

National Survey of Child and Adolescent Well-Being

No. 17: Psychotropic Medication Use by Children in Child Welfare



Findings from the NSCAW Study

research brief



Recently, the use of psychotropic medications (i.e., medications used to address emotional and behavioral problems) by children in foster care has received national media attention. Psychotropic medications represent front-line treatment for many child mental health conditions. When used appropriately, they can be very effective in helping to manage symptoms.¹ However, inappropriate use in children is a growing concern, particularly in vulnerable populations such as children in foster care.

A recent General Accounting Office (GAO)² report using Medicaid claims from five states found that 21 to 39% of children in foster care received a prescription for psychotropic medication in 2008, compared with 5 to 10% of children not in foster care. Other studies have found that among children enrolled in Medicaid in 2011, children in foster care were prescribed psychotropic medications at rates from 3 to 11 times higher than nonfoster children.^{3; 4; 2} Moreover, as many as 41% of children in foster care who took any psychotropic medication received three or more psychotropics within the same month,⁵ a level of use that requires screening, assessment, and close monitoring by a physician. Antipsychotics, one of the major classes of psychotropic medications, have garnered particular attention because of their association with harmful health outcomes (e.g., weight gain, high cholesterol levels, type 2 diabetes mellitus) in some children.⁶ Medicaid claims show that children in foster care have been prescribed antipsychotics at higher rates than nonfoster care children. In fact, their rates were similar to nonfoster children with disability insurance, who were more likely than children in foster care to have a mental health need requiring medication.⁷ In addition, within the foster care population, use of antipsychotics has risen during the last decade.⁸

Some guidelines exist for use of psychotropic medications in children in general that help to delineate appropriate parameters for use in children in foster care. The American Academy of Child and Adolescent Psychiatry (AACAP)^{9; 10} has published guidelines that

propose a number of quality of care recommendations, such as adequate screening and assessment prior to beginning psychotropic medications, concurrent evidence-based psychosocial and pharmacological treatment where indicated, the use of one medication before the addition of a second, and caution in the use of these medications in children younger than 6 years. The AACAP also has developed guidelines for oversight of the use of psychotropic medication among children in foster care that echo more general guidelines describe above within the context of maltreatment and placement in foster care.¹¹

Purpose of the Brief

This brief uses data from the National Survey of Child and Adolescent Well-Being (NSCAW) to examine the use of psychotropic medications by children involved with the child welfare system (CWS). Research has suggested that children living in out-of-home or foster care may have unnecessarily high rates of psychotropic medication use; however, this research has limitations. Prior research on psychotropic medication use has relied primarily on Medicaid data, which does not permit examination of medication use in relationship to mental health needs and typically does not distinguish children in foster care by type of foster care placement. Children eligible for Medicaid living in foster care may be living formally with kin caregivers, in group homes or residential placements, or in more traditional nonrelative, foster parent homes. These various types of foster care placements may be associated with different rates of psychotropic medication use or various levels of mental health need. Prior research also does not provide estimates of psychotropic medication use among children who remain at home with at least one biological parent after reports of maltreatment, or children living in informal kin caregiver arrangements. This research brief examines psychotropic medication use across in-home and a variety of foster care placements for children involved with the CWS.

The brief also considers the behavioral health services context of psychotropic medication prescriptions for children in foster care. Research has not examined

whether these medications are prescribed as part of a more comprehensive treatment plan that includes counseling or other specialty services. For most mental health disorders, evidence-based psychosocial treatments are available.¹ Generally, pharmaceutical treatment is recommended when psychosocial treatment alone is not effective or when pharmaceutical or combination treatment has been demonstrated to be more effective than psychosocial treatment. Both modalities are part of a comprehensive treatment plan for children with severe or complex symptoms. For most mental health conditions, one would expect to see relatively few children receiving pharmaceutical treatment alone.

This research brief asks the following questions:

- What are the rates of psychotropic medication use by age among children living in-home and in foster care settings following a report of child abuse or neglect?
- What are the rates of antipsychotic medication use by preschoolers, school-aged children, and adolescents involved with the CWS?
- What types of behavioral services do children involved with the CWS receive, including but not limited to psychotropic medications?

