Bike, Skate, and Skateboard Safety Fact Sheet

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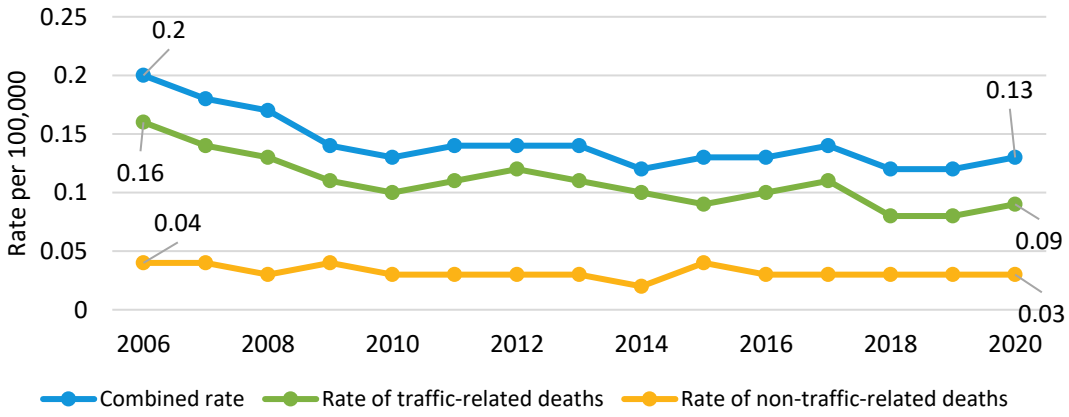
There were 102 deaths and an estimated 136,753 emergency room visits due to bicycling injuries among children ages 0 to 19 years in 2020.[1]

This fact sheet focuses on children ages 0 and 19 years in the U.S. who suffered fatal or nonfatal bicycling injuries and nonfatal skating/skateboarding* injuries in 2020 and in the years between 2006 and 2020.

Fatal Injuries

- There were 102 fatal bicycling injuries among children in 2020, for a rate of 0.13 per 100,000 children.[1] Of those deaths, 75 percent were traffic-related and 25 percent were non-traffic-related.[1]
- Between 2006 and 2020, there were a total of 1,753 fatal bicycling injuries among children.[1] Although the rate of fatal bicycling injuries decreased by 35 percent between 2006 and 2010, it has remained relatively unchanged since then (Figure 1).[1] The reduction in the rates of fatal traffic-related and non-traffic-related bicycling injuries from 2006 to 2020 was 44 percent and 25 percent, respectively.

Figure 1. Rate of Fatal Bicycling Injuries By Year Overall and by Cause, Ages 0–19 Years, 2006–2020



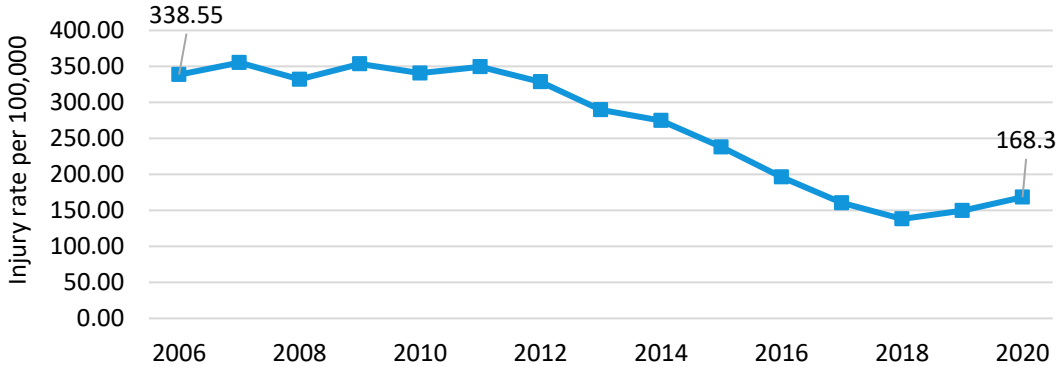
* For the purposes of this fact sheet, skateboarding/skating injuries include injuries related to skateboards (product code 1333), in-line skates (product code 3297) and roller skates (product code 3216). Ice skates (product code 3255) are not included.

