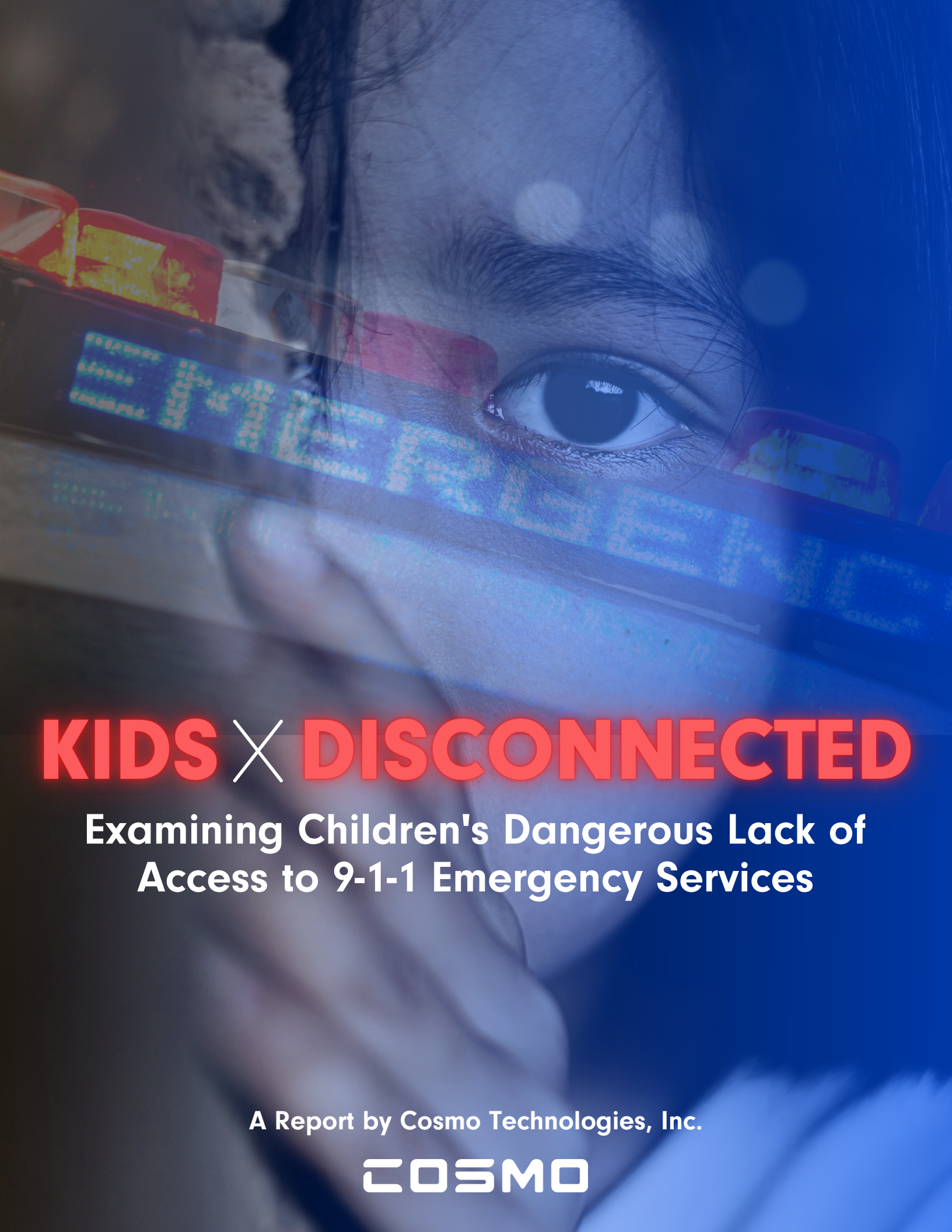

KIDS X DISCONNECTED

Examining Children's Dangerous Lack of Access to 9-1-1 Emergency Services

A Report by Cosmo Technologies, Inc.

COSMO

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9-1-1 emergency response service is a critical cornerstone of public safety.

So why can't our kids access it?