Research Methodology

This brief examines data from a national sample of children involved in allegations of maltreatment. The second National Survey of Child and Adolescent Well-Being (NSCAW II) is a national longitudinal study of the well-being of 5,873 children who had contact with the CWS within a 14-month period starting in February 2008. The cohort included children and families with substantiated and unsubstantiated investigations of abuse or neglect, including children and families who did and did not receive services. Infants and children in out-of-home placement were oversampled to ensure adequate representation of high-risk groups. This research brief draws on NSCAW II data collected from 2008 to 2010 to describe use of psychotropic medications by children in the NSCAW II sample at the time of their first follow-up interview. The first follow-up (Wave 2) was conducted approximately 18 months following the baseline interview for each child.^a At

baseline, the NSCAW II cohort of children were approximately 2 months to 17.5 years old, and at Wave 2 they ranged from 16 months to 19 years old. The data were drawn from standardized measures of child mental health and well-being, as well as from interviews of caregivers and caseworkers.

Characteristics of Children in the Sample

Approximately one half of the sample was male (50.9%). 41.2% children were White, 29.0% were Hispanic, 22.5% were Black, and 7.3% described their race/ethnicity as “Other.” At the time of the Wave 2 interview, one ninth (12.8%) of the children were 16 months to 2 years old, 23.1% were 3 to 5 years old, 30.0% were 6 to 10 years old, and 34.2% were 11 to 17 years old. At the time of the Wave 2 interview, the majority of children were living at home with parents (85.5%), while 10.7% were living with a kin primary caregiver. A kin caregiver may be a grandparent, aunt or uncle, sibling, or other relative; 8.3% were in an informal kin care arrangement and 2.4% were in formal kin care. In formal kin care living arrangements, the caregiver receives some financial support for being a foster parent. A smaller proportion of children were living in nonrelative foster care (2.9%) and in group homes (0.5%). By the 18-month follow-up, 19% of children had at least one out-of-home placement. Those with a history of out-of-home placements moved, on average, 1.6 times (with a range of 1 to 12 placement changes).

Measures of Psychotropic Medication Use, Emotional or Behavioral Health Problems, and Behavioral Health Service Use

At baseline and Wave 2, caregivers were asked to report the total number of psychotropic medications the child was currently taking. They were also asked to report these medications by name. Interviewers were provided with a list of psychotropic medications to use in helping the caregiver identify all currently prescribed psychotropic medications. When answers to these two questions were compared, high agreement was found between (1) the total number of medications reported and (2) the sum of all individual psychotropics identified by caregivers. Because the list of psychotropic medications did not include a few commonly prescribed benzodiazepines (e.g., Xanax, Ativan, Valium), this brief used the total sum of (nonspecific) psychotropic

^a On average, interviews with children and caregivers were conducted 18.7 months (range 14.9 to 24.7 months) and 18.6 months (range 14.9 to 24.1 months) after the investigation end date, respectively.

About 80% of follow-up interviews were completed within 20 months after the close of the investigation.

medications reported by the caregiver in calculating rates of use. We also examined four markers of potentially inappropriate use: (1) the use of medications in children less than 6 years old, (2) the use of three or more medications simultaneously, (3) the use of any antipsychotic for all ages and, specifically, for children less than 6 years old, and (4) the use of medications without simultaneous use of psychosocial treatments. We chose three or more medications as a cutpoint, given limited available research evidence on the use of three or more medications simultaneously for the treatment of childhood mental health conditions. We focused on antipsychotic use in general and specifically in children less than 6 years old, given recent reports of high rates of use of antipsychotics in children in foster care, and a growing use in children less than 6 years old.^{12; 7; 13} At baseline and Wave 2, children's emotional and behavioral health problems were measured by a variety of standardized instruments designed to assess behavioral health by caregiver, child, and teacher report. Scores on the behavioral checklists developed by Achenbach and colleagues were used as indicators of children's mental health and behavioral and emotional functioning. These included the parent-reported (caregivers) Child Behavior Checklist (CBCL),¹⁴ the Youth Self-Report (YSR),¹⁵ and the Teacher's Report Form (TRF).¹⁵ Depression in children 7 years old and older was assessed with the Children's Depression Inventory (CDI).¹⁶ Trauma was measured among children 8 years old and older with a clinical scale (Post-traumatic Stress) from the Trauma Symptom Checklist for Children.¹⁷ Children were considered to have a mental health need if they met any of the following criteria: (1) Total Problem, Internalizing, or Externalizing *T* scores were equal or greater than 64 on either the CBCL, TRF, or YSR,¹⁵ (2) a clinically significant score on the CDI,¹⁸ or (3) a clinically significant score on the posttraumatic stress disorder (PTSD) scale of the Trauma Symptoms Checklist.¹⁷