Nonfatal Injuries

Bicycling:

- In 2020, an estimated 136,753 children visited the emergency room (ER) for nonfatal bicycling injuries, for a rate of 168.29 per 100,000. This corresponds to a ratio of fatal to nonfatal bicycling injury of 1:1,341.
- Six percent of children who visited the ER for bicycling injuries in 2020 were hospitalized.[2]
- An estimated 3.3 million children visited the ER for bicycling injuries between 2006 and 2020.[2] During that period, the rate decreased by 50 percent overall (Figure 2).[2]
- The most common types of injuries among children who visited the ER for bicycling injuries in 2020 were contusions/abrasions (30 percent), lacerations (26 percent), fracures (26 percent), and internal injuries (10%). Four percent suffered concussions.[3]

Figure 2. Rate of Nonfatal Bicycling Injuries by Year
Ages 0–19 Years, 2006–2020



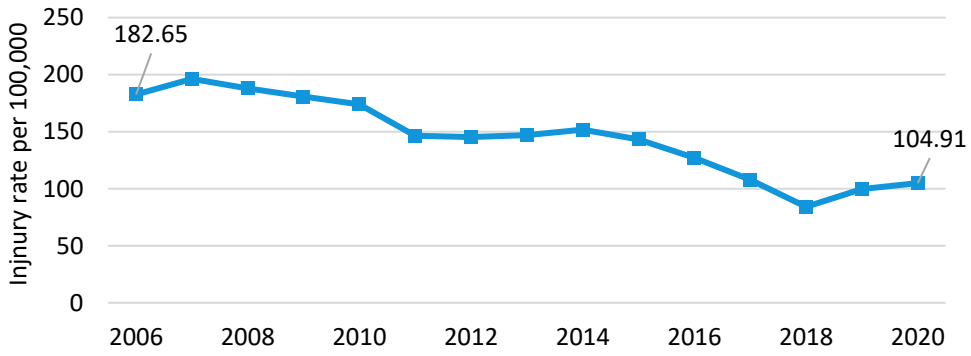
Skateboarding/Skating:

- In 2020, an estimated 66,566 children visited the ER for skateboarding injuries and 18,707 for skating injuries, for rates of 81.92 and 23.02 per 100,000, respectively.
- Of children who visited the ER for a skateboarding/skating injuries in 2020, 94 percent and 97 percent, respectively, were treated and released.[3]
- The most common types of injuries among children who visited the ER for skateboarding/skating injuries in 2020 were fractures (41 percent), strains/sprains (18 percent),

contusions/abrasions (17 percent), and lacerations (10%). Eight percent suffered internal organ injuries and 4 percent suffered concussions.[3] The most common body parts injured were the upper extremities (88 percent), lower extremities (44 percent) and the head/neck (41 percent).[3]

- Between 2006 and 2020, an estimated 1.8 million children visited the ER for skateboarding or skating injuries. During that period, the rate of nonfatal skateboarding/skating injuries declined by 42 percent overall (Figure 2).[3]

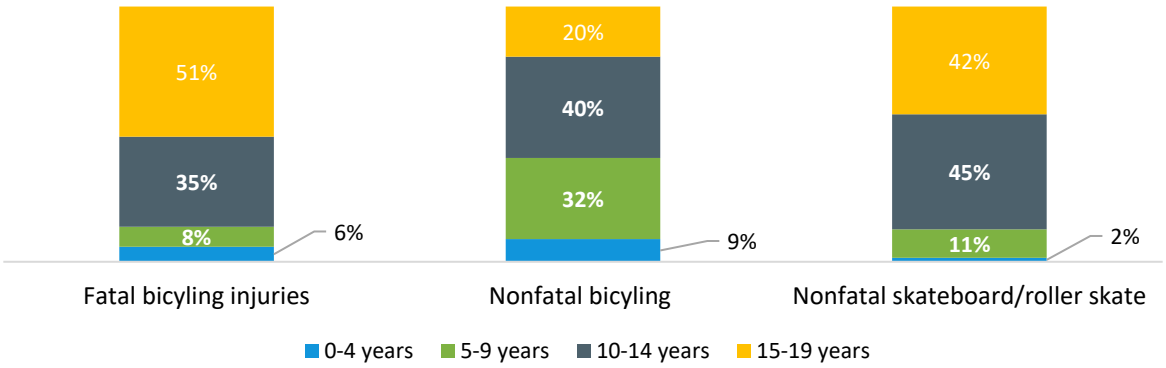
Figure 3. Number and Rate of Nonfatal Stakeboarding/Skating Injuries by Year, Ages 0–19 Years, 2006–2020



