



CPSC Staff Statement on Fors Marsh Group (FMG) Report “Consumer Product Safety Commission (CPSC): Caregiver Perceptions and Reactions to Safety Messaging Final Report”¹
August 12, 2019

The report titled, “Consumer Product Safety Commission (CPSC): Caregiver Perceptions and Reactions to Safety Messaging Final Report,” presents the results of six 90-minute focus groups with caregivers of infants. The caregivers were parents and grandparents of infants 2 to 11 months of age. The focus groups assessed experiences, feedback on beliefs, perceptions about infant sleep practices, and caregivers’ compliance with safety messages, including why specific sleep products are used for different stages of their infant’s life and the factors considered when placing their infant down to sleep. Work was completed under contract CPSC-D-16-0002, Task Order: 61320618F1023

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¹ This statement was prepared by the CPSC staff, and the attached report was produced by Fors Marsh Group for CPSC staff. The statement and report have not been reviewed or approved by, and do not necessarily represent the views of, the Commission.

Consumer Product Safety Commission (CPSC): Caregiver Perceptions and Reactions to Safety Messaging Final Report

August 12, 2019

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Executive Summary

Background

More than 3,000 infant fatalities occur annually in the United States (Goodstein, Lagon, Bell, Joyner, & Moon, 2018). Many infants sleep in products and environments that are not necessarily appropriate and potentially deadly if misused, making it critical to take steps to improve caregivers' application of safety messaging and infant sleep practices. Therefore, the Consumer Product Safety Commission (CPSC) contracted with Fors Marsh Group (FMG) to conduct research to help improve future hazard communications and public safety messaging regarding infant sleep safety. FMG conducted six 90-minute focus groups with caregivers of infants. Participants were segmented into groups based on their caregiver status and the age of the infant: Grandparent (infant 5–7 months old), Grandparent (infant 8–11 months old), Parent (infant 2–4 months old) (two groups), Parent (infant 5–7 months old), and Parent (infant 8–11 months old). The focus groups assessed experiences, feedback on beliefs, perceptions about infant sleep practices, and caregivers' compliance with safety messages, including why specific sleep products are used for different stages of their infant's life and the factors considered when placing their infant down to sleep.

The findings from this focus group research will provide CPSC with recommendations to improve safety messaging, suggested updates to warning labels, feedback on potential new communication channels that can be used to effectively disseminate infant safety messaging to parents and caregivers, and recommendations for future research regarding strategies for how to best communicate warning labels and safety messaging to consumers.

Key Findings

Main findings that emerged from the focus group research on infant sleep safety messaging include:

- Participants indicated that they were generally aware of current safety messages, but safety messages are constantly changing (i.e., from generation to generation), and it is hard for them to know what is relevant and what is not. Not knowing which safety messages are most current makes it difficult to identify the best practices for their infant. Participants reported that this ambiguity can often result in guilt if they are unsure whether they are adhering to the most recent versions of safety messaging.
- The product that an infant sleeps in is dependent on the time of day. Participants reported that for naps, their infant can sleep anywhere from a car seat to a designated naptime sleep product. They often reported playards as the most common naptime sleep product. At night, participants typically reported that their infant follows a strict nighttime routine and are commonly put to sleep in their designated bedtime sleep product (most often, a full-size crib).

- Convenience is the underlying driving factor for participants when deciding which sleep products to use for their infant. Additionally, advice from friends and affordability are other factors they reported taking into consideration when buying infant sleep products.
- The majority of participants reported adding a comfort item to sleep products for their infant. This ranged from adding a plush mattress to laying down a pillow or blanket to make the sleep experience better for their infant. Grandparents reported adding blankets and/or pillows to their infant's sleep environment more than parents.
- Participants reported that they frequently use restraints attached to sleep products. A few noted that they loosen the restraints if the infant is asleep in the product, and others reported not using restraints at all if the infant is not an active sleeper.
- Participants indicated that they were generally aware of safety messages related to infant sleep, but the ways in which they interpret the risks associated with the safety messages varied widely. Interpretations of risks included:
 - Some participants reported actively making changes to their behavior as a result of the risks conveyed by safety messages.
 - Many participants reported that they understood the risks, but at the same time, reported that they are willing to do whatever it takes to ensure their infant is comfortable while sleeping.
 - Participants recounted that they view safety messages as a marketing tactic to persuade caregivers to buy products. Since these products advertise that caregivers follow the latest sleep safety practices and claim that the latest products help infants sleep more and sleep better, they appeal to caregivers because they want to ensure their infants are comfortable and sleep through the night.
 - Participants also reported that family or close friends with previous caregiver experience dictate how they interpret risk. Participants reported being more likely to adhere to safety practices these individuals advise them to follow.
 - Participants reported several other trusted sources of information when it comes to obtaining safety messages. They included pediatricians, parenting magazines, and the internet (e.g., social media, mom blogs, online product reviews, and Google searches).
 - Some participants reported that they read warning labels in their entirety, some reported glancing over them, and some reported that they do not read them at all, since they perceive all of them to be the same. Some participants even reported that they perceive warning labels as a potential hazard for their infant and tend to cut the label off before allowing the infant to be placed into or to use the product.

Conclusion

Based on the results of this research, it is apparent that participants are generally aware of the current infant sleep safety best practices but tend to only adhere to safety practices that their most trusted sources endorse. Due to the various competing sources of information (e.g., family, friends, pediatricians, internet, and strangers) participants selectively adhere to a variety of different recommended practices. Additionally, they have a lack of interest in reading warning labels on products, as they perceive them as repetitive and lengthy. These factors are significant barriers to ensuring that infants are sleeping safely. As a result, it is important to ensure that communication regarding infant sleep safety is consistent and reliable so that consumers will be more likely to comply with these precautions in the future.

Introduction

Background

The purpose of this study was to gather feedback on beliefs, experiences, and perceptions about infant sleeping practices and compliance with safety messages among caregivers. Furthermore, FMG explored how and why parents choose specific sleep products for different stages of their infant's life and the factors that they consider when placing their infant down to sleep. These findings will ultimately help CPSC improve hazard communications and public safety messaging regarding infant safe sleep in the future.

Literature Review

FMG first conducted a preliminary literature review to assess the current landscape of infant sleep practices, safety messaging, and hazard communications. FMG used a systematic approach for conducting this literature review and compiled a list of key search terms (e.g., caregivers' beliefs, experiences, perceptions of infant sleep safety) to ensure consistency in the search. Upon completion of the initial literature search, the literature was reviewed for relevance to the research questions defined and agreed upon between FMG and CPSC. Information on the relevant literature—including the title, author(s), study objective/research questions, type of study, methodology, key takeaways, future research, and limitations—was compiled into a spreadsheet and a PDF of the documents was saved. FMG reviewed the literature and identified major trends and/or gaps in the recent research. The findings from the literature review informed the development of the focus group materials and the recommendations for improving safety messaging.

Moon et al. (2016) revealed that infant sleep-related deaths began to decrease after the American Academy of Pediatrics (AAP) recommended in 1992 that infants be put in the nonprone position when they are put to sleep and with the release of the “Back to Sleep” campaign in 1994. There has not been a significant reduction in infant deaths since that decline in the 1990s. Additionally, at least 75% of annual infant fatalities are related to nursery products (CPSC, 2017). Research also suggests that the addition of items to sleep environments to increase comfort for the infant (e.g., pillows, blankets) has been associated with unintentional infant suffocation and strangulation (Gaw, Chounthirath, Midgett, Quinlan, & Smith, 2017). There is, however, research that suggests that caregivers have a working knowledge of safe sleep practices (Kennedy, LaBarge, McCann, & Seymour, 2017). Kennedy et al. (2017) completed interviews and focus groups to further understand the obstacles that caregivers face when adopting AAP recommendations, and found that caregivers do have a general awareness of sleep safety best practices. However, there is still a gap between knowledge and behaviors: non-compliance still occurs, and caregivers remain resistant to follow recommendations (Ahlers-Schmidt, Schunn, Dempsey, & Blackmon, 2014). This highlights the need to conduct further research into how to improve adherence in the future in order to reduce incidence rates of deaths related to infant sleep.

Further, messaging and product marketing regarding safe sleep best practices (e.g., no pillows or thick quilts in a baby's sleep environment, only use the mattress pad provided with the playard [CPSC Safe to Sleep]) are not always consistent and, additionally, are not always prominent on advertisements for sleep products (Kreth, Shikany, Lenker, & Troxler, 2016). As a result, Kreth et al. (2016) reports that any sleep safety best practices that a caregiver may be aware of could potentially be overlooked by what a product is advertising (e.g., an advertisement that is non-compliant with current safety regulations). Therefore, if sleep products are marketed in a way that is not compliant with the current best practices or is not showcasing the risks associated with the product, it presents the opportunity for caregivers to focus on other key factors they take into consideration before purchasing a sleep product. Research also suggests that two-thirds of the pictures in magazines that are heavily read by women of childbearing age depict children in sleep environments that have items added to them for comfort (Joyner, Gill-Bailey, & Moon, 2009). The combination of aesthetic-centric and non-compliant sleep product advertising (e.g., bumper pads, loose bedding) is a prominent barrier to safe sleep that can result in ambiguity among caregivers regarding what they believe about sleep safety best practices.

Not only do safety messages need to be consistent (Joyner et. al, 2009), but it has also been proven that highlighting specific risks to avoid can result in the reduction of negative outcomes such as SIDS (Trachtenberg, Haas, Kinney, Stanley, & Krous, 2012). Messaging should also take into consideration both male and female caregivers in order to effectively increase compliance with safety messages (Hirsch, Mullins, Miller, & Aitken, 2018). Research has shown that men are aware of some sleep safety best practice knowledge, but there is a need to ensure there is also messaging targeted specifically toward men to increase sleep safety messaging and to further reduce infant fatalities.

