

# Adolescent females found especially vulnerable to mental health impact of pandemic-related school closings

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Data from 44 hospitals in 26 states show that suicide or self-injury and depressive disorders were the primary mental health reasons children

received emergency department (ED) or hospital inpatient care after statewide school closures were enacted during the first part of the COVID-19 pandemic.

A study published in the May 25 issue of the journal *Psychiatric Services* validates findings from earlier public health surveillance data suggesting a disproportionate rise in ED visits for suicide—especially among adolescents and females—but goes further to examine percent changes in ED and hospital discharges by type of psychiatric disorder, said Dr. Bonnie Zima, a child and adolescent psychiatrist at the UCLA Semel Institute for Neurosciences and Human Behavior, the article's lead author.

In this large retrospective study, researchers examined the percent changes in ED discharges and hospital stays between 2019 and 2020, matching 36-week time intervals corresponding to spring through fall of both years and capturing data for children ages 3 to 17. Following governor executive orders for statewide school closure in 26 states—at a time when parents avoided bringing their child to hospitals for fear of exposure to the coronavirus—ED visits and hospitalizations for both acute general medical and mental health care abruptly decreased. However, this trend only persisted for acute care encounters for general medical conditions, not for child and adolescent mental health disorders.

"Our study found that the declines in ED and hospital discharges for primary psychiatric diagnoses after statewide school closure orders were two to three times less than those for general medical conditions. Suicide or self-injury and depressive disorders continued to account for more than 50% of all acute mental health care encounters before and after the statewide school closures," Zima said. "Hospitalizations for suicide, psychosis and eating disorders substantially increased after statewide COVID-19 school closure orders. By fall 2020, hospitalizations for suicide or self-injury rose by 41.7%, with a 43.8% and 49.2% rise

among teens and girls."

The research used the Pediatric Health Information System database and included 2,658,474 encounters and 1,876,715 children. Of the total number of encounters, 39.3% involved children who were white, 23.7% Black, 26.6% Hispanic, and 10.4% of encounters involved children from other racial or ethnic groups.

The study was intended to answer or shed light on several questions:

- Which mental health disorders drove the disproportionate rise in ED and [hospital discharges](#) after statewide school closure orders?
- Did the percent changes in ED discharges and hospitalizations differ by race or ethnicity?
- Were children with developmental disorders—and who may have previously had access to special education resources at school—more vulnerable in 2020 than in 2019?
- Were children with anxiety disorders less likely to use acute mental health care while they were learning virtually at home?

Among results and observations:

- Contrary to the authors' expectations, acute care mental health encounters did not disproportionately rise for children with disorders such as autism, developmental disorders, and attention-deficit/hyperactivity disorder—those who most likely would be eligible for special education resources.
- Also surprisingly, declines in acute care visits for anxiety and trauma-related disorders were relatively moderate in 2020.
- The percent declines in mental health ED discharges did not significantly vary by race or ethnicity, although the researchers note "these findings should be interpreted cautiously because the time interval" used in the study "does not capture the extent of

disparities that likely emerge over time."

- ED discharges for suicide or self-injury and psychotic disorders slightly declined in 2020, but hospitalizations for these conditions increased by more than 10%.
- The only diagnostic group for which both ED and hospitalizations increased was feeding and eating disorders.
- Seasonal trends for acute mental health encounters were inconsistent with pre-COVID trends, with only a slight decline in ED discharges during the summer of 2020, accompanied by a significant rise in hospitalizations for suicide or self-injury, eating disorders and psychotic disorders. Study authors say the changed seasonal pattern raises questions of whether increased clinical need overcame [hospital](#) avoidance. The rise in hospitalizations suggests "concerns related to imminent safety, severe weight loss, or worsening of psychotic symptoms selectively drove mental health hospitalizations following statewide school closure orders."
- Adolescent females were particularly vulnerable, with a disproportionate rise in encounters for suicide or self-injury in the summer and fall of 2020. Hospitalizations for suicide or [self-injury](#) in fall 2020 increased by more than 40% for 12- to 17-year-olds—and almost 50% for females.

"Our findings identify drivers of the disproportionate rise in acute [mental health care](#) encounters that occurred during the time intervals corresponding to the abrupt shift to remote learning, followed by summer vacation and the start of a new school year," said Zima, professor-in-residence, UCLA Child and Adolescent Psychiatry.

An advisory by the U.S. Surgeon General and a joint declaration of the American Academy of Pediatrics (AAP), the American Academy of Child and Adolescent Psychiatry (AACAP) and Children's Hospital Association recently focused attention on the pandemic's effects on

children's mental well-being.

Dr. Moira Szilagyi, president of the American Academy of Pediatrics, an expert on childhood trauma and resilience, and a professor of pediatrics at UCLA Mattel Children's Hospital, said the new study's findings are in line with those concerns.

"The COVID-19 pandemic created an unprecedented burden on children and on a health care system that is challenged to meet their needs. This study and others that must follow will help us understand how pandemic-related social isolation, limited access to school-based mental [health](#) resources, family stress and numerous other factors are impacting our children. Importantly, these studies will give us direction in our efforts to mitigate the harmful effects," said Szilagyi, who was not involved in this study.

**More information:** Bonnie T. Zima et al, Use of Acute Mental Health Care in U.S. Children's Hospitals Before and After Statewide COVID-19 School Closure Orders, *Psychiatric Services* (2022). [DOI: 10.1176/appi.ps.202100582](https://doi.org/10.1176/appi.ps.202100582)

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