

Do CPS Laws Reduce Child Fatalities?

Lauren Jones and Nicolas Ziebarth, authors of “*U.S. Child Safety Seat Laws: Are They Effective, and Who Complies?*” published in Journal of Policy Analysis and Management, take advantage of two features of child passenger safety (cps) laws: they vary from state to state and in general, have encompassed greater age ranges over the decades.

Initial laws focused on newborns and those up to age 4; another wave moved to cover kids through age 7. These facts allow research on adults’ behavior in regard to buckling up children according to legal requirements that differ among states. Using the U.S. Fatality Analysis Reporting System data, from 1975-2011, researchers can delve into links between state laws and restraint usage for children riding in vehicles involved in fatal crashes but exclude those in the car in which a fatality occurred.

The data set also is useful for comparison between outcomes related to the age range encompassed by laws in different states but also by time periods in the same state since laws have tended to cover more age cohorts of children over time. The impact of state laws can be seen as the fate of children without legal protection.

The findings indicate the importance of cps laws for compliance but not for non-compliance. By looking at the “other car” from the one in which there was a death, one does not see fatality-selected vehicles since only one fatality determines that a crash is listed in the FARS database but often more vehicles are involved. (Sometimes fatalities occur in both vehicles.) The time frame examined is 1975-2011; pre-1969 vehicles are excluded.

The findings show that as laws change, more children are using safety seats, indicating that compliant parents change their behavior in concert with laws and that a certain subset of parents are “over-compliant” or using safety seats when *not* required by law. Deducing the reduction of child

death by passing laws is more complex; however, the authors’ data analysis showed a 12.4% reduction, or saving an average of 39 children per year.

An impressive finding is that the effect of law changes on safety seat use for older children ranges from 138% increase for 5 year olds to 523% increase for 7 year olds. For SBS USA, this indicates the importance of re-visiting state laws that do not include overt requirements for those 10 to 12 who need boosters for correct belt fit. Indeed, legal changes moved children from safety belts only to safety seats, reducing by 60% use of belts only, showing that law-abiding adults were affected by new requirements.

Discouragingly, it appears that drivers who do not restrain children at all tend to be non-compliant, regardless of the law. Findings indicate that “male drivers, younger drivers, and older drivers, as well as drivers with previous serious traffic violations, are all less likely to use safety seats when not required to do so.” Time of the crash and age of child (the older, the more vulnerable) also were correlated with less than optimal restraint, i.e. belts or nothing.

The authors also found correlations such as higher compliance in newer vehicles, vans, or SUVs. They found no correlation with high fines, leading them to see the impact of the law changes as “signals” to the community of law-abiding families to better protect their older children. Education campaigns, they surmise, will be a critical component of achieving better protection for older children.

These findings seem resonant with an earlier study of the effect of a **law change without an education campaign** in the highly-residentially divided city of Milwaukee where the increase led to major adoption in one sector but stable or reduced compliance in two other subgroup communities. (*See May, 2011 SBS News*) It appears that once a family is compliant *and* sees reference groups obeying, it is more likely that children will be protected optimally.

Calendar:

SBS USA Events Sponsored by CA Office of Traffic Safety (OTS) and Pomona Police Dept.:

TECHNICAL WEBINARS for California Technicians: 12/7: 10 am-11:30 am.

1 Continuing Education Unit.
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New Seats:

The new **Britax** rear-facing-only, Endeavors, fits kids 4 to 35 lbs. with a 6-position headrest and a harness with two sets of end loops. The seat provides five adjustable recline positions and lockoffs, not to be used with lap belts only, in the base. The crotch strap has two locations—the inner for babies under 11 lbs., the outer, for heavier kids.

Dorel Juvenile Group has a new Cosco brand backless booster with a shoulder-strap adjustor, the Rise, for kids weighing 40-100 lbs.

Goodbaby International has introduced a smaller version of the Sonus 65, the Evenflo Sonus 50, which covers kids 5-40 lbs. rear facing, 22-50 lbs. and at least age 2 facing forward. Six harness slots and two sets of harness end loops, along with a crotch strap, adjustable in location and length, are accompanied by either push-on or hook-on lower connector attachments.