Previous literature supports the idea that caregivers trust the safety of products that are sold (Joyner et. al, 2009). This belief often results in the misconception that if a product is sold to the public, then it must be safe to use. Additionally, literature suggests that caregivers have a general knowledge of safety messages, but they do not often adhere to them once a sleep product is purchased. As such, it is important to understand the reasoning behind this. The results of this literature review shed light onto the current infant sleep safety messaging environment as well as messaging comprehensions among caregivers. These findings shaped the development of the focus group discussion guide to explore beliefs, experiences, and perceptions about infant sleep practices and caregiver knowledge, awareness, and compliance with safety messaging. Current infant sleep safety messages include: put the baby on his or her back to sleep, never add pillows, quilts, comforters or cushions to the baby's sleep environment, use a tight-fitting mattress, and use a sleep environment that meets CPSC standards [CPSC Bare is Best]. FMG, in conjunction with CPSC, used this knowledge to further research caregivers' behaviors and compliance with current infant sleep best practices to identify the underlying barriers and misconceptions that may impact child safety. By obtaining

a better understanding of factors that influence behavior, the results of this research will provide CPSC the opportunity to improve infant sleep-related hazard communications and safety messaging to help reduce infant sleep-related deaths in the future.

Methodology

FMG conducted six in-person focus groups in Baltimore, MD, with caregivers ($N = 47$ participants) who were segmented into different groups: Grandparents (with an infant 5–7 months old); Grandparents (with an infant 8–11 months old); Parents (with an infant 2–4 months old) (two groups); Parents (with an infant 5–7 months old); and Parents (with an infant 8–11 months old).¹ Approximately 15 participants were caregivers of an infant 2–4 months old, 16 participants were caregivers of an infant 5–7 months old, and 16 participants were caregivers of an infant 8–11 months old. The focus groups lasted approximately 90 minutes each and were fielded from May 1 to May 2, 2019.

Focus group recruitment procedures were designed to ensure a mix of participants. In accordance with industry best practices, participants were over recruited (12 participants to seat up to eight per group) in case of no-shows. Participants were given an incentive of \$75 as a token of appreciation for their time. Below is a table of the demographics of the focus group participants.

¹ See screener in Appendix A.

Table 1. Demographics

(N = 47)

Gender	Counts
Male	14
Female	33
Race/Ethnicity*	
White	20
African American	24
Hispanic	5
Age	
18-24	5
25-34	17
35-44	9
45-54	7
55-64	8
65-74	1

*Participants could select more than one race/ethnicity.

Materials Design and Procedure

The discussion guide was designed to investigate the following research questions: (1) Are consumers aware of the warnings and public messages about soft bedding in sleep environments? If so, why or why not are they followed? (2) What surfaces do babies sleep on? Does it differ between day and night? How long? (3) Why did caregivers choose those products for sleep? What factors do they consider while making their purchasing decision? (4) In what position (back, front, or side) do caregivers place their child on the sleep surface and why do they choose that position? (5) Do caregivers use restraints when available? Why or why not? When? (6) What other objects do they use in the sleep environment? (7) When do caregivers stop using products as sleep surfaces? What are the factors they consider to make that decision? (7) Do caregivers notice warning labels? How do they feel the warning labels apply to their child? (8) What is their understanding of the hazard(s)? Do they comply with the labels? How? (9) How do caregivers perceive the comfort of the typical sleep surfaces? Why do they think their child is comfortable/uncomfortable when sleeping on it? Do caregivers believe some surfaces are more comfortable than others? What do they do to make children more comfortable? (10) What other items are added to the sleep environment for the purposes of sleep and why? (11) Do consumers think wrapping a baby in a receiving blanket or other type of blanket while sleeping goes against safe sleep practices? (12) In which products do caregivers perceive that their child sleeps well? (13) How do perceptions of safe sleep vary between parents and grandparents? Additionally, the guide progressed in specificity: it began with questions that assess general behaviors associated with infant

sleeping, progressed into reactions to sleep messaging, and concluded with questions about knowledge, attitudes, and awareness of infant sleep safety (see Appendix B). The moderator initially invited participants to discuss any topics related to infant sleeping that they were aware of or had knowledge of. The primary objective of this section was to ease participants into the discussion of infant sleep messaging and practices. Next, the conversation moved to discuss the participants' roles and routines when putting their infant down to sleep, the sleep products that are used, and any additional items added to the infant's sleep environment.

The participants then completed a worksheet activity that included five sleep products (full-size cribs, bassinets, portable cribs and playards, inclined sleepers, and bedside sleepers) and three additional products (swings, bouncer seats, and handheld infant carriers). Participants subsequently reported how many hours, on average, their infant spends sleeping in the aforementioned products on a typical day. The moderator facilitated the conversation around what products are used, the amount of time their infant spends in that product, which ones are most comfortable for the infant, and factors that caregivers take into consideration when choosing a sleep product for their infant.

In addition to assessing caregivers' knowledge on behaviors associated with infant sleeping, the discussion guide engaged participants in conversations on knowledge, attitudes, and awareness of infant sleep safety. Participants were asked to discuss general messaging they have seen or heard regarding infant sleep safety, sources of this information, and reasons for trusting or not trusting that particular source. Additionally, participants reviewed an example of a warning label found commonly on infant sleeping products/environments and discussed the purpose, main message, and their general levels of awareness with and perceptions of the warning label. Finally, participants provided recommendations for updates to the warning label to make it more noticeable to a caregiver's eye and to increase compliance with the safety label.

Analysis

Trained qualitative analysts reviewed the notes from the focus group discussions and identified key themes regarding participants' beliefs, experiences, and perceptions about infant sleep practices and the caregivers' compliance with safety messages. Each of the focus groups was transcribed for analysis purposes. A detailed coding manual was then developed to guide the coding of the focus group transcript data using [REDACTED] software (see Appendix C). In addition to coding the specific sections of the discussion guide (e.g., introduction, infant sleep brainstorming activity), coders highlighted emergent themes such as the discussion of warning label perceptions and barriers to safe sleep.

Results

Perceptions Associated with Infant Sleep

The focus groups began with a general assessment of participants' perceptions of infant sleeping. Guided by the moderator, participants brainstormed various topics that came to mind regarding infant sleeping and safety messages. The top three most common beliefs that emerged across both the grandparent and parent groups were (1) infants should sleep on their back, (2) nothing should be in the bed with an infant, and (3) the potential of Sudden Infant Death Syndrome (SIDS).

- *“People just say they’re supposed to sleep on their back, like not on their stomach, by themselves in a crib or bassinet, with nothing like they’re just you know...they’re stretched out.”* —Parent (8–11 months)²
- *No pillows, blankets, nothing. Except for swaddles.”* —Parent (2–4 months)
- *“Just the pediatrician was saying [back is best] decreases the risk of SIDS. And the risk of SIDS is higher when they’re young because, for some reason, they can stop breathing and no one knows exactly why, but they can.”* —Grandparent (5–7 months)
- *“I feel like it’s always associated with SIDS. And as a parent, your biggest fear is SIDS, because it’s unknown...For me, my first [thought] is how I can prevent this?”* —Grandparent (5–7 months)

A few grandparents noted that safety messages regarding how to lay a baby down to sleep and items that can be put in the sleep product with the infant have changed from generation to generation. Examples of messages that participants noted as fluctuating over the years included which position to lay the infant down during sleep, the correct age range for booster seats, where the infant should sleep, and what should or should not be with or around the infant when sleeping.

- *“I think it has changed. So maybe about 10 or 15 years ago, it was on the stomach and that was the thing back then. But then I think, as most of you guys have heard of SIDS, they can’t really determine exactly what causes it, but they found a lot of babies that had died because most of them were on their stomach. So now they’re saying to try to reverse that”* —Grandparent (5–7 months)
- *“But then the guidelines change too. Like you know now, we hear back is best. But a couple years ago, it was lay on your stomach. Which is it? Are we laying on our stomach or are we laying on our back?”* —Grandparent (5–7 months)
- *“When I had my children, I was told to lay them on their belly...Then now, it’s laying on the back, and of course, that’s opposite of everything we were taught...my daughter was like, ‘Mom, we don’t do it like that any[more]...’ All of these things I would suggest, she’d be like, ‘No mom. We don’t do that anymore. That’s gone.’”* —Grandparent (5–7 months)

² This and all other quotes from the transcripts have been corrected for spelling and grammar. Ellipses (“...”) throughout represent deletion of crosstalk, inaudible words, irrelevant material, or laughter.

A few participants reported that the constant altering and updating of safety messaging makes it hard to truly know what the best practice is for their infant, and sometimes results in guilt from the parent or grandparent if they realize they are not adhering to the most recent version of the safety message.

- *“I think, it’s been inundated at the hospital you learn it. I was thinking another place I’ve seen it, like at the hospital, there [are] signs and even on certain brands of swaddles. It will say, ‘Back is best.’ So, you hear that that’s the right thing to do. And I think [that is] what [has] created mommy and daddy guilt if you do it differently. Or some people co-sleep and hopefully are well aware of some of the dangers there, but that works for them.” —Parent (2–4 months)*
- *“I think it could probably create some [guilt], because this is the only way to do it: either shame or guilt on the part of some people. Or you know judgmental attitudes probably, too, to people who do it differently.” —Parent (2–4 months)*

Lastly, it was widely noted by both parent and grandparents that they are constantly nervous about the potential for SIDS due to the uncertainty of the cause. Participants reported anxiousness and fear often resulting from this ambiguity, particularly because it is not explicitly known how to prevent SIDS from happening.

- *“I feel like it’s always associated with SIDS. And as a parent, you’ve got your biggest fear is SIDS, because it’s unknown.” —Parent (2–4 months)*
- *“I think it’s a little scary because we’re all familiar with SIDS, but they still don’t know what causes it, [I] think.” —Parent (2–4 months)*
- *“SIDS. The big fear of SIDS.” —Grandparent (5–7 months)*
- *“I live in fear 24 hours a day with our grandson. If he’s crying and he’s trying to go to sleep, if I’m home, I’m at the door. I’m peeking in making sure he doesn’t [stop] breathing or whatever. So just that panic that, because of SIDS, it’s just baked into my head from parents to online to the news to this and that. So that’s a big thing with me. I live in panic that something’s going to happen to this kid.” —Grandparent (5–7 months)*

Caregivers are generally aware of many infant sleep safety messages that are relevant today (e.g., infants should sleep on their back; caregivers should use restraints; caregivers should not add anything into the sleep environment with the infant). However, with safety messages constantly evolving, numerous participants reported not always knowing what the most current and relevant best practice is, creating a barrier to practicing infant safe sleep.

Roles and Routines

The discussion then shifted to the general sleep practices that the caregiver follows when laying an infant down for sleep anytime during the day. The majority of participants reported that the mother is typically the person who puts the infant to sleep. Parents generally agreed that there is often difficulty in getting the infant to sleep if the mother is not the one who performs the nighttime ritual. Alternatively, a few other parents noted that either parent is capable of successfully laying their infant to sleep.