SECTION I: OVERVIEW

AN OVERLOOKED INEQUALITY

We are more aware than ever of the types of emergencies children might witness or face. The horrific moments of the school shooting that unfolded in Uvalde, TX, this past May were yet another reminder. During the incident, only two children called 9-1-1 while dozens were left helpless to communicate their plight. In a heartbreaking report, Texas authorities detailed repeated calls from the two children, begging a 9-1-1 operator to "Please send in the police."

Access to emergency services has evolved dramatically since 9-1-1 was established in 1968. Today, a vast majority of Americans use wireless devices (cell phones) to call 9-1-1 in the event of an emergency. Despite the growth of emergency response services across the country in recent decades, children remain largely unprotected with limited access or training related to emergency calling.

Children, especially younger children, are one of the most vulnerable demographics and lead in unfortunate categories like abuse, neglect, accidental death, and homicide. As parents and guardians consider the implications of sending their children back to classrooms this fall, the question of a child's safety and ability to call for help has never been more relevant.

This report from COSMO Technologies explores the critical lack of access to emergency services that leaves children across the United States vulnerable and unprotected.

COSMO's analysis reveals an estimated 26.6 million children nationwide under the age of 12 that face severly limited or no essential access to 9-1-1 in an emergency.

In this report we call for greater awareness and study of this pressing issue, and present a clear three-front call for change, in the hopes of greater protection for children in particular, and a safer society at large:

- Better, safer technology solutions for children and schools.
- Better school policies related to device use.
- Better in-home and institutional (school, community) training for children related to 9-1-1 emergency calling.

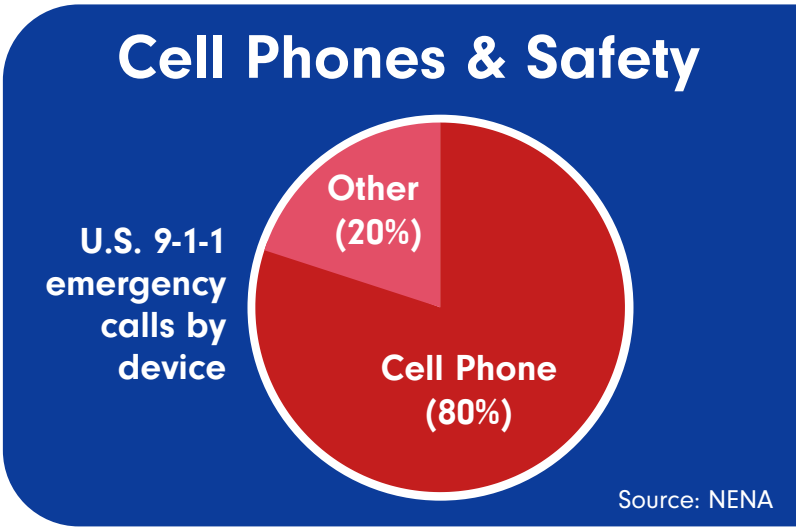
Estimates based on 2020 U.S. Census Bureau population data; Study by Huber JF, Pediatrics, 2021; and Common Sense Media 2021 Census. See Methodology section for full details.

SECTION II: BACKGROUND

THE CELL PHONE TRAP

Each year, roughly 240 million 9-1-1 calls are placed across this country, or about 600,000 calls per day (NENA). From its inception in only 1968, the system's use has expanded rapidly alongside the growing sophistication of infrastructure involving complex call routing, highly trained dispatchers, and emergency response operations.

That infrastructure has since become a cornerstone of American public safety. Since 9-1-1 was started over 50 years ago, it has evolved with the times. In 1999 Congress passed the 9-1-1 Act, which expanded coverage to wireless networks, deputizing private sector network providers to ensure public safety access.



Today, 80% of 9-1-1 calls originate from a wireless device (NENA). From cell phones to emergency buttons and monitors made for the elderly, this nation has recognized that prompt access to assistance can make all the difference when people are in danger.

As kids return to school this fall, many parents consider phones to be a potential lifeline. Rates of smartphone ownership among young children have increased in recent years, with 43% of children 8-to-12 years old now owning their own smartphone (Common Sense Media, 2021).

