

From the JAMA Network- this is *JAMA Pediatrics* Author Interviews, conversations with authors exploring the latest clinical research, reviews, and opinions featured in *JAMA Pediatrics*.

Hi, this is Aaron Carroll and I'm the digital media editor for JAMA Pediatrics. In this podcast I talk about interesting articles featured in the journal and what they might mean to you. This week I'm focusing on Patterns of Early Mental Health Diagnosis and Medication Treatment in a Medicaid-Insured Birth Cohort by Dinci Pennap and colleagues. Psychotropic medication use in children is not uncommon. It's also increasing in prevalence. About two-thirds of such medications in use are not approved by the FDA for that specific purpose though.

Their use in kids is off label, and we don't necessarily know the benefits or harms. Kids who are poor, near poor, and in foster care are more likely to be on psychotropic medications, which should concern us a bit. There have been a number of cross-sectional studies that have looked at psychiatric diagnoses and treatment in kids, but little in the way of longitudinal studies. This paper is trying to change that. The author sought to assess the cumulative incidence of psychiatric diagnoses and psychotropic medication use in a cohort of kids covered by Medicaid over an eight-year period. The researchers built a cohort from computerized Medicaid claims data for babies born in a mid-Atlantic state in 2007.

To be included, those babies had to be enrolled in Medicaid within three months of birth and have at least six months of contiguous enrollment. The main outcomes of interest were: One: the cumulative incidence of psychiatric diagnoses and psychotropic medication use. Two: the cumulative incidence of psychosocial services use. And three: the annual duration of psychotropic medication use. They were also interested in whether these outcomes differed by sex or other variables.

Getting a bit more into the details. They classified 8 diagnoses: ADHD, disruptive disorders, learning disorder, adjustment disorder, anxiety disorders, depression, autism spectrum, and other. Medications were grouped into six classes: stimulants, alpha agonists, antidepressants, antipsychotics, anxiolytics and hypnotics, and other.

Of course, the authors controlled for many covariates including sex, race and ethnicity, locale, and Medicaid eligibility reasons. The authors use survival analysis to estimate the eight-year cumulative incidence of diagnoses and psychotropic medication use.

So let's get to the findings. The cohort consisted of more than 35,000 kids who were born and enrolled in 2007 in the state of interest. About 43% of them were African-American, 24% white and 21 percent Hispanic.

The cumulative incidence of psychiatric disorders went from 0.3% at one year of age to 19.7% by eight years of age. Most of those diagnoses were for ADHD- about 44% of them- and learning disorder- 32% of them. By eight years of age, the cumulative incidence was greater among white kids- 28%- compared to African-American kids- 21%- and Hispanic kids- 10%.

More than half of the kids who were in foster care were 59% had a psychiatric diagnosis and almost two-thirds of those eligible for SSI did- 63% This is in stark contrast to kids who were on Medicaid because of family income at only 17%. Urban and rural kids were about twice as likely to have a psychiatric diagnosis as kids in suburban counties.

So what about medication use? The eight-year cumulative incidence was 10.2%. Of those that used medications (and kids could be on more than one of course), 75%

had gotten a stimulant, 32% had gotten an alpha agonist, and 20% had gotten an anxiolytic or hypnotic. White kids- 17%- and African-American kids- 10%- were significantly more likely to be on a medication than Hispanic kids at only 3%.

So were kids in foster care 29%- and those eligible for SSI- 37%. Those living in rural or urban areas were more likely too. By eight years of age, most kids were on medications were on one drug- 80% of them. But 6% of them had spent at least 60 days on two drugs, and 4% of them on three drugs. Kids in foster care were three times more likely to be on at least three drugs than those who were eligible for Medicaid based on family income.

Finally, let's look at the use of psychosocial services. More than 12% of the cohort received them by eight years of age. Mostly family therapy- three-quarters of them, individual therapy-23%- and group therapy- 2%. The relative use of psychosocial services mirrored the categories of diagnosis and medication use.

So what's the take-home message here? There's pretty substantial use of mental health services in kids on Medicaid from birth to 8 years of age. That includes the use of medication. By eight years of age half the children taking psychotropic meds had been on them for more than 200 days. ADHD is common, so was learning disorders. Making sure kids with the former are plugged into services to manage comorbid disorders is important, as is picking up and intervening on the latter as soon as possible.

Even more significantly, many of these kids are on psychotropic drugs. Remember that the relative risks and benefits for many of these medications in kids is unexplored. We need to do studies to see what those are, especially if we're using these drugs so commonly and for so long in this at-risk population.

Granted, these data are from one state. So we should be cautious about generalizing to other areas and other non-Medicaid populations. It's also claims data, so take the diagnoses with a tiny grain of salt. Kids also leave Medicaid or are lost to follow-up, but that's an issue with any such study of longitudinal claims data. Bottom line though, lots of kids on Medicaid have psychiatric diagnoses and lots of kids on Medicaid are on psychotropic drugs. We need better safety and outcomes research, especially with respect to metabolic imbalance, weight gain, and sleep disturbances in these very young children. It would also be good to know how much of a difference these drugs are making with respect to functional outcomes, like social relationships and school performance.

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