Caregivers were asked whether their child had received help for an emotional, behavioral, learning, attentional problem, or substance abuse problem. These questions were adapted from the Child and Adolescent Services Assessment (CASA).^{19; 20; 21} This instrument gathered information from caregivers and children about an array of child-focused services for emotional or behavioral problems, including outpatient and residential care. Outpatient services included (1) clinic-based specialty mental health services; (2) private practice professionals, including psychiatrists, psychologists, social workers, and psychiatric nurses and drug or alcohol clinics;

(3) in-home mental health services (e.g., family preservation); and (4) therapeutic nursery/day treatment. Residential services included (1) hospitalization in a psychiatric hospital or psychiatric unit of a general hospital, (2) hospitalization in a medical inpatient unit for emotional or behavioral problems, and (3) inpatient drug or alcohol detoxification.

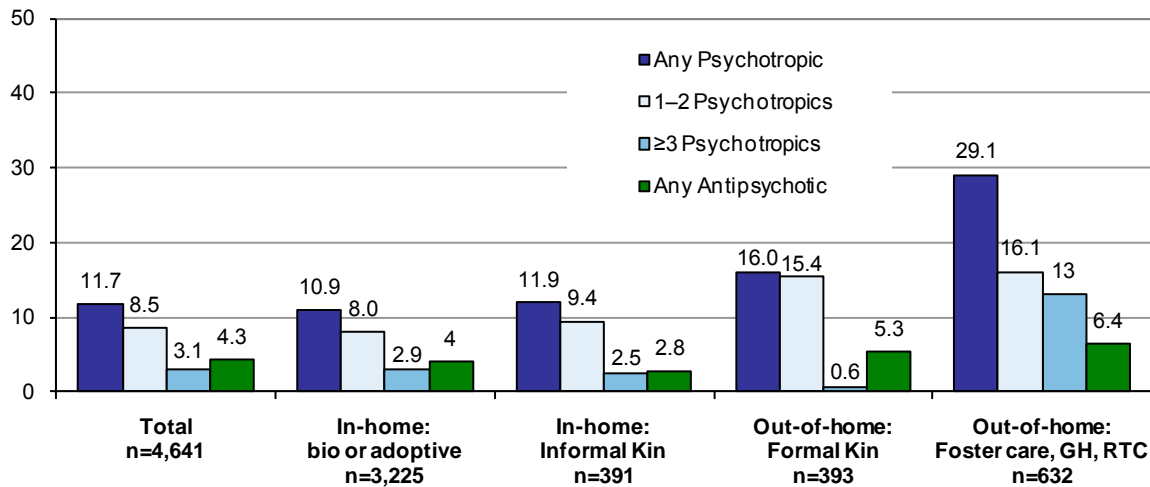
Use of Psychotropic Medications

Figure 1 shows the percentage of children whose caregivers reported a prescription for one or more psychotropic medications at Wave 2. Percentages are given for the total sample as well as for each placement group. In the total NSCAW sample (n=4,641), 11.7% of children had a prescription for one or more psychotropic medications at Wave 2. The NSCAW II baseline rate of psychotropic medication use among children 1.5 to 17 years old (11.7%) is double the percentage for the general population of children 4 to 17 years old who were prescribed a psychotropic medication in the 12 months prior to assessment for the National Health Interview Survey (6%), an annual, nationally representative survey of the general population of the United States, focused on health and health-related behaviors.²² Overall, a statistically significant difference occurred in the percentage of children using any psychotropic medications in in-home (11%) versus out-of-home (17.7%) settings. As shown in Figure 1, looking across types of placements, rates of psychotropic medication use were highest among children living in nonrelative foster parent care, group homes, or residential treatment centers. In this group (n=632), almost a third (29.1%) were taking one or more psychotropic medications, and 13% were taking three or more medications. Rates of psychotropic use were lower among children living in formal and informal kin or at home with biological or adoptive parents.