At the same time, concern and frustration over smartphones in the hands of kids has never been greater.

In California, a bill proposed this spring would allow parents to sue social media companies, holding them accountable for their children's social media addiction. Even in the wake of school shooting tragedies like Uvalde, some experts and parents continue to advocate for classroom cell phone bans in the face of mounting evidence of cyberbullying, screen addiction, and depression corresponding to higher levels of device usage.

Kids today face a fundamental dilemma: trapped between the wrong type of devices designed by businesses to manipulate and addict, and backlash policies made by concerned agencies and school boards. The result is that children are left disconnected and vulnerable in our digital age.

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SECTION III: FINDINGS & DATA REVIEW

HOW CHILDREN GET LEFT BEHIND

COSMO's analysis explored the question of how many young children (under the age of 12) across the United States have limited or no access to emergency 9-1-1 services. We explored this through two lenses: limited access due to a) lack of smartphone ownership, or b) lack of training and ability.

Lack of Access	Children under the age of 12 who do not own a smartphone.[1]
Lack of Training	Children under the age of 12 who are unlikely to be able to successfully notify 9-1-1 in an emergency, even with a device present.[2]

[1,2] See Methodology section for more detail related to definitions and secondary data analysis.

Our secondary data review, alongside recent census data (see Methodology section & below), suggests a troubling level of disconnected children despite the extensive investment made in nationwide 9-1-1 emergency services in recent years.

Overall, we estimate 26.6 million children under the age of 12 face limited or no access to emergency services due to lack of device ownership or limited ability & training. Data also suggest that children living in poverty are substantially more likely to face these safety inequalities.

These data highlight clear and concerning evidence of a deadly disconnect faced by the most vulnerable and underrepresented portion of the U.S. population.

9-1-1 X Disconnect

26.6M

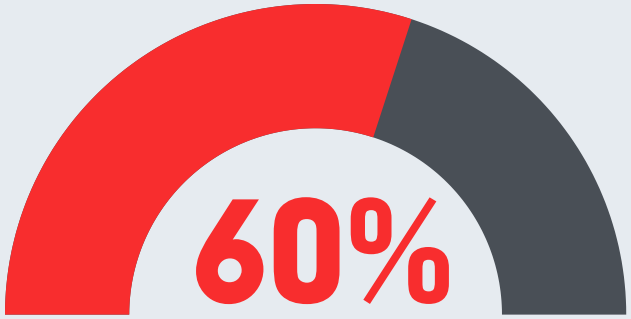
kids under 12 in the U.S. with severely limited or no access to 9-1-1 emergency calling services

(Source: See Methodology section)

91%

percentage of U.S. primary age children who are likely unequipped to successfully notify 9-1-1 in an emergency.

(Source: Huber JF, et al, Pediatrics, 2021)



percentage of kids age 8-11 with no personal smartphone device.

(Source: Common Sense Media, 2021)

-21%

disparity in smartphone ownership between U.S. adults in low-income (<$30K) households vs. wealthy households (>$100K).

Source: Pew Research, 2021

Analysis based on 2020 U.S. Census Bureau population data; Analysis by Huber JF, Pediatrics, 2021, and Common Sense Media 2021 Census. See Methodology section for full details.

ACCESS

Access to emergency services is integral to having the right to emergency services. As with so many other civil rights issues, in this case children have the right to these basic safety services but lack the access due to a confluence of systemic issues. Kids without any access to cell phones of their own are by definition less able to call 9-1-1. This disconnect becomes even more pronounced when children are away from parents or guardians (i.e. while at school) who may own devices that a child would be able to operate. While the vast majority of the U.S. population own personal cell phones, adults in low-income households are significantly less likely to (Pew Research, 2021), which places disadvantaged children at even greater risk.

TRAINING

Evidence from a 2021 study (Huber JF, et al, Pediatrics, 2021) further suggests that few young children are equipped with the necessary training to successfully notify 9-1-1 in the face of an emergency regardless of phone ownership/access. This places a significant spotlight on the critical gap that exists, both in the home and from schools, to provide children with the potentially life-saving emergency response training they need. In many cases where training does exist, the material and use cases provided are outdated – for example, providing training/materials with landline devices instead of smartphones (Huber JF, et al).

