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The Role of Bath Seats in Unintentional Infant Bathtub Drowning Deaths

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Abstract and Introduction

Abstract

Objective: The objective of this study was to quantify and characterize the role of bath seats in infant mortality from bathtub drowning.
Method: Risk analysis of bathtub drowning deaths for infants aged 6-10 months was performed using data available from the US Consumer Product Safety Commission (CPSC), birth and mortality data from the National Center for Health Statistics (NCHS) for US resident infants from 1990-1998, and bath seat ownership from the American Baby Group and industry sales data compiled by NPD to estimate bath seat use. The analysis computes the relative risks of infant drowning based on estimates of bath seat use with a cohort design and explores the potential confounding by a range of factors.
Results: In-depth analysis of the unintentional bathtub drowning deaths of American infants aged 6-10 months for the years 1994 through 1998 revealed 40 infant drowning deaths associated with bath seats and 78 deaths not associated with bath seats. Based on available data on sales and use that suggest approximately 45% of infants in this age group use bath seats, the existing data do not support a hypothesis that bath seats increase the risk of bathtub drowning for infants. Bath seats are not intended or marketed as safety devices, and analysis of the existing, albeit limited, data suggests that they either have no effect or they may provide some slight unexplained protection against unintentional bathtub drowning risks (with an odds ratio for the risk of drowning with a bath seat vs without a bath seat of approximately 0.6 [95% confidence interval (CI) 0.4-0.9]). Although all potential confounders cannot be fully explored due to incomplete data and large uncertainties remain, this analysis suggests that the US CPSC made the appropriate decision not to ban bath seats in response to petitions it received in 1994 and 2001.
Conclusions: Increasing market sales and surveys of reported bath seat use were associated with decreasing unintentional infant bathtub drowning risks. Rigorous risk analyses should be conducted when considering regulating products to ensure that regulation does not inadvertently increase injury risks. Analysis of the factors associated with these deaths suggests that additional efforts are needed to ensure that caregivers do not leave infants unattended in the bathtub and to collect data that will further improve our understanding and management of these risks.

Introduction

Unintentional drowning remains one of the most significant and preventable causes of child mortality, and bathtubs present a significant hazard to infants and young children.[1-12] Currently, unintentional bathtub drowning accounts for approximately 1 of every 100 deaths of US resident infants aged 6-10 months, with a recent study showing that 55% of the children under the age of 1 year who died from drowning in 1995 drowned in bathtubs.[1] While current national goals emphasize the objective of reducing incidents of childhood drowning, none specifically focus on the prevention of infant bathtub drownings.[12]

The literature provides a number of insights about infant bathtub drowning-related mortality risks. Brenner and colleagues[2] found that the mortality rates of unintentional nonboat infant (children up to age 1 year) drowning increased from approximately 2 per 100,000 infants to 2.5 per 100,000 infants over the period of 1971 to 1988, and they reported that

approximately 40% of infant drowning deaths occurred in bathtubs. Numerous studies identified the absence of a competent supervising adult as a key risk factor.[3-8] For example, for children under 5 years old, Budnick and Ross[3] reported that children under the age of 2 years old represented 30 of the 34 drowning victims reportedly left unattended in their study. Warneke and Cooper[4] reported that of the 25 cases of bathtub child drowning in their study of Harris County, Texas (1983-1990), 23 cases contained information on supervision and all 23 cases noted a lack of supervision. Pearn and colleagues[5] suggested and O'Carroll and colleagues[6] reiterated that children who can sit alone and pull themselves up represent a high-risk group for bathtub drowning because parents might be lulled into the false belief that the infant or toddler is strong enough to keep his head out of water. Several studies[5,7,8,13] also emphasized that the "dangerous practice"[5] of leaving infants in the bath in the custody of a sibling, often a sibling not much older than the infant, represents a significant risk factor, and Jensen and colleagues[7] suggested that this may be an indication that caregivers overestimate the sibling's ability to supervise the infant. Other significant risk factors identified for infant drowning include epilepsy (of the child or caregiver),[3,4,5,8] and child neglect or abuse[8-10] (which are not considered here since this analysis focuses on unintentional drowning).

