

Trends in child physical abuse and the relationship with housing insecurity

WHAT WE ASKED:

Over the past decade, what were the trends in child abuse admissions to U.S. pediatric hospitals and what was their relationship to mortgage delinquency, foreclosure, and unemployment?

Hospital healthcare providers and child welfare workers have reported anecdotal **increases in cases of child maltreatment** during the recent **economic recession**. In contrast, national data on child protective services continue to show declines in many forms of maltreatment, including physical abuse. The impact of economic downturns – particularly in the housing sector – on rates of child abuse is not well understood. We examined trends in hospital admissions for physical abuse at 38 pediatric hospitals over 10 years and compared those admission rates with mortgage delinquency, mortgage foreclosure, and unemployment.

WHAT WE DID:

We used **hospital discharge data** from the Pediatric Health Information System (PHIS) for **38 freestanding children's hospitals** from Jan. 2000 – Dec. 2009.

First, we described trends in monthly admission rates for physical abuse, high-risk traumatic brain injury (TBI), and all injuries. Next, we examined if physical abuse and high-risk TBI rates were associated with monthly rates of 90-day mortgage delinquency, mortgage foreclosure, and unemployment for metropolitan areas in which hospitals are located.*

WHAT WE FOUND:

- Over a 10-year period, hospital admission rates for physical abuse and high-risk traumatic brain injury increased across 38 pediatric hospitals in contrast to the admission rate for all injuries.
 - The rate of physical abuse admissions increased 0.8% per year while the rate of high-risk TBI admissions increased 3% per year.
- Within metropolitan areas, 90-day delinquency and foreclosure rates were associated with hospital admissions for physical abuse and high-risk traumatic brain injury.
 - An increase in housing insecurity was associated with an increase in abuse-related hospitalization: for each 1% increase in 90-day delinquency from the previous year, there was a 3% increase in the physical abuse admission rate and a 5% increase in the high-risk TBI admission rate in one year.
- Within metropolitan areas, the unemployment rate was not associated with hospital admissions for physical abuse or high-risk traumatic brain injury.

WHAT IT MEANS:

- The **consistent increase** in hospital admissions for physical abuse stands in contrast to national trends of child physical abuse reported by the National Child Abuse and Neglect Data System (NCANDS).
- At the local and state levels, child welfare agencies should consider additional **methods of tracking child abuse data**, including hospital data. These efforts will enable public agencies to better monitor child abuse and neglect and to respond effectively to the needs of children and families.
- Pediatricians and other healthcare providers should be aware about **housing insecurity** that may be **affecting families** in their care. Providers can help connect patients and families to appropriate social services, such as cash assistance, food stamps, medical assistance benefits, and foreclosure counseling.

*For detailed **study methods** and **definitions of key terms**, see the back of this sheet.

STUDY METHODS:

The data source was hospital discharge data for 38 children's hospitals from the Pediatric Hospital Information System (PHIS) database for years 2000 through 2009. Forty-three hospitals that are located in 17 of the 20 major metropolitan areas submit patient-level data to PHIS. These hospitals represent 85% of freestanding children's hospitals in the U.S. Three hospitals were excluded due to incomplete data as were a hospital that briefly closed and another that moved. Unemployment data were obtained from the U.S. Bureau of Labor Statistics' Local Area Unemployment Statistics Database. Mortgage foreclosure and 90-day mortgage delinquency data were obtained from CoreLogic, a real estate data and analytics company that collects property address level data from public records.

Hospital data were linked to 90-day mortgage delinquency, mortgage foreclosure, and unemployment data for the associated metropolitan statistical areas. Primary outcome measures were admission rates for 1) physical abuse in children <6 years old, 2) non-birth, non-motor vehicle crash related traumatic brain injury in infants <1 year old (which carry high risk for abuse), and 3) all injuries (regardless of cause). These measures are based on discharge diagnosis codes for hospitalizations. Primary predictor measures were time and the macroeconomic indicators of monthly 90-day mortgage delinquency rate, mortgage foreclosure rate, and unemployment rate for the metropolitan area associated with each hospital. Poisson fixed effects regression estimated trends in hospital admission rates and associations between those rates and trends in mortgage delinquency, foreclosure, and unemployment. These analyses were repeated using robust variance estimates and then using a negative binomial model.

DEFINITIONS OF KEY TERMS:

Child maltreatment: term that includes physical abuse, neglect, sexual abuse, and emotional abuse.

National Child Abuse and Neglect Data System (NCANDS): national data collection system sponsored by Children's Bureau of U.S. Health and Human Services' Administration of Children and Families; state child protective service agencies voluntarily report statistics and/or case-level information on physical abuse, neglect, and sexual abuse, among other types of maltreatment, for their jurisdiction. Child population is defined as less than 18-years of age.

Housing insecurity: housing instability as defined by loss of home (foreclosure) and serious risk of losing home in the future (mortgage delinquency).

90-day mortgage delinquency: status in which the property owner is past due on a mortgage payment by 90 days or more; considered to be serious risk of loss of ownership and eventual removal from property.

Foreclosure: status in which the owner's right to a property is terminated, usually due to default of payment.

All injuries group: hospitalizations with a principal diagnosis of injury at discharge; group includes all injuries, regardless of cause.

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