

Issue Brief: Hospitals' Role in Car Seat Safety

Sean Gugerty & Bradley Nolet—Student Attorneys, Public Health Law Clinic

Kathleen Susan Hoke, Professor (khoke@law.umaryland.edu)

Legal Resource Center for Public Health Policy, University of Maryland Carey School of Law

I. Introduction

Encouraging the use of age-appropriate car seats and booster seats every time children are transported in a motor vehicle is a major public health imperative.¹ Hospitals can be especially effective at promoting the use of car seats and booster seats because of their frequent contact with newborns and young children, and the high degree of trust the public places in doctors and nurses.² Studies have found that a health provider giving tailored guidance to parents or other caregivers on steps to prevent a child from being injured is more effective than providing generic information, such as pamphlets,³ especially for parents or caregivers with less formal education.⁴

Hospital policies that help parents and other caregivers acquire and safely use car and booster seats can reduce preventable injuries and deaths among children and lower the costs of hospital care for children injured in motor vehicle crashes. In 2011, more than 1,100 children ages 14 years and younger died as occupants in motor vehicle crashes.⁵ For every motor vehicle related fatality, 18 children are hospitalized and 400 require medical care,⁶ with over 140,000 children per year seen in emergency rooms as a result of vehicle collisions.⁷ Research has shown that proper use of child passenger safety (CPS) equipment such as car seats or booster seats reduces fatal injuries by 71% for infants (younger than 1 year old) and 54% for toddlers (1 to 4 years old) in passenger cars.⁸ CPS equipment is also relatively inexpensive, with most car and booster seats retailing from \$70 to \$80,⁹ and studies have found that interventions to encourage car seat use can be just as cost effective as other prominent public health initiatives, such as childhood vaccinations.¹⁰

This issue brief describes how hospitals can support and encourage parents acquire and safely use car seats. It examines current state and federal law and regulations that impact hospital car seat policies, and suggests changes to existing law and policies.

II. Overview of Car Seat Law & Policy

All 50 states, the District of Columbia, and Puerto Rico require child safety seats for infants and children up to a certain age or weight.¹¹ State laws relating to CPS have been strengthened in recent years, and now apply to older children in many states.¹² Forty-eight states, along with the District of Columbia and Puerto Rico, require booster seats for children up to the age of six who have outgrown car seats but cannot yet safely use adult seatbelts.¹³ However, only four states require booster seats for children up to the age of eight.¹⁴ As a result of state

legislative efforts, especially booster seat laws,¹⁵ fatalities among children under 14 years of age due to motor vehicle accidents decreased by 46% from 2002 to 2011.¹⁶

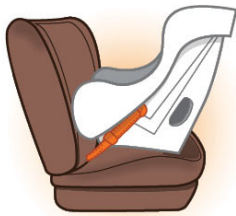
Child safety advocacy groups and federal and state agencies have recognized the urgency of promoting the use of age-appropriate child passenger safety equipment. The National Highway Traffic Safety Administration (NHTSA) strengthened its regulation of CPS equipment by requiring that all cars manufactured after 2002 include hardware anchors and tethers on rear seats in order to make car seat installation simpler and more secure.¹⁷ NHTSA also partnered with a leading child safety advocacy group, Safe Kids, Worldwide™, to create the National Child Passenger Safety Certification Training Program, which certifies people as CPS technicians and instructors.¹⁸ Since 1997, more than 126,000 people have been trained to assist parents or caregivers in properly installing and using car or booster seats.¹⁹ Technicians are nurses, police, firefighters, and others who provide support while at their jobs or as unpaid volunteers.

III. Best Practices

Studies have shown that car seats and booster seats are much more effective at preventing injury to children than seat belts.²⁰ The American Academy of Pediatrics (AAP), the leading advocacy group for pediatricians, has issued a set of widely accepted recommendations for use of CPS systems based on a child's age and height.²¹ These recommendations are reflected in the graphic below. The AAP recommendations note that children with special needs may require

specialized restraints and has adopted recommendations specifically for those children.²²

Using the correct car seat or booster seat can be a lifesaver: make sure your child is always buckled in an age- and size-appropriate car seat or booster seat.



REAR-FACING CAR SEAT

Birth up to Age 2*
Buckle children in a rear-facing seat until age 2 or when they reach the upper weight or height limit of that seat.



FORWARD-FACING CAR SEAT

Age 2 up to at least age 5*
When children outgrow their rear-facing seat, they should be buckled in a forward-facing car seat until at least age 5 or when they reach the upper weight or height limit of that seat.



BOOSTER SEAT

Age 5 up until seat belts fit properly*
Once children outgrow their forward-facing seat, they should be buckled in a booster seat until seat belts fit properly. The recommended height for proper seat belt fit is 57 inches tall.



SEAT BELT

Once seat belts fit properly without a booster seat
Children no longer need to use a booster seat once seat belts fit them properly. Seat belts fit properly when the lap belt lays across the upper thighs (not the stomach) and the shoulder belt lays across the chest (not the neck).

Keep children ages 12 and under in the back seat. Never place a rear-facing car seat in front of an active air bag.

*Recommended age ranges for each seat type vary to account for differences in child growth and height/weight limits of car seats and booster seats. Use the car seat or booster seat owner's manual to check installation and the seat height/weight limits, and proper seat use.

Child safety seat recommendations: American Academy of Pediatrics.
Graphic design: adapted from National Highway Traffic Safety Administration.

