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Slide 1

Good Morning. I thank you for the opportunity to present of the topic of preventing unintentional childhood injuries which has been the focus of my research and practice in health education for nearly 30 years.

Slide 2

During my Presidential year, I had the privilege of traveling to several SOPHE chapters to speak at their annual conferences and to garner a better understanding of their structure, successes and challenges. I was warmly welcomed by the leaders and members of the Ohio, Arkansas, Delta and North Carolina chapters depicted here. In addition, I was invited to present a Webinar to the Great Lakes and Texas chapters. So, this morning, I'd like to share just a few highlights from my much longer presentations on the history, current status, and future of childhood injury prevention.

Slide 3

Why are children at excess risk for injury?

- During infancy, children have restricted mobility, which does not allow them to escape from such hazards as scalding bath water or fires in the home.

- Their tendency to learn about their environment through placing objects in their mouths puts that at risk from choking on small objects, ingesting medications and plants, and biting on electrical cords.
- During the toddler and preschooler stages, their natural curiosity and quest for independence places them at risk.
- Young children lack of experience as to what is dangerous to them – hot stoves, bodies of water, medications and streets.
- In addition, a child's small body size means that a hot cup of coffee/tea, once spilled, may cover the entire body resulting in 3rd degree burns. Further, medication safe for an adult can be fatal for a child.
- As they age, children are given more freedom to explore their world at school and in the community, which can result in sports, pedestrian, and bicycling injuries.
- And during adolescence, some teens engage in risk-taking behavior which may put them at risk for traffic crashes and alcohol and drug experimentation.
- Thus, developmental ages and stages must be considered carefully in our health education programs.

Slide 4

Let's spend some time addressing childhood injuries in the past several decades, beginning with child passenger safety.

Car seats appeared on the scene in the 1930s as a way to keep kids contained in moving vehicles. Essentially there was no emphasis on safety — just on convenience for the parent. For

example, this car seat from the Bunny Bear Company simply hooked onto the back of the vehicle bench.

Come the 1940s the chairs were boosted up so kids could see out of the windows. But the seats were still not very safe as they could fly around the car or through windows in a crash.

In 1962, car seat manufacturers designed models that took advantage of seat belts coming on to the market. Child restraint systems have improved dramatically over the past decades, but proper installation remains a challenge.

Slide 5

Now let's spend a few minutes focusing on the evolution of the smoke alarm.

The first smoke detectors for homes were invented in 1970. These were ionization detectors powered by a single 9-volt battery. They cost about $125 each and sold at a rate of only a few hundred thousand per year.

The 10-year-lithium-battery-powered smoke alarm was introduced in 1995. Today, many smoke alarms cost less than $20 and some are available as combination smoke and carbon monoxide detectors. Others have special features for individuals with visual and hearing disabilities.

Slide 6

Now, let's turn our attention to the history of bicycle helmets.

According to the Bicycle Helmet Safety Institute, around the turn of the century racing cyclists began using "helmets" made of strips of leather-covered padding, initially with a ring of leather around the head and a wool ring above that. They were called "hairnets." Other bicyclists used hockey helmets to protect their heads while riding. Over the next 80 years, adult helmet technology improved and standards for construction were promulgated, but no helmets were available for children.

In the early 1980's, Bell introduced its "L'il Bell Shell" infant-toddler design. To make the helmet lighter, Bell dropped the outer shell, producing a thick helmet that was highly protective. The design was actually an adaptation of a helmet Bell had produced for pediatricians to protect children's heads after surgery.

Today, helmets for children come in many designs and with multiple safety features such as hard shells, buckle pinch guards, padding, visors and air vents.

Slide 7

During the next several decades, injury prevention experts rallied against potentially unsafe products, communications, and advertising campaigns.

For example, in the 1990s when I was working at the National Safe Kids Campaign, we were asked to review the draft of Mattel's See and Say toy called SAFE 'N SOUND. We expressed

concerns that the young child was in a lap belt rather than a child safety seat, there was no mulch or pea gravel under the playground slide, the child's eyes were unprotected near the wood plank being sawed, and the child on the tricycle was not wearing a helmet. Although 10,000 of these toys had already been produced and shipped, Mattel stopped further production and reintroduced a revised See and Say SAFE 'N Sound toy later that year.

Slide 8

In the summer of 1997, Nestle introduced its Nestle Magic product which consisted of chocolate covering a plastic shell containing a Disney toy. Safety advocates thought it was a bad idea to insert a toy figurine, marketed to children of all ages, inside a candy food item. As you know, infants and young children tend to put everything in their mouths, especially when teething. Having toys embedded inside food only encourages this behavior. In addition, while the product was technically in compliance with the CPSC Child Safety Protection Act, many of the toys were scarcely larger than the small parts tester, hanging by a beak or a toe from the edge of the tester. A total of 12 children had gagged on the toys, according to published reports. In addition, Nestle Magic violated an FDA rule promulgated in 1938 prohibiting non-nutritive products in toys. In response to this rule and public criticism, Nestle withdrew the product from the market.

