

Mortality & Risk In ASD Wandering/Elopement 2011-2016

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Introduction

Wandering/elopement behaviors in individuals with an Autism Spectrum Disorder (ASD) remains a critical issue among all age groups.

In early 2017, a seven-year-old boy with autism exited his home in Franklin County, North Carolina, just before 9pm while his mother used the restroom. After a brief search, the child was found approximately one mile away after being fatally struck by a vehicle. The driver was charged with a D.U.I. ¹

In Tulsa, a 17-year-old with autism was reported missing at 3am, approximately 40 minutes before being struck and critically injured by an SUV that fled the scene. A motorist who initially swerved to avoid hitting the boy turned around in an attempt to assist him before witnessing him being struck. The teen died several days later. ²

In Burbank, a 20-year-old man with autism left his home and was located in a Burbank wash via tracking technology. ³

Wandering/elopement behaviors in individuals with Autism Spectrum Disorders (ASD) remain

a critical issue among all age groups, often leading to significant risk of bodily harm and death. Since 2009, 158 individuals⁴ with ASD have died after exiting settings that include home, school, public places, group homes, and foster care.

Elopers also face non-lethal trauma ranging from near drownings, vehicular injuries, sexual assault and restraints, to exposure, dehydration and psychological harm. Second-party risk is an additional key factor. Bystanders, search volunteers and search personnel also face serious physical risk and emotional trauma.

Some programs have been established over the last decade to address ASD elopement behaviors; however, outreach, prevention resources and police training remain low and sporadic throughout the U.S.



A 20-year-old man with autism was found in the wash near the Burbank and Glendale border, after he had been reported missing from his home earlier that day. (Courtesy of the Glendale Police Department)

latimes.com, January 2017

Lethal Outcome, age 7 (2017)

"A neighbor said his mother had gone to the bathroom; when she left the room she



(Courtesy of WRAL.com)

noticed the front door was open. Neighbors began to search for the child, but he made it about a mile up the road. 'It is just a horribly sad situation. It's tragic.' said [a neighbor]. 'As a parent you do everything you possibly can do to protect your children and even doing that, things can happen.'"

..... WRAL.com, January 2017

2017 Risk Outcome, age 19 (2017)

"The unseasonably cold water was up to his neck and indications were that he had been there for some time and could have easily drowned. Fortunately, Air Support was able to lead a Sheriff's Search and Rescue team member and a Sheriff's Volunteer to his location. The Sheriff's Volunteer knew the missing teenager from periodically changing the batteries on his Project Lifesaver bracelet. When the teenager heard his familiar voice, he agreed to reach his hands out and was pulled over the slippery water basin to safety."

..... SBSheriff.org, February 2017

Medical Outcome, age 7 (2017)

"Officer Jonathan Pruziner remembered from his training that people with autism are often attracted to water and started searching in the area of a nearby pond. He found [her] cold and wet near the pond. 'She was really cold. I've suffered from hypothermia in the past and I was pretty sure that's what was going on.'"

..... NBC Washington, March 2017

Summary

From January 1, 2011 to December 31st, 2016, the National Autism Association collected data on missing person cases in the U.S. involving individuals with an Autism Spectrum Disorder (ASD) who wandered or eloped from a safe setting and were gone long enough to require media and/or police involvement.

Results

Out of 808 reported ASD missing person cases of wandering/elopement in the United States from 2011 to 2016, 17% (n = 139) resulted in death, 13% (n = 105) required medical attention, and 38% (n = 309) carried a heightened risk of bodily harm. Accidental drowning accounted for 71% (n = 98) of lethal outcomes, followed by 18% (n = 25) caused by traffic injury. Children 5 to 9 had the highest number of deaths, while children under 5 faced the highest lethal risk with cases ending in death nearly 60% of the time. The lethal risk dropped beyond age 14, but increased in adults 25 to 29. Lethal risk in females was higher with 104 cases ending in death 22% of the time compared to 704 male cases ending in death 16% of the time. Of known ethnicity, 58% (n = 355) were white, 30% (n = 182) were black, 8% (n = 49) were hispanic, 2% (n = 15) were Asian, and 2% (n = 12) were biracial. Less than 1% were Native American (n = 1) and Native Hawaiian (n = 1). The average age per year for lethal outcomes increased for most years of the sample period. Lethal outcomes occurred at a rate of about once a month on average in 2011 to about two to three times a month on average in 2015 and 2016.

Conclusions

Nearly a third of reported ASD wandering/elopement cases in the United States were either fatal or required some level of medical attention, while close calls with traffic, water and other threats accounted for an additional 38% of cases. The vast majority of deaths were caused by accidental drowning, followed by fatal traffic injury. Non-fatal injuries or trauma ranged from minor scrapes and bruises to traffic injuries, near drownings, and physical/sexual assaults. Children under 5 faced the highest lethal risk with cases ending in death nearly 60% of the time, and the frequency of outcomes in the black population was disproportionate to the numbers in the general population, where about 13% of the U.S. population is African-American.

These findings underscore the need for widespread first responder training and resources, broader outreach, education and prevention tools for families, school staff, foster care providers and residential caretakers.

Table 1: a summary of outcomes from 2011 to 2016

2011-2016	Total	Percentage				
Total Outcomes						
Lethal	139	17%				
Medical Attention	105	13%				
Close Calls	309	38%				
Still missing	5	1%				
Minimal Risk/Unclear	250	31%				
Total	808	100%				
Lethal Outcomes						
Drowning	98	71%				
Struck by vehicle	25	18%				
Struck by train	6	4%				
Hyper/Hypothermia	4	3%				
Fall	2	1%				
Trauma, other	4	3%				
Total	139	100%				
Socio-demographics	Total	Lethal	Lethal Percentage per Subgroup			
Age						
Younger than 5	45	26	58%			
5 to 9	191	62	32%			
10 to 14	229	25	11%			
15 to 19	192	11	6%			
20 to 24	70	6	9%			
25 to 29	41	7	17%			
30 +	40	2	5%			
Gender						
Female	104	23	22%			
Male	704	116	16%			
Race						
White	355	68	19%			
Black	182	30	16%			
Hispanic	49	7	14%			
Other	29	4	13%			
Unknown	193	30	16%			
Average Age by Year	2011	2012	2013	2014	2015	2016
Non-lethal	14	16	16	14	15	15
Lethal	5	8	9	12	10	13
All Cases	12	15	14	13	15	15

Medical Outcome, age 10

"Her grandson was on a walk with his caregiver when he ran off. By the time the worker found him, he was standing on a ladder, stepping down into the water. 'She was holding onto him and calling 911, she lost her grip and the current took him. The current was so bad, they had to pull the fire department guy out, too.' [The boy] was airlifted to [the hospital] and placed on life support."

Fox17online.com, April 2014

Lethal Outcome, age 8

"A body found in a creek has been identified as that of a missing 8-year-old boy. The boy disappeared June 12 after his mother last saw him in bed about 2 a.m. She reported him missing about 8 a.m. Authorities say the boy stacked beanbag chairs to unlock a door and let himself out of his home."

KFOR.com, June 2016

ASD Wandering/Elopement

The Centers for Disease Control and Prevention (CDC) estimates that an average of 1 in 68 children in the U.S. have an Autism Spectrum Disorder (ASD)⁵ that can cause significant social, communication and behavioral challenges. These challenges often present unique safety risks, including those associated with a person’s tendency to leave the safety of a responsible person’s care or a safe area, also known as wandering/elopement.