**Source: Centers for Disease Control & Prevention, Child Passenger Safety: Fact Sheet*

Car seats and booster seats are complex and are often difficult for parents or other caregivers to install properly.²³ Safe Kids, Worldwide™ recommends that those installing a seat carefully check seat labels and manuals to ensure they are correct for a child's age and height, carefully check a seat's base and harness to ensure a tight fit, and consult certified CPS technicians for support if needed.²⁴

IV. Ongoing Areas of Concern

Although there has been progress in promoting effective use of CPS systems, thereby reducing motor vehicle injuries among children, three serious public health concerns remain.

First, many parents do not utilize car or booster seats as recommended for their child's age and height. In 2011, in fatal car accidents among children 4 years or younger where restraint use was known, 30% of children were completely unrestrained.²⁵ Parents are also less likely to use booster seats for children over the age of 4 than car seats for infants or toddlers, even after

the passage of booster seat laws in many states.²⁶ As a result, fatalities from motor vehicle accidents remain the leading cause of death for children 4-14 years old in the United States.²⁷

Secondly, many parents improperly install or misuse car seats. NHTSA has found that more than seven out of ten parents "critically misuse" car or booster seats in ways that raise the risk of injury to a child.²⁸ Advances in vehicle and CPS design have made car seats safer but also more complicated to install and use. A 2013 *New York Times* article interviewing parents in Montgomery County, Maryland, found that many parents, even those with doctoral degrees, had difficulty properly installing car seats.²⁹

Finally, studies have shown significant racial and socio-economic disparities in usage rates of CPS systems, with white people and those with higher incomes and education levels being more likely to use CPS systems when compared to non-white people and those with lower income and education levels.³⁰ Black children are particularly at risk³¹ and Medicaid patients are also significantly less likely to be properly restrained than those with commercial insurance.³² Additionally, non-white people are three times more likely to prematurely move their child from a car seat to a booster seat, or from a booster seat to using a seat belt.³³

V. Hospitals & Car Seat Safety

Hospitals can play a critical role in promoting the effective use of car seats and booster seats. Over 99% of babies in the U.S. are born in hospitals.³⁴ In 2009, there were nearly 6.4 million hospital stays for children in the U.S., comprising 16 percent of all hospitalizations.³⁵ Additionally, patients of lower socioeconomic status and minority patients, who are less likely to use car seats, are more likely to seek care at hospitals than at ambulatory care facilities.³⁶

The AAP recommends that healthcare providers give parents of young children CPS guidance at every health-supervision visit to a hospital or health facility.³⁷ Hospitals should also give more intensive support to children who are especially at risk while travelling in car seats. For example, premature infants are at risk for episodes of apnea (stopping breathing) or low oxygen rates while lying reclined in a car seat.³⁸ The AAP currently recommends that children born with less than 37 weeks in the womb undergo an Infant Car Seat Challenge where they are placed in a car seat for 90-120 minutes under medical supervision to ensure they travel safely after discharge.³⁹

Numerous U.S. hospitals have well-developed CPS education and training programs using hospital staff who have been trained as CPS certified technicians,⁴⁰ especially at pediatric specialty hospitals.⁴¹ Surveys have found that many health care providers who routinely treat children, including pediatricians⁴² and emergency medicine specialists,⁴³ believe that physicians or nurses should educate parents about CPS regardless of the reason for the hospital visit.

Although some hospital CPS education programs focus solely on infant discharge shortly after birth,⁴⁴ others provide education for all children admitted. For example, one program at a

children's hospital has a nurse determine the age-appropriate restraint system for each child patient, identify sources for free or reduced price seats if necessary, and educate the child's parent(s) or other caregiver in using and installing the car seat.⁴⁵ Many hospitals also partner with non-profits to provide free classes or fitting sessions with CPS certified technicians.⁴⁶ Although these voluntary "fitting station" programs can be helpful for engaged and safety-conscious parents, they are less effective at reaching lower-income parents, who are less likely to have time to attend sessions held only once or twice per week.⁴⁷ A few hospitals have programs to offer free fitting sessions to all children,⁴⁸ or to offer free or loaner car seats to low income or special needs children.⁴⁹

A systematic review of interventions to increase the use of car seats found that providing free, loaner or low-cost car seats, along with education in properly using the seats, is one of the most effective car seat safety interventions and can reduce child motor vehicle injuries by an average of 6.4%.⁵⁰ Community-oriented approaches, such as media campaigns, can also improve usage rates of CPS systems,⁵¹ but are generally less effective.⁵² CPS education and support programs at U.S. hospitals have been proven effective by clinical studies demonstrating parents' improved knowledge of CPS systems after a CPS teaching intervention,⁵³ follow-up surveys showing improvements in CPS usage rates after support was given,⁵⁴ and by statistical measures such as the number of patients assisted or the number of free car seats provided.⁵⁵

VI. Factors Limiting Hospital Involvement in Car Seat Safety

Many U.S. hospitals are reluctant to invest in strong CPS education and promotion programs, for a number of reasons, including:

a. Liability Concerns

Hospitals face rising costs from malpractice litigation and malpractice insurance.⁵⁶ Hospital administrators may fear that if a patient is injured in an auto accident after a hospital staff member gave improper CPS information, or negligently installed a car seat, the hospital could face substantial legal costs as well as negative publicity. Hospitals may also fear litigation even if the technician followed the standard of care; despite being successful in the litigation, legal fees and negative publicity could impact a hospital.

b. Inadequate Funding & Reimbursement

Some U.S. hospitals partner with outside non-profit groups to fund CPS initiatives.⁵⁷ State highway safety agencies have grant programs for CPS education or support programs using CPS certified technicians,⁵⁸ funded in part by the NHTSA.⁵⁹ This relatively limited funding stream is also used for community outreach efforts or enforcement of state car seat laws.⁶⁰ There is no dedicated state or federal funding specifically for hospital-based CPS programs.