Bath seats first entered the market as infant bathing aids in their current form in 1991, although bath rings that did not include a seat reportedly entered the US market in 1981.[14] The American Society for Testing and Materials published a Standard Consumer Safety Specification for Infant Bath Seats that provides standard definitions for bath seats.[15] In 1997, Rauchschwalbe and colleagues[14] reported a case series that indicated that the CPSC knew of 32 bathtub drowning deaths of children between 5 and 15 months old that occurred between 1983 and 1995 involving bath rings or bath seats. Based on their observed increase in these deaths reported over time and results from a small focus group of parents, they hypothesized that the use of bath seats might increase the risks of drowning among infants by increasing the likelihood that an infant would be left alone in the tub.

No comprehensive studies to date have explored this hypothesis by combining information about mortality and estimates of bath seat use. This analysis is the first to quantify the risks of unintentional infant drowning deaths in bathtubs with and without bath seats, focused on infants ages 6-10 months.

Methods

The method used to conduct this analysis consisted of 3 elements: (1) developing a database of the unintentional infant drowning deaths with information about bath seat usage and other risk factors based on available data; (2) estimating the number of infants who use bath seats; and (3) statistical analyses to quantify the relative risks, odds ratio, and CIs using a standard cohort design and to explore trends in bath seat use and infant bathtub mortality over time.

Database Development

The mortality records of all US resident children who died under age 1 year were extracted using SAS[16] from the NCHS Compressed Mortality Files for each year for the period 1990-1998.[17] The data for 1990 were extracted to allow inclusion of the deaths that occurred to infants born in 1990 that were between the age of 6 through 10 months in 1991 so that an accurate number of person-months could be tabulated for the exposure estimates. The downloaded data included the month and year of death; place of death; child's sex, age, and state of residency; and the underlying cause of death according to the *International Classification of Diseases*, 9th revision universal classification of disease (UCOD) code.[18] Deaths coded as "accidental drowning and submersion in a bathtub" (E910.4) constituted the initial database, and those with codes for "other accidental drowning and submersion" (E910.8) and for "unspecified accidental drowning and submersion, undetermined whether accidentally or on purpose" (E984), were also downloaded since they might include some infant bathtub drowning deaths.

To determine the number of deaths involving bath seats and information about other risk factors, the author requested from the US CPSC under the Freedom of Information Act copies of all of its information about bath seat-associated drowning deaths and copies of in-depth investigations available for nearly all of the infant bathtub drowning deaths that occurred in the years 1994 through 1998. For the years of 1994-1998, a detailed database was developed of bathtub drowning deaths that occurred for US resident infants aged 6-10 months. While the CPSC had reports of infant bathtub drowning deaths of a small number of slightly younger children (ie, 3 aged 5 months) who reportedly drowned when using bath seats, because bath seats are marketed for children under 1 year of age who are able to sit up (with the developmental milestone of 6 months for this[19]), this analysis focused on children aged more than 6 months. Similarly, although the CPSC had reports of infant bathtub drowning deaths of a small number of slightly older children (ie, 3 aged 11 months, 1 aged 12 months, and 1 aged 14 months), because by 11 months many children begin to push up and stand (criteria for the cessation of bath seat use), this analysis did not include children older than 11 months.

The data provided sufficient detail to match the CPSC in-depth incident reports with records in the mortality database extracted from the NCHS data (with matching based on all of the information available about when the death occurred, and the age, sex, and state of residency of the deceased). For those cases that did not match, further investigation was initiated to explain discrepancies. As a result of this effort, several cases identified were matched with deaths coded with injury codes E910.8 and E984. Using all of the information available for each death, the database included the date (month and year) when the drowning occurred and when the death occurred, the age, sex, and place of death for the deceased, the assigned UCOD, the presence or absence of a bath seat, information about whether a sibling was involved, the depth of the bath water (in inches), the length of time the infant was reportedly left unattended, the infant's weight (in pounds) and height (in inches), and any available narrative details about the situation surrounding the death. The author coded the available reasons given according to the following categories: (1) left to attend to a personal need, (2) left to get something for the child or a sibling, (3) left to talk on phone, and (4) left to talk with or help another person or pet. When faced with data reported as a range (eg, for water depth), the author used the middle of the range, and when data were reported qualitatively (eg, bathtub half full) the author made assumptions to quantify these to the extent possible (eg, full bathtub contains 16 inches of water). In some cases, the author looked for missing information and attempted to resolve discrepancies by reviewing newspaper articles or by contacting medical examiners, coroners, and police officers, but some information remains missing and many of the data are uncertain.

