

## The Use of Psychiatric Medication for Children in DCFS Care: Findings from the 2017 Illinois Child Well-Being Study

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The 2017 Illinois Child Well-Being Study of children in out-of-home care found that a substantial proportion of children in out-of-home care through the Illinois Department of Children and Family services (IDCFS) have emotional and behavioral problems.<sup>1</sup> Previous studies of children in out-of-home care in Illinois and other parts of the country have also found high rates of emotional and behavioral problems.<sup>2</sup> Not surprisingly then, a number of studies have found that substantial percentages of children in out-of-home care receive psychiatric medication to help them with their emotional and behavioral problems.

However, very limited research has examined use of psychiatric medication among children in out-of-home care in Illinois. This research brief examines the frequency of psychiatric medication use for children in out-of-home care through IDCFS. It analyzes data from the 2017 Illinois Child Well-Being Study and presents new findings that were not included in the study final report.

Knowledge about the use of psychiatric medication in out-of-home care is important to help manage its use. Many children benefit from psychiatric medication for a range of different

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<sup>1</sup> Cross, T.P., Tran, S., Hernandez, A., & Rhodes, E. (2019). *The 2017 Illinois Child Well-Being Study: Final Report*. Urbana, IL: Children and Family Research Center, University of Illinois at Urbana-Champaign

<sup>2</sup> See, e.g., Bruhn, C., Helton, J., Cross, T.P., Shumow, L. & Testa, M. (2008) Well-being. In Rolock, N. & Testa, M. (Eds.) *Conditions of children in or at risk of foster care in Illinois 2007: An assessment of their safety, stability, continuity, permanence, and well-being*. Children and Family Research Center, School of Social Work, University of Illinois at Urbana-Champaign. Urbana, IL: Children and Family Research Center. Casanueva, C., Ringeisen, H., Wilson, E., Smith, K., & Dolan, M. (2011). *NSCAW II Baseline Report: Child Well-Being*. OPR Report #2011-27b, Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services; Cross, T.P. & Bruhn, C. (2010). Delivery of mental health services for a state's population of children in foster care: A comparison of Illinois and national data. *Illinois Child Welfare*, 5, 87-107. Hartnett, M.A. & Bruhn, C. (2006). *The Illinois Child Well-Being Study. Year One Report*. Urbana, IL: Children and Family Research Center. Hartnett, M.A., Bruhn, C., Helton, J., Fuller, T. & Steiner, L. (2009). *Illinois Child Well-Being Study: Year Two Final Report*. Urbana, IL: Children and Family Research Center, University of Illinois at Urbana-Champaign.

emotional and behavioral problems.<sup>3</sup> Nevertheless, research in different communities in the United States has shown that psychiatric medication use for children in out-of-home care has risks as well. Studies have found that many children and youth in out-of-home care receive multiple psychiatric medications<sup>4</sup>, significantly more often than in other comparable groups<sup>5</sup>. So-called polypharmacy can increase the risk of side effects, adverse medical events, or drug interactions that can diminish the therapeutic effect of medications.<sup>6</sup> Studies have found that communication about psychiatric medication use in out-of-home care is not always adequate. One study found that 37% of foster and adoptive parents did not regularly receive information about the purpose or side effects of psychotropic medications for their children in care<sup>7</sup>, 24% reported that prescribers did not regularly monitor medication effectiveness, and 25% did not regularly know who to contact about their child's medication. A third of child welfare staff in the study felt that information about medications was not shared regularly among a child's team of providers. More than half (53%) of prescribers in the study did not communicate with child welfare staff on a regular basis, and 46% of prescribers found that the communication that did occur was not regularly helpful. Absence of communication for children in out-of-home care can increase the risk of adverse medical events and side effects.

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<sup>3</sup> See, e.g., Boylan, K., Romero, S., & Birmaher, B. (2007). Psychopharmacologic treatment of pediatric major depressive disorder. *Psychopharmacology*, 191(1), 27–38. Cortese, S., Adamo, N., Del Giovane, C., Mohr-Jensen, C., Hayes, A. J., Carucci, S., ... & Hollis, C. (2018). Comparative efficacy and tolerability of medications for attention-deficit hyperactivity disorder in children, adolescents, and adults: A systematic review and network meta-analysis. *The Lancet Psychiatry*, 5, 727-738. Pappadopulos, E., Woolston, S., Chait, A., Perkins, M., Connor, D. F., & Jensen, P. S. (2006). Pharmacotherapy of aggression in children and adolescents: Efficacy and effect size. *Journal of the Canadian Academy of Child and Adolescent Psychiatry* 15(1), 27–39.

