

Looking Back on Rear-Facing Car Seats: Surveying US Parents in 2011 and 2013

Michelle L. Macy, MD, MS; Amy T. Butchart, MPH; Dianne C. Singer, MPH;
Achamyeleh Gebremariam, MS; Sarah J. Clark, MPH; Matthew M. Davis, MD, MAPP

From the Department of Emergency Medicine (Dr Macy), Child Health Evaluation and Research (CHEAR) Unit, Division of General Pediatrics (Dr Macy, Ms Singer, Mr Gebremariam, Ms Clark, and Dr Davis), Institute for Social Research (Ms Butchart), Department of Internal Medicine (Dr Davis), and Gerald R. Ford School of Public Policy (Dr Davis), University of Michigan, Ann Arbor, Mich

The authors declare that they have no conflict of interest.

Address correspondence to Michelle L. Macy, MD, MS, Division of General Pediatrics, University of Michigan, 300 N Ingalls 6C13, Ann Arbor, MI 48109-5456 (e-mail: milmacy@umich.edu).

Received for publication June 14, 2014; accepted October 12, 2014.

ABSTRACT

OBJECTIVE: We sought to determine the age at which US parents first turned their child's car seat to face forward and information sources used to make that decision at the time of the release of the 2011 guidelines for child passenger safety and 30 months later.

METHODS: We administered 2 separate cross-sectional Web-based surveys of nationally representative panels of US parents in May 2011 and November 2013. Survey participation rate was 54% in both years. Parents of children ≤ 4 years old responded to questions about transitioning from rear-facing to forward-facing car seats ($n = 495$ in 2011; $n = 521$ in 2013).

RESULTS: In 2011, 33% of parents of 1- to 4-year-old children who had been turned to face forward ($n = 409$) turned at or before 12 months and 16% turned at 2 years or older. In 2013, 24% of parents of 1- to 4-year-old children who had been turned

to face forward ($n = 413$) turned at or before 12 months and 23% turned at 2 years or older. Car seat packaging and clinicians were the most common information sources. Demographic characteristics associated with turning to face forward at or before 12 months of age in 2011 (parent age, education, household income, rural residence) were not significantly associated with transitioning at or before 12 months in 2013.

CONCLUSIONS: Delaying the transition to a forward-facing car seat still represents an opportunity to improve passenger safety in the United States. As common sources of information, clinicians may be influential in a parent's decision to turn their child's car seat to face forward.

KEYWORDS: car seats; child passenger safety; parent survey

ACADEMIC PEDIATRICS 2015;15:526–533

WHAT'S NEW

Two years after new recommendations were issued, a higher proportion of parents reported delaying forward-facing car seat use until age 2. However, nearly one-quarter of parents reported forward-facing car seat use at or before 12 months of age in 2013.

IN 2008 AND 2009, the American Academy of Pediatrics (AAP) first published articles on the safety benefits of rear-facing car seat use until age 2.^{1,2} These publications followed research that demonstrated a 5-fold reduction in the risk of severe injury for children who were rear facing compared with forward facing in motor vehicle collisions.³ Around that time, fewer than 20% of rear-facing child passengers in the United States were older than 1 year,⁴ and just 3% of 1 to 3 year olds used rear-facing car seats.^{5,6} Car seats with rear-facing weight limits that accommodate children older than 1 year have been available since 2006.⁷

Between 2009 and 2011, rear-facing car seat use among infants and toddlers increased slightly.^{8,9} In March 2011, the AAP updated their guidelines for child passenger safety extending the recommendation for rear-facing car seat use from 1 year and 20 pounds to a minimum of 2 years or until a child has outgrown either the rear-facing weight

or height limit of the car seat.¹⁰ However, the age which parents first transition from rear-facing to forward-facing car seats has not been examined. An understanding of when parents turn their children from rear-facing to forward-facing car seats is needed in order for clinicians and safety advocates to time their discussions with parents contemplating this transition.

In this study, consisting of 2 separate national surveys of parents of children 4 years old and younger, we assessed the age at which children were first transitioned from rear-facing to forward-facing car seats. The surveys were fielded in 2011, 1 month after the release of the updated AAP guidelines, and in 2013, 30 months later, in order to examine changes over time in the age at which parents reported transitioning to a forward-facing car seat. Additionally, we examined information sources used by parents regarding when to face children's car seats forward and explored associations between demographic characteristics, information sources, and parent report of turning their child's car seat to face forward at or before 12 months of age.

METHODS

Two cross-sectional surveys of parents of children 4 years old and younger were conducted in May 2011 and

November 2013 as a part of the C. S. Mott Children's Hospital National Poll on Children's Health, a recurring online survey of parents and nonparents. Households with parents of children aged 17 or younger were oversampled to improve statistical power for assessing parental views on child health issues. The surveys were administered at 2 separate time points to samples drawn exclusively for those studies, without any designed overlap or longitudinal design. The study was approved by the University of Michigan Medical School institutional review board.