Table 1 summarizes the database development and shows a total of 136 bathtub drowning deaths of infants 6-10 months coded as E910.4 for 1994 through 1998. Of these, 6 deaths (4%) were excluded because no data were available from the CPSC about these cases and the author's efforts to retrieve information about these also failed to yield any details. Based on review of the in-depth incident reports, an additional 22 deaths (16%) were excluded from the analysis as "out of scope" because they involved circumstances where the infant was reportedly not placed in the bathtub by a competent adult for purposes of bathing. For example, these cases included several instances where slightly older siblings (ages 3 to 6 years old) placed the infant in the bath and turned the water on, where the infant was seated in a dry bath (often placed there by a caretaker) and the water was turned on either by the infant or a sibling, and where the infant went into a tub filled with water either for someone else or with bathing siblings without the caretaker's knowledge. Two deaths (1%) not associated with bath seats were excluded because the mothers blacked out while bathing their infants. In addition, 5 deaths coded as E910.8, 5 deaths coded as E984, and 2 deaths that did not appear in the NCHS data were included based on detailed information about these deaths that clearly indicated that they were infant bathtub drowning deaths. After all of the exclusions and inclusions, the final database included a total of 118 infant bathtub drowning deaths, 40 (34%) associated with bath seats.

Exposure Estimation

The author obtained monthly birth data from the NCHS[20] for each year between 1990 and 1998 to determine the size of each monthly birth cohort. Then, using the mortality data, the numbers of deaths of children that occurred for each monthly birth cohort by monthly age were subtracted from the birth cohort population (in the months that they occurred) using Microsoft *Excel*. This resulted in a spreadsheet that provided the population of each monthly birth cohort as a function of monthly age and calendar month. Finally, the person-months contributed to each calendar year (by infants aged 6-10 months) were summed for the calendar years of 1991 through 1998, and these sums were each divided by 5 months to find the average number of infants aged 6-10 months of age that contributed to the cohort in any single calendar year. The second column of Table 2 shows these data. The third column shows the number of deaths reported to the NCHS for code E910.4 for infants aged 6-10 months, and the fourth column shows the crude death rates.

Bath seat sales data for the United States were obtained from the Juvenile Products Manufacturers Association as tabulated by NPD[21] for the years 1991 and 1993-1998 (1992 sales were not available so these were interpolated by the author) and these are reported in the fifth column of Table 2. These data indicate that the sales of bath seats did increase as a percentage of the number of infants born (see the sixth column of Table 2) over the time period 1991-1995 and that for 1994-1998, the number of new bath seats purchased approximately equaled 45% of the infant population that might use them.

One additional source provided data on reported bath seat ownership by parents of children who provided data for their children as a function of the child's age. The American Baby Group's Baby Product Tracking Survey[22] collected data from a sample of mothers of infants between the ages of birth and 2 years (a group that they call "new mothers" to distinguish them from the group of expectant mothers that they also survey). The sample population derives from a representative national purchased list of new parents and, based on demographic data collected, the survey researchers consider the sample to be representative of the population of new parents.[22] While this is a self-administered market survey with a response rate of 42% for 1996, the study collected data from 453 mothers of infants aged 6 through 10 months with no known selection biases (and a similar study in 1999 found similar results). The specific bath seat question asked mothers about the age of their most recent child (in months) and their current ownership of a bath seat. Table 3 shows the results from the 1996 survey, which is in the middle of the time period of interest of 1994 through 1998. Approximately 45% of mothers of infants

aged 6-10 months reported owning a bath seat, which is completely consistent with the sales data. No data exist that provide any information about actual usage as a function of the infant's age, so ownership is assumed to represent use.

Statistical Analysis

Descriptive comparisons and t-tests of other potential risk factors (age, weight, height, time reportedly left unattended, water depth, and reported reason for leaving the infant) were performed to test for statistical differences of these for the infant deaths associated with bath seats and those not associated with bath seats. Regression analysis of the crude death rate of infant bathtub drowning deaths for children 6-10 months (Table 2, column 4) vs the percentage of infant population represented by annual sales was also performed (Table 2, column 6). Finally, the estimated numbers of children that do and do not use bath seats were used as the denominators and the actual deaths that occurred as the numerators to estimate the relative risks of drowning associated with and without bath seats. These ratios were used to compute an odds ratio and CIs.