According to data published in 2012 by *Pediatrics*, 49% of children with an ASD attempt to elope from a safe environment, a rate nearly four times higher than their unaffected siblings.⁶

Although current data and analyses focus on non-lethal outcomes in ASD wandering/elopement, investigation of lethal outcomes is necessary and ongoing.

Methods and Objective

From January 1, 2011 to December 31st, 2016, the National Autism Association collected missing person cases and “found missing” cases in the U.S. involving individuals with an ASD who wandered or eloped from a safe setting, and were serious enough to require media and/or police involvement.

The main objective for this report was to look at total outcomes including mortality, injury, and risk in an effort to gain insights into better prevention and response strategies.

Cases were collected over a six-year time frame via all available media and agency channels in real time, and existing case information was utilized to collect outcome data retrospectively.

Cases were included based on the date of occurrence, ASD diagnosis, U.S. location, reliable and accessible source, and substantial evidence indicating the individual left safe supervision or a safe area.

This combined six-year total is compiled from media and agency reporting and may not be an accurate representation of outcomes due to inaccurate or misleading reporting, lack of

reporting mechanisms, lack of formal data collection, and absence of formal diagnosis in affected individuals. Given the detailed nature of the reports, it is unlikely that there are any “false reports” included in this study. However, canvassing all potential cases of mortality and risk via media reporting is unlikely to be comprehensive and thus, if anything, underrepresents the true incidence of mortality and risk related to elopement.

Most relevant data were collected from one or more articles applying to each case. Cases were reviewed individually to identify relevant trends pertaining to the individual’s age, gender, race, diagnoses, and any previous elopement behaviors. Annual, seasonal and time-of-day patterns were also reviewed, as well as locations left/found, response data, the physical state in which the individual was found, and other details, such as caregiver arrests and CPS involvement. For cases with no available updates, the National Missing and Unidentified Persons System (NamUs) was used to determine if the individual was still missing.

Sixty-four cases were excluded from the sample, including seven fatalities. Cases were excluded or removed if they fell outside of the U.S., the individual was an adult who demonstrated a substantial level of independence and was not in danger, the individual was found with a trusted family member or trusted adult, the individual was never missing, or the information could no longer be substantiated by an active or accessible source. Two fatalities were removed after the reported diagnosis changed to Angelman syndrome, two were removed after being ruled a homicide, and three were removed because the individuals never left safe supervision.

Of 872 reported ASD missing person cases collected in this sample period, 808 U.S. cases, including 139 deaths, were determined to be the result of ASD wandering/elopement.

Lethal Outcome, age 4

“When his parents last saw him, [the boy] was sound asleep on a couch in his grandparents’ home. It was 5 a.m. Sunday. No one expected the 4-year-old boy would somehow let himself out of the house and make his way to a neighboring family’s above-ground swimming pool, where he would drown. That tragedy was compounded by another on Monday morning, when the 47-year-old man who owned the pool died himself, crashing his SUV into a house near his home after experiencing ‘multiple cardiac conditions’ while driving. The [owner’s family] was so distraught by the accident that his wife and daughter chose to stay overnight in a hotel rather than be in their house. [He] had wanted to take down the pool before they returned.”

Patch.com, June 2012

Sample Years & Months

The least active year in this sample was 2011 with 59 incidents and 11 deaths, though larger, more extensive searches during this year likely gave the impression of high activity.

In monitoring the data, it was apparent that 2012 was an unusual year with January cases and early fatalities not seen in previous years. Of 149 cases in 2012, 24 ended in death. Reports dropped in 2013 with 89 cases and 17 deaths, and a similar amount in 2014 with 93 cases and 22 deaths.

The most deadly year in this sample was 2015 with 187 cases and 38 deaths while the highest overall activity occurred in 2016 with 231 total cases and 27 deaths. These two years represent roughly half of total and lethal outcomes in this sample.

It was thought that the increase in media attention spurred better reporting trends in 2012, thereby increasing the number of cases. However, this would not explain why cases dropped to similar amounts in 2013 and 2014 only to spike again in 2015 and 2016.

If there is a true rise in cases during these particular years, one explanation could be warmer temperatures. Year 2012 was known to be exceptionally warm in the U.S., and ASD elopement cases have been shown to spike during spring and summer months when temperatures rise; increased temperatures throughout the year could produce a similar result. Annual temperatures via the National Oceanic and Atmospheric Administration (NOAA) show 2012, 2015 and 2016 as the warmest years on record in the United States.⁷ Further study would be needed to determine if higher average temperature is a possible contributing factor.

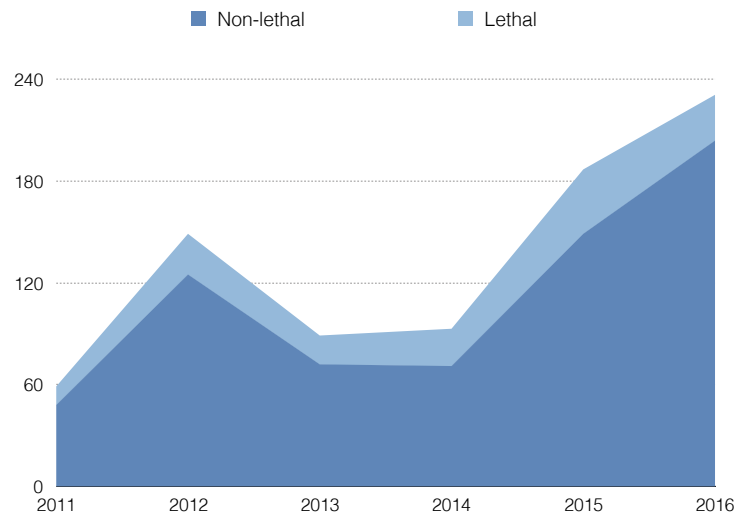


Figure 1: Non-lethal and lethal outcomes by year

Risk of death was highest during spring and summer months with over half (n = 79) of the fatalities occurring from May to August. Per-year cases routinely climbed in early spring and decreased in the fall. September had fewer deaths, but the highest number of incidents, which could relate to school transitioning.

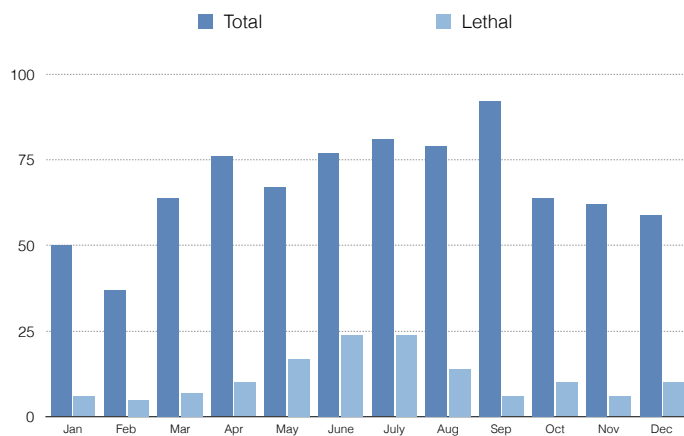


Figure 2: Total and lethal outcomes by month

Risk Outcome, age 12

"The 12-year-old boy wearing no shirt or shoes held his hands over his ears as cars whizzed past him. Motorists were honking, some yelling profanity."