Graco has the SnugRide SnugLock 30 and 35 on the market now. Both rear-facing-only seats fit 4 lb. babies and have the easily adjusted SnugLock mechanism as the lockoff in the bases. Both have four sets of harness slots and a body pillow usable only with the harness in the lower two sets. Lower connectors are hook-ons, except for the SnugRide SnugLock Platinum/Elite/DLX version which has the push-on style.

Nuna has introduced the Pipa Lite, a rear-facing-only seat for 4-32 lb. kids, to be used only with its base in the car but which offers a light shell, more easily carried away from the vehicle. There are two sets of loops on the harness ends. On the base, the product has a load leg, lockoffs, and rigid lower connectors.

Parental Custody Issue

Can having a child riding unrestrained affect parent custody issues? The case in question arrived at the California Supreme Court in 2012 due to a tragic loss of an 18-month-old girl who fell and was being taken to the hospital riding in her aunt's lap because her dad had lent his car with her safety seat to another. En route, a crash involving the car in which the youngster was being transported led to her death.

After the incident, two of the father's children were removed by social service workers. The children were exhibiting symptoms of neglect, such as lacking teeth and showing developmental delay, while living with a large number of other people. The father objected, despite the efforts made to help him regain custody, such as ensuring he attended parenting classes.

The court determined that social service staff, such as Department of Children and Family Services workers, did not have to prove the death was due to abuse or criminal negligence nor do they have to show that the "fatal conduct" posed a risk to the other children.

This makes it possible to intervene when children are at risk so that improvements can be made, potentially enabling return of the children to the parent, as happened in this case.

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Thank You:

Thank You to **California Office of Traffic Safety and Pomona Police Department**, which are enabling SBS USA to undertake a variety of tasks for Californians for the next year. Already we have resumed the bimonthly Technical Webinars for CA Child Passenger Safety Technicians (CPSTs) and expect to choose three hospitals with which to work to update recommendations and offer extra training, including Educator Workshops to increase educator numbers and Certification training to add CPS Technicians.

Work with the child care sector as well as health care involves offering Webinars and other sources of heightened awareness of the key recommendations. The Safe Ride Helpline, in English and Spanish, by telephone, e-mail, and exhibits and talks, is a key resource for both professionals and the public.

And a special effort to reach out to the newest arrivals who prefer to learn in Mandarin is sparked by a competent volunteer CPST with fluency in three languages.

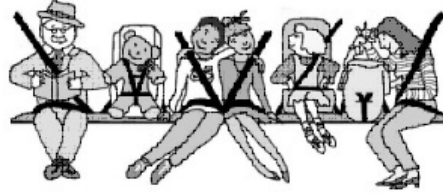
Law Enforcement: Key in CPS

Sometimes it takes loss to remind of a key role. **Ray Johnson**, as Division Commander of California Highway Patrol (CHP), Southern Division, invited SBS USA to provide cps education in early days. He supported the Spotter Program which authorized cps advocates to report license plates of cars with children riding at risk to SBS USA to be forwarded to CHP so they could send materials to the drivers, a program later adopted directly by the department. Later Ray, who became Chief of Inglewood Police Department, graced our Advisory Board until he passed away in August, following his many years of involvement in the criminal justice system, which included serving on the Youthful Offender Parole Board until 2006.

But of all his many efforts, one we'll never forget is the "walking race" between Ray and another cps stalwart, Mike Post of Glendale Police Department who was wearing the Bucklebear suit. The walk was to raise funds for SBS USA and held on a hot spring day. Both men cared deeply about saving kids' lives and helping SBS USA provide services.

We miss them but salute the officers with whom we work closely on this issue, such as attending meetings of the Peace Officers Association of Los Angeles County, which has, for years, supported Safety Seat Checkup Week by participating in the Special Enforcement Week preceding it.

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SafetyBeltSafe News

November 2017

What is “Pay Out” and Why is It Important?

The Kidz in Motion conference in Colorado featured several workshops on technical aspects of designing safety seats with more than FMVSS 213 testing in mind. Paul Gaudreau of UPPAbaby explained another aspect of crash events that few non-engineers perceive. Many readers have heard of “ride down,” or crash energy absorption, the goal of injury-mitigating features. The term “pay out” as a component of crash experience is far less familiar. “Pay out” is slack in the system which one seeks to decrease to gain quicker engagement with the crush-absorbing aspects of vehicles and safety seats. For children, smaller and more fragile than adults, there is both potential slack in harnesses, like adults in safety belts, but also in attachment of the safety seat to the vehicle frame.