Hospitals are often not directly reimbursed for car seat education and support services provided to patients. Most medical services provided in U.S. hospitals are paid for through a fee-for-service model.⁶¹ Car seat fittings, hands-on education in how to use a car seat, and distribution of free or reduced price car seats could be reimbursed by health care payors in the current fee-for-service model. Unfortunately, the two primary payors for care related to CPS – private insurers and Medicaid – currently only reimburse for CPS care in a few very narrowly defined circumstances (discussed in more detail below).

c. Joint Commission Accreditation

U.S. hospitals have a strong incentive to maintain their accreditation through the Joint Commission by meeting various metrics designed to measure the quality of patient care.⁶² Joint Commission accreditation is necessary for hospital licensure and receipt of Medicaid funding in many states.⁶³ Yet the Joint Commission does not currently include CPS education as one of its metrics for certifying U.S. hospitals.

d. Staff Time & Workflow Difficulties

Educating caregivers to properly use CPS systems and assisting them in installing a car or booster seat can be time consuming,⁶⁴ and nurses and other medical staff face intense scheduling and workflow pressures to rapidly complete care activities.⁶⁵ In most hospitals, a limited number of staff are certified as CPS technicians, and workflow disruptions can occur while waiting for these trained staff members. Providers who praise CPS education as necessary to good patient care in surveys have admitted that they often ignore CPS while treating patients due to time pressures.⁶⁶ Even successful hospital-based CPS programs have reported strong staff resistance to spending extra time on CPS education.⁶⁷

e. Difficulty of Training/Retaining Certified CPS certified technicians

CPS technicians certified through the Safe Kids, Worldwide™ training program need to undertake at least 24 hours of course training along with participating in community fitting events,⁶⁸ and must re-certify every two years in order to keep abreast of the rapid changes in car seat technology and clinical best practices.⁶⁹ Even if staff devote time to training and staying certified, high levels of turnover in U.S. hospitals make it difficult to retain CPS trained staff.⁷⁰ Accordingly, there is a severe shortage of CPS certified technicians.⁷¹

VII. Current Legal Framework Impacting Hospitals' Car Seat Safety Policies

The role of hospitals in car seat safety has not been a focus of federal and state policy. The Affordable Care Act (ACA) requires insurers to cover certain types of hospital-based preventive care, including pre-natal care,⁷² but the most recent federal rules interpreting the ACA do not require insurers to cover the cost of purchasing or installing a car seat.⁷³ Only a minority of states have laws or regulations that directly affect hospitals' policies on providing CPS

education and support. There are four main categories of such state laws and regulations; (1) statutes directly mandating hospitals to provide parents with CPS education, (2) statutes providing limited immunity from civil liability for hospitals employing CPS certified technicians, (3) statutes and common law principles that may leave hospitals open to liability if they do not educate parents about CPS systems, and (4) statutes and Medicaid regulations mandating that health insurers reimburse for car seats or after a car seat has been damaged.

a. *Direct Statutory Mandates*

Two states require hospitals to provide information about CPS systems to parents or caregivers of young children or newborns. California requires hospitals to "provide to and discuss with the parents or the person to whom the child is released" information about state CPS laws for all children under age eight before every hospital discharge.⁷⁴ Hospitals must give parents contact information to a website or other contact that can provide information on car seat requirements, installation, and inspection (one example given is the website for the NHTSA's Child Safety Seat Inspection Station Locator).⁷⁵ Hospitals must also keep a written policy for the dissemination of information about the risks of death or serious injury from failure to use CPS systems, and the locations of nearby car seat purchasing stations and installation check point stations.⁷⁶

Pennsylvania requires hospitals to provide parents of newborns with information about "the availability of loaner or rental programs for child restraint devices that may be available in the community where the child is born."⁷⁷ Although the Pennsylvania law was first enacted in 1983,⁷⁸ Pennsylvania still maintains an active registry of car seat loan programs.⁷⁹

No states require hospitals to provide hands-on instruction or support in properly installing and using a car seat, despite strong clinical evidence that hands-on support is necessary.⁸⁰ Parents and caregivers are typically expected to obtain such support on their own at fitting stations or other similar programs.⁸¹

b. *Statutes Providing Limited Immunity to Civil Liability for CPS Technicians and Their Employers*

The proper securing of a child, especially a newborn, is best achieved when a parent is educated by a CPS certified technician,⁸² but hospitals may fear incurring liability if a CPS certified technician in the employ of the hospital, or volunteering on hospital grounds, improperly installs or educates parents about CPS. Eight states have attempted to address these liability concerns through statutes that provide limited immunity to civil liability for CPS certified technicians and their employers or sponsoring institutions, including hospitals.⁸³ The statutes are nearly identical across all eight states.⁸⁴

The immunity given to CPS technicians under these statutes appears to be broad enough to apply to all CPS education or support given in a hospital setting. For example, Maryland's

statute provides immunity for CPS technicians for any "act or omission that occurs solely in the inspection, installation, or adjustment of a child safety seat in a motor vehicle, or in giving advice or assistance regarding the installation or adjustment of a child safety seat."⁸⁵ The statute contains some caveats. Immunity is not given for gross negligence or willful or wanton misconduct,⁸⁶ meaning that a technician must exercise reasonable care⁸⁷ and not purposefully ignore any known risks or dangers about a car seat.⁸⁸ Maryland's statute also specifies that in order to receive the immunity, CPS support must be provided without charge to the owner or operator of the motor vehicle,⁸⁹ and the actions must not be in conjunction with the for-profit sale of CPS equipment.⁹⁰ Under these statutes, hospitals can still retain their immunity if they are reimbursed by Medicaid or other insurers for the cost of providing the car seat. But any policy change to allow for hospitals to bill Medicaid or health insurers directly for additional CPS services, such as installation, would require modification to these statutes.