- *“It’s almost always mom putting her down.” –Parent (2–4 months)*
- *“We have two kids under two, we split everything.” –Parent (5–7 months)*
- *“I put my son [down] 100% [of the time], my husband doesn’t help with [putting my son down].” –Parent (5–7 months)*
- *“My boyfriend tries to help, but it’s like okay, just give her here. I know she’ll be asleep in 30 seconds. So, it’s 10 times easier if I do it.” –Parent (5–7 months)*
- *“My wife does [it] most of the time.” –Grandparent (5–7 months)*

It was widely agreed upon that there is a strict nighttime routine that is followed when putting their infant to sleep; however, naps tend to occur more naturally and, therefore, do not have a strict routine. A few parents reported that if their infant has trouble sleeping at night, they will forgo the nap to ensure the infant is tired enough to fall asleep for the night.

- *“We just don’t go through all [of] the routine at naptime.” –Grandparent (5–7 months)*
- *“...I honestly fight against nap time because nap time means no bedtime.” –Parent (8–11 months)*
- *“I don’t force naps...You don’t want to take a nap, I’m not forcing you to take a nap because I don’t want to be up all night long, so I don’t do that at all.” –Parent (2–4 months)*
- *“We don’t really have a routine for naps. I put him down, he sleeps. But at bedtime, my husband will read him a book, we’ll snuggle with him a little bit, and then we put him down.” –Parent (5–7 months)*

As for where the infant physically sleeps, a few participants reported that wherever their infant falls asleep during naptime (e.g., car seat, stroller, in the caregiver’s arms) is usually where the infant stays for the duration of the nap to avoid waking the infant.

- *“We’re doing more things out and about, and sometimes he’ll fall asleep in the car seat and then it’s leaving him in the car seat and getting him in the house and just letting him sleep in the car seat...You’re like, ‘I don’t want to move him.’ How long can [he] stay for a nap? Sometimes it’s not that long, sometimes it’s a good hour. Just depends on how tired he is.” –Grandparent (5–7 months)*
- *“For us, like naps on the go, if we are in the car, she’s in a stroller, she’s in [her] carrier, she could sleep for two hours anywhere...If we’re on the go, [she’ll fall asleep] anywhere.” –Parent (2–4 months)*
- *“Our naps are about a half-hour long in the crib. But if it’s in my bed, which is softer, they might be an hour and a half. And I’m so tempted to do that, but I want her to get used to the crib, so we do the half-hour naps. But every once in a while, I’ll put her on my bed when I need to get some things done, and I don’t know, she’ll just sleep longer.” –Parent (2–4 months)*
- *“I just hold her until my arm gets numb.” –Grandparent (5–7 months)*

Because grandparents tend to be the primary caregivers of the infant when the parents are not around, they typically reported some responsibility for putting the infant to sleep when the infant is under their care. Similar to parents, grandparents do not exercise a strict naptime routine, but when charged with the task of putting the infant to bed at night, they tend to follow

the same routine as the parents. If current sleep safety practices are not being followed in the strict routines that have been established by the primary caregiver, it poses difficulty in reaching other caregivers to alter their behaviors for safe sleep as well.

Location of Sleep

Focus group participants next completed an activity in which they filled out a worksheet and indicated sleep products they use for their infant (see Appendix D) and how long their infant typically sleeps in the product. Products on the worksheet included full-size cribs, bassinets, portable cribs and playards, inclined sleepers, bedside sleepers, swings, bouncer seats, and handheld infant carriers.

Overall, grandparents typically reported laying the infant in a crib or playpen during naptime or when they are asked to watch the infant overnight. Since grandparents reported mainly watching the infant during the day, a few reported that they prefer to let the infant fall asleep in their arms during naptime and will transfer the infant to a crib or playpen if their arms get tired or they have other things they need to do.

Parents reported a wide range of sleep products used for infant sleep. The full-size crib was the most commonly reported product used for sleep at night and one of the top three sleep products reportedly used for naps. The most commonly reported naptime sleep product was the playard, which a few parents also reported using as a nighttime sleep product.³

Further, the bouncer seat, swing, and handheld carrier were all reported to have been used at some point by caregivers as a sleep product. Some participants did note, however, that the life cycles of these products are shorter since they are only meant to be used during the first couple of months of the infant's life. As a result, these products were not as popular as some of the other products.

- *“About three or four months for these two [swing and bouncer seat], but that one [handheld carrier], I’m still using.” —Grandparent (5–7 months)*
- *“[I used] all three when they were little.” —Grandparent (5–7 months)*
- *“I take the car seat out and I carry it up into my house. If she’s still sleeping, then she’s going to stay in it until she wakes up...” —Grandparent (5–7 months)*
- *“I saw it [swing] in the store, and I liked it because it was hanging from a little stand. It played music and it swung back and forth. But it was more for when he was an infant.” —Grandparent (8–11 months)*

Participants commonly reported allowing their infant to sleep in the bouncer seat, swing, and handheld carrier; however, several participants reported their infant most frequently falls asleep in the handheld carrier, and they often let the infant sleep in it as long as necessary.

³ Charts depicting visuals of grandparent and parent choices are available if desired.

- *“I take the car seat out, and I carry it up into my house. If she’s still sleeping, then she’s going to stay in it until she wakes up...” —Grandparent (5–7 months)*
- *“Well an infant carrier, you know, they fall asleep in the car. They’re staying asleep in that thing as long as they want...It gets brought into the house, and there they sit.” —Parent (2–4 months)*
- *“My child sleeps three hours in the swing.” —Parent (2–4 months)*
- *“Like if we’re riding and he falls asleep and I detach it and bring him in and I just unbuckle him, I’ve seen him sleep in that thing as long as like two, three hours.” —Parent (8–11 months)*

Understanding Why Caregivers Use Certain Sleep Products

After establishing an understanding of the roles that the caregiver plays in putting their infant to sleep and the sleep products that are used, the discussion shifted to assess why caregivers use the sleep products they mentioned. Convenience was the underlying motivator for parents when deciding which sleep products to use for their infant. The ability to easily pick up a sleep product, to move it from room to room, or to travel with the product were all resounding factors that parents reported taking into consideration. Playards, cribs, bassinets, and inclined sleepers were products parents mentioned that they categorized as convenient sleep products. Ease and accessibility were mentioned as key factors in participants’ perceptions of convenience of these products. Additionally, cribs could eventually transform into beds for the children, further emphasizing the convenience of purchasing this product.

- *“So [when] I want to do things in [the] house as she gets older, [you can put her} in a playpen. That’s why I chose a [playard], because [the] crib was not mobile...” —Parent (2–4 months)*
- *“For me it was more convenience, because I travel back and forth a lot between my house and my mother-in-law’s...So, I need a portable crib to take with us everywhere, so it was just something I could easily put her in and relatively safe.” —Parent (8–11 months)*
- *“Well, cribs nowadays turn into like daybeds and all of that, [so] that was good...And like I said, the [playard]...if I go to a buddy of mine’s house, they could just go in the [playard] as they get older.” —Parent (2–4 months)*

Grandparents similarly reported that convenience (e.g., they can easily move the product around) is a key factor when considering using a particular sleep product. Additionally, they reported that being able to see the infant while they are sleeping has a positive influence on their perception of a product and whether they choose to use it.

- *“Well, for me the choice was between a full-size crib and a [playard]... [considered] space-wise and portability. Did I have room for a full-size crib?” —Grandparent (5–7 months)*
- *“I liked the inclined sleeper, because it was vibrating and warming, and it played soft music, and I thought it was a convenient item to move around. Before, he only lasted until he was about three months and then outgrew it.” —Grandparent (5–7 months)*
- *“Well, when he’s in the [playard], I can see him, and in the car seat, I can see him...The [playard] is downstairs, and [when] he’s in the car seat, I’ll just put him in a place where I can*

see him. And that way I'm not constantly running upstairs or checking the monitor, so you can get things done." —Grandparent (5–7 months)

- "So, with the inclined sleeper, I can move it around the house depending on where we are and then the [playard] is moveable too, like if I want to change rooms or location with it." —Grandparent (5–7 months)

Comfort in Sleep Products

While they were generally aware that the best practice is to put an infant on its back to sleep, a few participants commented on the fact that their infant will eventually move out of this position, interpreting this movement as a means of getting comfortable.

- "I'll put her on her back, and then let her choose whatever position, because she's going to move until she's comfortable." —Parent (5–7 months)
- "Mine immediately flips to his stomach." —Parent (5–7 months)

As mentioned, several grandparents and parents reported that they were aware of SIDS, the Alone, Baby on their Back, Crib (ABCs) safe sleep strategy, and the safety in not having any additional items in the sleep environment. Despite having this knowledge, they still reported adding items to the sleep environment to make the environment more comfortable for their infant—defining comfort by whether the infant sleeps all night or not.

- "I mean, I will say that's probably in my mind, because it's not like the kids never slept in there. So, they did sleep, and they did sleep through the night so...And of course, they can't tell you that it's completely uncomfortable. So, it was probably just me thinking, I don't think that would be comfortable." —Grandparent (5–7 months)
- "I just use a lot of blankets, soft blankets." —Parent (5–7 months)

Participants reported that they did swaddle their newborn infant; however, after being educated on how to swaddle, on the best practices for swaddling, and on how long to swaddle their infant, they still tended to defer to what works best for their infant.

- "I think for me it's been, we start off with an idea of what we want to do, but then we defer to what works with the kids. So, like with our first daughter, we swaddled her, because they told us to and she didn't have a problem with it. With this one, when we swaddle her, she would get like angry and like breakout, like Incredible Hulk. So, we got her sleep sacks, which are onesies that are like a snuggie at the bottom and you just zip them up..." —Parent (2–4 months)
- "At the end of the day, we don't know what really [is] comfortable for them. Like they can stay all swaddled up all day, but if your child doesn't want to be swaddled, your child doesn't want to be swaddled...So, I really just rely on whatever, you know what I'm feeling." —Parent (2–4 months)

Overall, parents and grandparents reported that they perceive the bassinet, playard, and crib to have hard surfaces that are not comfortable for their infant. A parent noted purchasing a memory foam mattress for their infant in order to make the sleep environment more comfortable and to provide their infant with a better sleep experience. Laying a blanket down or purchasing a comfortable mattress for the bassinet or the playard were also commonly reported additions to the sleep environment to make it more comfortable.