Gaudreau used examples from other companies, rather than touting the Mesa, to describe safety seat features reducing “pay out.” The ClickTight models from Britax exemplify how that belt-locking feature can ensure a tight fix of the seat to the vehicle frame, thus engaging the “honeycomb” design feature for extra crumple-zone-style slowing. This can bring safety belt attachment into the same realm as rigid lower connectors, excellent in reducing pay out but relatively rare in the U.S.

Other important features include European belt routing for the shells of rear-facing-only seats, which reduces rotation toward frontal crashes, and anti-rebound bars, which keep babies farther from rear-end collisions, reducing loading by 30% in these crashes which have 90% the impact of frontal crashes. The systems in safety seats designed to keep child heads from striking dangerous objects, especially in side impacts, can reduce injury if children don’t extend their heads beyond protective wings, seeking a “better view.”

Another feature, common in Europe and gradually entering the U.S., is the load leg. This stops the seat when the vehicle stops and keeps rotation and pay out similar to that of seats using rigid connectors. The top tether, frequently omitted by parents, is a brain- and life-saver while vehicle features, such as side curtain air bags and reduced roof crush, also help protect children.

Grant Concludes

The Beach Cities Health District grant enabled Heidi Heflin, project lead for SBS USA, to reach out to the families and professionals in Hermosa, Manhattan, and Redondo Beach, California, with biweekly Open Houses, posters, and letters to gain an image of their needs. Like many other communities, the families were interested in having seats checked.

The educated and interested visitors to the office soon realized that they, too, were not buckling up their children correctly, a constant at SBS USA safety seat checkups and demonstrated in research studies around the U.S.

Showing why SBS USA attends many events to hold exhibits on cps, the Fiesta Hermosa, a lively three-day community event, brought nearly 100 families with questions to the exhibit daily.

Now that the grant has concluded, the SBS USA team will seek funding to build on the initial outreach.

Hall of Fame

Manufacturers' Alliance for CPS announced an inaugural contingent for the Hall of Fame in cps inducting 18 early leaders in the field. Gradually, brief biographies will be released to introduce them to newer participants in this now-widespread campaign for children's well-being. Inductees ranged from industry to law enforcement to non-profit and government. SBS USA is pleased to note that a dozen are former or current members, helping to generate our cps services.

Among those whose passing preceded creation of the honor are Annemarie Shelness, perhaps closest to the original cps advocate; Public Safety Officer Joel Bolton; Emilie Crown, both coordinator of an active cps program in Maryland and SBS USA Board member; and Cheryl Neverman, National Highway Traffic Safety Administration (NHTSA) staff member most closely associated with the development of national certification training.

One characteristic of early efforts was the ongoing communication among advocates, industry insiders, and researchers. Included in this "class" are Paul Butler, Ford; Barbara Birkenshaw, Volkswagen Group of America; Howard Willson, Chrysler; Dave Campbell, safety seat designer; Carol Helminski, Graco; and Artie Martin, General Motors.

Three who were named include Kathy Weber from University of Michigan Transportation Research Institute who shared research results with advocates from the 1970s on, Deborah Stewart, a founder of Action for Child Transportation Safety (ACTS) and *Safe Ride News*, and Stephanie Tombrello of SBS USA.

Bill Hall of University of North Carolina Highway Safety Research Institute taught cps on a team traveling the U.S. for NHTSA in the late 1970s and has never ceased. Bob Wall, active in MACPS, hails from law enforcement and fire service, as well as advocating for the field nationally from the 1990s with a variety of hats.

Lorrie Walker is most closely identified with SAFE KIDS, although her efforts long preceded its creation. Recognizing the key roles of pupil transportation and addressing youngsters with special needs are Charley Kennington and Cheryl Wolf, both 30+-year leaders in strides in defining and teaching how young children and those with special needs should travel on school buses.