These limited immunity statutes can mitigate hospitals' concerns over facing liability for CPS installations or support, and also encourage hospitals to hire and retain CPS technicians. Even hospital administrators in states with immunity statutes may, however, be unaware of the statutes or not realize that the statutes apply to hospitals and to what extent they apply.

c. *Hospital Liability under Medical Malpractice Statutes and Common Law Principles for Insufficient CPS Support*

Hospitals that fail to provide a certain level of CPS education and support can face liability under state medical malpractice laws and common law principles. Providers of medical care are liable if a patient is injured because of the providers' violation of the standard of care, which varies within each state and for each medical profession⁹¹ but is generally determined through expert witness testimony on what a typical provider of the same specialty and training would do in the same situation.⁹² Hospitals are vicariously liable for their employees' actions⁹³ and also can be directly liable for not having or enforcing strong care policies.⁹⁴

Clinical practice guidelines and recommendations on best practices for care, such as the AAP best practice recommendations for CPS education and support, can influence the standard of care.⁹⁵ The strong clinical evidence supporting CPS programs,⁹⁶ and the large number of providers who surveys have shown believe CPS education is a necessary component of good care⁹⁷ provide support for CPS education as part of the standard of care. There is some evidence that courts would find a hospital's failure to provide the parents of child being treated in the hospital with CPS education as a violation of the standard of care. A Pennsylvania hospital was sued in 1995 for failing to provide CPS support to parents, resulting in the death of a newborn child.⁹⁸ A nurse observed the child not being reclined at a 45 degree angle, but did not inform the parents that this was dangerous.⁹⁹ During the ride home, the child suffocated after its airway was blocked due to its position in the car seat.¹⁰⁰ In a case affecting the same hospital, also in 1995, the hospital was sued when its maternity unit presented a video containing outdated information

about car seats.¹⁰¹ In both of these suits the hospital was found negligent, but the cases were ultimately settled out of court.¹⁰²

d. *Statutes and Medicaid Regulations Mandating Reimbursement for CPS Systems, or for Damaged Car Seats*

One factor deterring hospitals from developing strong CPS programs is the lack of reimbursement for the cost of providing CPS education or services.¹⁰³ A few state Medicaid programs do reimburse for the cost of providing car seats for all pregnant women,¹⁰⁴ and all state Medicaid programs cover the cost of car seats for children with certain medical conditions or disabilities.¹⁰⁵ The Medicaid reimbursement for special needs car seats requires a physician prescription detailing that such a device is medically necessary due to the child not being able to properly support their own head and neck.¹⁰⁶ The car seat is then classified as durable medical equipment and a reimbursable expense.¹⁰⁷ Once a car seat is purchased and placed in the vehicle, most automobile insurance plans cover the cost of replacing the seat after an accident,¹⁰⁸ and several states have passed laws requiring auto insurers to cover the cost of a replacement.¹⁰⁹

Effective January 1, 2014, regulations issued by the Centers for Medicaid and Medicare Services (CMS) allow for state Medicaid programs to reimburse for preventive care services provided by professionals who are not physicians or other state-licensed practitioners, so long as a physician initially recommends the services.¹¹⁰ Previously, preventive services needed to be directly provided by a physician or other state-licensed practitioner.¹¹¹ This change could allow for CPS certified technicians, who in many instances are not licensed to practice by a state, to receive reimbursement from Medicaid for services such as car seat installations or fitting sessions. Individual states will have to determine what services and professionals to reimburse under these new regulations, and the authors are not aware of any states that have yet begun to reimburse CPS certified technicians through state Medicaid plans.

Summary of State Laws & Regulations Impacting Hospital CPS Programs

Law/Regulation	Number of States Covered	Individual States Covered
Direct Statutory Mandate	2	California, ¹¹² Pennsylvania ¹¹³
Limited Waivers of Liability for CPS Technicians and Sponsoring Institutions	8	Georgia, ¹¹⁴ Maryland, ¹¹⁵ North Carolina, ¹¹⁶ Pennsylvania, ¹¹⁷ Oklahoma, ¹¹⁸ Tennessee, ¹¹⁹ Washington ¹²⁰ and Wisconsin ¹²¹
State Medicaid Policies Covering the Cost of Disbursing CPS Equipment for All Covered Children	4	Delaware, ¹²² Minnesota, ¹²³ New Hampshire ¹²⁴ and Texas ^{125*}
State Medicaid Policies Covering the Cost of Disbursing CPS Equipment for Children with Special Needs	51	All 50 U.S. states and the District of Columbia cover the cost of providing children in

		state Medicaid programs with special needs car seats ^{126**}
--	--	---

*For at least one Medicaid plan offered by the state

**Determinations of which medical conditions qualify for special needs car seats vary by state.

VIII. Policy and Legal Suggestions

Our survey of the existing legal framework suggest three areas where existing laws and policies can be changed to incentivize hospitals to adopt strong CPS education, installation support, and loaner or free car seat distribution programs.

First, CPS supporters could seek to directly address hospital administrators' concerns about liability from hospital-based CPS programs. Supporters could advocate for protections against liability for CPS technicians and their sponsoring institutions in the majority of states that do not have such laws, and also seek to educate hospital administrators in states that do have limited immunity for CPS technicians about the laws. Additionally, supporters could argue that a hospital lacking a well-developed CPS program with strong staff participation opens itself up to medical malpractice suits. A growing volume of clinical studies and best practice recommendations all suggest that engaging with parents about CPS use at each hospital visit is an essential part of the standard of care for hospital treatment of children under 8 years old.