- *“We bought foam. I made them give me some extra foam because the [playard] mattress is so thin and I’m like, ‘No. She ain’t never going to sleep. [She] was never going to sleep.’ So, we bought the extra foam to put under it.”*—Grandparent (5–7 months)
- *“So [as] you know, it’s a hard bassinet...I actually put a plush sheet and I tucked it in...so he can lay on the [sheet] versus just the hard [bed].”*—Parent (2–4 months)
- *“I have a blanket in the [playard]...I put a blanket down, and I put a pillow down.”*—Parent (2–4 months)
- *“I wasted a lot of money on my child’s mattress. He has a Sleep Number mattress.”*—Parent (5–7 months)

The majority of grandparents reported adding products they perceive as comfortable to their infant’s sleep environment. Some grandparents recounted that they add pillows and blankets to the sleep environments when the infant is sleeping, noting the items add comfort and warmth. Some grandparent participants also mentioned using a wedge to help keep the infant from rolling over while sleeping.

- *“For the portable crib, it’s so hard, so I try to put blankets, like a blanket or two underneath him when I put him in it. But I think it’s just so hard and uncomfortable.”*—Grandparent (8–11 months)
- *“I put foam in the crib, because it wasn’t a great mattress.”*—Grandparent (5–7 months)
- *“Well, you [have] got to consider, in the [playard], you got the...What is it called? The bars, right...Got a bar in your back all night...I just didn’t feel like it was going to be comfortable.”*—Grandparent (5–7 months)
- *“We have a wedge when he was smaller. So, it’s sort of a triangular piece like this, and another one over this side so that even when he was in the bassinet and he was small, he couldn’t roll over like that. I always feel like that was more safe to have them on the wedge.”*—Grandparent (5–7 months)

Behaviors Associated with Sleep Product Restraints

Participants reported infant sleeping behavior (e.g., their infant is an active sleeper) and sleeping location as key determinants of whether they would restrain their infant while sleeping in a particular product. Grandparents generally responded affirmatively to using restraints when restraints are available. The majority of grandparents indicated that they prefer to have some restraints rather than none at all. Nonetheless, a few outliers reported leaving the infant unrestrained in a product until the infant started becoming more of an active sleeper (e.g., started kicking).

- *“Anything that’s not on a flat surface. So, other than the crib [and] the [playard]. Anything that sits them up or at an incline or is at a raised height, use the restraint.”*
—Grandparent (5–7 months)
- *“I would rather have a restraint than not.”* —Grandparent (5–7 months)
- *“Eventually, I did with my grandson, because he started kicking the bottom and making himself rock back and forth fast, so that’s when I knew he was getting too big for it, but that’s when I started strapping him in...”* —Grandparent (8–11 months)
- *“We use the restraints only when they are actually wiggling or roll to get out of it. Otherwise, it’s fine. We just throw them in there.”* —Parent (5–7 months)

Parents also reported using restraints, but not with the same collective, affirmative response that the grandparent group reported. A few parents noted that they tend to let their infant fall asleep in the car seat, and then carry the infant inside while still in the seat to allow the infant to sleep as long as possible. After bringing the infant inside, some parents reported loosening or undoing the restraints while allowing the infant to sleep. If the infant started acting as if he or she were about to wake up, the parent would leave the restraints on. A few participants appeared to view their infant as the “exception” and expressed that their infant is not active during sleep and believed that restraints are not always necessary.

- *“I don’t keep him in the car [seat] often. But like I said, if he’s asleep in the car and I pulled [him into the] house and he’s still asleep, I will unfasten the harness and I will tilt the car seat on the sofa...”* —Parent (2–4 months)
- *“I at least do the [chest clip], depending if she starts [moving], I’ll try to [undo] the bottom one. If she starts moving, I just leave it.”* —Parent (2–4 months)
- *“I take off the restraints.”* —Parent (5–7 months)
- *“I actually loosen them [restraints] up because, once again, when we came out, they wanted the straps to be so tight, the baby couldn’t, the heart couldn’t move, so I always loosen it up, so she can breathe and has circulation.”* —Parent (5–7 months).

Knowledge of Safety Messages

Shifting the discussion more specifically to knowledge and awareness of safety messaging, participants reported being generally aware of safety messages. The top three safety messages discussed by participants included always put infants to sleep on their back, be cognizant of the potential of SIDS, and do not put anything in the crib with the infant.

A few participants reported that they had actively changed some of their behaviors associated with infant sleep due to the current public safety messages. For example, some participants reported altering the amount of clothes the infant wears to sleep or altering what goes into the sleep environment with the infant.

- *“We’ve made a change about [that]. It’s not so much sleeping as it is, like, the bulk coats in the car seat carrier just because of the compression...and so not putting the coats on them in the carrier.”* —Grandparent (5–7 months)

- *“They have these nice, I call them parakeet covers where they zip up instead of you have to have blankets or a heavy coat. It helps cut down on germs too. When you’re out shopping, you can just zip it closed and people don’t breathe in on your child. Those types of things I’ve changed, too.” –Grandparent (5–7months)*

A few participants reported that fear of SIDS or other causes that could lead to infant death are underlying factors that might result in them changing their behavior or choosing to adhere to a particular message.

- *“I live in fear 24 hours a day with our grandson...So, just that panic that, because of SIDS, it’s just baked into my head from parents to online to the news to this and that.” –Grandparent (5–7 months)*
- *“Everything I read, ‘Oh my gosh, this can happen to me. Oh my gosh, it’s going to happen to me.’” –Parent (2–4 months)*

A couple of participants reported that the most important thing to them is doing whatever it takes to ensure their infant is comfortable and sleeps well, even though the current safety messaging sometimes contradicts this approach. This might include ignoring recommendations for infant sleeping positions, or altering routines to better fit the needs of the infant if a recommended approach is not working.

- *“The [infant] sleeps better. Like on their stomach. Like with my daughter, if she couldn’t sleep, she wouldn’t sleep in no matter what we did, she’s up, which was a rarity. We put her on her stomach, she fell asleep in like two seconds for like six hours. Right. And it was just awesome to get that. And you want to be able to do what works.” –Parent (2–4 months)*
- *“I think for me it’s been, we start off with an idea of what we want to do, but then we defer to what works with the kids...” –Parent (2–4 months)*

Notably, a few participants mentioned that the marketing of infant sleep products tends to influence their purchasing decisions when buying new sleep products. If their infant is not sleeping well in a particular product or position and a product is marketed to help alleviate that challenge, parents reported that they are willing to buy the new product in order to help their infant sleep.

- *“But then it almost goes into the whole economics of it. You know your child will sleep better on [their] stomach. I know my children sleep better on [their] stomach, but you want, because of the SIDS, they are on their back now. When they were on their stomach, they’ll sleep six hours, but now they are on their back, they’ll sleep two hours. The next thing you know is, does your kid sleep two hours a day and can’t sleep during the night? [Well] try this new [brand], or whatever...The next thing, you spend the \$200 on that and your child is sleeping now. But it’s, to me, I just think it’s all, I don’t know, I just take, and it’s all a load of crap to get your money.” –Parent (2–4 months)*
- *“And you want to be able to do what works. But if everyone is telling you [if you want to make it work], [you’re] going to pay, like when you saw the sleep sack, ‘Let me sell you [this.]’”*

—Parent (2–4 months)

Several participants also reported that previous experience (e.g., they have more than one child) and family advice influence their perceptions and their internalization of risk communication and safety messages. By having previous experience and going through trial and error of what works best for an infant, participants noted that they take that knowledge and directly apply it to their next child.

- *“When [my] mom was telling me [what] to do, I pretty much did that with my kids...My mom actually owns a daycare, so my children go there. So, when they’re there, I see how she does with them and I know how I would like to sleep...”* —Parent (2–4 months)
- *“I think you just learn from experience. Especially, when you have more kids before. I remember one time with my daughter, I jumped in the shower, [then] I jumped out. She had one leg over the crib. Okay, no more showers with her in the crib by herself. You know you just learn...”* —Parent (2–4 months)
- *“As far as them sleeping on their backs or [their] stomachs or whatever, I had five children. They range from 40 to 21. They are all here. I put all of them on their stomachs. So, I did my grandchildren the same way. That’s how they sleep: on their stomachs.”*
—Grandparent (5–7 months)

Sources of Trusted Information

Participants reported several trusted sources of information regarding learning about safety messages. Examples included family members, pediatricians, parenting magazines, and the internet (e.g., social media, mom blogs, online product reviews).

Social Media

Participants reported that social media plays a large role in the ways in which they receive safety information. They reported appreciating that social media allows for a community-like atmosphere; there are a lot of like-minded individuals going through the same experiences. Additionally, participants reported liking that they are able to join groups with specific topics of interest. Social media provides them with a relatable platform where they feel comfortable asking questions, telling and/or reading stories, and having discussions about similar infant situations. Whether they are connecting with a stranger thousands of miles away or someone nearby, participants reported that this connection helps them decide which safety messages to internalize and apply to their day-to-day lives.

- *“I follow different pages on social media, like on Facebook, with different mom blogs and recommendations and stuff like that.”* —Grandparent (5–7 months)
- *“I’m on a group of African American women that encourage women, African American women, to breastfeed exclusively...So, everything from sleeping to milk, baths, to all that other stuff...They have a lot of women that will ask questions about all kinds of stuff, and they have, like, a lot of people respond to that. So, that’s like a, definitely my place that I go to a lot.”*
—Parent (2–4 months)

- *“I do three different ones [forums] [be]cause I do like one for breastfeeding....and then I am going to a forum for co-sleeping, because I’m so scared to do it [be]cause it was drilled in me that I’m going to kill my kid...But I also did [it]. [It] was the only way I was going to sleep. So, I do, [be]cause I know all the doctors are going to say [don’t]. ‘Don’t do it. Don’t do it. Don’t do it.’ So, I did go into a forum for co-sleeping...that’s how I wanted to learn about it and wanting to learn the safe practice to doing that. So that, that was my number one kind of guide.”*
— Parent (2–4 months)
- *“I know I’m in a group that was for our specific due date month, so we all have the same age kid, so that’s helpful. We’re all like the same stages and all that...It was useful because we were all due around the same time, so we were all going through the same thing. It’s like, ‘Hey, is this normal?’ ‘Yeah, I’m going through that, too.’”* –Parent (5–7 months)

It is important to note that most of the participants who reported using social media as a platform for obtaining safety information tended to be female. A few male participants reported using social media; however, they also mentioned that the online communities are generally for women and that they are less likely to go on these sites or forums. A male participant noted that instead of using social media to get advice, he reaches out to a trusted female in his family for any necessary advice.