Slide 9

During the 1996 holiday season, Mattel introduced the Cabbage Patch Snacktime Kids who were supposed to munch on plastic cookies and French fries. About 50,000 dolls had been sold. In response to more than 100 reports that the snacking dolls were eating children's hair and fingers, Mattel pulled the dolls off the store shelves. The company instructed retailers to return any unsold dolls and offered $40 refunds to any dissatisfied customers. Ironically, only a small number of dolls were returned because they were now considered collectors' items.

Slide 10

There are countless more examples of injury prevention advocacy over the past decades. But how far have we come in our efforts to protect children? Not as far as we might have hoped.

According to the Centers for Disease Control and Prevention, injuries remain the leading killer of people from age 1 through 44. Note the thin blue line across this table.

Slide 11

In 2017, the year for which the most recent data are available, 8,110 children from birth to age 19 died from preventable injuries.

Another 6,857,012 were treated in hospital emergency departments for non-fatal injuries.

Slide 12
According to the Centers for Disease Control, the leading causes of injury deaths vary by age group.

Among infants under the age of one, unintentional suffocation is the leading killer. Unintentional drowning takes the lives of most children aged one to four. Among children 5 to 15, motor vehicle traffic-related deaths are the leading of death.

Slide 13
Stated another way, injury-related deaths are only the tip of the iceberg. For every 1 child who dies, 25 others are hospitalized, 925 are treated in the emergency room, and thousands more are treated in doctors' offices and urgent care clinics.

Injuries can result in a substantial economic burden on society as well. Each year, injuries to children ages 0 to 19 in the United States result in an estimated $94 billion in lifetime medical and work-loss costs.

Now let's turn our attention to some emerging threats to child safety.

Slide 14
Recreational marijuana is now legal in 10 states and medical marijuana is legal in 33 and the negative effect on child safety is relatively unknown.

The most common overdose incidents among children occur when the drug has been combined with food in an "edible" form of marijuana. In these instances, kids mistake "edible" marijuana (like gummy bears, brownies, lollipops, etc.) for regular food and eat it unknowingly. Small children are at higher risk based on their size and weight. Because edible products have very high amounts of marijuana, the symptoms are more severe on a small child. Oftentimes, young children who consume marijuana edibles require hospital admission due to the severity of their symptoms.

Slide 15

Distraction by mobile technologies is another emerging issue. These include texting, talking on the phone, playing games on tablets, and listening to music. Distraction may be an important reason that older teens (16 to 19 years old) account for 50% of more than 700 child pedestrian deaths each year.

A 2016 study on pedestrian distraction indicated that roughly 17 percent of middle school and 27 percent of high school students cross the street while distracted by a technological device.

Slide 16

Batteries are a choking risk, particularly the small lithium cell batteries (button batteries) found in a variety of household devices like some TV remote controls and alarm clocks, and even in some children's toys. More than 2,500 button batteries are ingested each year in the United States. Every three hours a

child is treated in an emergency room for a battery-related ingestion. Ingested button batteries can cause severe tissue damage and have fatal consequences within just two hours.

Loose batteries should be boxed up and stored in a locked drawer or on a shelf that is well out of reach. And, as recommended by the AAP, parents and caregivers should tape battery compartments closed on all electronic items. Also discard used batteries safely.

Slide 17

More than 72,000 Americans died from drug overdoses last year. That's a 7% increase from the year before, according to CDC. Most of those deaths were opioid-related -- and there's a new part of the population in crisis: pregnant women.

Nationwide, the rate of opioid use disorder among women delivering babies more than quadrupled over the 15-year period ending in 2014, according to the CDC.

Use of opioid drugs, whether heroin or prescription painkillers, during pregnancy harms the health of both mother and child and can lead to stillbirth, preterm labor, neonatal abstinence syndrome and, in some cases, death of the mother.

Slide 18

Another new technology has begun to emerge which will ultimately impact child passenger safety. Driverless cars have been categorized by the Society of Automotive Engineers

(SAE) into six different levels. Level 0 has no automation, and the 5th level is full automation.

With self-driving cars poised to revolutionize America's roadways and vehicle safety, top safety experts are calling upon developers of autonomous or self-driving vehicles to take immediate action to protect the safety of child passengers. In a report released last month, top-level safety and transportation experts recommended that child passenger safety issues be addressed along with adult passenger safety during the testing and development of autonomous vehicles. Today, test vehicles are being piloted in nearly two dozen U.S. cities.

Slide 19

There are many roles that you as health educators can play in preventing unintentional childhood injuries. These include:
Conceptualizing and conducting research studies
Developing educational materials for target audiences
Crafting and promoting legislation and regulations
Promoting environmental changes
Helping to install safety devices in home
Evaluating the effectiveness of programs and policies

Slide 20

At the end of this opening session, we will be opening the microphones to hear from you about the future of child safety. Please be thinking about the following questions:
Given your expertise health education, where do you think the field will be in 5 or 10 years?

What educational interventions will yield the most benefit?
What new or improved safety devices and environmental changes are on the horizon?
What additional roles can health educators play in preventing unintentional childhood injuries?