Secondly, CPS supporters could advocate for expanded coverage of CPS services by state Medicaid plans, so that hospitals can be reimbursed for the cost of distributing or loaning car seats to lower-income families. A 2008 study found that a universal Medicaid-based disbursement and education program for car seats would have an annual cost of only about \$30 per child and be comparably cost-effective or superior to childhood immunization programs.¹²⁷ The study found that for every 100,000 children assisted, the program would save about \$1 million dollars in direct hospital costs, save 2 children's lives and prevent 12 child injuries.¹²⁸ Supporters could also work on the federal level to secure inclusion of CPS services within the federal Affordable Care Act's mandates for preventive care in new insurance plans.

Finally, CPS supporters should consider advocating for state laws similar to California's statute that requires providers at hospitals to give information to parents or caregivers of children 8 years or younger about CPS systems, and discuss it with the parents. Any such law would have to carefully consider the potential for provider resistance to the increased time demands to provide CPS instruction and support for every hospital visit. If providers were resistant, a law similar to California's could prove very difficult to enforce. Additionally, laws modeled on California's statute might hold providers to a lower standard of care than that recommended by the AAP. Under California law providers are only required to discuss car seat safety information with parents or caregivers of young children, and not to give detailed guidance on the proper types of car or booster seat based on that child's age and height, as recommended by the AAP.

An alternative approach would be to suggest that the Joint Commission measure standards covering CPS programs in its annual assessments of hospitals. Hospitals and physicians would be more likely to follow Joint Commission standards, which are developed with input from health care providers.

IX. Conclusion

Injuries or fatalities to children due to lack of car seats, or improper use of car seats, remains a critical public health challenge in the United States. Hospitals can play a critical role in encouraging effective and age-appropriate use of car seats and booster seats, especially for lower-income and minority parents. Liability and cost concerns, among other factors, have caused many U.S. hospitals to forego putting in place comprehensive CPS education and support policies. A minority of states have adopted laws or Medicaid policies that incentivize hospitals to become more involved in CPS education and support, and CPS advocates should encourage other states and the Joint Commission to do more to promote CPS programs at hospitals.

¹ See *infra* Section II.

² Jeffrey M. Jones, *Record 64% Rate Honesty, Ethics of Members of Congress Low: Ratings of Nurses, Pharmacists, and Medical Doctors Most Positive*, GALLUP POLLING (Dec. 12, 2011), available at <http://www.gallup.com/poll/151460/record-rate-honesty-ethics-members-congress-low.aspx>.

³ Tonja R. Nansel et. al., *Preventing Unintentional Pediatric Injuries: A Tailored Intervention for Parents and Providers*, 23 HEALTH EDUC RES. 659 (Aug. 2008).

⁴ *Id.*

⁵ National Highway Traffic Safety Administration (NHTSA), *Traffic Safety Facts 2011 Data: Children*, 1, available at <http://www-nrd.nhtsa.dot.gov/pubs/811767.pdf> (last accessed Apr. 1, 2014).

⁶ American Academy of Pediatrics (AAP), Committee on Injury, Violence, and Poison Prevention, *Child Passenger Safety*, 127 PEDIATRICS 1050, 1050 (Mar. 2011), available at <http://pediatrics.aappublications.org/content/127/4/e1050.full.html>.

⁷ Centers for Disease Control (CDC), *Injury Prevention & Control: Data & Statistics Web-Based Injury Statistics Query and Reporting System (WISQARS)*, available at www.cdc.gov/injury/wisqars/index.html (last accessed Apr. 1, 2014).

⁸ NHTSA, *supra* n. 5, at 2.

⁹ Suzanne Kane, *How Much Do Child Car Seats Cost?*, THE CAR CONNECTION (Aug. 28, 2013), available at http://www.thecarconnection.com/news/1086540_how-much-do-child-car-seats-cost (last accessed Apr. 1, 2014).

¹⁰ Jesse A. Goldstein et. al., *Medicaid-Based Child Restraint System Disbursement and Education and the Vaccines for Children Program: Comparative Cost-effectiveness*, 8 J. AMBULATORY PEDIATRICS 58, 62–64 (Jan.-Feb. 2008).

¹¹ Governors Highway Safety Association (GHSA), *Child Passenger Safety Laws*, (Apr. 2014), available at http://www.ghsa.org/html/stateinfo/laws/childsafety_laws.html (last accessed Apr. 1, 2014)

¹² AAP, *supra* n. 6 at 1055.

¹³ GHSA, *supra* n. 11.

¹⁴ *Id.*

¹⁵ Eichelberger et al., *Effects of booster seat laws on injury risk among children in crashes*, 13 Traffic Injury Prevention 631 (2012).

¹⁶ NHTSA, *supra* n. 5, at 1.

¹⁷ Lawrence E. Decina et al., *Child Restraint Use Survey: LATCH Use and Misuse*, (National Highway Safety Administration Report No. DOT HS 810 679, Dec. 2006), available at www.nhtsa.gov/DOT/NHTSA/Communication%20&%20Consumer%20Information/Articles/Associated%20Files/LATCH_Report_12-2006.pdf.

¹⁸ Safe Kids Worldwide, *The National Child Passenger Certification Training Program*, available at <http://www.safekids.org/national-child-passenger-certification-training-program> (last accessed Apr. 1, 2014).