- *“You women will be on the Facebook groups, and they will seek out advice from other[s]. Men, like he said, whatever his wife says for the most part...whatever the ladies, the women that are in our lives that are older, we’ll probably follow their advice more than [someone] on Facebook. So [that] outlet [is] more there for women to seek out advice.”*
—Parent (2–4 months)

Family Members

Numerous participants reported that family members and close friends are common trusted source of information. Getting advice on sleep products that work best and advice about what to do in situations that the caregiver has never been in before are two situations that participants reported in which they would reach out to their source for advice. Participants reported appreciating the advice and tips that these individuals provide to them. Most often, the source of this trust stemmed from the fact that these individuals had gone through these experiences before; they had experience raising children and, therefore, could provide firsthand advice.

- *“My parents and my sister, too. They’re always like giving me tips or guiding me through everything.”* —Parent (5–7 months)
- *“My mom, because she has had five kids.”* —Parent (5–7 months)
- *“It’s my grandmother. She’s still alive, and if I [have] any questions, I’ll call her and do what she says.”* —Grandparent (8–11 months)

Internet Reviews/Recalls

Product reviews on online platforms and sellers, internet searches, and recall websites were additional resources that caregivers referenced as trustworthy when deciding whether to use

an item. Although not as familiar as family members and close friends, participants reported trusting internet reviews because individuals leaving reviews had gone through past similar experiences with their own children. This notion of previous experience of family members seemed to play a large role in participants' perceptions and decision-making.

- *"I'll Google stuff. I google recalls all the time before I buy something. I see what parents reviewed and depending on, sometimes you can get the age of the child of the parent's review, sometimes you can't. But I also google, 'Has it been recalled?' 'Did anybody have any problems with this product?' That's nice." —Grandparent (5–7 months)*
- *"I was reading products today, because I'm getting her one of them jumping discovery things, and I was reading, too, that the babies get their hands stuck in between this toy and that toy, so I went to something else because the thing spins around 360 and they can really hurt themselves..." —Grandparent (5–7 months)*
- *"I normally use the product reviews as far as what they're saying about the product, and based on what they say, I might try to go Google more information about it. But, it's mainly the product reviews that I look at..." —Grandparent (5–7 months)*
- *"Also, the FDA and Consumer Reports. If they say there's a recall on [brand] or whatever, you know that stuff's going in the trash can..." —Grandparent (8–11 months)*
- *"As far as a source, I mean I call Dr. Google. If I can't find it, if I really feel like it's unsafe, then I'll google it. And if I feel like it's a safe source, and it makes sense, then I'll put it into practice..." —Parent (8–11 months)*

Medical Professionals

Several participants also reported that they trust the information they receive from medical professionals. Whether it is information they received at the hospital when the infant was born or information their pediatrician provides at wellness visits, they tended to believe that these sources are reliable and credible.

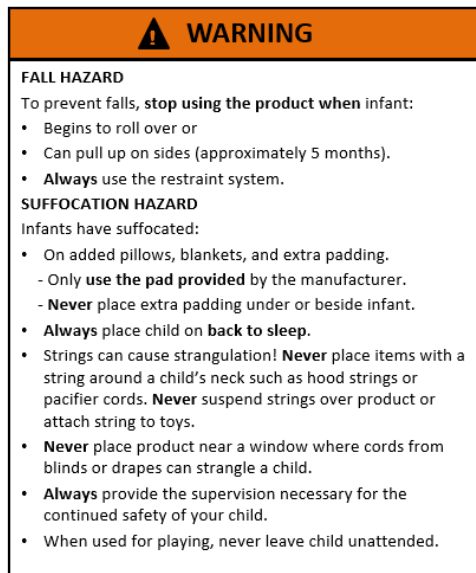
- *"If I have a question about anything, I'll just ask my pediatrician. She's older and I feel like she's kind of old school, but she's up on her knowledge about stuff. And so, like she's my go to." —Parent (2–4 months)*
- *"But when it comes to, like, under no circumstances ever do this or else your kid will straight-up [die], I think [I] like the authority of a doctor or a pediatrician." —Parent (2–4 months)*
- *"I really trust what the hospital says...I had to watch a video about televisions and dresser drawers falling on your child, like how possible that is...When they showed [me] those things, I really paid attention..." —Parent (8–11 months)*
- *"I do value the opinion of millions of doctors and hospitals...If there's a study that comes out, I'll read it..." —Parent (8–11 months)*
- *"So, I remember that it was introduced to me in the hospital when I had even all of my children. When I had them, I had to watch a video before I can go home...It would go through all the people in the TV telling you what happened with them and their children and then what you should do." —Parent (2–4 months)*

Although participants reported trusting medical professionals for safety information, many participants mentioned that they do not necessarily follow the guidelines those individuals provide them. Whether it is because the advice differs from what family members have told them, because this is not their first child and they do things differently, or because they felt the doctor was being “too pushy,” the reasons result in non-compliance.

- *“Who do you listen to?...Yeah, probably just, a real life as opposed to the doctors. Real life just I’ve been there, I’ve done that. I had two already, and they get on my nerves, but they’re alive. My mother has four boys...I listen to her.” —Parent (2–4 months)*
- *“I cherry pick advice. I definitely take my pediatrician[’s advice] first...He was [from] another culture and he kept pushing. I was [like], ‘I’ll do that, thank you.’ [But], I’m not [actually] doing that. [I was] very disappointed.” —Parent (2–4 months)*
- *“My pediatrician, I love her to death, but she has recommended a few things that for sleep, well not even sleep, a few things that I don’t agree with. That I don’t want to do. So, while I trust her in a lot of other ways, I wouldn’t say just because she said do this, [to actually do it].” —Parent (2–4 months)*
- *“I mean, I’m very skeptical about individual doctor’s advice because that’s not an aggregate. Lots of times they’re also being anecdotal about things...” —Parent (2–4 months)*
- *“I don’t depend on what the government says, what the doctor says, whatever. I’ll take their information and I will absolutely...I will look it up and I’ll do my own research, but I never trust it from one source...” —Parent (8–11 months)*

Behaviors Associated with Warning Labels

In the final focus group activity, participants examined a generic warning label that is similar to one they would commonly find on an infant sleep product. Below are the findings that participants reported about the warning label.



Awareness

Nearly all participants indicated that they were aware of the warning label presented in the activity. They reported that the label looked similar and contained comparable information to other labels they would find on a product they purchased.

- *“I feel like it’s common sense. Like they’re all pretty much the same.” –Parent (5–7 months)*
- *“I feel like you hear it with every product you buy. It’s the same warnings.” –Parent (5–7 months)*
- *“[I’ve seen this on a] crib, swing, bouncer, all of them have it.” –Parent (5–7 months)*

Purpose

Some participants reported that they thought that the main message of the label was to persuade consumers to keep a close eye on their infant and be extremely careful.

- *“Watch your child.” –Parent (2–4 months)*
- *“Be careful.” –Parent (2–4 months)*
- *“Nothing is safe every, watch your kid 24/7.” –Parent (2–4 months)*

A few participants noted that they perceived the warning label as a way for the manufacturer to protect themselves from liability or lawsuits. This negative connotation appeared to impact the ways in which participants perceived the intent and usefulness of the warning label and could impact their likelihood to comply.

- *“To cover their [tails]...It says an infant has suffocated right there, according to my attention. So obviously, they’ve had bad experience with their products.” –Parent (5–7 months)*

- *“I often see things like that, and I just think it’s the manufacturer trying to cover [themselves].”*
—Grandparent (8–11 months)
- *“At the end of the day, it’s a CYA (cover your [expletive]) for the manufacturer...”* —Grandparent (8–11 months)

Behaviors

The behaviors associated with the warning labels varied across participants. Many participants reported that they actually read the warning label when they see one, whereas others noted that since the language is the same on every label, there is no need to read every single one. Therefore, they tend to gloss over the labels and do not necessarily internalize them.

- *“I actually do read these a lot, because I’ve been surprised in the past by things that they’ve asked me to do, like wash the fabrics inside [out], because they’re coated with fire retardant stuff...”* —Grandparent (5–7 months)
- *“I had to read [it] when I [put] together a playpen. It’s actually stamped on a playpen.”*
—Parent (5–7 months)
- *“Yeah, it’s the same. It’s like you read one, you read them all. If you have a baby and you have numerous pieces of baby toys and stuff you put them in, it’s all the same thing. If you read one, you read them all.”* —Parent (5–7 months)
- *“Most of the stuff on here you’ve already compiled through your own knowledge and so when you see this warning label, it’s not something that’s really going to draw your eye to it even though, because you know the basics of what this information is already saying. I probably have never really paid any attention.”* —Grandparent (5–7 months)

Some participants reported that they perceive the warning label itself as a hazard for their infant. Several reported cutting the label off of products because they do not want their infant to play with the label. Additionally, some reported they even perceive the label as a potential choking hazard.

- *“You know what drives me crazy? It’s the tag that’s on it, because the babies can just get to the tags on everything like little bears...The baby will eat the tag before she’ll play with the bear...So, I’m starting to cut them off, and they said you shouldn’t cut them off, but I’m cutting them off.”* —Grandparent (5–7 months)
- *“Yeah, I cut them off [as well].”* —Grandparent (5–7 months)
- *“And I had one tag start to disintegrate. It’s sort of stringy. She likes to eat that tag. She’s just a tag-eating kid.”*
—Grandparent (5–7 months)
- *“Just my own translation, [but] it’s because they have to cover their own [tail] to not get sued.”*
—Parent (2–4 months)

Warning Label Recommendations

As participants reviewed the warning label and provided opinions on their awareness of the warning label, the purpose of it, and their behaviors associated with it, they also provided

recommendations on how to improve the label so that they would be more likely to read it in the future. Recommendations included:

- Make it stand out. Many caregivers do not read the label because they are all the same.
- Add visuals of what the words are telling you to do. Make it easier to do a quick glance of the label in order to have a better chance of retaining what it says.
- Frame the message on the label more positively (e.g., “Save a Life” rather than “Warning”).
- Make it more concise.
- Place the label in a more obvious place to the caregiver. Put the label in a place that requires the caregiver to see it every time it is used.
- Make it so the label cannot be cut or ripped off the product (e.g., how it is in the middle of playard mattresses).