This report is presented to call attention to the mismatch between technology and children's needs, as well as short sighted policies and systemic training oversights that leave children without the skills they need to protect themselves.

SECTION IV: CHILD SAFETY

MYTHS THAT KEEP KIDS UNPROTECTED

By far, the least connected demographic in America are persons under 12 years old. Children lack equal access to emergency services because they lack the wireless devices that would connect them, to say nothing of the support of our society to train and equip them. However, if we look closer we must also recognize a certain resistance on the part of society to recognize this unequal access as a problem to be remedied.

Resistance Myth #1: Kids Can't Help

One obvious form of resistance is simply that people don't view children as capable of affecting or mitigating emergency situations. However, this view has been dismissed by experts, including emergency response personnel and dispatchers. While accidental or prank 9-1-1 calls are always a concern, it is not a reason to widely suppress access. The elderly frequently make emergency calls by accident or in non-emergency situations, which is understood to be a normal, acceptable by-product of ensuring access to help in real emergencies. Children have time and again been shown capable of taking life saving action when given the right training and access to a phone.

Take the following example from a Wichita, Kansas news report:

> **"I have talked to a number of children," said Maj. Laura Meyers, who oversees quality assurance and training for the emergency communications center. "For the most part, they're very cooperative.**
>
> **"They will give you the information you ask for. It seems like they're usually very willing and very helpful and very attentive."**

Kids *to the* RESCUE

In January of 2019, 9-year-old Kazin Crisman of Massachusetts came to the rescue, calling 9-1-1 dispatchers as his 80-year-old grandfather experienced a Type-1 diabetes hypoglycemic reaction. Kazin's call and explanation provided "valuable information that assisted first responders in providing necessary medical treatment," local Police said. [Source: ABC News]

Seven-year-old Ayden James of Miami saved his mother's life in November, 2021 when he found her on the floor having a seizure. He was able to call 9-1-1 dispatchers and provide them his family's apartment complex in time for paramedics provide the necessary treatment. "I feel like a superhero," James told CBS news. [Source: CBS News]

Resistance Myth #2: Kids Don't Need 9-1-1

What is likely a more widespread form of passive resistance is simply that children's needs are neglected. By nature, young children are the least able to protect themselves in the case of an emergency, attack, or imminent threat. Yet, by societal strictures we have also made young children the least able to to call for help.

The data, however, are clear: children face more threats to safety than ever as cases of child maltreatment and abuse have increased, alongside crime, school shootings, and more.

656K

victims of child maltreatment according to state agencies in 2019)
(source: ChildHelp.org)

67%

percentage of all child abuse victims under the age of 9
(source: US Dept. of Health and Human Services/Statista)

>311,000

number of children in the U.S. who have experienced gun violence at school since Columbine (2003)
(source: Washington Post)

#1

leading cause of death in the U.S. for children of all ages is "accidents (unintentional injuries)"
(source: CDC)

These children are denied access to an essential public safety service for a variety of reasons, many of which are reactive based on well-documented issues stemming from Big Tech business models. These include concerns about classroom disruption, mental health, inappropriate content, and addictive behavior, and lack of protective oversight tools for parents.

While these concerns are more than valid, none actually suggest children should not have access to basic emergency calling services, only that the tools and methods we have today fall far short of protecting children's basic rights to safety. While we have invested in safety infrastructure for the general public, we have failed to adequately invest in the safety of the next generation.

None of these reasons actually suggest children should not have access to emergency services, only that the tools and methods we have today fall far short of protecting children's basic rights to safety.

SECTION V: CALL TO ACTION

STEPS FOR A SAFER TOMORROW

It is time to address the issue of child safety holistically and correct a great injustice being perpetrated against the youngest members of society – that being the passive suppression of their right to access emergency services.

As noted by the authors of a 2021 study published in Pediatrics: "We underscore the need to develop emergency skills education aimed at enhancing young children's emergency preparedness in the digital era with a focus on developmentally appropriate strategies for building these skills in children..." (Huber JF, et al)

This report represents a call to action on three fronts: improving technology, improving policy, and improving training & education. These actions must be owned by a combination of actors, including parents and caregivers, policymakers and educators, as well as private and public technology leaders.