..... NewsOK.com, February 2016

Lethal Outcome, age 18

"A body recovered from a retention pond is that of an autistic man who had been reported missing. Deputies looked for him for most of the day Saturday before calling off the search on Sunday night. [His mother] said she looked away for a few minutes and [he] was gone."

..... WFTV, November 2015

Age & Average Age

The majority of cases occurred in individuals 19 and younger, including 89% (n = 124) of lethal outcomes.

For children with ASD 14 and younger, cases ended in death 24% of the time, while children 9 and younger showed higher risk with cases ending in death 37% of the time. Children with ASD under the age of 5 showed the most significant risk with cases ending in death 58% of the time. The lethal risk dropped beyond age 14, but increased in adults 25 to 29.

Overall, the highest number of deaths occurred in the 5 to 9 age group with 32% (n = 62) of total fatalities. While cases steadily declined beyond age 19, there was a slight increase within the 45 to 49 age group.

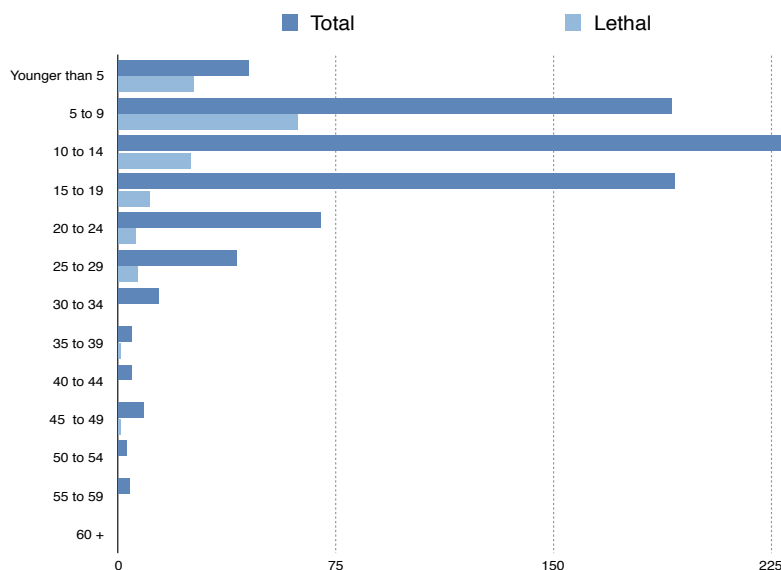


Figure 3: Total and lethal outcomes by age group

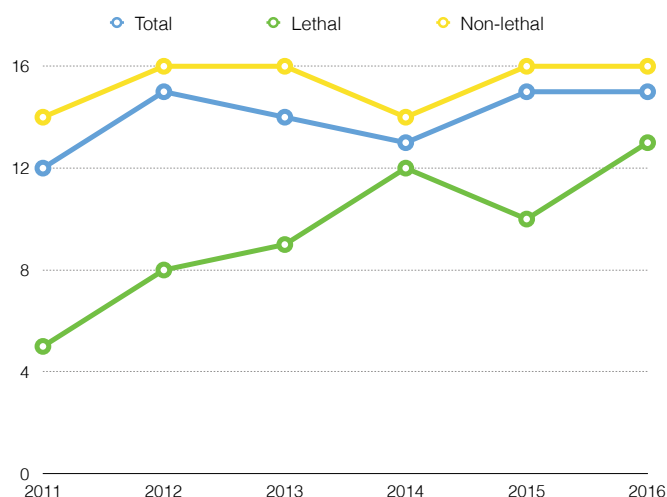


Figure 4: Outcomes by average age per year

Average age per year remained fairly consistent for non-lethal and total outcomes, though ages for lethal outcomes increased for most years of the data range. One reason for this correlates with cause of death. ASD drowning victims were typically younger with an average age of 10 compared to victims of fatal traffic injury in this sample who averaged 14 years in age. Each death in 2011 was by accidental drowning, which affected that year's average age. Years with a higher number of vehicular fatalities versus drowning fatalities typically reflected a higher mean age. Further study is needed to determine if average age continues to increase.

Lethal Outcome, age 7

"[His] 4-foot-3-inch, 60-pound body was found the evening of July 8 — about 32 hours after his mother's first call to 911. The medical examiner said it appeared [he] succumbed to the sweltering heat. 'We did the best we could,' an academy recruit later told an investigator."

Washington Post, April 2014

Lethal Outcome, age 22

"Less than three weeks before Christmas 2013, [he] was killed by a hit-and-run driver after wandering from the group home where he lived. The Charleston County Sheriff's Office report said [he] was severely autistic [and was] 'not supposed to have been outside his residence at the time he was fatally struck.'"

Greenville News, July 2016

Ethnicity & Gender

Race was identified in 76% (n = 615) of total outcomes including 78% (n = 109) of lethal outcomes.

Of total cases, 58% (n = 355) were white, 30% (n = 182) were black, 8% (n = 49) were hispanic, 2% (n = 15) were Asian, and 2% (n = 12) were biracial. Less than 1% were Native American (n = 1) and Native Hawaiian (n = 1).

Race identified in 109 lethal outcomes showed that 62% (n = 68) were white, 28% (n = 30) were black, 6% (n = 7) were hispanic, 3% (n = 3) were biracial, and 1% (n = 1) were Asian. The frequency of outcomes in the black population was disproportionate to the numbers in the general population, where about 13% of the U.S. population is African-American.

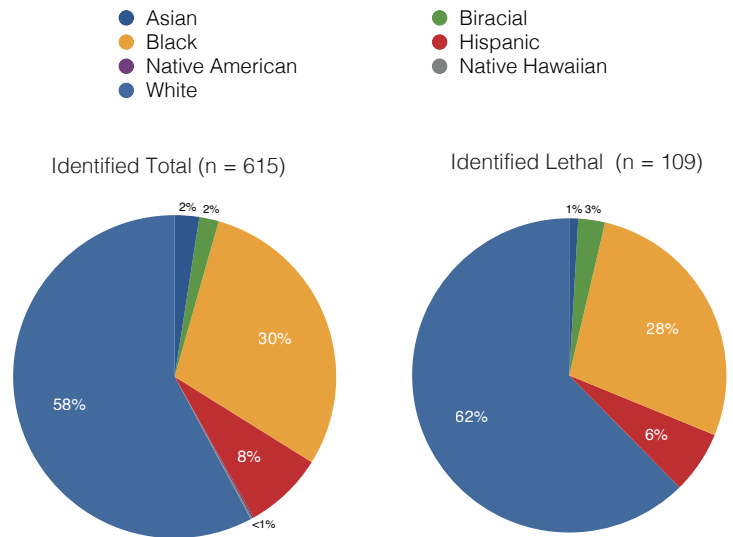


Figure 5: Total and lethal outcomes by race

Females represented roughly 13% (n = 104) of elopement cases while 87% (n = 704) of cases involved males. Overall activity was lower for the female population, yet lethal outcomes showed a higher risk for females with cases ending in death 22% of the time for females compared to 16% of the time for males.

Risk of drowning was significantly higher for females, which accounted for 83% (n = 19) of female deaths compared to 68% (n = 79) of deaths in males. Conversely, 90% (n = 28) of total deaths caused by traffic and train injuries occurred in males.

