0.326]	-0.327	[-0.598, -0.057]	-0.294	[-0.543, -0.044]	-0.305	[-0.558, -0.052]
Ref.: Driver at BAC < .08								
Driver speeding			-0.019	[-0.037, 0.000]	-0.030	[-0.047, -0.013]	-0.025	[-0.042, -0.007]
Ref.: Driver not speeding								
Driver female	0.251	[0.227, 0.275]	0.308	[0.119, 0.496]	0.296	[0.122, 0.470]	0.296	[0.120, 0.472]
Ref.: Driver male								
Driver age								
21–24 years			-0.030	[-0.055, -0.005]	-0.094	[-0.117, -0.071]	-0.083	[-0.106, -0.060]
25–29 years			-0.024	[-0.050, 0.002]	-0.024	[-0.048, 0.000]	-0.028	[-0.052, -0.004]
40–49 years			-0.089	[-0.115, -0.064]	-0.096	[-0.120, -0.073]	-0.097	[-0.121, -0.073]
50–59 years			-0.203	[-0.231, -0.175]	-0.184	[-0.210, -0.158]	-0.196	[-0.223, -0.170]
≥60 years			-0.236	[-0.261, -0.211]	-0.210	[-0.233, -0.187]	-0.226	[-0.249, -0.202]
Ref.: 30–39								
Driver race/ethnicity								
Asian	0.571	[0.488, 0.654]	0.334	[-0.085, 0.753]	0.309	[-0.078, 0.696]	0.299	[-0.093, 0.691]
Black/African American	0.191	[0.155, 0.227]	0.159	[0.011, 0.308]	0.158	[0.021, 0.295]	0.158	[0.019, 0.297]
Hispanic	0.460	[0.427, 0.493]	0.344	[0.003, 0.685]	0.311	[-0.003, 0.626]	0.313	[-0.006, 0.632]
Native American	0.584	[0.507, 0.661]	0.437	[0.002, 0.871]	0.391	[-0.010, 0.792]	0.406	[-0.001, 0.812]
Ref.: White								
Time of crash								
6:00 A.M. to 10:00 A.M.	-0.238	[-0.273, -0.203]	-0.164	[-0.347, 0.019]	-0.150	[-0.319, 0.019]	-0.156	[-0.327, 0.016]
5:00 P.M. to 8:00 P.M.	0.001	[-0.031, 0.033]	-0.001	[-0.033, 0.032]	-0.009	[-0.039, 0.021]	-0.004	[-0.035, 0.026]
8:00 P.M. to 6:00 A.M.	-0.016	[-0.044, 0.012]	-0.064	[-0.095, -0.033]	-0.076	[-0.105, -0.047]	-0.076	[-0.105, -0.047]
Ref.: 10:00 A.M. to 5:00 P.M.								
Weekend	0.231	[0.208, 0.253]	0.164	[-0.010, 0.338]	0.147	[-0.014, 0.307]	0.149	[-0.014, 0.312]
Ref.: Weekday								
Year			-0.003	[-0.006, 0.000]	-0.003	[-0.005, 0.000]	-0.003	[-0.006, 0.000]
Constant	40.956	[34.260, 47.653]	5.412	[-0.806, 11.630]	4.438	[-1.301, 10.177]	4.647	[-1.170, 10.465]

Notes: Source: 2002–2012 Fatality Analysis Reporting System. Only states that enacted a DUI-CEL between 2002 and 2012. Post DUI-CEL indicates fatalities that took place after the DUI-CEL was in place. “Ages covered by DUI-CEL” examines fatalities of children of ages covered by the DUI-CEL, which vary from jurisdiction to jurisdiction. For this outcome measure, the number of child fatalities counted before the policy was in place was based on the same age groups covered by the DUI-CEL. Cells in **bold** denote statistical significance. To save space, the variable state was excluded from this table. DUI-CEL = driving-under-the-influence child-endangerment law; ref. = reference; coeff. = coefficient; CI = confidence interval; BAC = blood alcohol concentration.

of a DUI-CEL had no impact on the likelihood of finding impaired drivers among those driving with children.