Conclusion

Overall, participants reported having a general awareness of the environment of infant sleep safety practices. However, it is apparent that they typically adhere to the safety practices they are hearing from sources they trust the most. Because these trusted sources vary (i.e., family, friends, pediatricians, internet, and strangers on the internet), participants reported adhering to a variety of different safety recommendations. Additionally, as reported during the focus group warning label activity, participants often glance over warning labels, as they view them as all the same. They do not feel inclined to fully read the labels because they perceive them to all contain the same repeated information. Additionally, some participants also reported perceiving the labels as the manufacturers’ protection from liability and, therefore, are less inclined to read them. As such, it is evident that the purpose of the safety warnings is not clear to the target audience and the warnings are becoming a barrier for infant safe sleep. If caregivers are not willing to read the warning labels on products, it is likely that they will miss pertinent safety information, particularly since there are often competing priorities in their minds when they are buying sleep products. Convenience, affordability, and sleep product life cycles were all factors that participants reported as major motivators when purchasing certain products. As such, in order to minimize barriers to practicing safe sleep, it is important to ensure that caregivers are not only up to date on messaging, but that products are marketing the most up-to-date messaging.

Several participants reported using the internet (especially social media) to ask questions and/or learn from others that have previous caregiver experience or have been in similar situations. Participants reported feeling a sense of community within this platform and they internalize the safety messages they are learning from this source. However, the use of social media fosters the communication of safety messages that may not be current. This disconnect presents a barrier to safe sleep practices, in which participants are trusting sources of

misinformation and following incorrect guidelines. There is also a gender difference when it comes to social media. Women reported using forums more than male participants. Women reported feeling a general sense of community on mom blogs and other social media platforms; whereas male participants reported that they generally do not frequent social media because that community does not exist for them. Instead, male participants reported relying more on recommendations they hear from family and friends with previous caregiver experience. This highlights a need to facilitate social media communities and messaging for male caregivers.

The constant altering of sleep safety messages has led to non-compliance due ambiguity. This ambiguity leads participants to trust those with previous caregiver experience, internet communities, and/or product reviews. As a result, participants reported that they often feel guilty for not knowing or following the most up-to-date guidelines. Using the channels that participants reported frequenting the most (such as social media or the internet in general) could help alleviate this conflation of information.

Discussion

Results of this research illustrate the need for targeted messaging strategies regarding infant safe sleep. Participants often mentioned adding items to their infant's sleep environment to increase comfort, even though this goes against current safety messaging. When caregivers disregard messaging for the sake of comfort, they are increasing the risks of an infant-sleep related death. Additionally, when a caregiver views their infant as the "exception" to a safety message or warning, it hinders safe sleep and puts the infant at risk. Participants are also inundated with constantly changing sleep messages, and often, those messages are not of the highest priority when they are buying products for their children. Several other competing factors—such as convenience, affordability, sleep product life cycles, advice from friends, family, online communities, and product marketing—all impact their purchasing decisions, their product use, and their safety message adherence.

Not only are there several factors that impact caregivers' behaviors, but their behaviors also vary by gender and experience. Women were more likely to report using social media to obtain information (particularly Facebook and mom blogs) compared to men. Additionally, those participants with previous caregiver experience were more likely to report practicing similar techniques on their younger children as they used with their older children, whereas newer parents were more likely to rely on information from other trusted sources. Various sources of trusted information and diverse interpretations of risk have created several misconceptions about safe sleep among participants. In turn, the uncontrolled nature of sleep messaging contributes to the spread of misinformation and can result in caregivers adhering to

potentially unsafe sleep practices. As a result, the messages circulating around the public regarding infant sleep vary and are not necessarily current. Therefore, it is pertinent that the ways in which safety messages and risks are disseminated in the future account for these behaviors and beliefs.

As warning labels currently stand, it is evident that many participants perceive them as safety nets for manufacturers, potential choking hazards, and too generic. As a result, these labels present a barrier in and of themselves in regards to practicing safe sleep. By addressing the participants' recommendations on ways to improve warning labels, it may be possible to increase the likelihood that caregivers will read and pay attention to them in the future.

Recommendations

As mentioned, it is necessary to be able to effectively disseminate infant safe sleep recommendations through trusted sources in order to ensure that caregivers will adhere to the necessary guidelines. Social media was one of the top sources that female participants reported using to obtain advice, gain knowledge from others, and gather information on infant best practices. Using the caregiver-centric forums on social media to advertise and disseminate risk communication messaging could potentially lead to another source that caregivers take into consideration when formulating opinions on how to approach sleep safety. As noted, during the focus groups, male participants reported that they are not as likely to frequent social media to obtain information, because there are fewer online communities for them (e.g., there are not as many dad blogs). However, previous research suggests that targeted messages that showcase a male caregiver in a positive light with facts and statistics on sleep safety best practices can increase male compliance and knowledge of infant sleep best practices (Hirsch, 2018). This research also suggests that disseminating and advertising this information at sporting events, home improvement stores, and from medical professionals can effectively educate male caregivers on infant sleep best practices and the hazards of unsafe sleep.

Once effective communication channels have been established, it is also important to note the manner in which the messages should be disseminated. It is important that messaging is clear and concise in order to ensure that caregivers will remember and internalize messages. Messages that are ambiguous or too long will deter individuals from paying attention to them. Results from this research emphasize this fact. Participants were less likely to report reading and adhering to the warning labels they viewed due to their length and repetitiveness. Additionally, ambiguity in the current guidelines deters them from adhering to them as well. Because caregivers have various competing priorities, this conciseness and memorability is pivotal. As a result, advertising safety practices on product packaging and using product marketing as a more effective tool to disseminate safety messaging could be beneficial. Adding clear, concise safety messages on product boxes or including safety messaging in the structuring of product advertising are ways in which safety messaging could easily reach

caregivers. Research has shown that a marketing and messaging audience-centered approach such as this can positively impact consumer orientation and behavior (Maibach & Parrott, 1995).

Limitations and Future Research

It is important to note that this research was conducted with a small subset of the population, and therefore, results are not generalizable to the caregiver population as a whole. This research presents initial findings that can be further translated into actionable recommendations through future research. With participants alluding to social media as a highly frequented place for caregivers to ask questions and gain infant safety knowledge, it would be beneficial for future research to focus on creating targeted advertising for the caregiver audience. Messaging strategies should vary by caregiver segments (e.g., parent versus grandparent, previous experience versus no previous experience, child age), and therefore, research into what messages resonate best with each of these audiences could greatly impact the effectiveness of this risk communication. There is a large body of research to suggest that the ways messages appeal to key determinants of behavior impact the ways in which people adjust their behaviors (Fishbein, Bandura, Triandis, Kanfer, F.H., Becker, Middlestadt, & Eichler, 1992; Fishbein & Yzer, 2003; Fishbein, & Capella, 2006). As such, it is important to test how messages are framed with caregiver segments of interest. Additionally, it would not only be beneficial to further investigate what messaging strategies resonate most with caregivers, but also to continue research into the effectiveness of communication sources and channels as well. Research supports the idea that the way in which a message is pushed out to an audience greatly impacts the strength of message reception. Sources that are credible, relevant, and engaging tend to have more positive results (Silk, Atkin, & Salmon, 2014). Findings from this particular research highlight some of the nuances in the ways in which caregivers are using various channels (e.g., social media), and therefore, continuing research into this area could help refine the ways in which messaging is pushed out into different caregiver segments and consumer groups in the future.

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Appendices

Appendix A: Caregiver Perceptions and Reactions to Safety Messaging Screener

SECTION 1: INTRODUCTION

Hello, my name is _____, and I am calling on behalf of Fors Marsh Group, an independent research firm. We will be conducting focus groups about infant sleeping behaviors for a federal public health agency. Each focus group will be led by a trained researcher and will include up to 8 participants who will be asked to share their opinions about infant sleeping behaviors. Focus groups will be held at Observation Baltimore on x for about 90 minutes. Those who participate will receive **\$75** as a thank you for taking part in the study. May I please speak with a [parent/grandparent] in your household to see if they are qualified to participate in the study?

[REPEAT INTRO IF CALL WAS TRANSFERRED]

May I ask you a few questions to see if you are qualified to participate in the study?

Yes	[]	[CONTINUE]
No	[]	[THANK AND END]

Great! Before we begin, you should know that there are no wrong answers to the questions I'm going to ask you. You also don't have to answer any questions if you don't want to. If an answer leads to me ending the call, that is because we are looking for a diverse group and we may already have enough similar candidates for this study. Any questions before we begin?

SECTION 2: SCREENER AND DEMOGRAPHIC QUESTIONS

PLEASE USE THE TERMINATION LANGUAGE BELOW FOR ANY RESPONSE THAT LEADS TO THE ANSWER OPTION “[THANK AND END]”.

TERMINATION LANGUAGE: Thank you for taking the time to answer these questions. Unfortunately, based on the responses you provided, you do not meet the specifications we are looking for in this study. I appreciate your time and have a good morning/afternoon/evening.

FOR PARENT GROUP:

1. Are you a parent of a child under 1 year old?

Yes	[]	[CONTINUE] GO TO Q2
No	[]	[CONTINUE] GO TO Q4
Refused	[]	[THANK AND END]

2. Are you a primary guardian of your child (/children)?

Yes	[]	[CONTINUE] GO TO Q3
No	[]	[THANK AND END]
Refused	[]	[THANK AND END]

3. How old is your child?

Years old

Age ranges for eligibility:

2 – 4 months

5 – 7 months

8 – 11 months

If <2 months or >11 months, [THANK AND END]

4. Do you have any other children?

Yes	[]	[CONTINUE] GO TO Q5
No	[]	[CONTINUE] GO TO Q11
Refused	[]	[CONTINUE] GO TO Q9

5. How old are your other children?

Years old

FOR GRANDPARENT GROUP:

6. Are you a grandparent of a child under 1 year old?

Yes	[]	[CONTINUE] GO TO Q7
No	[]	[THANK AND END]
Refused	[]	[THANK AND END]

7. Is your grandchild (/are your grandchildren) under your supervision at any time during the week or weekend for a minimum of one day per week?

