

Psychotropic Medication Use among Children in Foster Care: A National and State-Level Perspective

WHAT WE ASKED:

Over the past decade, what were the psychotropic medication prescribing trends for children in foster care across the United States?

With **high rates** of past traumatic experience and **behavioral health concerns**, children in foster care are **disproportionate** users of mental health services, including psychotropic medications. Recent research demonstrating serious side effects of these medications in children has focused attention on their use, and prompted **policy action** at both the federal and state level. We conducted a **national analysis** with the aim of understanding trends in medication use among all **U.S. Medicaid-enrolled children in foster care**, and examined variation in this use between states.

WHAT WE DID:

We used **Medicaid data** from the Centers for Medicare and Medicaid Services for **47 states** and the District of Columbia from **2002-2007**. First, we described the overall prevalence of 7 classes of psychotropic medications. Next, we examined use of a single class of psychotropics with known risks for children, **second-generation antipsychotics**. Finally we examined **psychotropic polypharmacy** (defined as use of ≥ 3 of the 7 psychotropic classes for ≥ 30 days).

Among an annual average of 686,000 children in foster care, we calculated the **rates of medication use** over the six-year period. Additionally, we characterized **state-level trends** in prescribing during this time.*

WHAT WE FOUND:

- Nationally, trends in antipsychotic use diverged from trends in psychotropic medications overall:
 - All psychotropic use among children in foster care increased from 2002 to 2004, and then began to decline from 2005 to 2007.
 - Antipsychotics experienced a consistent increase every year from 2002 to 2007.
- At a state level, there was wide variation in the rates of both polypharmacy and antipsychotic use among children in foster care (2007 polypharmacy range: 1% to 14%; antipsychotic range: 3% to 22%).
- Trends over time within individual states were largely consistent for antipsychotic use, while trends for polypharmacy showed variability.
 - Antipsychotic prescribing increased in 45 states, while decreasing in only 2 and showing no change in 1.
 - Conversely, for polypharmacy, 18 states showed increase, while 19 states showed decline and 11 no change.

WHAT IT MEANS:

- Over the past decade, the proportion of children in **foster care** who were prescribed psychotropic drugs remained **much higher than all Medicaid-enrolled children**.
- The consistent increase in antipsychotic use among children in foster care across almost every state stands in contrast to trends in other psychotropic medications, both alone and in combination.
- Wide **state-level variation** in medication rates shows that where a child lives seems to influence their chance of being prescribed a psychotropic drug at least as much as the child's medical needs.
- In addition to using this data to support oversight and monitoring efforts, states should consider strategies to implement **evidence-based practices**, including counseling and behavioral interventions, as an alternate or complementary treatment strategy for the children with mental health needs.

*For detailed study methods, see the back of this sheet.

STUDY METHODS: The data source was Medicaid Analytic Extract (MAX) data files for 50 states and the District of Columbia for years 2002 through 2007. Child-level demographic, eligibility, encounter, and pharmacy data were extracted from MAX files. Medicaid eligibility category was used as the basis for classifying youth in foster care. The sample was restricted to foster care children aged 3-18 years of age with continuous Medicaid eligibility, defined as 10 of 12 months in a given year. The dependent variables were a) use of second-generation antipsychotics (SGA) and b) psychotropic polypharmacy, defined as the concurrent use of ≥ 3 psychotropic medication classes during the year. Psychotropic classes included stimulants, antidepressants, SGAs, sedative/hypnotics, anxiolytics, mood-stabilizers, and alpha agonists. Independent variables included demographic information (age, race/ethnicity, sex, state of residence), psychiatric diagnoses, and a count of behavioral health encounters. Three states were deemed ineligible for use in this study (CT, MA, ME) due to data quality issues.

Demographic, clinical, and medication use characteristics were summarized as frequencies across year and categories of age (3-5, 6-11, 12-18). Generalized linear models (logit link) with a state-year interaction were then used to estimate state-level variation in medication use among children over time. Results were standardized by child-level characteristics, including age group, gender, race, diagnosis of mental retardation, and diagnosis of seizure disorder. Results were transformed into probabilities within state. The resulting standardized probabilities of SGA and polypharmacy receipt were then used to characterize change over time within state. An annual increase was defined as a relative increase of $\geq 5\%$ from one year to the next; an annual decrease was defined as a relative decrease of $\geq 5\%$; annual relative change of $<5\%$ was categorized as no change.

PUBLICATION: Rubin D, Matone M, Huang Y-S, dosReis S, Feudtner C, Localio R. (2012) Interstate Variation in Trends of Psychotropic Medication Use among Medicaid-enrolled Children in Foster Care. *Children and Youth Services Review*. DOI 10.1016/j.childyouth.2012.04.006.

Further research forthcoming.

FUNDING: This study was funded by the Agency for Healthcare Research and Quality and a fellowship to Dr. Rubin from the Stoneleigh Foundation.

PolicyLab Research At-A-Glance briefs highlight key research projects for the policy audience in order to inform evidence-based decision making and improve child health.



<http://www.research.chop.edu/policylab>