Post-elopement predator involvement, outlined in a different section of this report, was an additional risk for females.

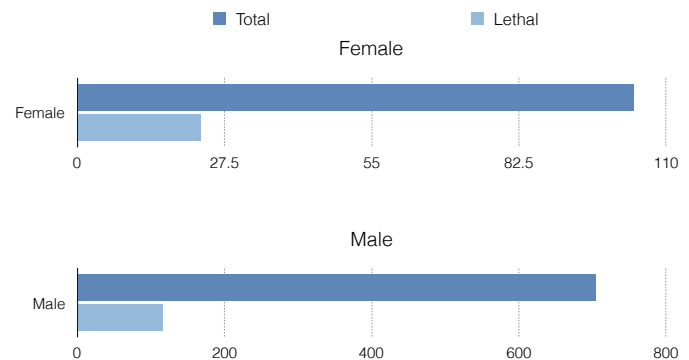


Figure 6: Total and lethal outcomes by gender

Lethal Outcome, age 9

"Clearlake police announced on Wednesday that they had found the body of a 9-year-old girl in a creek near her parent's vacation home. [The girl], who has autism and the mental capacity of a 1-year-old girl, had wandered off on Sunday afternoon..."

..... NBCBayArea.com, May 2013

Lethal Outcome, age 9

"[The boy] was visiting Lake Callis in Genesee County with his foster family on July 4 when he disappeared. Six days later, following a massive search, he was found in Lake Callis."

..... mlive.com, July 2015

Supervision & Settings

Type of supervision at time of elopement was identified in 58% (n = 469) of cases including 89% (n = 124) of lethal outcomes. Of total known cases, 55% (n = 259) were in the care of a parent, while 45% (n = 210) were in the care of someone other than a parent.

Non-parent supervision included school/school bus staff, which accounted for 18% (n = 86), and caretaker staff or babysitter, which accounted for 17% (n = 78).

Seven percent (n = 35) were in the care of a grandparent or relative, and 1% were in the care of a foster parent. Thirty cases noted investigation, CPS involvement or arrest of a caregiver.

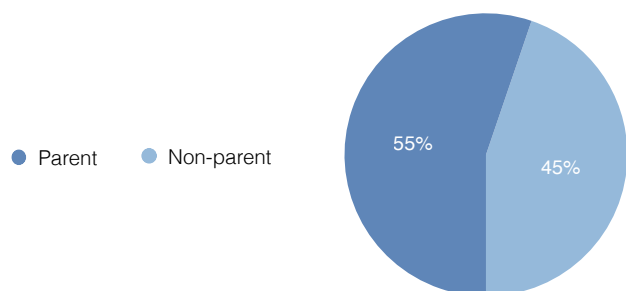


Figure 7: Outcomes by supervision type

Locations from where individuals eloped were identified in 87% (n = 704) of cases, including 98% (n = 136) of lethal outcomes. Most elopement occurred from home, accounting for 54% (n = 383) of known settings, while non-home locations accounted for 46% (n = 321).

Settings more likely to have nearby water or traffic, such as residential areas, vacation homes and outdoor recreation areas

“He just looked a little confused.

He was looking around like,

‘Where should I go?’”

A good samaritan who helped locate a 15-year-old boy after disappearing from a children’s hospital - Chicago Tribune, June 2012

typically reflected higher risk, especially if those settings were seemingly less familiar to the individual. Community settings like schools, hospitals and churches showed low to no lethal risk, which may be the result of proximity to threats, individual’s age, time of day and number of adults available to search or intervene.

Setting Type	Total	Lethal	Percentage
Home	383	72	19%
School Setting or School Bus	81	4	5%
Relative or Friend's Home	53	23	43%
Outdoor Recreation, Field trip or Camp	49	14	29%
Group home or Residential Facility	35	9	26%
Store, Restaurant or Indoor Recreation	32	4	13%
Between Settings	34	2	6%
Hotel or Vacation Home	12	6	50%
Vehicle	8	2	25%
Hospital or Healthcare Facility	6	0	0%
Train or Bus Station	6	0	0%
Church	5	0	0%
Other/Unclear	104	3	3%

Table 2: Total and lethal outcomes by origin of incident

Lethal Outcome, age 14

“School employees soon realized that he was missing, but because the guard believed [he] had disappeared up a stairwell, the search initially focused inside the building. In mid-January, [the boy’s] remains washed up on the rocky shoreline off College Point in northern Queens.”

..... New York Times, March 2014

Medical Outcome, age 5

“The rescue and reunion with his parents was a seemingly improbable ending to a 20-hour hunt for the boy who disappeared under blistering midday sun and amid warnings about excessive heat. The boy, who is autistic and doesn’t use words, had been missing from his home since midday Tuesday.”

..... Star Tribune, July 2012

Vulnerable Times & Triggers

Vulnerabilities and triggers were identified in nearly 40% (n = 321) of cases.

Of those, 39% (n = 125) occurred during times of transition, commotion or stress, such as schoolbus and vehicle transitions, disruptive settings, or times when they were upset, agitated or confused.

Thirty-three percent (n = 106) of identified cases happened between the hours of 9pm and 9am, with the vast majority occurring overnight when caretakers were more likely to be sleeping.

Outside play or school recess was a factor in 13% (n = 43) of cases, many of which also noted caregiver distraction or preoccupation. For example, a 5-year-old nonverbal child wandered away from the yard while his father was winterizing their home.⁹ A 6-year-old nonverbal girl wandered away from her daycamp campground while the camp counselor attended to other children.¹⁰

Of note, individuals who left an unfamiliar setting, such as a hotel room, vacation home, or new home after a recent move, were especially vulnerable with cases ending in death 38% of the time. The highest risk group were individuals who left a family or social gathering, which resulted in death 69% of the time.

“If this situation were a dream, I would wake up, and I would pick him up from the group home in Austin and I would just bring him back here.”

Mother of a 24-year-old who died after leaving his group home - MyStatesman.com, January 2015

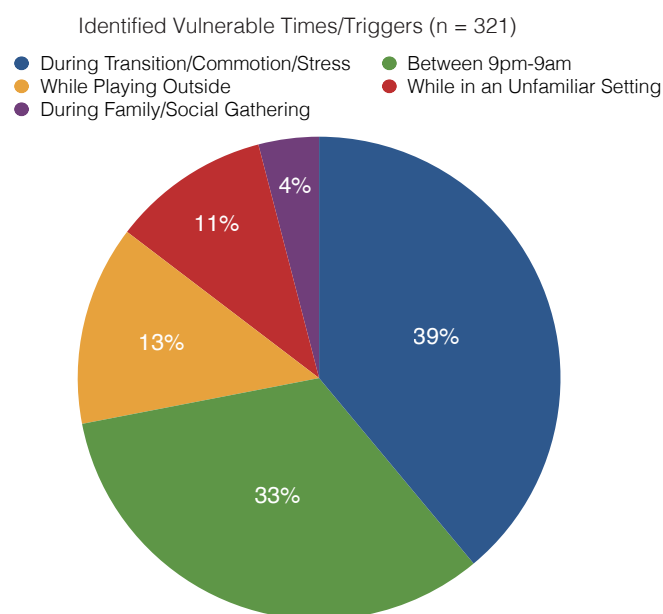


Figure 8: Outcomes by vulnerable times and triggers

Lethal Outcome, age 5

“[The boy] wandered from a family New Year’s Eve party. For two days and nights, police, rescue crews, bloodhounds and citizens searched for the autistic child. His body was recovered from the canal Saturday afternoon about 40 hours since he was last seen running barefoot and coatless with his red tablet into the woods.”