Discussion

This brief report illustrates that DUI-CELS may not be saving the lives of children driven by adult drinking drivers as effectively as they could be or were intended to do. Although a comprehensive identification of the reasons for this lies beyond the scope of this effort, and therefore, is left for further research, three explanations are here presented. One focuses on DUI-CELS not having been well publicized or well understood by the general public. Few information campaigns have been launched to educate the public on the risks involved for children or to bring awareness to an adult driver's responsibility for the child—perhaps because of an

expectation that adults should already know this. Mothers Against Drunk Driving's (2013) “Every Child Deserves a Designated Driver” is one such program that has recently been more widely distributed. Another explanation focuses on enforcement, by speculating that given the difficulty in understanding the intricacies of child endangerment laws, many officers hesitate to enforce them. The third explanation focuses on the courts. Plea agreements and adjudications occurring in court may have resulted in limiting the usefulness of DUI-CELS, even further reducing the officers' motivation to pursue enforcement actions. More education and training may be necessary to keep the public, officers, and court officials from dismissing DUI-CELS.

Further research should also consider how adequate extant DUI-CELS actually are. Research has repeatedly shown that crash risk begins at lower than the legal limit of

TABLE 3. Outcome of Heckman selection model predicting the likelihood that children were fatally injured by a driver with a BAC of .08 g/dl or more, years 2002–2012, by three different criteria to identify children (full model)

Variable	Selection equation		Model equations					
	Passenger in a car (vs. driver only)		Passenger ages ≤18 years (vs. passenger age ≥19)		Passenger ages ≤14 years (vs. passenger age ≥15)		Ages covered by DUI-CEL (vs. all other passengers)	
	Coeff.	[95% CI]	Coeff.	[95% CI]	Coeff.	[95% CI]	Coeff.	[95% CI]
Post DUI-CEL			-0.009	[-0.048, 0.029]	-0.042	[-0.083, -0.002]	-0.029	[-0.069, 0.010]
Ref.: Pre-Post DUI								
Secondary			-0.003	[-0.228, 0.221]	-0.084	[-0.304, 0.136]	-0.095	[-0.334, 0.143]
Primary			-0.028	[-0.253, 0.198]	-0.088	[-0.309, 0.133]	-0.111	[-0.351, 0.128]
No safety belt								
Seat: Second+ row			0.052	[0.026, 0.078]	0.042	[0.013, 0.072]	0.048	[0.019, 0.076]
Seat: Front row								
Driver female	0.238	[0.213, 0.262]	0.047	[-0.639, 0.733]	-0.536	[-1.322, 0.250]	-0.291	[-1.049, 0.467]
Ref.: Driver male								
Driver age			0.067	[0.032, 0.102]	0.038	[-0.004, 0.080]	0.053	[0.015, 0.091]
21–24 years			0.052	[0.017, 0.087]	0.037	[0.001, 0.073]	0.044	[0.009, 0.079]
25–29 years			-0.031	[-0.067, 0.005]	-0.038	[-0.075, -0.002]	-0.032	[-0.068, 0.005]
40–49 years			-0.055	[-0.108, -0.002]	-0.033	[-0.087, 0.021]	-0.041	[-0.096, 0.013]
50–59 years			-0.123	[-0.188, -0.058]	-0.099	[-0.168, -0.031]	-0.105	[-0.174, -0.036]
≥60 years								
Ref.: 30–39	0.584	[0.499, 0.669]	0.160	[-0.510, 0.829]	-0.390	[-1.067, 0.287]	-0.185	[-0.818, 0.448]
Driver race/ethnicity	0.236	[0.200, 0.273]	0.098	[-0.356, 0.552]	-0.282	[-0.798, 0.234]	-0.124	[-0.629, 0.381]
Asian	0.502	[0.468, 0.535]	0.142	[-0.558, 0.843]	-0.432	[-1.157, 0.293]	-0.200	[-0.896, 0.496]
Black/African American	0.612	[0.533, 0.691]	0.200	[-0.422, 0.823]	-0.227	[-0.778, 0.325]	-0.082	[-0.656, 0.492]
Hispanic								
Native American			0.194	[0.109, 0.279]	0.239	[0.134, 0.345]	0.216	[0.117, 0.314]
Ref.: White								
Driver with prior DWI	-0.237	[-0.272, -0.201]	-0.027	[-0.143, 0.089]	0.042	[-0.075, 0.158]	0.010	[-0.112, 0.131]
Ref.: No prior DWI	-0.002	[-0.036, 0.031]	0.089	[0.014, 0.163]	0.057	[-0.007, 0.121]	0.065	[-0.003, 0.133]
Time of crash	-0.013	[-0.042, 0.015]	0.199	[-0.028, 0.426]	0.444	[0.067, 0.820]	0.332	[-0.011, 0.675]
6:00 A.M. to 10:00 A.M.								
5:00 P.M. to 8:00 P.M.	0.235	[0.213, 0.258]	0.092	[-0.133, 0.318]	-0.095	[-0.307, 0.117]	-0.025	[-0.241, 0.190]
8:00 P.M. to 6:00 A.M.								
Ref.: 10:00 A.M. to 5:00 P.M.			0.004	[0.000, 0.009]	0.006	[0.001, 0.011]	0.005	[0.000, 0.009]
Weekend	40.956	[34.260, 47.653]	-9.149	[-19.022, 0.724]	-10.179	[-20.736, 0.378]	-8.078	[-18.355, 2.199]
Ref.: Weekday			-0.009	[-0.048, 0.029]	-0.042	[-0.083, -0.002]	-0.029	[-0.069, 0.010]
Year								
Constant			-0.003	[-0.228, 0.221]	-0.084	[-0.304, 0.136]	-0.095	[-0.334, 0.143]

