

Hospitalizations for Pediatric Opioid Use Disorders: Exploring Racial Disparities among US regions



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Research Objective

Opioid hospitalizations among US children and adolescents have doubled in the last decade. Research on pediatric opioid use disorders (OUD) and health disparities has been sparse. This study compared hospitalization patterns and outcomes among pediatric OUD nationally by race/ethnicity and US Census Bureau-defined regions.

Study Design

Analysis was performed on secondary data from the US Nationwide Inpatient Sample (NIS). We conducted multivariate regression analyses to determine the potential effect of race and region on the likelihood of pediatric inpatient stays for three OUD subtypes after controlling demographic and clinical characteristics.

- **Three OUD subtype groups included:** (1) OUD-related hospitalization for opium dependency or abuse, (2) OUD-related hospitalization for opium poisoning, and (3) OUD-related hospitalization for external injury.
- **Race/ethnicity was classified into:** non-Hispanic whites, non-Hispanic blacks, Hispanics, and other racial minorities.
- **Four US Census Bureau-defined regions included:** Northeast, Midwest, South, and West

Multinomial regression was used to examine the different effects of the individual variables on the probability of OUD-related hospitalizations among 3 cohorts of pediatric patients in the OUD group within 4 regional strata with the dependent outcome of three OUD groups (the non-OUD group was used as the reference category).

Population Studied

We conducted a cross-sectional analysis of the NIS involving child and adolescent inpatients up to 21 years, using three years of data from the 2012 and 2014 NIS.

Principal Findings

There were regional variations of association between race and OUD-related hospitalizations among pediatric inpatients:

- Nearly half of child inpatients were hospitalized due to OUD-related external injury, compared to about 10% adolescent inpatients. Three quarters of adolescent inpatients were hospitalized for opium dependency or abuse, compared to about one-third of child inpatients (Figure 1).
- Child inpatients were more likely to be non-white and from an area with median household income below the 26th percentile. Nearly 12% of adolescent inpatients were uninsured, compared to less than 4% of child inpatients (Figure 2).
- Hispanic children in the South region were more likely to be hospitalized for reasons related to opium dependency or abuse than were white children in the same region (Table).
- Overall, adolescent hospitalizations related to both opium dependency/abuse and opium poisoning were more likely to occur among white adolescents than adolescents of other races.
- Black adolescent inpatients had a significantly higher likelihood of being hospitalized for OUD-related external injury than their white counterparts (Table).

Figure 1. Distributions in Child and Adolescent Inpatients associated with an OUD Diagnosis by 3 OUD Subtypes