..... The Morning Call, January 2016

Medical Outcome, age 13

“A 13-year-old autistic girl remains hospitalized after she leaped out of her mother’s SUV and into traffic on the Staten Island Expressway...”

..... silive.com, July 2013

Lethal Outcome, age 9

“[The boy], who had autism and was nonverbal, was reported missing Thursday. He had traveled to Texas from Connecticut for the holiday. Because of his autism, search crews were told he couldn’t cry out for help and that loud noises could scare him away.”

..... CBS News, November 2016

Lethal Outcome, age 8

“An 8-year-old autistic boy missing since Friday has been found dead in the water. [The boy], who was visiting from Louisiana, was found by someone on the beach shortly after 1 p.m. [The boy] went missing about 4 p.m. Friday after leaving the condo where his family was staying.”

..... PNJ.com, May 2013

Cause of Death

Similar to earlier findings,¹¹ the vast majority of lethal outcomes were caused by accidental drowning. In this sample, drowning was responsible for 71% (n = 98) of deaths, followed by 18% (n = 25) caused by traffic injury, and 4% (n = 6) caused by train injury. In addition, two children died of hyperthermia, two adults died of hypothermia, and two adults were killed following mistaken home invasions - one of asphyxiation and one from a gunshot wound. Additional deaths include one adult who died of cardiac arrhythmia associated with police restraint, and one death that occurred in an adult who was reported missing by his grandmother and found deceased two days later of an apparent drug overdose.

Of drowning deaths, 76% occurred in a natural body of water, or drainage water.

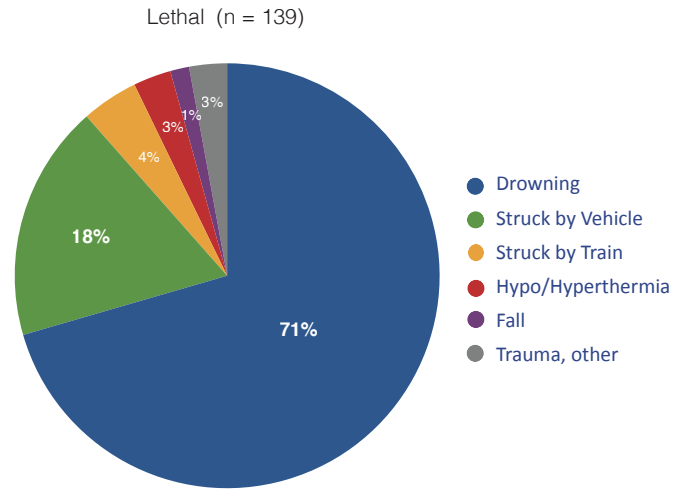


Figure 9: Lethal outcomes by cause of death

Top Places They Were Found

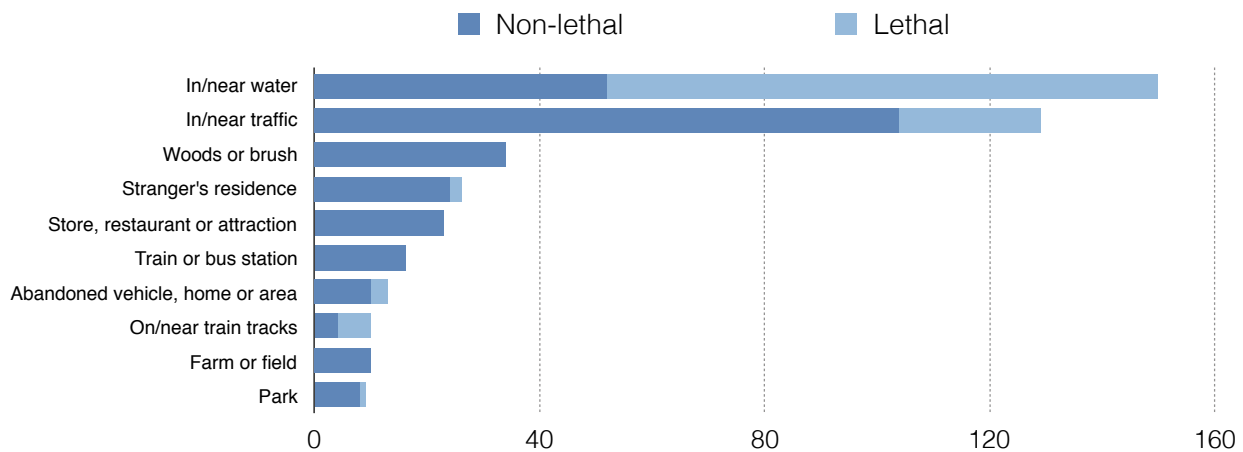


Figure 10: Non-lethal and lethal outcomes by top places they were found

Lethal Outcome, age 12

"Family members said [the boy] was severely autistic and wouldn't have known to get out of the way of the train. The boy's father posted comments indicating that he is serving in the military and is trying to get back to the area. The boy's mother died in 2009 at age 31. An uncle took in [the boy] and cared for him."

modbee.com, August 2012

Lethal Outcome, age 37

"Within minutes, [she] had wandered away and left the store. Police found her about 6:30 a.m. the next day between two parked cars in the 1400 block of North 57th Street in West Philadelphia. A medical examiner ruled the cause of death as exposure to the cold."

Philly.com, November 2015

Risk & Injury

Over half (n = 414) of cases carried some level of elevated risk or need for medical attention. Of these, 309 were close calls with traffic and water, and other threats such as exposure and encounters with strangers. Certain cases were placed in the “high-risk situation” category if they were found in a low-threat environment but encountered risks while missing. For example, a seven-year-old child left school unnoticed and was found at home, but needed to cross several busy streets to get there.¹² Beyond traffic and water, some individuals were found in a high-risk location. Examples include an eight-year-old boy who was located under a conveyor belt at a construction site,¹³

and a six-year-old boy rescued by an off-duty police officer from the rooftop of an apartment building.¹⁴

Medical treatment or evaluation was necessary for 105 cases, most of which were for non-life threatening injuries or conditions. More serious injuries occurred in six individuals who were non-fatally struck by a vehicle, along with two children who were placed on life support -- and one other in intensive care -- following near drownings. One child was listed in critical condition for treatment of kidney problems after being missing for two days in the woods.¹⁵ Post-elopement predator involvement in eight cases resulted in

(cont’d)