When use was examined by age, use of any psychotropic was most common in the 6- to 11-year-old group (18.8%), followed by adolescents aged 12 to 17 (16.1%). Among 4- to 5-year-olds, 3.5% were taking one or more psychotropics. Use of three or more psychotropics was reported for 5.0% of 12- to 17-year olds, 4.7% of 6- to 11-year-olds, and less than 1% of 4- and 5-year-olds.

The overall percentage of children whose caregivers reported use of three or more psychotropic medications was 3.1%. For antipsychotics, which carry associated health risks in children, the percentage of children with

Figure 1. NSCAW II, Wave 2: percentage of children reported to be using one or more psychotropic medications, by type of placement^a



^a Rates of psychotropic use were substantially higher for children in group homes and residential treatment centers, compared with children in formal kin and foster care, which may have somewhat inflated mean levels of use in the out-of-home group.

a prescription for any antipsychotic medication was 4.3%. Use of antipsychotics was highest among children who were living out of home: 6.4% of those children had a prescription for an antipsychotic medication. However, across placement settings, levels of antipsychotic use were consistently low.

At Wave 2, out of all children using any psychotropic medication (11.7%), the average number of psychotropics per child was 1.9 (with a range reported between 1 and 8). Children with greater mental health needs were more likely to use a higher number of psychotropic medications, as were boys, nonminorities, children in out-of-home placements, and children who had used inpatient specialty behavioral health services in the past. Total number of out-of-home placements since the baseline assessment did not predict number of psychotropic medications at Wave 2.^b

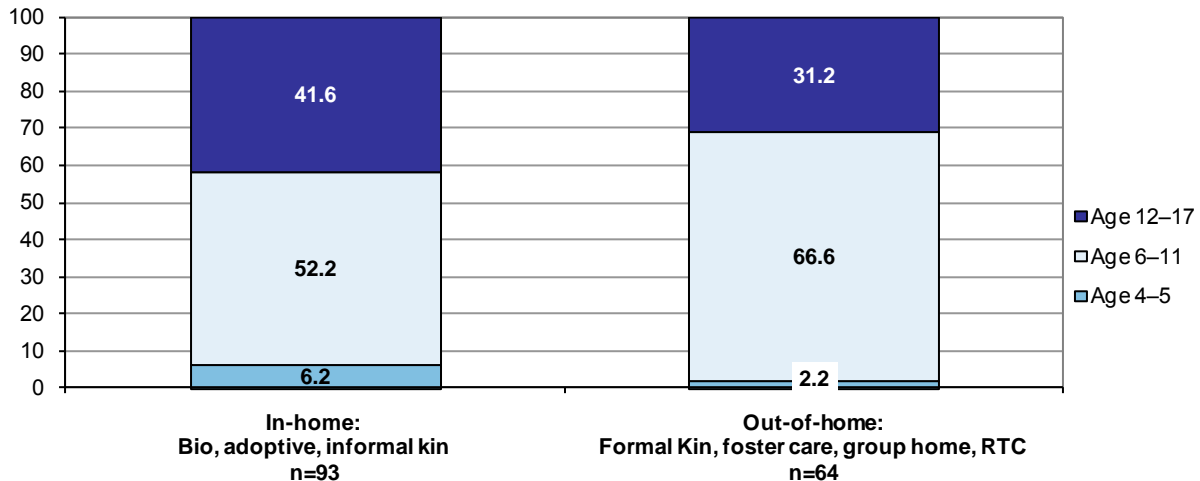
^b Predictors of the number of psychotropic medication prescriptions at Wave 2 were examined using a negative binomial regression, to account for the zero-inflated distribution of total number of prescriptions; that is, most of the sample had zero prescriptions for psychotropic medications. The model included age, gender, race, placement setting, prior inpatient hospitalization, mental health need, total number of out-of-home placements, and a broad family risk variable derived for prior NSCAW analyses.

Use of Antipsychotic Medications

Figure 2 shows caregiver-reported children's use of antipsychotic medications by age group, among children living in-home and in out-of-home placements. For both settings, a majority of children using antipsychotic medication were school aged (6 to 11 years old). Most other children using antipsychotic medication were adolescents, but a few in each category were 4 to 5 years old.