Results

While much of the data were imprecise (eg, times left unattended and water depths given as ranges) leading to assignment of the midpoint in reported ranges as the best estimate, the results suggest that, in general, the population of infants that died while using bath seats appeared to be similar to the population that died while not using the bath seats, as shown in Table 4. The percentage of infant drowning deaths associated with a bath seat that involved siblings and for males were slightly lower than those not associated with bath seats, although these differences were not statistically significant (both coincidentally with ratios of 0.7 and 95% CIs of 0.3 to 1.5). The average ages, heights, and weights of the infants in the two groups and the reported water depths were very similar and not significantly different statistically based on 2-sample t-tests with a 5% significance level. The average number of minutes that the caretaker reported leaving the child unattended varied considerably for both groups and the distributions were highly skewed. While the data suggest that infants in bath seats appear to have been left for slightly shorter amounts of time on average, this difference also did not reach statistical significance (results from a 2-tailed t-test assuming unequal variances yielded t-stat = 1.21 < t-crit = 1.98, P (T < t)$_{\text{two-tail, alpha} = .05}$ = .23).

Table 5 shows the breakdowns of the reasons that caretakers reported for leaving the infant who drowned unattended for those deaths where reasons were given (note that reasons were missing for 7 (18%) of deaths associated with bath seats and for 27 (35%) of deaths not associated with bath seats). The results are similar between the two groups, except that the percentage of deaths associated with bath seats was much higher for caretakers who left to talk on the phone and lower for when the caretaker left to get something for the child or a sibling.

Table 2 shows that the crude death rate for infant bathtub drowning declined between 1991 and 1998, coincidentally at the time when the sales of bath seats increased substantially. Figure 1 shows the plot of the number of total deaths and the number of deaths associated with bath seat sales as a function of bath seat sales (in millions). The increase in sales of bath seats would be expected to lead to an increase in the number of observed infant bathtub drowning deaths that occurred in the presence of bath seats simply as a result of increased exposure (the trend observed in the lower part of Figure 1 and also observed by Rauchschwalbe and colleagues[14]). If bath seats had no effect on overall infant bathtub drowning risks, we would expect the total number of infant bathtub drowning deaths to be relatively constant at the top in Figure 1, but the trend is clearly a downward trend for infant bathtub drowning deaths. Although the sample size is obviously small (n = 8 years), a best-fit regression line for crude death rate as a function of bath seat sales (in millions) yields a relationship (y = -2.8E-06 x + 1.2E-05) that is statistically significant at a 5% significance level (R^2 = 0.55, P < .035). Although the observed negative correlation may be completely coincidental and due to some other unknown confounding factor that truly lowered the drowning rates, it is difficult to argue that bath seats appear to significantly increase overall infant bathtub drowning risks based on these observed data.
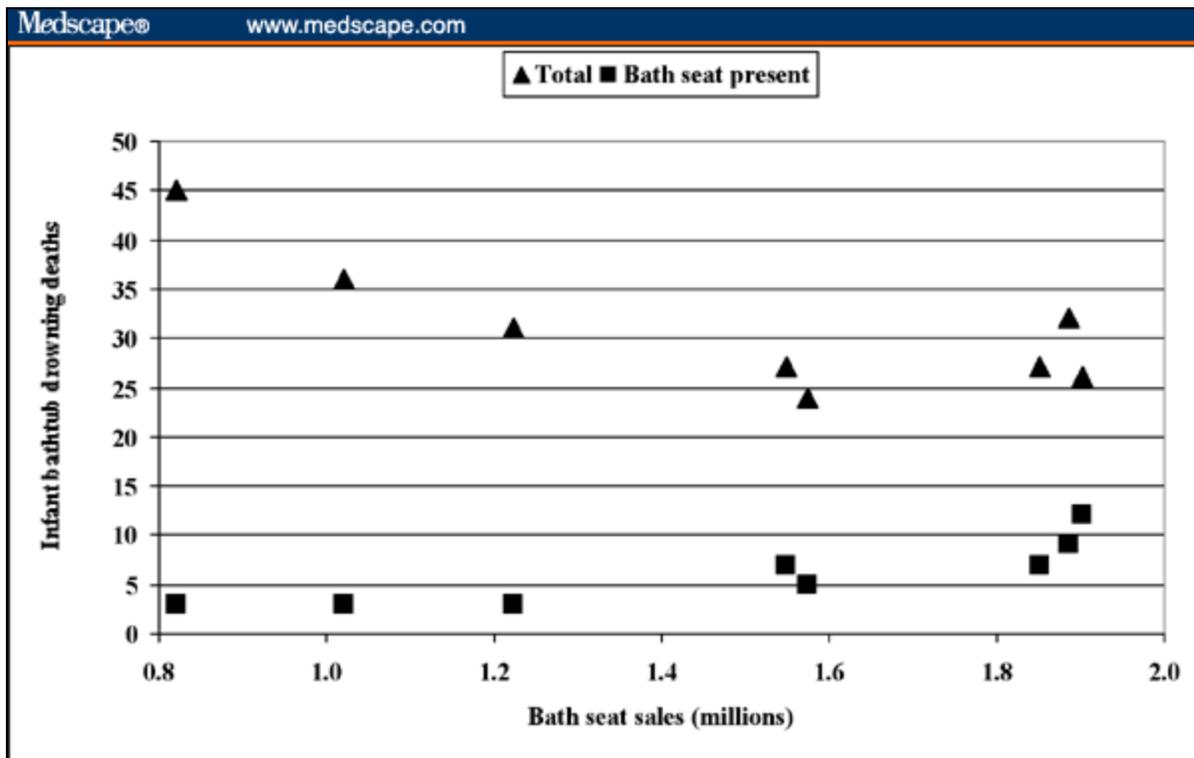
Figure 1.