Yes	[]	[CONTINUE] GO TO Q8
No	[]	[THANK AND END]

Refused	[]	[THANK AND END]
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8. How old is your grandchild?

Years old

Age ranges for eligibility:

2 – 4 months

5 – 7 months

8 – 11 months

If >2 months or <11 months, [THANK AND END]

9. Do you have any other grandchildren?

Yes	[]	[CONTINUE] GO TO Q10
No	[]	[CONTINUE] GO TO Q11
Refused	[]	[CONTINUE] GO TO Q11

10. How old are your other grandchildren?

Years old

11. When, if ever, was the last time you participated in a marketing research or survey research study?

Within the past three months	[]	[THANK AND END]
More than three months ago	[]	[CONTINUE]
Never	[]	[CONTINUE]

Refused	[]	[CONTINUE]
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READ: Great. I have a few last questions to ensure that we speak to a variety of people during our focus group sessions.

12. What is your gender?

Male	[]	[CONTINUE]
Female	[]	
Refused	[]	

13. What is your age?

	Years old
--	-----------

Note to recruiter: Please record age—range category.

18–24 years old	[]	[CONTINUE]
25–34 years old	[]	
35–44 years old	[]	
45–54 years old	[]	
55–64 years old	[]	
65–74 years old	[]	
75 years or older	[]	
Refused		

14. Which of the following categories includes your race? You may select one or more races.

American Indian or Alaska Native	[]	[CONTINUE]
Asian	[]	
Black or African American	[]	
Native Hawaiian or other Pacific Islander	[]	
White	[]	
Some other race [Record]	[]	
Refused	[]	

15. Are you Hispanic or Latino?

Yes	[]	[CONTINUE]
No	[]	
Refused	[]	

16. In your household, who typically puts your child (/children) to bed?

Myself	[]	[CONTINUE]
Spouse	[]	
Other	[]	
Refused	[]	

17. Are you the primary purchaser of your child's (/children's) nursery products?

Yes	[]	[CONTINUE]
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No	<input type="checkbox"/>	
Refused	<input type="checkbox"/>	

SECTION 3: INVITATION TO PARTICIPATE IN FOCUS GROUP

Thank you for taking the time to speak with me today. We would like to invite you to participate in a focus group. The focus group will take place at Observation Baltimore, a focus group facility, where we will be discussing infant sleep habits. The focus group will be audio/visual–recorded. You may not participate in this study if you are not willing to be recorded.

The focus group is being held on **X**, at Observation Baltimore in Catonsville, MD and will last **approximately 90 minutes**.

Your opinions are very important to us. You will be paid **\$75** in the form of _____ (e.g., gift card, voucher, etc.). A light dinner will also be provided.

People who have been invited previously to participate in this type of project have found the experience to be enjoyable and informative.

Are you interested in participating in this study?

Yes	<input type="checkbox"/>	> CONTINUE
No	<input type="checkbox"/>	> TERMINATE

READ: Great! I am going to give you the address and contact information for the facility. Please be sure to be there 15 minutes before the scheduled start time to ensure that the group starts on time. Additionally, please bring a government issued photo ID with you to the study. Do you have a pen and paper? If you would like to provide your email address, I can send you a confirmation with address and time?

Email address

[] Open ended

GIVE LOCATION OF FACILITY

Observation Baltimore

5520 Research Park Dr, Catonsville, MD 21228

Focus Group participant breakdown and size:

Group #	Caregiver Status	Infant Age	# of Participants
1	Grandparents	5 to 7 months	Up to 8
2	Grandparents	8 to 11 months	Up to 8
3	Parents	2 to 4 months	Up to 8
4	Parents	2 to 4 months	Up to 8
5	Parents	5 to 7 months	Up to 8
6	Parents	8 to 11 months	Up to 8

Appendix B: Focus group Discussion Guide

Research Objective: Conduct focus groups with adults (parents and grandparents) to discuss their understanding, perceptions, and attitudes toward infant sleep safety messaging. Specific focus will be given to identifying the main reasons caregivers do not follow safety messages on products; what caregivers think they should know to improve their understanding of the risks of certain sleep environments/products; and what would motivate them to comply with safety warnings. Additional discussion will focus on perceived barriers and misperceptions that impact child safety.

NOTES TO REVIEWER:
This discussion guide is not a script and therefore will not be read verbatim. The moderator will use these questions as a roadmap and probe as needed to maintain the natural flow of conversation.
Moderator instructions are highlighted in yellow.

Session Overview: Total time—90 minutes

SECTION A: Introduction and Icebreaker (5 min.) The moderator will explain the purpose of the research, present the ground rules, and allow participants to ask any questions.
SECTION B: Behaviors Associated with Infant Sleeping (40 min) This section will assess participant perceptions of infant sleeping more generally, starting with a flip chart activity to ease participants into the topic of discussion. Then, participants will complete a worksheet activity that will facilitate discussion around their current behaviors regarding infant sleeping practices. Finally, the moderator will probe on various other areas related to infant sleeping.
SECTION C: Knowledge, Attitudes, and Awareness of Infant Sleep Safety (40 min.) Barriers, misperceptions, as well as general understanding and awareness of infant sleep safety will be assessed. Additionally, participants will be asked to view a sample warning label in order to further understand their perceptions of sleep safety warning labels, including assessment of comprehension and likelihood to comply.
SECTION D: Conclusion (5 min.)

Moderator ensures that all questions are answered and all comments have been heard.

Section A. Introduction and Icebreaker (5 minutes)

Thank you all for coming to talk to us today, your time is greatly appreciated. My name is _____, and I work for Fors Marsh Group, which is an independent research company. This means that I'm here to listen to you and what you have to tell me, and I have no stake in how you respond. Today, we would like to hear from you about infant sleeping practices and safety messages.

We will have about 90 minutes for our discussion. Before we get started, I want to go over a few general rules for our discussion today:

- First, there are no wrong answers in this room and we are not here to evaluate or judge each other. Our whole purpose is to hear your perspectives, opinions, and experiences.
- What we talk about here is confidential. That means your name will not be associated with anything you say in our reports and your responses will not be linked to your identity in any way.
- Likewise, we want to respect everyone's privacy in this room and not share any of our discussion from today with others who were not here.
- Your participation is voluntary and you have the right to withdraw from the study at any time.
- You don't have to answer every question, but I do want to hear from everyone, so I might call on you at some point. Please speak one at a time and clearly so I may hear you.
- You might have already noticed the glass behind me. There are some people from the research team who are observing and taking notes so I can be present in our discussion. Even though people are observing, please speak openly about your opinions and experiences. We want to learn from you, so it is important that you share your honest opinions.
- We are also audio—recording this session. I will be speaking with a lot of people for this project, and it will be impossible for me to remember everything that is said in these groups. The audio files will be transcribed, but any information that could identify you will be removed from the transcripts. At the end of our discussion, I have to write a report and will refer to the recordings and transcripts when writing the report.

- Please turn your cellphone off or switch to silent mode.
- If you need to go to the restroom during the discussion, please feel free to do so.

Does anyone have any questions before we begin?

Okay, great. First, I'm going to have everyone introduce themselves. Please tell us your first name and something you like to do in your free time. I'll go first.

[Introductions and Icebreaker]

It's wonderful to meet you all—let's get started.

Section B. Behaviors Associated with Infant Sleeping (40 min)

[Brainstorming Activity: Infant Sleeping]

So to start off our discussion, I'd like to do a brainstorming activity with you on the flip chart. I would like to hear from you about any topics related to infant sleeping—such as in the news or media, from pediatricians or other healthcare providers, or other individuals you might speak to about infants and sleep. What are some words or phrases that come to mind? Let's hear the very first thing that pops into your head when I say "infant sleeping". These could be good or bad things. Right now we're just going to make a list so feel free to share as many ideas as you can think of. I will write down your responses and then we can talk about them.

[Participants list the items and moderator writes on chart. Allow brainstorming for 2 minutes or until group has exhausted options. Moderator then focuses on selection of items and uses prompts as needed to fully understand idea.]

Great, thank you! Now let's talk about what [X] is.

- What have you learned or what do you know about [X]?
- What makes [X] a positive thing? Negative? Neither?
- Are there any other items we've missed?

Great, thank you for starting the conversation off. Now, I'd like us to dive in and talk a little about some behaviors and practices associated with infant sleeping, some of which you just mentioned. As a reminder, no one is here to evaluate or judge anyone, but rather, we are just looking for feedback on this topic.

[PARENTS]

- Who typically puts your infant to bed at night?
 - What does that process look like? (Probe on interaction with sleep product)
 - What about day time naps?
- Where does your infant sleep? (Probe for room and product)

- What is typically in your infant's sleeping area? (Probe on blankets, toys, pillows, pads, etc.)
 - (If they mention blanket, probe for swaddle or cover, thin or thick/quilted/fluffy.)

[GRANDPARENTS]

- How often do you care for your grandchild?
- When you look after your grandchild, are they typically in your house or are you at the home where the child/children live?
- How often do you put your grandchild to bed at night?
 - What about nap time?
- Where does your grandchild sleep when you are watching them?
- What is typically in your grandchild's sleeping area? (Probe on blankets, toys, pillows, pads, etc.)
 - (If they mention blanket, probe for swaddle or cover, thin or thick/quilted/fluffy.)

[Worksheet: Sleep Products]

We are going to do a worksheet activity. If you flip over the worksheet in front of you, you will see that there are five sleep products identified by name and picture: full-size cribs, bassinets, portable cribs & play yards, inclined sleepers, and bedside sleepers. The last line allows you to enter a product your baby sleeps in if it isn't on our list. I would like you to enter how many hours, on average, your child/grandchild spends sleeping in the follow products (if they have them/use them) in a typical day. After you are done, we will discuss your answers.

Alright, let's hear how some of you answered. (Probes to understand why some products are used more for day time naps and other for night time sleep.)

- Which of these products does your infant sleep most soundly/comfortably in?
- What factors do you typically consider when you use these sleep products?
 - Are there certain products you favor or prefer over others?
 - Do you choose different products now for this particular stage in your infant's life (or grandchild's life) compared to products that you might have chosen previously?
 - If you have more than one child, how have the sleep products you have used changed from child to child, if at all?
 - Do you think you will choose different products in future stages of their life?
 - Have you ever stopped using any of these products for sleep? For what reasons?