Behavioral Health Service Context

Use of behavioral health services in combination with, and absent from psychotropic medications was examined to determine overall levels of met and unmet need in the NSCAW II sample as well as the prevalence of medication-only treatment. For this analysis, the sample was limited only to children determined to be at risk of an emotional or behavioral health problem—based on the clinical cutpoints on the measures described above, approximately 36% of the sample. Thus, use of services was examined only among children who met criteria for mental health need (Total Problem, Internalizing, or Externalizing *T* scores were equal or greater than 64 on either the CBCL, TRF, or YSR;¹⁵ a clinically significant score on the CDI;¹⁸ or a clinically significant score on the PTSD scale of the Trauma Symptoms Checklist.¹⁷ Nonmedication services were limited to specialty mental health services only, including specialty inpatient and outpatient services as well as school and primary care.

Figure 2. NSCAW II, Wave 2: age distributions (%) of children using any antipsychotic medication,^a by type of placement^b

^a Includes the following drugs: aripiprazole, asenaprine, chlorpromazine, chlorprothixene, clazapine, fluphenazine, haloperidol, iloperidone, loxapine, lurasidone, mesoridazine, molindone, olanzapine, olanzapine/fluoxetine, paliperidone, perphenazine, perphenazine/amitriptyline, pimozide, prochlorperazine, quetiapine, risperidone, thioridazine, thiothixene, trifluoperazine, ziprasidone.

^b Rates of psychotropic use were substantially higher for children in group homes and residential treatment centers, compared with children in formal kin and foster care, which may have somewhat inflated mean levels of use in the out-of-home group.

Figure 3 shows high levels of unmet mental health need in both in-home and out-of-home placement settings. Almost 60% of children with a mental health need, including those living at home or in informal kin arrangements, did not report receiving any specialty mental health services or psychotropic medications. Close to one third of children with a mental health need who lived in out-of-home placements, including foster care and formal kinship care, did not receive services. Forty percent of children living in-home and 60% of children living out of home received specialty mental health services, either alone or in combination with psychotropic medication. Only a fraction of children living in-home or informally with kin (1.8%) received medication in absence of specialty behavioral services. Just over 9% of children living out of home were using psychotropic medications without other mental health service use.

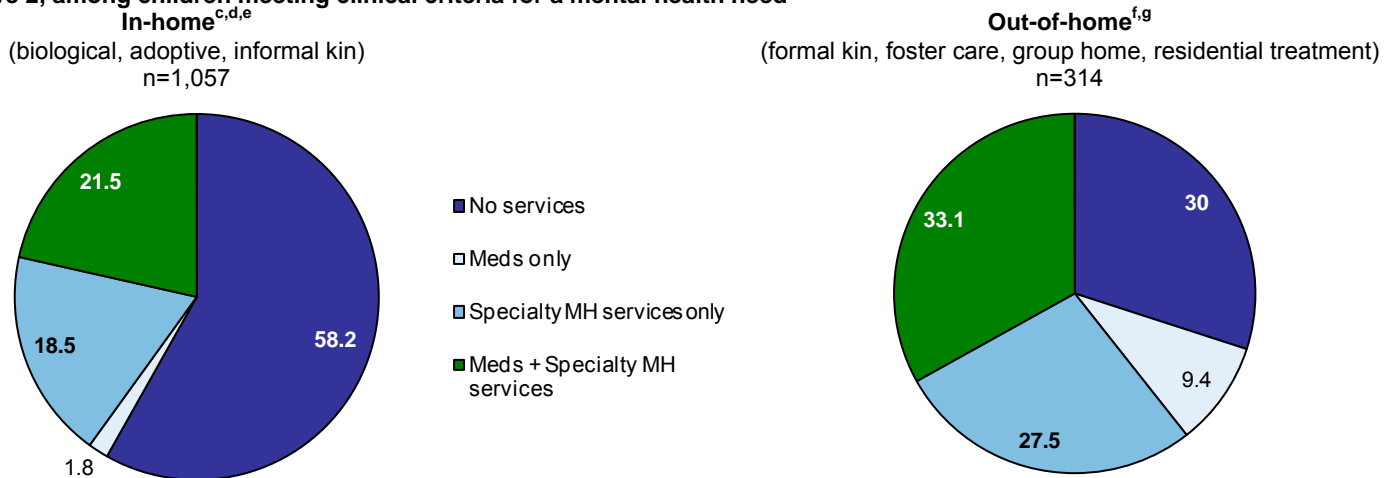
Key Findings

These data add critical information to the current discussion regarding psychotropic medication use among children in the CWS. First, high levels of unmet need still remain among children in the CWS, despite findings published almost a decade ago from the NSCAW I study.²³ More than one half of children either living in-home or informally with kin met a clinical threshold for mental health needs, as did a third of children in foster care; yet, many of these children did not receive any type of behavioral health service, either pharmaceutical or