To further explore the potential impact of bath seats using the best estimate of exposure, we can estimate the relative risks of drowning with a bath seat (n = 40) and without a bath seat (n = 78), assuming 45% of the 19,455,025 infants aged 6-10 months in the 1994 through 1998 time period used bath seats and the remainder did not. The relative risks associated with bath seat exposure are estimated to be 43/(0 .45*19,455,025) = 5×10^{-6} and those not associated with bath seats are 89/(0 .55*19,455,025) = 7×10^{-6}. These estimates of the relative risks suggest that infants not using a bath seat are approximately 1.6 times more likely to drown than those using a bath seat (95% CI 1.1-2.3). Taking the reciprocal of ratio to express the odds ratio associated with the use of bath seats as a risk factor leads to a ratio of the relative risks of 0.6 (95% CI 0.4-0.9). Based on these best estimates, it appears that bath seats are correlated with a statistically significant decrease in bathtub infant drowning, although causation cannot be shown in this study and several important limitations suggest the need for cautious interpretation of these results. In particular, analysis of any narrower age ranges lead to wider CIs (due to smaller sample sizes) that are no longer statistically significant. In addition, the statistical results are very sensitive to the percentage of bath seat users assumed, and given how close these CIs are to 1, the results also quickly become not statistically significant as the estimate of the percent of bath seat users drops.

Discussion

The decline in the unintentional bathtub (E910.4) drowning crude death rate for US resident infants aged 5-10 months shown in Table 2 and Figure 1 is remarkable, particularly given the lack of identifiable medical or public health intervention that might account for the decline. There might have been some factor that led fewer caretakers to leave children unattended in the bathtub during this time or some other explanation for the observed trend, but the increase in the sales and use of bath seats should not be overlooked as a possible hypothesis. Even though bath seats are not intended or marketed as safety devices, they might reduce the probability of an infant being in an unsafe position in the water because they do support the child in sitting up and they also come with a printed warning on the product to remind caretakers not to leave a child unattended in the bathtub.

By definition, all unintended bathtub infant drowning deaths included in the analysis occurred when the infants were left unattended, and this is the difference between those infants who drowned and those who did not. While this study provides some reasons why caretakers reportedly left the infants who drowned unattended in the bathtub, it is difficult to discern any differences between the groups given the existing data, and more research is needed to better understand why parents leave bathing children unattended. Studies that preceded the introduction of bath seats suggested that parents might be lulled into the false belief that the infant or toddler who can sit alone or pull himself up is strong enough to keep his head out

of water,[5,6] and this seems to still be true whether the child is in a bath seat or not.