-
- ¹⁹ *Id.*
- ²⁰ M.R. Elliott et al., *Effectiveness of Child Safety Seats vs. Seat Belts in Reducing Risk for Death in Children in Passenger Vehicle Crashes*, 160 ARCHIVES OF PEDIATRIC & ADOLESCENT MED. 617, 617–621 (2011).
- ²¹ AAP, *supra* n. 6 at 1054-57.
- ²² American Academy of Pediatrics, Committee on Injury and Poison Prevention, *Transporting Children with Special Health Care Needs*, 104 PEDIATRICS 988, 988–992 (1999).
- ²³ *See infra* Section IV.
- ²⁴ Safe Kids Worldwide, *Car Seat Tips*, available at <http://www.safekids.org/tip/car-seat-tips>, (last accessed Apr. 10, 2014).
- ²⁵ NHTSA, *supra* n. 5, at 1.
- ²⁶ *Id.*
- ²⁷ Centers for Disease Control and Prevention, Injury Prevention & Control: Data & Statistics (WISQARS): Fatal Injury Data, available at <http://www.cdc.gov/injury/wisqars/fatal.html> (last accessed Apr. 2, 2014).
- ²⁸ Lawrence E. Decina & Kathy H. Lococo, *Misuse of Child Restraints*, National Highway Safety Administration Report No. DOT HS 809 671 (Jan. 2004), available at <http://www.nhtsa.gov/Research/Human+Factors/Seatbelt+and+Child+Seat+Use> (last accessed Apr. 14, 2014).
- ²⁹ Stephaine Steinberg & Bill Vlasic, *Strapped In, But Still at Risk: Car Seats Remain a Vexing Safety Issue*, N.Y. TIMES, Oct. 11, 2013, available at http://www.nytimes.com/2013/10/12/business/strapped-in-but-still-at-risk.html?_r=0.
- ³⁰ Michelle L. Macy et al., *Disparities in Age-Appropriate Child Passenger Restraint Use Among Children Aged 1 to 12 Years*, 133 PEDIATRICS 262, 266 (Feb. 2014), available at <http://pediatrics.aappublications.org/content/early/2014/01/07/peds.2013-1908.full.pdf>.
- ³¹ Shawn J. Rangel et al., *Alarming Trends in the Improper Use of Motor Vehicle Restraints in Children: Implications for Public Policy and The Development of Race-Based Strategies for Improving Compliance*, 43 J. PEDIATRIC SURGERY 200, 200-207 (Jan. 2008).
- ³² *Id.*
- ³³ Macy et al. *supra* n. 30 at 267.
- ³⁴ Marian. F. MacDorman et al., *Trends and Characteristics of Home and Other Out-of-Hospital Births in the United States, 1990–2006*, 58 NATIONAL VITAL STATISTICS REPORT NO. 11 (Mar. 3, 2010), available at http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_11.PDF.
- ³⁵ Hao Yu et al., *Hospital Stays for Children, 2009*, Healthcare Cost & Utilization Project Statistical Brief #118, Agency for Healthcare Research and Quality (Aug. 2011), available at <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb118.pdf>.
- ³⁶ Shreya Kangovi et al., *Understanding Why Patients Of Low Socioeconomic Status Prefer Hospitals Over Ambulatory Care*, 32 HEALTH AFFAIRS 1196, 1196-1203 (July 2013).
- ³⁷ AAP *supra* n. 6 at 1050.
- ³⁸ Marilyn J. Bull & William A. Engle, *Safe Transportation of Preterm and Low Birth Weight Infants at Hospital Discharge*, 123 PEDIATRICS 1424 (May 2009).
- ³⁹ *Id.*
- ⁴⁰ *See e.g.*, Johns Hopkins Hospital Children's Safety Center, available at http://www.hopkinsmedicine.org/the_johns_hopkins_hospital/services_amenities/dining_retail/childrens_safety_center.html (last accessed Apr. 3, 2014).
- ⁴¹ *See e.g.*, Children's Hospital of Philadelphia, *Car Seat Safety for Kids*, available at <http://www.chop.edu/service/car-seat-safety-for-kids/index.html> (last accessed Apr. 3, 2014). *See also* Lindsey N. Elliott et al., *An Inpatient Child Passenger Safety Program*, 52 Clinical Pediatrics 1022, 1022-26 (2013).
- ⁴² Suzanne N. Brixey & Clare E. Guse, *Knowledge and Behaviors of Physicians and Caregivers About Appropriate Child Passenger Restraint Use*, 34 J. Community Health 547, 547–552 (2009).
- ⁴³ Michelle L. Macy et al., *Emergency Physician Perspectives on Child Passenger Safety: A National Survey of Attitudes and Practices*, 12 ACADEMIC PEDIATRICS 131, 134 (Mar.-Apr. 2012).
- ⁴⁴ *See e.g.*, Northwestern Lake Forest Hospital, *Infant Car Seat Guidelines*, available at http://www.lfh.org/infant_car_seat_guidelines (last accessed Apr. 3, 2014).
- ⁴⁵ Janice Selekman et al., *Implementing a Comprehensive Child Restraint Program in a Pediatric Hospital: An Effective Model*, 26 PEDIATRIC NURSING 619, 621 (Nov./Dec. 2000).
- ⁴⁶ *See e.g.*, Huntsville Hospital for Women & Children, *Car Seat Fitting Station*, available at <http://www.huntsvillehospital.org/womenchildren/carseat/> (last accessed Apr. 3, 2014).

