Researchers find possible inaccuracies in crash-reported child passenger injuries

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Researchers from the Center for Injury Research and Prevention (CIRP) at Children's Hospital of Philadelphia (CHOP) found discrepancies between crash reports and hospital data that might paint an incomplete

or inaccurate picture of how crashes impact the safety of child passengers. Enhancing the quality of injury data reported in crash reports can aid researchers in assessing the effectiveness of various transportation safety strategies for children. The findings were recently published by the *American Journal of Preventive Medicine*.

Traffic crashes remain the leading cause of unintentional injury and death for young children, and approximately 80% involve children riding as passengers in motor vehicles. Child Restraint Systems (CRS) are important in reducing the risk of severe injuries. However, to date, no study has specifically compared crash- and hospital-reported injuries among child passengers involved in crashes. Incorrect information in a crash report, the most used source of motor vehicle crash injury data, can hinder the evaluation of how effectively CRS or vehicle technology reduces injuries.

"Our study demonstrated crash-involved child passengers' injury information, specifically injury frequency, location, and severity, are reported differently across crash reports and hospital records," said first study author Emma Sartin, Ph.D., MPH, CPST, research scientist with the NJ-SHO Center for Integrated Data at CHOP.

"This could misrepresent our understanding of how many children are injured in crashes, as well as the types of injuries they may experience. Since this information is often used to allocate funding for traffic safety efforts and programs, its inaccuracy can also lead to funding being misdirected away from the communities that may need it most."

Using data from the New Jersey Safety and Health Outcomes (NJ-SHO) Data Warehouse, researchers identified child passengers under the age of 13 involved in a crash from 2017 through 2019 and compared their injuries documented in both crash and hospital reports. They characterized injury frequency, severity and location, as well as the

frequency of injuries by age and restraint type.

Of 84,060 crash-involved child passengers, the researchers found that crash reports documented 7,858 (9%) children with at least "possible" injuries. However, only 2,577 (3%) of all the crash-involved child passengers had at least one documented injury in hospital reports. Crash and hospital data were incongruent for both body region of injury and injury severity.

Importantly, among the few children who had any documented injuries, most of those injuries were classified as "minor." However, the proportion of injured children increased as CRS type progressed, with children in rear-facing car seats having the fewest injuries compared with children restrained in seat belts who had more serious injuries in this study group. These findings underscore previous research highlighting the importance of delaying transitions between various types of CRS as long as possible.

"Our study found that crash and hospital reports provide different pictures regarding the injuries sustained by child passengers, which has important considerations for injury research, CRS and vehicle manufacturing, and policymaking. We are especially concerned about the increase in injuries observed among older children and those who were not using CRS," said Rachel K. Myers, Ph.D., senior study author and associate director of the Center for Injury Research and Prevention (CIRP) at CHOP.

"We believe efforts to understand barriers to keeping children restrained in age-appropriate CRS are important in our continued efforts to protect children, and findings like these have only been made possible by large data linkages connected with public health efforts."

More information: Emma B. Sartin et al, Congruency of Crash- and

Hospital- Reported Injuries Among Child Passengers, *American Journal of Preventive Medicine* (2024). DOI: 10.1016/j.amepre.2024.07.008