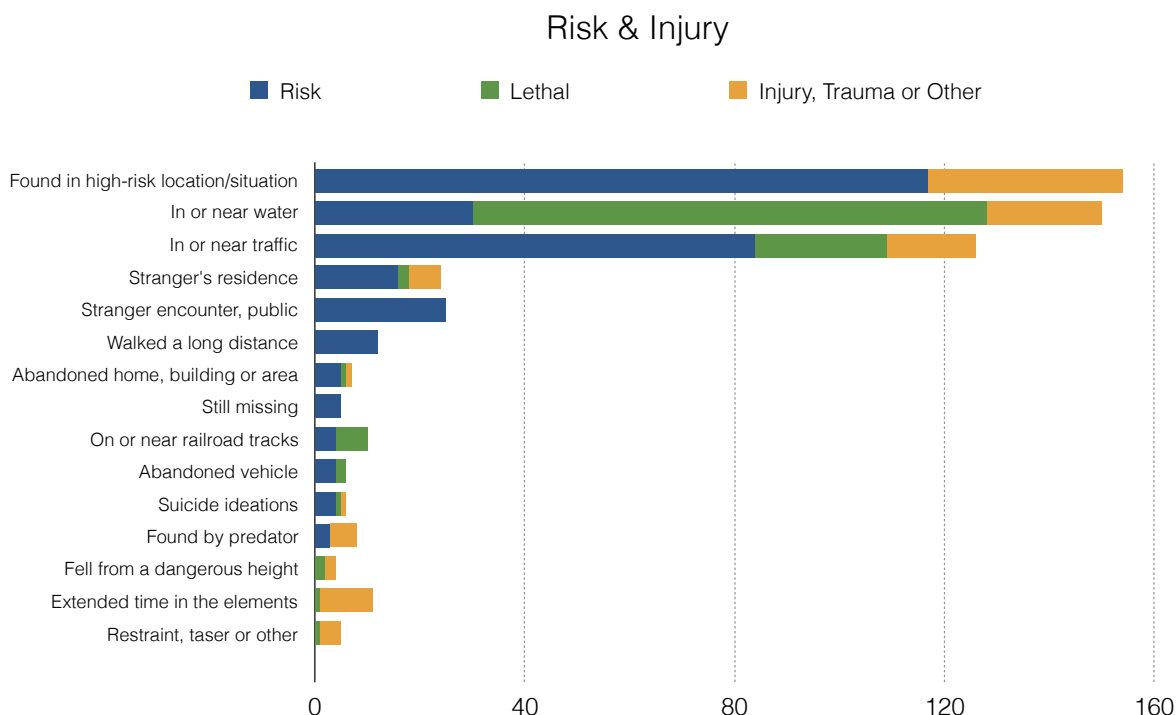


Figure 11: Outcomes by risk and injury

Medical Outcome, age 7

“Officials say the child fell about 150 feet down an 85-degree slope near Mary Campbell's Cave and ended up at the bank of the river. The hikers and a park ranger carried the child out of the park and were met by police. The child was taken by paramedics for treatment.”

Philly.com, November 2015

Risk Outcome, age 10

“She pulled over and called 9-1-1. By then the boy was in Messalonskee stream holding onto the bridge. She pulled him out of the water and discovered he had special needs. He walked off and tried to climb into a culvert. [She] was able to hold onto him and flagged down a motorist for help.”

WCSH6.com May 2014

Risk & Injury, cont'd

one female who was physically and sexually assaulted, and two females who were sexually assaulted. Only one of the victims was noted as wearing a GPS tracking device, which, according to the child's mother, helped end the attack.¹⁶ Two other cases in this category required medical examination.

Of those found in a stranger's residence, two individuals were killed by the homeowners, while six required medical attention related to other injuries sustained while missing.

One child was tased by police after being found on an interstate, and three others were restrained, which resulted in one death. One individual who wandered from his group home was placed in a psychiatric hospital after being shot at by police; the bullet struck and injured his caretaker instead.

Suicide ideations or desire to self-harm were noted in six individuals, including one death. One child was taken to the hospital as a precautionary measure for non-life threatening injuries.

Two children required medical attention after falling from an unsafe height.

Roughly 80% of cases in the medical category were treated for minor to moderate injuries, comorbid conditions for which they did not have medication while missing, or were examined as a precaution based on the circumstances. For example, a six-year-old nonverbal female disappeared from her church and was located in a ravine next to a power line where firefighters and deputies worked to remove her from thick brush. Though she appeared fine, further evaluation was needed.¹⁷ Other cases were presumed to be minor based on vague details. One example of this is a ten-year-old male who ran from his school in New Hampshire and was rescued by his principal after falling through ice into a pond.¹⁸ The boy was treated for hypothermia, but no follow-up information was available.

Risk Outcome, age 13

"Thanks to a couple Good Samaritans, an autistic 13-year-old boy, missing since Tuesday, was reunited with his family early Friday morning. He had been roaming the streets and subways of New York City alone for three days without food or water. [His parents] suspect that he--fearing a bully on his schoolbus--elected to take a train and then proceeded to get lost."

..... Huffington Post, April 2012

.....
"I was able to lay down on the deck and he reached out to me and I pulled him up. I just grabbed him, bear hugged him wrapped him in my jacket and took off running."
.....

Patrolman Joshua Leveronne, who rescued a nonverbal 4-year-old boy from a wastewater treatment pool - WDRB.com, March 2015

Response

Of 669 non-lethal outcomes, key rescue components were identified in 56% (n=376) of successful searches. Of those, first responders, rescue crews and assisting agencies like the National Center for Missing & Exploited Children were instrumental in (cont'd)

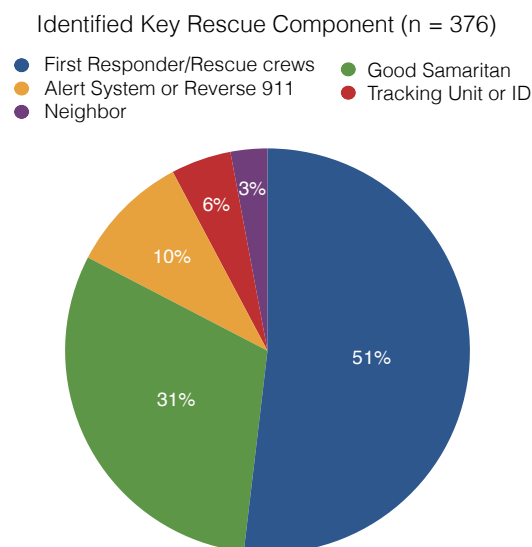


Figure 12: Non-lethal outcomes by key rescue component

Medical Outcome, age 11

"[The boy], 11, was hospitalized with head and leg injuries after being struck by a hit-and-run driver. The family was visiting California to find better medical treatment for [the boy], who has epilepsy and autism. They were staying at a motel when [he] suddenly ran out of their motel room. 'We're scared because he's not moving his legs. The doctors are worried. We're asking him to move his legs and he says he can't.'"

..... ABC7.com, April 2016

Response Cont'd

over half (n = 194) of successful rescues, along with agency resources. These include 21 individuals found via search dogs and seven spotted by helicopter. Thirty-one percent (n = 115) were found with the help of a good samaritan, 3% (n = 11) by a neighbor, and 10% (n = 36) via an alert system or reverse 911. Locative technology and medical identification were cited as being key in 6% (n = 21) of cases. Of note, four cases cited recent police training, and three cases cited familiarity with the individual, as a key component to the rescue and subsequent interaction.