Unfortunately, the existing data about infant bathtub drowning are very limited with respect to parental behaviors and beliefs, and we cannot currently assess whether the probability of being left unattended is significantly higher or lower if a bath seat is present or whether the duration of time left unattended is higher or lower when a bath seat is used. Instead, this analysis suggests only the limited conclusions that the existing data are not consistent with the hypothesis that bath seats increase the risks of infant bathtub drowning overall or the assumption that without the bath seat the caretaker will be in constant attendance. The sad reality is that every year some caretakers do leave infants unattended long enough in bathtubs for these infants to drown, and, indeed, constant adequate supervision would make an enormous difference in significantly decreasing the rate of infant bathtub drowning risks.

The fact that more than 50% of these drowning deaths involved siblings is also a striking and potentially important finding, but unfortunately this remains a finding that could not be further investigated given the absence of national data on the tendency of parents to bathe infants with siblings.[13] The impact of siblings on infant bathtub drowning mortality is probably even more pronounced than indicated here because many of the cases that were excluded as "out of scope" in the nonbath seat infant drowning deaths involved a sibling placing the infant in a bathtub without the knowledge of an adult. Review of the data shows that the issue is not only one of siblings not being competent to alert a parent about or save a drowning infant, but that young siblings may actually put an infant at risk by placing him in danger (eg, putting him in the bath or holding the infant's head under water). Further study of the role of siblings in infant bathtub drowning deaths may help pediatricians provide targeted messages to parents specifically about siblings.

Due to a lack of information about the socioeconomic status of the infants, the author was not able to quantitatively explore differences in income between the two groups. Based on the descriptions of the cases in the in-depth investigation reports, the author did not discern any qualitative differences between the two populations, and since bath seats represent a comparatively low-cost item (eg, about the same cost as feeding the infant formula for one week), a large income differential is not expected in bath seat ownership. Nonetheless, infant drowning deaths are associated with lower income socioeconomic groups and any possible confounding by income remains unexplored due to lack of data.

Overall, the limitations of this analysis center on the lack of better data on actual parental behavior and bath seat use that would allow consideration and incorporation of the dynamics or temporal patterns of bath seat use. For example, in this case, the absolute numbers of estimated users may be too high (ie, due to the possibility that people buy the seats but do not use them) or low (due to the reuse of these products for siblings or other children).

Further research is needed to resolve the remaining uncertainties and to better understand parental attitudes and behaviors so that effective strategies for preventing infant bathtub drowning deaths can be designed and implemented. Future analyses should also adequately consider the costs and benefits of these products. For example, even though they were not discussed in this risk analysis, the benefits of bath seats are clearly significant enough to merit sales of more than 1 million units per year. Caretakers may value their ability to (1) secure children in the bathtub without having to constantly hold them, (2) wash children with both hands free, (3) avoid injuries to children from accidentally dropping them during washing, and (4) reduce the amount of time that they need to spend leaning over the edge of the tub.

With all its limitations, this analysis suggests that the Commissioners of the CPSC made the correct choice in rejecting 2 separate petitions (in 1994 and 2001) that sought to ban bath seats based only on the numerator of the risk (ie, looking only at the increase in the number of bath seat-related drowning deaths shown at the bottom of Figure 1 without seeing the overall decline in the infant bathtub drowning rates shown at the top of Figure 1). As the CPSC makes future decisions about the regulation of bath seats, these results should provide some important insights and should serve as a reminder of the critical importance of looking at the overall risks (ie, not focusing on the changes associated with one type of risk in the absence of changes of the overall risk). Failing to appreciate the overall risks could lead to similar petitions to ban other lifesaving interventions based on the increase in the number of deaths of children using those other interventions. For example, simply focusing on the increase in the number of children that have died in car accidents while using child safety restraints (car seats) that occurred as the number of children using the restraints, one could similarly argue for banning these, a disastrous proposal given their demonstrated life-saving effectiveness. Clearly, this situation is contradictory to public health, and regulators must exercise caution and perform rigorous risk analyses when regulating products to ensure that the decision made does not inadvertently increase net risks.