psychosocial. This access issue may result from lack of identification of needs by parents, caregivers, social workers, or school and health care professionals involved in these children's lives; difficulties accessing services funded through Medicaid (such as not knowing what services are covered or how to access these services); or cultural barriers to using mental health services. This underuse of mental health services is as important to address as concerns about potential overuse of medications.

Second, these data permit further exploration of psychotropic medication use across a range of placement categories within CWS, including in-home settings (e.g., with one or more biological parents or informally with kin) and out-of-home settings (e.g., formal kinship care, nonrelative foster care, and residential or group home settings). Reported rates of psychotropic medication use were higher for children in out-of-home settings compared to in-home settings; both were higher than rates reported for the general population. Factors associated with medication use, when controlling for need, included male gender, race/ethnicity, and prior placement in an inpatient mental health specialty setting. While placement changes did not predict medication use in our analyses, placement changes and behavioral problems have been linked in prior research.²⁴ The GAO report recommends further research on how placement disruptions may reflect existing mental health needs or exacerbate mental health needs, leading to medication use.

Figure 3. Use of specialty mental health (MH) services^a separately and in combination with psychotropic medications at Wave 2, among children meeting clinical criteria for a mental health need^b



^a Specialty mental health services includes the following: outpatient drug or alcohol clinic, mental health or community health center, private mental health professional, in-home counseling or crisis services, treatment for emotional and substance abuse problems, therapeutic nursery, psychiatric unit in hospital, detox or inpatient unit, hospital medical inpatient unit, residential treatment center or group home, hospital ER for emotional and substance abuse problems, family doctor mental health service, school-based mental health service.

^b Rates of psychotropic use were substantially higher for children in group homes and residential treatment centers, compared with children in formal kin and foster care, which may have somewhat inflated mean levels of use in the out-of-home group.

^c Within the specialty MH services only category, 3.1% received only primary care, 21.5% received only school-based mental health services, and 2.3% received only primary care and school-based mental health services.

^d Within the meds + specialty MH services category, 18.4% received meds + only primary care, 6.9% received meds + only school-based mental health services, and 2.6% received meds + [only primary care and school-based mental health services].

^e The in-home group includes children who were eligible for Medicaid and children who were not eligible for Medicaid. Medicaid eligibility may impact access to services.

^f Within the specialty MH services only category, 3.6% received only primary care, 2.6% received only school-based mental health services, and no children received only primary care and school-based mental health services.

^g Within the meds + specialty MH services category, 1.4% received meds + only primary care, 1.1% received meds + only school-based mental health services, and 8.5% received meds + only primary care and school-based mental health services.

In this brief, we also examined four markers of potentially inappropriate use: (1) the use of medications in children under the age of 6 years, (2) the use of three or more medications simultaneously, (3) the use of any antipsychotic for all ages and, specifically, for children under the age of 6 years, and (4) the use of medications without simultaneous use of psychosocial treatments. In our sample, 3.5% of children under age 6 were taking one or more psychotropic, only 3.1 percent of children were taking three or more medications, 4.3% of all children were taking one or more antipsychotics, and between 2 and 6% of children (depending on placement setting) younger than 6 years old were on antipsychotics. Use of psychotropic medications in the absence of other specialty mental health care was reported by 1.8% of children living at home compared with 9.4% of children living out of home.

Finally, our findings suggest that entry into foster care does serve as a gateway for children in access to specialty mental health services. These data emphasize that children in the CWS are accessing services from a variety of settings, with many children receiving treatment either in school or through a primary care provider. A number of children received services across multiple settings. These findings highlight the need to ensure that up-to-date information about the unique needs of maltreated children reaches a variety of professionals engaged in these children's lives including their caregivers, teachers and other school staff, primary care providers, lawyers and members of the court system, and social workers. In addition, the findings point to the necessity for prioritizing care coordination for these vulnerable children.