*"Sometimes the uniform scares people.
But immediately when I went to the park,
she recognized me and she came to me."*

Deputy Amanda Vollmer, who helped locate a nonverbal 7-year-old girl who went missing in Nebraska - KETV.com, August 2016

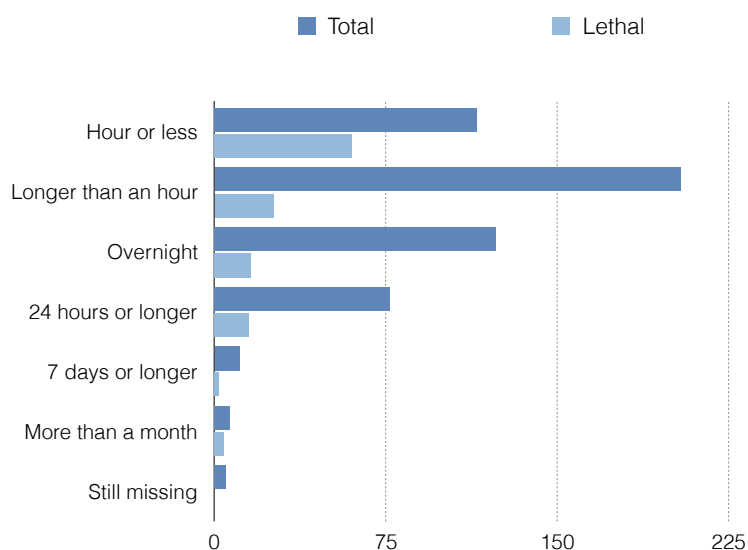


Figure 13: Total and lethal outcomes by search times

Search Time

Search times were identified in 66% (n=537) of all cases, including 123 fatalities. Of search times identified in fatalities, nearly half (n=60) noted a search time of an hour or less. Conversely, several cases in the sample included individuals with ASD who were found safe after missing for an extended period of time without adequate food or water.

For example, in 2011, a male with ASD, age 8, was found alive by a member of the public nearly six days after he wandered away from his family while walking in a wooded park. Reports note the boy was found in a fetal position in a creek bed, and suffered minor injuries that included a hole in his esophagus.¹⁹

Medical Outcome, age 8

"The 8-year-old boy with autism, missing since Saturday afternoon, has been found alive. A helicopter pilot first spotted the boy from the air, then guided ground teams to his location."

actionsnewsjax.com, October 2014

Risk Outcome, age 10

"The officer was familiar with the boy and knew he was autistic and non-verbal. The child went farther into the water, and the officer saw him go under. The officer swam in, spotted the child's colored shirt under the water, and was able to pull him out."

WJFW.com, May 2016

Medical Outcome, age 12

"All day into that evening, law enforcement search parties combed the river waters and banks for any sign of the girl. The search was called off at sundown. Wearing just pajamas when last seen, [she] would spend the evening in temperatures dropping into the 30s. The next day, a hunter spotted [her] clinging to a tree in the river..."

mankatofreepress.com, Dec 2016

State Activity

Cases were reported in nearly all U.S. states and the District of Columbia with the highest activity reported in California, Florida, New York, Texas and Michigan. Of those with higher activity, Maryland was the only state with no reported deaths.

“We’re ecstatic we found this kid with everything stacked against us.”

Capt. B.J. Jones, who helped locate a nonverbal 7-year-old boy in a riverbed after an eight-hour search - ModBee, January 2014

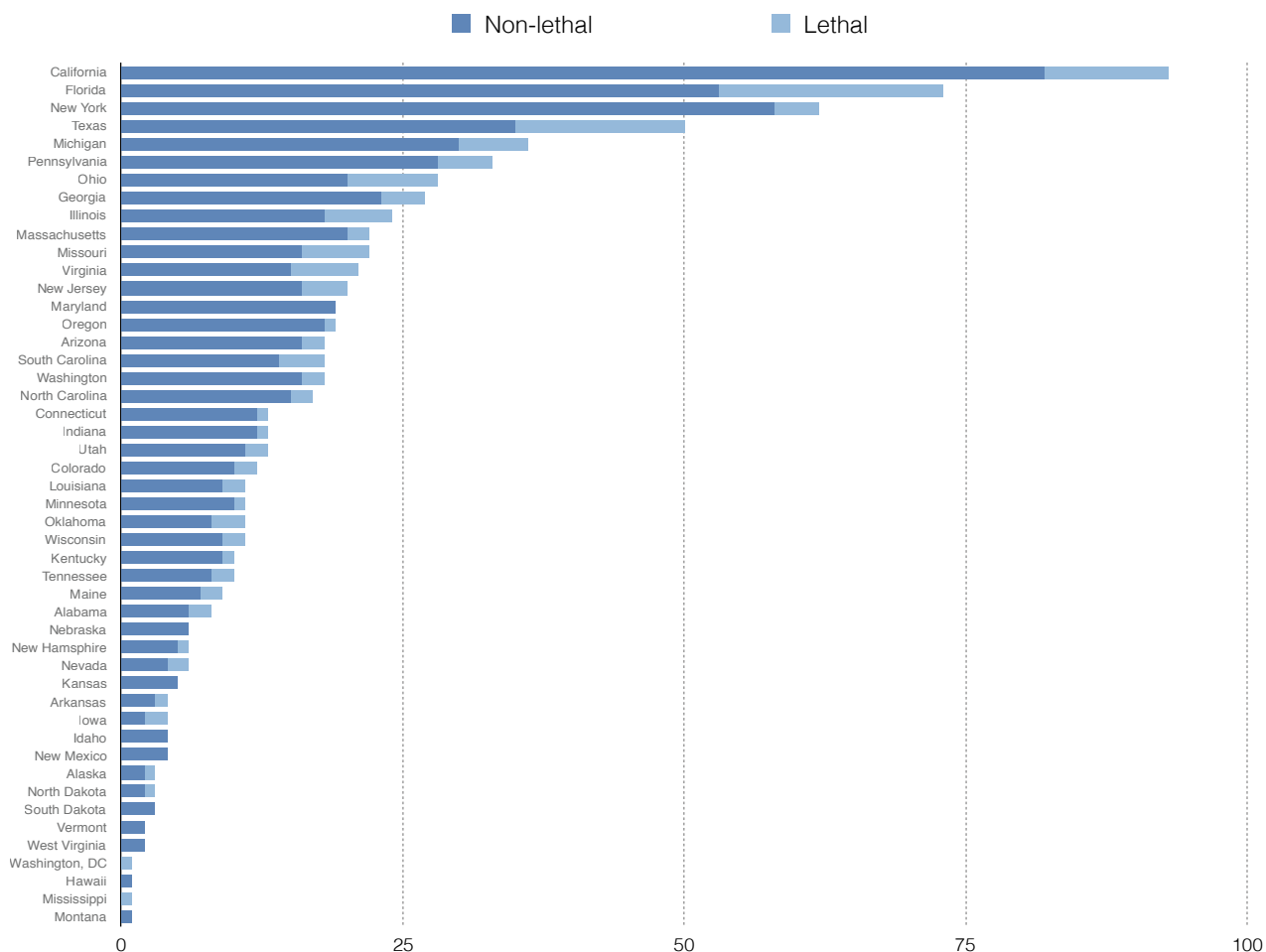


Figure 14: Lethal and non-lethal outcomes by state

Lethal Outcome, age 12

“[The boy], who was autistic, wandered away from his home. As police were seeking the boy, an officer came upon the accident scene. ‘It is not a situation involving a pedestrian purposefully running in front of traffic. Investigators have learned at times individuals with autism may wander -- this appears to have been the case here.’”