This analysis does not suggest, however, that bath seats could not be made safer. As the design of infant bath aids evolves, new designs may prove to be even better. Currently, some baby bathtubs on the market can be used in different ways as the infant ages, including helping an older infant (aged 5-10 months) sit in the tub. These all-in-one products have already replaced many bath seats of the style considered here.

The tragic fact that bathtub drowning mortality risks to infants exceeds 1 infant in a million per year is startling, and suggests the need for increased and ongoing efforts by pediatricians to continually educate parents about this risk. Pediatricians must remain vigilant in playing their critical role in drowning prevention, and they should take every opportunity to "alert parents to the dangers that standing water presents to children" and advise parents that they "should never -- even for a moment -- leave children alone in bathtubs."[23]

Tables

Table 1. Description of Database of Bathtub Drowning Deaths for Infants Aged 6-10 Months in 1994 Through 1998

	Total	Number associated with bath seats
All deaths coded as E910.4	136	35
Excluded - E910.4 (Due to no detailed data available at all)	6	Unknown
Excluded - E910.4 (Due to death out of scope, see text)	22	0
Excluded - E910.4 (Due to mother's seizure)	2	0
Included - E910.8 (Detailed data available)	5	1
Included - E984 (Detailed data available)	5	3
Included (not in NCHS data so no code available)	2	1
Total included in detailed database	118	40

Table 2. Population Size (Based on Natality Data[20]), Deaths From National Mortality Statistics for 6- Through 10-Month-Old Infants for 1991-1998 Extracted From the NCHS Compressed Mortality Files for Selected Codes,[17] and Number of Bath Seats Sold From Juvenile Products Manufacturers Association as Compiled for the Industry by NPD[21]

Year	Number of 6- through 10- month-old infants*[20]	Number of deaths of these infants coded E910.4[17]	Crude death rate (column 3/column 4)	Bath seat sales[21]	Percent of infants represented by sales (column 5/column 2)
1991	4,111,123	45	1.1E-05	820,510	20%
1992	4,074,327	36	8.8E-06	1,021,000†	25%
1993	4,004,727	31	7.7E-06	1,223,000	31%
1994	3,952,374	27	6.8E-06	1,548,000	39%
1995	3,900,427	26	6.7E-06	1,902,300	49%
1996	3,868,299	32	8.3E-06	1,887,000	49%
1997	3,859,726	27	7.0E-06	1,851,600	48%
1998	3,874,199	24	6.2E-06	1,573,700	41%

* Total person-months of children aged 6 through 10 months of age in calendar year indicated divided by 5 months

† 1992 sales not available so this estimate is interpolated by the author as the midpoint between 1991 and 1993 sales

Table 3. Information About Ownership of Bath Seats Reported by a Representative Sample of Mothers of Children Aged 6-10 Months in the American Baby Group's 1996 Survey[20]

Age of child (mo.)	Own bath seat	Total	% of total with seat
6	42	106	40%
7	57	110	52%
8	46	105	44%
9	47	100	47%
10	7	21	33%
Total	199	442	45%

Table 4. Descriptive Factors

Factor	Bath seat (n = 40)	No seat (n = 78)
Sibling present*	48%	63%
Percent female	63%	46%
Average age (mo)	8.1	8.6
Average height (in)†	27.3	27.1
Average weight (lbs)†	20.5	20.3
Average bath water depth (inches)‡	8.0	8.2
Average minutes reportedly unattended§	6.1	9.8

* Data on sibling presence missing for 2 nonbath-seat deaths

† Data missing for 7 deaths associated with bath seats and 16 nonbath-seat deaths

‡ Data missing for 4 deaths associated with bath seats and 25 nonbath-seat deaths

§ Data missing for 6 deaths associated with bath seats and 13 nonbath-seat deaths

Table 5. Breakdown of Reasons Given for Leaving a Child Unattended

Reason*	Bath seat	Percent	No bath seat	Percent
Left child to talk with or help another person or pet	9	27%	13	25%
Left to talk on phone	13	39%	14	27%
Left to get something for the child or a sibling	2	6%	10	20%
Left to attend to a personal need	9	27%	14	27%

* Missing reasons for 7 deaths associated with bath seats and 27 deaths not associated with bath seats.

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Acknowledgements

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