-
- ⁴⁷ Kyran P. Quinlan et. al., *Providing Car Seat Checks With Well-Child Visits at an Urban Health Center: A Pilot Study*, 13 INJURY PREVENTION 352 (2007).
- ⁴⁸ *Id.*
- ⁴⁹ See e.g., Children's Hospital and Research Center Oakland, Trauma Services: Car Seat Loaner Program, available at <http://www.childrenshospitaloakland.org/main/trauma-services-car-seat-loaner-program.aspx>, (last accessed Apr. 3, 2014). See also, Special Needs Child Passenger Safety Program, Children's Hospital for The King's Daughters, available at <http://www.chkd.org/services/CarSeatLoaner/> (last accessed Apr. 10, 2014).
- ⁵⁰ Stephanie Zaza et. al., *Reviews of Evidence Regarding Interventions to Increase Use of Child Safety Seats*, 21 AM. J. PREVENTIVE MED. 31, 36 (2001).
- ⁵¹ Beth E. Ebel et. al., *Use of Child Booster Seats in Motor Vehicles Following a Community Campaign A Controlled Trial*, 289 JAMA 879 (Feb. 2003).
- ⁵² Zaza et. al., *supra* n. 50.
- ⁵³ Mitzi M. Wiggin, Effectiveness of Car Seat Safety Training at NICU Discharge at Texas Children's Hospital (2009), available at <http://www.acestar.uthscsa.edu/institute/su09/documents/WigginbyEngle.pdf> (last accessed Apr. 3, 2014).
- ⁵⁴ Nomi S. Weiss-Laxer et. al., *Evaluating the Educational Component of A Hospital-Based Child Passenger Safety Program*, 67 (1 Supp.) J. TRAUMA S30, S30-33 (Jul. 2009).
- ⁵⁵ Lindsey N. Elliott et. al., *An Inpatient Child Passenger Safety Program*, 52 Clinical Pediatrics 1022, 1022-26 (2013).
- ⁵⁶ Charles R. Ellington et. al., *State Tort Reforms and Hospital Malpractice Costs*, 38 J.L. MED. & ETHICS 127 (2010).
- ⁵⁷ General Motors Foundation, Safe Kids Worldwide Partnership, available at http://www.gm.com/company/aboutGM/gm_foundation/safe_kids_usa_partnership.html (last accessed Apr. 4, 2014).
- ⁵⁸ Illinois Traffic Safety Grants, Child Passenger Safety (CPS) Project Specifications FFY 2013 (Dec. 2011), available at <http://www.trafficsafetygrantsillinois.org/FY13%20CPS%20Specs.pdf> (last accessed Apr. 4, 2014).
- ⁵⁹ Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, Section 2011, Public Law 109-59, 23 U.S.C 402. See also, 23 C.F.R. § 1200.21.
- ⁶⁰ *Id.*
- ⁶¹ Robert A. Berenson & Eugene C. Rich, *U.S. Approaches to Physician Payment: the Deconstruction of Primary Care*, 25 J. GEN. INTERNAL MED. 613, 613-618 (June 2010).
- ⁶² The Joint Commission: Hospital Accreditation, available at <http://www.jointcommission.org/accreditation/hospitals.aspx> (last accessed Apr. 4, 2014).
- ⁶³ The Joint Commission: State Recognition, available at http://www.jointcommission.org/state_recognition/state_recognition.aspx (last accessed Apr. 4, 2014).
- ⁶⁴ Elliott et. al. *supra* n. 55 at 1027.
- ⁶⁵ Paul Cornell et. al., *Transforming Nursing Workflow, Part 1: The Chaotic Nature of Nurse Activities*, 40 J. NURSING ADMIN. 366 (Sep. 2010).
- ⁶⁶ Michelle L. Macy et. al. *supra* n. 23 at 134.
- ⁶⁷ Elliott et. al. *supra* n. 55 at 1027.
- ⁶⁸ National Child Passenger Safety Certification, available at <http://cert.safekids.org/> (last accessed Apr. 4, 2014).
- ⁶⁹ *Id.*
- ⁷⁰ Bob Herman, *6 Hospital Workforce Trends*, BECKER'S HOSPITAL REVIEW (Sep. 6, 2013), available at <http://www.beckershospitalreview.com/workforce-labor-management/6-hospital-workforce-trends-2012.html>.
- ⁷¹ "Child Passenger Safety Forum Summary Report," National Transportation Safety Board, December 9, 2010. http://www.ntsb.gov/news/events/2010/child_safety/presentations/Child_Passenger_Safety_Forum_Summary_Report.pdf
- ⁷² Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 124 Stat. 119 (2010).
- ⁷³ Interim Final Rules for Group Health Plans and Health Insurance Issuers Relating to Coverage of Preventive Services Under the Patient Protection and Affordable Care Act, 75 Fed. Reg. 41,726 (July 19, 2010).
- ⁷⁴ CAL. VEH. CODE § 27363.5 (West 2014).
- ⁷⁵ *Id.*
- ⁷⁶ CAL. HEALTH & SAFETY CODE § 1204.3 (West 2014).
- ⁷⁷ 75 PA. CONS. STAT. ANN. § 4583 (West 2014).
- ⁷⁸ *Id.*