The Oakland Press, January 2015

Medical Outcome, age 8

“Because of his autism, [the boy] probably didn’t know that he was lost. If he heard people coming through the woods, he might well have taken cover from them, thinking it was a game of hide-and-seek. Or he might not have wanted to be found by a stranger, even one calling out his name. This made efforts to locate him extremely difficult, and it’s how [he] managed to elude what would soon become one of the largest search-and-rescue operations in Virginia history.”

outsideonline.com, July 2012

Conclusions

This six-year sample shows that nearly a third of reported ASD elopement cases in the U.S. were either fatal or required some level of medical attention. Over 70% of lethal outcomes were caused by accidental drowning, followed by fatal traffic injury. Non-fatal injury or trauma ranged from minor scrapes and bruises to traffic injuries, near drownings, and physical/sexual assaults. Close calls with traffic, water and other threats accounted for an additional 38% of cases.

Children 14 and younger faced higher lethal risk, and those under the age of 5 showed significant risk with cases ending in death nearly 60% of the time. The average age per year for lethal outcomes increased for most years of the sample period.

Overall elopement activity was lower for the female population, but the lethal risk was higher compared to males.

The frequency of outcomes in the black population was disproportionate to the numbers in the general population, where about 13% of the U.S. population is African-American.

Per-year cases routinely climbed in early spring and decreased in the fall. The risk of death was highest during spring and summer months with over half of fatalities occurring from May to August. September had fewer deaths, but the highest number of incidents, which could relate to school transitioning.

Times of transition, commotion and stress increased elopement risk, and those who were noted to be upset or agitated showed a higher risk of abruptly exiting into traffic or other high-threat situations. For individuals who left a family or social gathering,

Medical Outcome, age 13

"A 13-year-old diagnosed with autism was reported missing just after 6 p.m. Tuesday. She had run away from her guardians... At approximately 11 a.m. Wednesday as officers were still actively searching for the child, she was spotted by a bus driver while in the care of a [59-year-old man]. Prosecutors say [the man] did not initially cause the girl's disappearance, but had a conversation with the teen Tuesday night. She told police she asked [him] to use his phone to call her dad. [He] then took the girl to his house saying he would help her find her father. Instead, prosecutors say [he] gave the girl a pill that made her sleepy."

..... ky3.com, December 2016

.....
*"I said, 'Lord, give me favor right now.
Clear this freeway so I can get this kid.'"*
.....

*A good samaritan who found an 11-year-old boy
along an interstate in San Fransisco - abc7news.com, April 2016*

lethal risk was significant with cases ending in death nearly 70% of the time.

Individuals were under various types of supervision at the time of elopement with non-parent supervision accounting for 45% of cases. Water, traffic, woods and a stranger's residence were the top settings where individuals were located. Low-sensory locations were also a common theme, such as abandoned areas, farms or fields.

The majority of lethal outcomes noted a search time of an hour or less, indicating that fatalities may occur quickly with little time to intervene. Other cases showed successful rescues of individuals missing for upwards of a week without adequate food or water. Five individuals with ASD remain missing.

In this sample, lethal outcomes occurred at a rate of about once a month on average in 2011 to about two to three times a month on average in 2015 and 2016. It is unclear whether better reporting, warmer average temperatures, or other factors played a role in the increase.

Medical Outcome, age 6

"A lot of people went in the water to save that young boy and one of those heroes became a tragic victim himself, so our prayers go out to his family," said Yonkers Mayor Mike Spano. The child was also transported to a local hospital where he was expected to make a full recovery."

..... CBS New York, September 2014

Recommendations

These findings underscore the need for widespread first responder training and resources, broader outreach, education and prevention tools for families, school staff, foster care providers and residential caretakers.

Because nearly half of lethal outcomes noted a search time of an hour or less, programs that focus on prevention, water safety, and quicker response time are critical.

Some cases demonstrated how police training and police familiarity with the specific individual was key in decreasing overall risk, including secondary risks, such as restraint. It is recommended that first responders be trained on the signs of ASD, its associated water and traffic risks, and interaction techniques.

Radio Frequency (RF) Technology through local law enforcement and other safety agencies has been shown to reduce search time; therefore, it is recommended that agencies be made aware of these options for high-risk elopers, along with other resources, such as registries, endangered missing advisories and reverse 911 technology.

States with Silver Alerts that carry age restrictions should expand age criteria to include children, teens and adults with disabilities. Most ASD elopement cases do not qualify for an AMBER Alert, which is limited to children who have been abducted.

Advocates, clinicians, and service professionals should advise parents, foster parents and caretaker staff on elopement risks and when/where elopement is more likely to occur. Encourage them to enroll individuals with ASD into swimming lessons and to introduce their child or client to members of local law enforcement, and neighbors.

.....

"I called her and told her, 'I have your son. He's safe. He's at my house and I'll keep him safe until you arrive.'"

.....

A good samaritan who helped reunite a five-year-old boy with his mother after finding her contact information in his backpack - WSBTV.com, August 2012

Tools, such as door alarms, visual prompts and identification should be recommended, and information about different tracking technology options should be provided.

Elopement cases in this sample reflected a variety of safety topics affecting the ASD population, including suicide ideation and self-harm, bullying, heightened stress response, and lack of proper services and supports. Research, medical protocols and programs addressing these issues may reduce exit-seeking behaviors in individuals with ASD.

Further study is needed to determine whether lethal outcomes and average ages are increasing, and what may be contributing to the rise. The disproportionate risk among black individuals with ASD also needs further study and guidance.

Risk Outcome, age 6

.....

"Drivers called 911 to report seeing the little boy... A pair of good samaritans reportedly stopped, picked up the child and called the police at about 7:45 a.m. Because the 6-year-old child is autistic and unable to speak, he could not tell officers anything about himself or his parents. With that in mind, police immediately began going door to door in the area to try and find the little boy's parents."

..... AZFamily.com, June 2011

Risk Outcome, age 10 (2017)

.....

"Law enforcement poured into [the] neighborhood within minutes to help search for the young girl. [He] says her father found her a short time later. The young girl had wandered off into the woods and was stuck in a ravine 20 minutes away. 'We've noticed a rise in search and rescues with missing [persons with] autism,' said Lieutenant Jim Byers of the El Dorado County Sheriff's Office. He says those incidents spiked in the early 2000's. And in 2005, the Sheriff's Office launched an autism registry to help."

..... sacramento.cbslocal.com, March 2017

Lethal Outcome, age 27

“Finally, on Dec. 2, six months after the family’s move, a case manager visited [him.] She told her brand-new client he would have to wait a month before he could even make an appointment with a psychiatrist. The next day, [he] and his father were getting ready to go out. Instead of a jacket, [he] draped a towel around his shoulders and wore only one shoe. His parents asked him to get more appropriate clothes. They left him alone for just a few moments. [He] slipped out the door, got in the family car and vanished. His mother and father called the police to report their missing son.

Later, they learned he had turned up at [a] store, where concerned employees had called police upon finding him barefoot and wandering the crowded aisles. Police talked to [him] and notified his worried parents. An officer asked [him] to wait in the family car. But when the police officer turned away to radio dispatch, [he] disappeared a second time, this time on foot. [He] had a knack for hiding, according to his mother. When he wanted to, he could disappear. Police searched through backyards and walked to downtown. They continued looking for him throughout the long, cold night. On the morning of Dec. 4, a woman walking her dog spotted [his] body. He was lying face down in a small stream, within sight of [the] store. It was later determined he had accidentally drowned.”

bangordailynews.com, March 2016

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