Helping Educators Focus Messages

Safety seat checkup data recorded in a wide variety of locations show consistency in error levels with some variation in the levels of use of expired and/or previously used seats. Previously reported research has shown adults take in about seven messages in an educational interchange.

How should one use the limited focal time? Christina Rudin-Brown et al. of Canada published *Standardized Error Severity Score Ratings to Quantify Risk Associated with Child Restraint System and Booster Seat Misuse*, [Traffic Injury Prevention](#), 10/17, which includes the risk levels of various types of incorrect use. The team queried internationally known experts with both biomechanical and safety seat expertise; U.S. members well known to CPS Technicians include Kristi Arbogast, Kathy Klinich, Miriam Manary, and, from Transport Canada, Suzanne Tylko.

The authors not only collected the assessments to establish ratings but also conducted observational research with 26 subjects, split between newcomers and experienced caregivers of different age groups, to see how common the errors might be. The idea is to develop a tool to evaluate not only frequency but also to pinpoint areas of safety seat design where improvements can reduce incorrect use.

In the Rudin-Brown analysis, better labeling might reduce inappropriate choice of a forward-facing seat or incorrect routing of the safety belt or lower connectors. However, focus on loosely attached belts/connectors; inappropriate harness slot levels; absence of tether attachment; and loose harness status might not only be addressed by better, more consistent labeling, but also all of these key risks need to be covered rigorously in educational encounters. For older children, incorrectly fitted and too loose shoulder-lap belts detract from booster performance. The team observed frequent misalignment of the headrest levels.

An interesting side comment that not attaching tethers in Canada is less likely because tethering is required suggests that law enforcement of correct use, with this as a focus, might improve compliance in the U.S. as well. Many parents have no idea of the importance of this step for forward-facing children.

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To our highly valued Readers:

From: Bonnie Oseas, President, Board of Directors



We urge you to join for 2018 soon and invite others to join to use our services. We have a new office space which we have made a site for drop-in services for families with child passenger safety questions. Our most recent Educator Workshop was held in the same building.

The Office of Traffic Safety (OTS) is funding important tasks in California. We shall continue the popular Technical Webinars (1 CEU/Tech) funded directly through OTS. However, our newest Webinar, begun in the summer, is for Head Start staff and can be rented for \$50 for up to 50 staff from the same agency to view it. It is recommended nationally! Our CE Webinars for nurses, a popular resource, showed statistically significant educational gains, a program we presented at a nursing conference. We are eager to find nursing partners in other states. If your state would be interested, tell us.

We are very grateful for continued grant support from American Honda and Toyota Motor Sales, U.S.A. in 2017 and to Volkswagen Group of America which enabled us to have a central exhibit area with an Audi Q7 for the national American Academy of Pediatrics conference where we have represented the field for the past four years.

We encourage our members to nominate candidates for the Siegel SafetyBeltSafe U.S.A. Child Restraint Awards of Excellence from outstanding programs making a difference in our field. This year, we recognized Annemarie Shelness posthumously for her pioneering leadership in child passenger safety, beginning in the 1960's.

Memberships at different levels offer a variety of services. *SafetyBeltSafe News*, which can provide a Continuing Education Unit for Child Passenger Safety Technicians, is received by members at every level. However, there are useful member codes for printing the recall list and obtaining the update service and accessing the special Web page with new instructions to supplement the annual Manufacturers' Instructions with Summaries. Additional items, such as brochures, are included for those at the Hospital/Agency level and above. We are celebrating a year of online access to the Manufacturers' Instructions with Summaries, another option for members. Version IX of *Don't Risk Your Child's Life*, a teaching DVD in English or Spanish, by Shelness Productions, is available to '18 members at a special price. Most important—remember to join soon to avoid a gap in services January 1st.

Child passenger safety, as a field, has been recognized as one of 15 effective public health efforts used to develop guidelines for how philanthropists can maximize their efforts to effect significant social change. In 2016, the Bridgespan team asked for a brief history of the field to elucidate the factors generating significant success nationwide in changing the way children travel in cars. A year later, our field was shown to have achieved major change faster than most of the powerful public health successes—and without major philanthropy but indeed, due to leadership by Shelness and other dedicated advocates working with government.

Congratulations to all who keep the progress coming. And Safe Travels!

The national non-profit organization dedicated to child passenger safety since 1980