FOR PARENTS & CAREGIVERS

- Begin training children on 9-1-1 emergency awareness & practices as young as 3 years old.
- Provide children with a child-safe, 9-1-1 calling equipped device to provide access and controlled hands-on learning.

FOR POLICY MAKERS, SCHOOLS & EDUCATORS

- Move to require modern 9-1-1 emergency calling training curriculum for all primary age children.
- Consider common sense policies that allow for devices, or approved types of child-safe calling devices, in classrooms.

FOR TECHNOLOGY LEADERS

- Commit to child-first design and business principles in new technology that place children's mental and physical welfare and privacy at the forefront.
- End business practices related to devices and platforms that monetize use and manipulate behavior of children.

APPENDIX: METHODOLOGY

COSMO conducted this report analysis using a combination of data across secondary sources.

- Estimated U.S. population: 331,893,754 (US 2020 Census Data)
- Estimated percentage of population under the age of 18: 22.2% (US 2020 Census Data)
- Percentage of US children under the age of 12: 66% (ChildData.gov, US Census Bureau - accessed via Statista)
- Percentage of children 8-11 years old who do not own a smartphone: 60.5% (Common Sense Media,2021).
- Percentage of children likely unequipped to successfully notify 9-1-1 in an emergency: 91% (Huber JF, et al, Pediatrics, 2021)

These recent 9-1-1 and device ownership data, alongside recent census population data, collectively highlight an estimated gap of 26.6M kids under the age of 12 who likely face a lack of personal access to calling or training necessary to successfully notify 9-1-1 in an emergency.

In regard to data from Common Sense Media's 2021 Census, COSMO drew from available survey data for children 8-11 years old. This data from Common Sense Media shows that an average of 40% of children ages 8-11 own their own smartphone in 2021 (p. 22, fig 4). We apply this as a rational, though likely conservative, average for smartphone and general device ownership (40%)/non-ownership (60%) of children under the age of 12.

Regarding data from the study by Huber JF, et al ("Children's Ability to Call 911 In An Emergency: A Simulated Study", Pediatrics, 2021), COSMO used data from two specific categories to determine an average likelihood of a child's ability to "successfully notify 9-1-1."

Huber JF, el al supply data from 50 children across two different age groups (K & 1st grade, and 2nd & 3rd grade – or 4 - 9 years old) and observed their ability in a simulated emergency scenario to 1) Recognize an emergency, 2) call 9-1-1, and 3) Successfully report/communicate with a dispatcher.

COSMO utilized a blended data average of children across both age cohorts who were able to complete steps 2 and 3 noted above. We have excluded the first step (ability to recognize an emergency) given that this does not imply any relevant data to the question of whether a child is likely to be able to "successfully notify 9-1-1 in the event of an emergency." This data result in an average blended estimate of just 9% of children across both cohorts who were able to 1) call and 2) report an emergency, thus a 91% estimate of children in this age group for the inverse. (see fig. 1, page 12).

COSMO used this best available data as a reasonable and certainly conservative estimate for all children under the age of 12 who are unlikely to be able to successfully notify 9-1-1.

APPENDIX: METHODOLOGY

	K & 1st	2nd & 3rd	Average
1) Regognized the emergency	40%	80%	60%
2) Dialed 911	0%	20%	10%
3) Succeessfully Reported	0%	16%	8%
Blended average across all categories			**26%**
Blended avg. of children age 4-9 able to 2) dial, and 2) report an emergency			**9%**
Resulting % of children unlikely able to "successfully notify" 9-1-1			**91%**

Fig.1 - Summary data table based on data by Huber JF, et al,

It should be noted that the best available data was relevant to "smartphone" access in particular; this may under count some children who have access via landlines, smartwatches, or other devices. However, acess estimates overall are likely conservative given that data was only available for children starting at 8 years old; device ownership/access decreases with younger children, thus overall estimates are likely far conservative for the entirety of the primary school population.

Further study across this issue is essential to help form a deeper understanding of the issue and shape policy, training, etc.

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