What Does This Mean?

It should be noted that we did not examine patterns of medication use over time in this sample. Use of psychotropic medications by children in restrictive placements, such as inpatient services, may be related to older child age and greater severity of mental illness, both characteristics of children who are in more restrictive placement settings. Therefore, it is difficult to draw conclusions from this analysis about greater use of these medications in restrictive settings (compared with other, less restrictive settings).

These data, however, do inform national efforts to ensure appropriate psychotropic medication use among children in the CWS. ACF very recently released an Information Memorandum focused on promoting social and emotional well-being among children involved with the CWS.²⁵ The memo acknowledges social and emotional health as an integral part of a child's overall well-being. Recognizing that mental health needs are prevalent in the child welfare population, these needs are of great concern to ACF in addressing their overarching goals of safety, permanency, and well-being of all children in state custody. The emerging evidence for effective child mental health interventions may provide some direction for addressing these high levels of (largely unmet) need, and psychotropic medications are a potentially important component of effective treatment plans.

ACF has also very recently released an Information Memorandum focused on oversight of psychotropic medication use in foster children.²⁶ This memo is meant to serve as a resource to states, territories, and tribal communities as they develop their own guidelines in this arena. Highlighting the elevated levels of psychotropic medication use in foster children compared with children in the general population, this document summarizes factors that may relate to higher use (male gender, older age, higher level of need, restrictive placement settings, and even certain geographical settings). Also highlighted are rises in polypharmacy (use of two or more psychotropic medications at the same time), dosage levels higher than supported by the research evidence, and rising use of psychotropic medication in young children. To address these issues, the memo calls for better state oversight of psychotropic medication use in foster children, better coordination of care across child service sectors, better access to nonpharmacological behavioral treatments, and lastly, increased use of evidence based mental health screening, assessment, and treatment.

In addition to these recent ACF documents, the federal Department of Health and Human Services (HHS) convened an interagency working group in the past year to address emerging research related to psychotropic medication use in this population and support States' implementation of a new requirement mandated in the *Child and Family Service Improvement and Innovation Act* (P.L. 112-34). According to the law, states are now required to include a psychotropic medication oversight plan in their State Child and Family Service Plans. Recommended components of those plans include: (1) screening, assessment, and treatment planning for the unique mental health needs of children entering out-of-home care, (2) mechanism(s) for providing informed consent with respect to medication use, (3) system(s) for monitoring medication use, both at the child and population levels, (4) access to child and adolescent psychiatric consultation, at both the child and systems level, and (5) access to and dissemination of up-to-date information on evidence-based approaches (both pharmacological and nonpharmacological) for addressing the needs of these children. A series of federal initiatives are underway to offer research evidence and technical assistance, including conference presentations, Webinars, technical reports, and a Web-based information clearinghouse. In addition, a national Summit is planned to work with state child welfare, mental health, and Medicaid systems to further refine state psychotropic medication oversight plans.

While the new mandate does not address psychotropic medication use among children remaining in their home of origin or living informally with kin, our results show that children receiving in-home services also have significant behavioral/mental health challenges. This highlights the impact of maltreatment that predates many of these children's challenges. State CWS will need to focus their attention on addressing the specific effects of abuse and neglect for all children who come to their attention. For those children who are receiving services in-home, a focus on mitigating the impact of maltreatment could prevent entry into foster care. For children receiving services out of home, this focus potentially could speed reunification with their biological parent, support placement stability while in foster care, reduce adoption disruption, and improve functioning and outcomes in adulthood.

Meeting the needs of the children in CWS will be the collaboration of multiple partners, including but not limited to child welfare, mental health, and Medicaid. Developing interagency and inter-professional approaches will be essential to ensure children in CWS

with mental health needs have access to appropriate and quality treatments.

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This is the seventeenth in a series of NSCAW research briefs focused on children who have come in contact with the child welfare system. Additional research briefs focus on the characteristics of children in foster care, the provision of services to children and their families, the prevalence of special health care needs, use of early intervention services, and caseworker judgment in the substantiation process.