The National Poll on Children's Health is conducted using the GfK Custom Research LLC (GfK) Group's Web-enabled KnowledgePanel, a probability-based panel designed and recruited to be representative of the US population.¹¹ Potential participants are chosen by a random selection of telephone numbers and residential addresses and then invited by telephone or by mail to participate in the Web-enabled KnowledgePanel. If individuals agree to participate but do not already have Internet access, GfK provides them a laptop and Internet service provider (ISP) connection at no cost. Panelists then receive unique login information for accessing surveys online and are sent e-mails throughout each month inviting them to participate in research. The KnowledgePanel has served as the sampling frame for other national peer-reviewed publications on health topics related to children and child health policy, including child passenger safety.¹²⁻¹⁴

Responses were received from 1,516 of the 2,818 parents invited to participate in the full survey in 2011 and 1,522 of the 2,810 parents invited to participate in the full survey in 2013 (participation rate of 54% for both surveys). This study focused on parental responses to questions related to the transition from rear-facing to forward-facing car seats. These questions (Online Appendix 1) had a Flesch-Kincaid grade level of 5.6 for the 2011 survey and 4.5 for the 2013 survey, calculated using Microsoft Word 2010 built-in software (Microsoft Corporation, Redmond, Wash).¹⁵

In 2011, questions related to car seats were provided exclusively to the subsample of respondents who indicated that they were the parent, stepparent, or guardian of a child 7 months to 4 years old at the time of the survey. In 2013, questions related to car seats were provided to parents, stepparents, or guardians who indicated they had a child 4 years old or younger at the time of the survey. Parents of children 4 years old and younger were the population of interest because some rear-facing convertible car seats have a 40-pound upper weight limit that could conceivably accommodate a 4-year-old child. When parents indicated they had more than one child 4 years old or younger, the survey program selected one child in the household in this age range about whom the parent was asked to respond. Parents who provided no response or indicated "I don't know" to the question "At what age did you first have your child ride in a car seat that faced forward instead of backward?" (5% overall) were excluded from all analyses.

The main outcome of interest was the proportion of parents of 1- to 4-year-old children who reported their child used a forward-facing car seat at or before 12 months of

age. The age of 12 months was selected on the basis of the rear-facing car seat recommendations of the National Highway Traffic Safety Administration,¹⁶ the AAP guidelines for child passenger safety in place before March 2011,¹⁷ and the third edition of *Bright Futures*, published in 2008.¹⁸ Predictor variables included parental demographic characteristics, information sources, rural versus urban residence (based on address outside of or within a metropolitan statistical area), and residing in a state where the law in 2011 and 2013 specifically mentions rear-facing car seat use until 1 year of age and 20 pounds or forward-facing car seat use at 1 year of age (AL, AK, CO, CT, IA, LA, NM, OR, SC, TN, VT, WI).¹⁹ In 2013, Wisconsin state law mentioned rear-facing car seats for 1- to 3-year-olds.

Weighted percentages for descriptive statistics were calculated. Respondents who provided an age at which their child first rode in a forward-facing car seat, regardless of the child's age at the time of the survey, were used to describe the information sources used by parents when deciding to turn their child's car seat to face forward ($n = 419$ in 2011 and $n = 421$ in 2013). Chi-square statistics were used to test for associations between demographic characteristics and information sources in each year.

Responses from the subset of parents of children who were at least 1 year of age and had been turned to face forward ($n = 409$ in 2011 and $n = 413$ in 2013) were used in chi-square analyses to compare the categorical age at which children were turned to face forward in 2011 and 2013. This analysis was limited to the subset of parents of children who were at least 1 year of age because the survey was fielded to parents of children 7 months to age 4 in 2011 and birth to age 4 in 2013. Chi-square analyses of demographic characteristics and information sources associated with turning a child's car seat to face forward at or before 12 months included responses from parents of children who had reached 1 year of age regardless of car seat orientation ($n = 440$ in 2011 and $n = 462$ in 2013). We took this approach because of censoring of data among parents of children younger than 1 year old who had not turned to face forward. Multivariable logistic regression using combined data from both survey years was used to test for associations between demographic characteristics, information sources, and turning to face forward at or before 12 months of age. All analyses were conducted with Stata 12 (StataCorp, College Station, Tex), using census-based sampling weights provided by GfK to draw nationally representative inferences. P values of $<.05$ were considered statistically significant.

RESULTS

STUDY SAMPLE

More than 90% of parent respondents (495 of 526 respondents in 2011 and 521 of 541 respondents in 2013) provided the age at which their child first rode in a car seat that faced forward or indicated their child had not yet turned to face forward (Fig. 1). Demographic characteristics of the respondents by year are presented in Table 1.

Download English Version:

<https://daneshyari.com/en/article/4139026>

Download Persian Version:

<https://daneshyari.com/article/4139026>

[Daneshyari.com](https://daneshyari.com)