-
- ⁷⁹ Traffic Injury Prevention Project, Active Car Seat Loan Programs, available at <http://www.pakidstravelsafe.org/resources/car-seat-loan-programs> (last accessed Apr. 10, 2014).
- ⁸⁰ Wendy G. Lane et al., *The Association Between Hands-On Instruction and Proper Child Safety Seat Installation*, 106 PEDIATRICS 924 (2000).
- ⁸¹ See *supra* Section V.
- ⁸² Larry Copeland, CDC: Too Many Children Still Dying In Car Crashes, USA Today (February 4, 2014) available at <http://www.usatoday.com/story/news/nation/2014/02/04/cdc-too-many-kids-die-unbuckled/5204127/>.
- ⁸³ The eight states that provide limited immunity for CPS certified technicians are Georgia (GA. CODE ANN., § 51-1-20.2); Maryland (MD CODE, COURTS AND JUDICIAL PROCEEDINGS, § 5-640); North Carolina (N.C. Gen. Stat. § 20-137.5); Pennsylvania (75 Pa. Cons. Stat. § 4586); Oklahoma (OKLA. STAT. ANN. tit. 47, § 11-1112); Tennessee (Tenn. Code Ann. § 55-9-602); Washington (WASH. REV. CODE ANN. § 46.61.6871); and Wisconsin (WIS. STAT. ANN. § 895.497).
- ⁸⁴ *Id.*
- ⁸⁵ MD CODE, COURTS AND JUDICIAL PROCEEDINGS, § 5-640(b).
- ⁸⁶ *Id.*
- ⁸⁷ *Black's Law Dictionary* (9th ed. 2009), available at Westlaw BLACKS.
- ⁸⁸ MD CODE, COURTS AND JUDICIAL PROCEEDINGS, § 5-640(b).
- ⁸⁹ *Id.*
- ⁹⁰ *Id.*
- ⁹¹ See e.g. Am. Jur., Physicians and Surgeons §§ 78–90.
- ⁹² 16 Am. Jur. Trials 471 (Originally published in 1969).
- ⁹³ Howard Levin, *Hospital Vicarious Liability for Negligence by Independent Contractor Physicians: A New Rule for New Times*, 2005 U. ILL. L. REV. 1291 (2005).
- ⁹⁴ S. Allan Adelman, *How to Minimize Medical Malpractice Exposure*, AHLA-PAPERS P07030208 (2002). See also Gregory T. Perkes, *Medical Malpractice-Ostensible Agency and Corporate Negligence- Hospital Liability May Be Based on Either Doctrine of Ostensible Agency or Doctrine of Corporate Negligence Brownsville Medical Center and Valley Community*, 17 ST. MARY'S L.J. 551, 559 (1986).
- ⁹⁵ Linda L. LeCraw, *Use of Clinical Practice Guidelines in Medical Malpractice Litigation*, J. ONCOLOGY PRACTICE, (2007), available at <http://jop.ascopubs.org/content/3/5/254.full>.
- ⁹⁶ See *supra*, sections II-IV
- ⁹⁷ See footnotes 35 and 36.
- ⁹⁸ Denise Ecenroad, *Car Seat Safety: A New Standard of Care, Educating One Family at a Time*, Advanced Healthcare Network for Nurses, available at <http://nursing.advanceweb.com/Article/Car-Seat-Safety.aspx> (last accessed Apr. 5, 2014).
- ⁹⁹ *Id.*
- ¹⁰⁰ *Id.*
- ¹⁰¹ *Id.*
- ¹⁰² *Id.*
- ¹⁰³ See *supra* Section VI.
- ¹⁰⁴ Covered states include Delaware, Minnesota, New Hampshire, and Texas. Car seats and booster seats offered in New Hampshire and Minnesota are offered through one plan of Medicaid that participants may choose to enroll in. Delaware and Texas car seats are provided if expectant mothers attend a set number of prenatal visits. See NH Dept. of Health & Human Services Division of Client Services, DCS Form 1060 (2013). See also MinnesotaCare, <https://www.ucare.org/HealthPlans/statemedicalassistanceprograms/Pages/MinnesotaCare.aspx> (last accessed April 11, 2014). See also Provider Manual, Delaware Physicians Care: an Aetna Health Plan (November 2013), <http://www.delawarephysicianscare.com/assets/pdfs/provider/Provider%20Manual-DE.pdf>. See also Texas Star Program: Your Health Plan Your Choice, http://www.firstcare.com/STAR_Medicaid (last accessed April 11, 2014).
- ¹⁰⁵ Michelle L. Lange, *Transportation of Children with Special Needs*, 24 ADVANCE HEALTHCARE NETWORK FOR OCCUPATIONAL THERAPY PRACTITIONERS 26 (2010).
- ¹⁰⁶ See e.g. Florida Developmental Disabilities Waiver Services Coverage and Limitations Handbook, p. 2-32 (2010). See also Idaho MMIS, Section 2.28 (2014). See also State of Mississippi Division of Medicaid, Provider Policy Manual, Section 10.21 (2002).
- ¹⁰⁷ *Id.*
- ¹⁰⁸ After a Crash: Can I Reuse A Car Seat (Probably Not), THE CAR SEAT LADY BLOG, available at <http://thecarseatlady.wordpress.com/tipsheets/reuseaftercrash/> (last accessed Apr. 11, 2014/)

¹⁰⁹ *See e.g.*, CAL. INS. CODE § 11580.1. *See* also 215 ILCS 5/143.32.

¹¹⁰ Medicaid and Children's Health Insurance Programs: Essential Health Benefits in Alternative Benefit Plans, Eligibility Notices, Fair Hearing and Appeal Processes, and Premiums and Cost Sharing; Exchanges: Eligibility and Enrollment, 78 Fed. Reg. 135, 42160 (Jul. 15, 2013) (codified at 42 C.F.R. pt. 440.130).

¹¹¹ *Id.*

¹¹² CAL. VEH. CODE § 27363.5 (West 2014); CAL. HEALTH & SAFETY CODE § 1204.3 (West 2014).

¹¹³ 75 PA. CONS. STAT. ANN. § 4583 (West 2014).

¹¹⁴ GA. CODE ANN., § 51-1-20.2.

¹¹⁵ MD CODE, COURTS AND JUDICIAL PROCEEDINGS, § 5-640.

¹¹⁶ N.C. GEN. STAT. § 20-137.5.

¹¹⁷ 75 PA. CONS. STAT. § 4586.

¹¹⁸ OKLA. STAT. ANN. tit. 47, § 11-1112.

¹¹⁹ TENN. CODE ANN. § 55-9-602.

¹²⁰ WASH. REV. CODE ANN. § 46.61.6871.

¹²¹ WIS. STAT. ANN. § 895.497.

¹²² *See supra* n. 104.

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ Lange, *supra* n. 105.

¹²⁷ Goldstein, *supra* n. 7 at 62–64.

¹²⁸ *Id.*