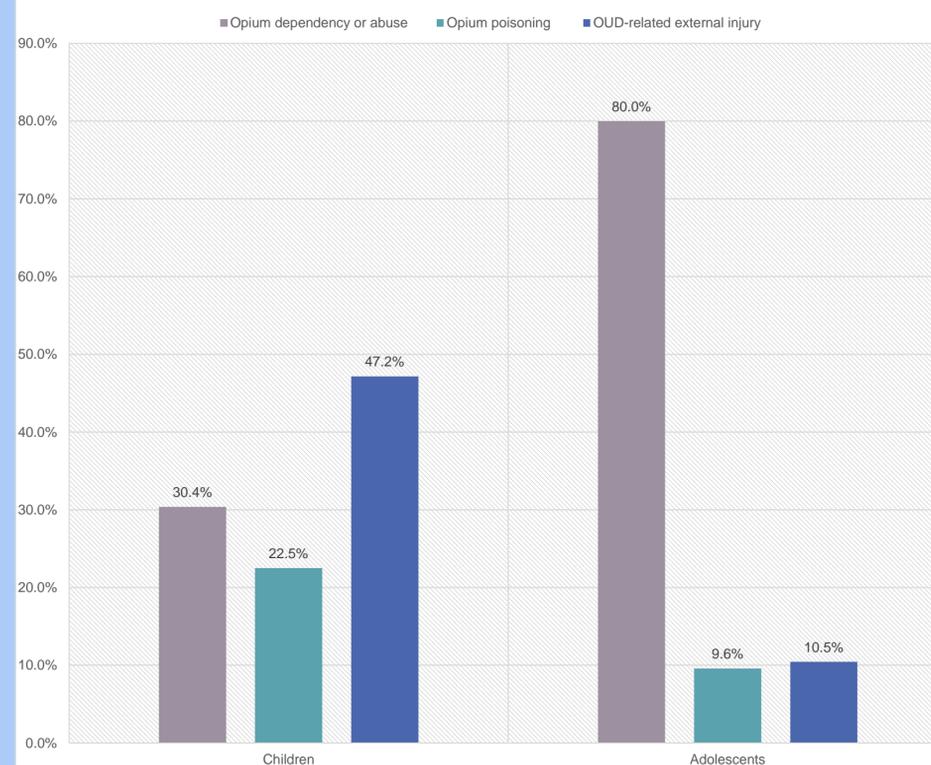
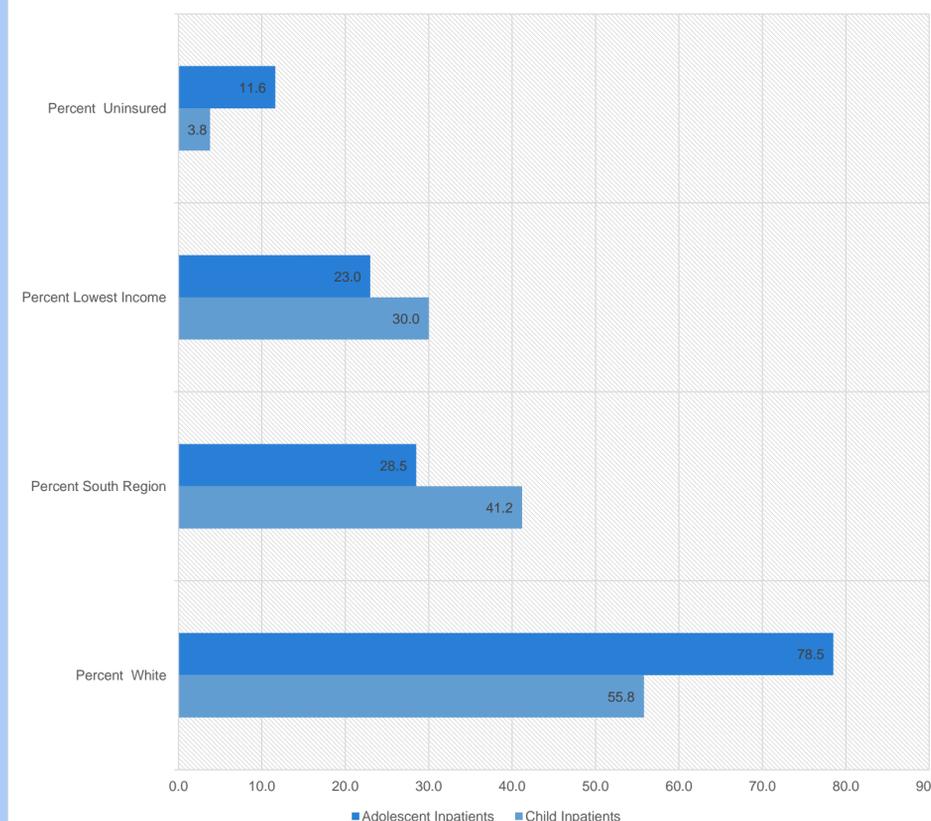


Figure 2. Characteristics of OUD-related Hospitalizations among Children and Adolescents



Conclusions

Our findings revealed that important racial and regional differences exist in the subtypes of OUD-related hospitalizations among child and adolescent inpatients:

- Among adolescent inpatients, all 3 subtypes of OUD-related hospitalizations are related to the family income quartile;
- Hispanic children were more likely to be hospitalized for reasons related to opium dependency or abuse than white children in South region;
- Black adolescents had higher odds of hospitalization for OUD-related external injury compared to white adolescents in 3 regions;
- A better understanding of this dynamic could improve inpatient services by suggesting effective culturally responsive strategies to health care providers.

Implications for Policy, Delivery, or Practice

- The current public health crisis stemming from the misuse of and addiction to opioids is a systemic issue that affects children and adolescents of diversified racial groups across US regions;
- Racial disparities and regional variations may reflect variations in access to health care providers and regional population structure;
- Our findings have implications for refocusing public policy to understanding core public health perceptions of the opioid epidemic.