Risk Factors

- **Age:** Fatal bicycling injuries among children in 2020 varied with age, with the largest proportion (51 percent) occurring among 15- to 19-year-olds (Figure 3).[1] Children ages 10 to 19 accounted for 86 percent of fatal bicycling injuries while 60 percent of nonfatal bicycling injuries were among children under 10 years of age. When nonfatal bicycling and skateboarding/skating injuries are considered, the largest proportions occurred among 10- to 14-year-olds (40 percent and 45 percent, respectively).[3]

Figure 4. Fatal and Nonfatal Bicycling Injuries and Nonfatal Skateboarding/Skating Injuries by Age Group, Ages 0–19 years, 2020



- **Sex:** Among children in 2020, males accounted for 88 percent of fatal bicycling injuries,[1] 70 percent of nonfatal bicycling injuries[2] and 62 percent of nonfatal skateboarding/skating injuries.[3]
- **Race:** Between 2019 and 2020, the rate of fatal bicycling injuries was similar for White and Black/African American children (0.13 and 0.12 per 100,000 children, respectively) (rates for other races are unreliable due to having 20 or fewer deaths each and therefore are not reported).[1]
- **Month:** Nearly 40 percent of fatal bicycling injuries in 2020 occurred between the months of July and September.[3]

Cost of Fatal and Nonfatal Bicycling Injuries [†,‡,§]

- It is estimated that the combined cost of fatal and nonfatal bicycling injuries among children ages 0 to 19 years in the U.S. totaled at least $12.97 billion in 2020.[4]

† Cost of injury data unavailable for skateboarding and skateing injuries.
‡ Cost of injury data calculated using most recent year of data available within the CDC's Web-based Injury Statistics Query and Reporting System (WISQARS) Cost of Injury Reports application, which includes both traffic-related and non-traffic-related bicyclist incidents that were serious enough to require an ED visit. Total combined medical and work loss costs are likely underestimated, as WISQARS cost estimates do not include ED treatment costs for injured children who were hospitalized.
§ Beginning in year 2019, fatal economic costs are substantially higher than those reported in previous years due to the inclusion of value of statistical life costs, which are approximately 10 times higher than the previously-reported values for foregone employment compensation.
https://www.cdc.gov/mmwr/volumes/70/wr/mm7048a1.htm?s_cid=mm7048a1_w

- Fatal bicycling injuries in this age group totaled at least $1.75 billion, the vast majority of which (>99 percent) is attributed to the value of statistical life.[4]
- Nonfatal bicycling injuries in the U.S. cost at least $11.2 billion in 2020. That amount consisted of a combined medical care and work loss cost of $1.53 billion and life quality loss cost of $9.69 billion.[4] A majority of nonfatal costs (82 percent) were incurred for less severe injuries treated in ER and released ($9.2 billion); the remainder of costs were incurred for injuries requiring hospital admission ($1.97 billion).[4]

Table 1. Costs Associated With Bicycling Injuries Among Children Ages 0–19 Years in 2020

Cost	Fatal	Nonfatal		Combined (row)
		ER Treated and Released	Hospitalization	
Medical	$1.65 million	$842.41 million	$439.28 million	**$1.28 billion**
Work Loss	--	$146.21 million	$102.42 million	**$248.63 million**
Quality of Life Loss	--	$8.25 billion	$1.43 billion	**$9.69 billion**
Value of Statistical Life	$1.75 billion	--	--	**$1.75 billion**
Combined (column)	**$1.75 billion**	**$9.24 billion**	**$1.97 billion**	**$12.97 billion**

For more information or questions on the information contained in this factsheet, please contact the SKW Research Department via email at: **mchandler@safekids.org**

References

1. CDC, National Center for Injury Prevention and Control. WISQARS Fatal Injury Reports, National, Regional and State, 1981–2020. https://wisqars.cdc.gov/fatal-reports.
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3. U.S. Consumer Product Safety Commission. National Electronic Injury Surveillance System 2001-2020 on NEISS Online Database. https://www.cpsc.gov/cgibin/NEISSQuery/home.aspx.
4. CDC, National Center for Injury Prevention and Control. WISQARS Cost of Injury. https://wisqars.cdc.gov/cost/.