Notes: Source: 2002–2012 Fatality Analysis Reporting System. Only states that enacted a DUI-CEL between 2002 and 2012. Post DUI-CEL indicates fatalities that took place after the DUI-CEL was in place. “Ages covered by DUI-CEL” examines fatalities of children of ages covered by the DUI-CEL, which vary from jurisdiction to jurisdiction. For this outcome measure, the number of child fatalities counted before the policy was in place was based on the same age groups covered by the DUI-CEL. Cells in **bold** denote statistical significance. To save space, the variable state was excluded from this table. BAC = blood alcohol concentration; DUI-CEL = driving-under-the-influence child-endangerment law; ref. = reference; coeff. = coefficient; CI = confidence interval; DWI = driving while intoxicated.

.08 g/dl BAC (i.e., BAC = .05 g/dl; Blomberg et al., 2005; Zador et al., 2000). Laws exist with lower BAC limits for commercial vehicle drivers (National Highway Traffic and Safety Administration, 2002), and some jurisdictions have zero-alcohol-tolerance laws for school bus drivers (Vinsel, 2012). However, no similar BAC limitation exists for individuals transporting young children, even though children have little or no voice in the decision to get into a car driven by a drinking adult. Further, the research here and elsewhere shows that the most common offenders are “high-risk/hardcore” drunk drivers—those with high BACs who are repeat DUI offenders. Thus, specific sanctions aimed at these drivers, such as alcohol ignition interlocks, need to be considered.

Lack of homogeneity regarding the implementation of DUI-CELS across jurisdictions could also add to the lack

of effectiveness. By making the law uniform across all jurisdictions, some of the ambiguity and confusion could be removed. Further, mandatory penalty issuances might also guard against plea-bargaining and toward recognizing the value of the policy.

Another path for improving child endangerment laws would come from recognizing that alcohol is not the only source of crash risk. Past research has shown that other risk behaviors (e.g., speeding, distractions) contribute to endangering children (Kelley-Baker & Romano, 2014). A more comprehensive piece of legislation (i.e., one that does not only refer to alcohol) might also enhance the effectiveness of child endangerment laws.

In any case, in addition to strengthening and improving current DUI-CELS, efforts to increase public awareness about children’s frailty and the risks they face when riding

with drivers who have consumed alcohol or other drugs, are fatigued, or are distracted, are necessary. Drivers should be aware that it is not acceptable to drink, consume drugs, be fatigued, or be distracted when driving with children.

This study is not free of limitations. FARS data come from police crash reports that require officers to self-report on all aspects of the incident (demographics, seat belt use, seat position, etc.). Although rich and informative, the amount of information required may affect the accuracy and completeness of these data.

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