- What position do you typically place your child in on these sleep surfaces? (If participants are not sure, specify back, front, or side)
 - Why do you choose this (these) position(s)?
- What do you think about wrapping infants in blankets? (Probe to understand if they think it goes against safe sleeping practices)
- Do you use the restraints provided in these environments where available?
 - In what situations?
- What do you think about the comfort of these products?
 - Are some more comfortable than others?
 - How do you feel about the comfort of cribs with the base mattresses?
 - What about portable cribs or play yards?
 - What about bedside sleepers?
 - What about inclined sleepers?
- Is there anything you do to the product to make it more comfortable or to help your baby sleep? If you add anything, what do you add to these sleeping products for the purpose of sleep or comfort? Tell us about some of the reasons you add these products.
- For those of you who listed other products your infant sleeps in, what did you list and when do you use that product?

Ok, now I'm going to have you look at the pictures of items on this flip chart. You will see that there are pictures of 3 more places listed that infants are known to fall asleep in—swings, bouncer seats, and handheld infant carriers. I would like us to talk generally about these 3 things.

- Has your child/have any of your children (/grandchildren) ever fallen asleep in one of these?
 - If so, which?
 - In what situations?
- (If yes), what do you typically do during situations in which they fall asleep? (Probe to understand if they take them out to move them, leave them asleep, use the restraints, snugly, or loosely, or partially, etc.)

Great, thank you! This is all very helpful information.

Section C. Knowledge, Attitudes, and Awareness of Infant Sleep Safety (40 minutes)

Next, I would like to talk a little more specifically about infant sleep safety, in particular.

- What kinds of messages have you seen or heard regarding infant sleep safety?
 - Have you ever seen any messages about it on social media?

- If so, where? What type of social media? Accounts?
- Have your friends or family members ever given you any advice on infant sleep safety? (Probe to elaborate)
- Have you ever seen any messages like this on other products?
- Which sources do you trust most to receive information regarding infant sleep safety? (Probe for sources – e.g., AAP, doctor, their mom, etc.)
- What is your interpretation of the risks these messages are trying to convey?
- How do you think your understanding of the associated risks could be improved in the future? (Probe for More messaging? Different messaging? Different Source (Doctor, friend, family) of message?)
- What type of precautions did the message provide? Do you adhere to the precautions?
 - What are some reasons you do? (Or, do not?)
 - What, if anything, would make you more motivated to comply with the safety messaging?

(If haven't seen any) In the future, would you read or listen to safety messages regarding infant sleep? Would you adhere to the precautions?

- What are some reasons you would? (Or, would not?)

[Activity: Warning Label]

If you look at the last piece of paper in front of you [labeled X], you will see an example of a warning label found commonly on infant sleeping environments/products. I'm going to give you a few minutes to read the text in the warning label.



WARNING

FALL HAZARD

To prevent falls, **stop using the product when infant:**

- Begins to roll over or
- Can pull up on sides (approximately 5 months).
- **Always** use the restraint system.

SUFFOCATION HAZARD

Infants have suffocated:

- On added pillows, blankets, and extra padding.
 - Only **use the pad provided** by the manufacturer.
 - **Never** place extra padding under or beside infant.
- **Always** place child on **back to sleep**.
- Strings can cause strangulation! **Never** place items with a string around a child's neck such as hood strings or pacifier cords. **Never** suspend strings over product or attach string to toys.
- **Never** place product near a window where cords from blinds or drapes can strangle a child.
- **Always** provide the supervision necessary for the continued safety of your child.
- When used for playing, never leave child unattended.

- What do you think is the purpose of these warnings?
- What is the main message in this warning label?
 - How easy is this message to understand?
 - Do you believe what this message is trying to say?
 - Is there any information that stands out to you?
 - What would you add or change, if anything, to improve communication about risks (such as the information in this label?)
- Have you ever noticed any warnings on sleep products?
 - **[If yes]** Where? When? Did it look like this? Did you read the message? Did you read all of it?
 - Did you follow the guidelines of the warning? Why or why not?
 - **[If no]** Did you know that warnings like this exist?
- Have you noticed warnings on other infant product in which your child may fall asleep?
 - **[If yes]** Where? When? Did it look like this? Did you read the message? Did you read all of it?

- Did you follow the guidelines of the warning? Why or why not?
- [If no] Did you know that warnings like this exist?

- What precautions do you typically take regarding infant sleep safety?
 - How have your sleep practices changed over time, if at all?
 - [GRANDPARENT] How do your sleep habits for your grandchildren compare to your children?)
 - Do you pay more or less attention to the safety labels now?

Section D. Conclusion (5 min.)

This has been a very helpful session. Thank you so much for taking time out of your day to be with me and share your perspectives and experiences. Before we wrap up, is there anything else that you would like to share or that we might have missed?

We've talked about some things today that are sensitive so please be reminded to not discuss this session with others who did not attend.

[TIME PERMITTING] If you don't mind, I am going to step out for just a moment to see if my team has any additional follow up questions for you all. [Ask any additional questions.]

Ok, thank you again for your time. Are there any final questions? If not, you are free to go. Please leave behind your worksheets and writing utensils. Have a wonderful evening!

Appendix C: Coding Manual

I. Coding Rules

<p><u>For transcription organization coding (Part II):</u></p> <ol style="list-style-type: none">1. Include moderator question in the code.2. Code entire passage (i.e., no partials, code until participant stops talking)
<p><u>For emergent themes codes (Part III):</u></p> <ol style="list-style-type: none">1. Code starting from the passage where the participant initially talks about the code; code until the line of discussion is over.<ol style="list-style-type: none">a. Exception: Code previous moderator question ONLY IF it is necessary for context.

II. Transcript Organization Coding

Parent Caregiver	Code to folder if focus group is comprised of parent caregivers
Grandparent Caregiver	Code to folder if focus group is comprised of grandparent caregivers
Infant 2–4 months	Code to folder if focus group is comprised of caregivers of infants 2-4
Infant 5–7 months	Code to folder if focus group is comprised of caregivers of infants 5-7 months
Infant 8–11 months	Code to folder if focus group is comprised of caregivers of infants 8-11 months

Section A: Introduction and Warm Up

Section A: Introduction and Warm Up	Code entire “Introduction” section of the transcript. During this, pay close attention to PII and scrub any names that may have been missed in the initial review of the transcript.
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Section B: Behaviors Associated with Infant Sleeping Section

Section B: Behaviors Associated with Infant Sleeping	Code entire discussion of behaviors associated with infant sleeping, including activity sections
Infant Sleeping Brainstorming Activity	Code entire conversation around brainstorming activity with the flip chart
Behaviors and practices associated with infant sleeping	Code entire discussion on behaviors and practices associated with infant sleeping
Sub code: Grandparent Roles	Code discussion around how often the grandparent cares for grandchild, where they care for them, etc.
Sub code: Parent Roles	Code discussion around how often the parent cares for child, where they care for them, etc.
Sub code: Routines	Code discussion around who is in charge of putting infant to sleep,
Sub code: Sleep Environment	Code discussion around where the caregiver puts the infant to sleep and what they typically put in the infant's sleeping area.
Sleep Product Worksheet Activity	Code sleep product worksheet activity discussion
Sub code: Day Time Naps	Code discussion around products for day time naps
Sub code: Nighttime Sleep	Code discussion around products for nighttime sleep
Sub code: Other products	Code discussion around other products written in the blank of worksheet.
Sub code: Product Preference	Code discussion around whether caregivers prefer certain sleep products over others
Sub code: Restraints	Code discussion around whether caregivers utilize restraints with sleep products or not
Sub code: Comfort	, including the position the child is typically placed in and why they choose these positions. Including discussion around wrapping infants in blankets.
Sub code: Additional Products	Code discussion around the 3 additional products (swings, bouncer seats, handheld infant carriers)

Section C: Knowledge, Attitudes, and Awareness of Infant Sleep Safety

Section C: Knowledge, Attitudes, and Awareness of Infant Sleep Safety	Code entire discussion of knowledge, attitudes, and awareness of infant sleep safety
Messages regarding infant sleep safety	Code discussion around messaging participants have seen or heard regarding infant sleep safety

Sub code: Interpretation of Risk	Code discussion around participant perceptions of risks that the messages are trying to convey, including improving understanding in the future, what would make them more motivated to comply, etc.
Sub code: Sources of information	Code discussion around reported sources of information
Warning Label Activity	Code discussion on warning label activity
Sub code: Main Message	Code discussion around warning label message comprehension
Sub code: Attention to Labels	Code discussion around whether participants have seen or noticed warning labels like this in the past, if they've paid attention/adhered to the safety messages, etc.
Sub code: Infant Sleep Safety Precautions	Code discussion around what precautions caregivers usually take regarding infant sleep safety, including how sleep practices have changed over time.

Section D: Conclusion

Section D: Conclusion	Code entire "conclusion" section of the transcript.
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III. Emergent Themes

Convenience/accessibility	Code discussion around product convenience/accessibility (e.g., an infant falling asleep in an infant carrier)
Social Media	Code discussion around social media mentioned (e.g., Mommy blogs)
Warning label perceptions	Code discussion around participant perceptions warning labels and safety messaging
Previous caregiver experience	Code discussion around previous caregiver experience (e.g., first vs. second vs. third child, grandparent vs. parent)

Disregard	Code discussion around disregard to warning label or safety messaging (e.g., participant reports knowing the risks associated with not using restraints but does so anyways)
Disassociation	Code discussion around participant perceptions that they follow instructions/safety messaging and therefore still choose to use a product a certain way (e.g., recall)
Barriers to Safe Sleep	Code discussion around participant perceptions of barriers to safe sleep
Facilitators for Safe Sleep	Code discussion around participant perceptions of barriers to safe sleep

IV. Golden Quotes

V. Golden Quotes	Code any particularly insightful or good quotes, for ease of highlighting for report
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Appendix D: Sleep Product Activity Worksheet

On average, how many hours does your child spend sleeping in the following products in a typical day?

	Daytime Naps	Night time sleep
Full-size cribs 		
Bassinet 		
Portable cribs and play yards 		
Bedside sleepers 		
Inclined Sleepers 		

Other (please write down the product):

Additional Images