<sup>4</sup> Brenner, S. L., Southerland, D. G., Burns, B. J., Wagner, H. R., & Farmer, E. M. (2014). Use of psychotropic medications among youth in treatment foster care. *Journal of child and family studies*, 23(4), 666-674. Zito, J. M., Safer, D. J., Sai, D., Gardner, J. F., Thomas, D., Coombes, P., ... Mendez-Lewis, M. (2008). Psychotropic medication patterns among youth in foster care. *Pediatrics*, 121(1) e157-e163.

<sup>5</sup> Miglani, J., Scrivener, J., & Miglani, S. (2019). Are we overdiagnosing and overmedicating children & adolescents being raised in non parental households & foster care? A community mental health center perspective. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 28(1), 4–6. Leckman-Westin, E., Finnerty, M., Scholle, S. H., Pritam, R., Layman, D., Kealey, E., ... & Horwitz, S. (2018). Differences in Medicaid antipsychotic medication measures among children with SSI, foster care, and income-based aid. *Journal of Managed Care & Specialty Pharmacy*, 24(3), 238-246 Rubin D.M., Feudtner C., Localio R., Mandell D.S.. State variation in psychotropic medication use by foster care children with autism spectrum disorder. *Pediatrics*, 124, e305-e312.

<sup>6</sup> Stahl, S. M. (2004). Focus on antipsychotic polypharmacy: Evidence-based prescribing or prescribing-based evidence? *International Journal of Neuropsychopharmacology*, 7(2), 113–116.

<sup>7</sup> Barnett, E. R., Butcher, R. L., Neubacher, K., Jankowski, M. K., Daviss, W. B., Carluzzo, K. L., Ungarelli, E. G., & Yackley, C. R. (2016). Psychotropic medications in child welfare: From federal mandate to direct care. *Children and Youth Services Review*, 66, 9–17.

Since 1992, IDCFS has implemented a nationally recognized program to monitor the medication of youth in out-of-home care and help prevent the difficulties with medication management of youth in care found in many states.<sup>8</sup> The Clinical Services in Psychopharmacology Program of the University of Illinois Chicago Department of Psychiatry provides an independent medication review of all psychotropic medication consent requests for children and youth in DCFS custody. The program also provides consultation to case managers about the appropriateness of psychiatric medication for children and to treating clinicians who need assistance with complex cases. In addition, the program alerts IDCFS' Office of the Guardian and Advocacy if prescribers need further review, and educates and trains DCFS-identified staff on medication protocols and physicians on new developments in psychiatric medication.

### **Rates of Psychiatric Medication Use in Previous Studies**

To put current Illinois results in context, we conducted a literature review and identified 16 studies that report the percentage of children and youth in out-of-home care of all ages who receive any form of psychiatric medication (see the appendix). The percentages ranged from 13.0% to 48.0%, with a median of 25.9%. Several studies show that children and youth in out-of-home care are more likely to receive psychiatric medication than comparable children not in out-of-home care.<sup>9</sup>

School-age and teenage children were substantially more likely to receive psychiatric medication than younger children. Across five studies of school age, preadolescent children, a median of 31.2% received psychiatric medication; and across seven studies of adolescents in out-of-home care, a median percentage of 38.3% received psychiatric medication. In three studies of children under age 6, a median of 6% of children received psychiatric medication (studies available from the authors).

Rates of psychiatric medication use can be higher in more intensive placement settings. The rate of psychiatric medication in specialized or treatment foster care was 87% in one study<sup>10</sup>

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<sup>8</sup> See Clinical Services in Psychopharmacology (n.d). CSP. Website. Retrieved from <http://oth-web.psych.uic.edu/csp/>; Gonzalez, S.M. (June 2008). *UIC Psychiatry Program Honored for Excellence in Clinical Service*. Press release. Retrieved from <https://archive.news.uic.edu/releases-2002-2012/2232-uic-psychiatry-program-honored-for-excellence-in-clinical-service.html>. Naylor, M. W., Davidson, C. V., Ortega-Piron, D. J., Bass, A., Gutierrez, A., & Hall, A. (2007). Psychotropic medication management for youth in state care: Consent, oversight, and policy considerations. *Child Welfare, 86*(5), 175.

<sup>9</sup> See, e.g., Barnett, et al., *ibid.* Miglani, J., Scrivener, J., & Miglani, S. (2019). Are we overdiagnosing and overmedicating children & adolescents being raised in non parental households & foster care? A community mental health center perspective. *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 28*(1), 4–6. Warner, L. A., Song, N. K., & Pottick, K. J. (2014). Outpatient psychotropic medication use in the US: A comparison based on foster care status. *Journal of Child and Family Studies, 23*(4), 652-665. Zito, J. M., Safer, D. J., Sai, D., Gardner, J. F., Thomas, D., Coombes, P., ... Mendez-Lewis, M. (2008). Psychotropic medication patterns among youth in foster care. *Pediatrics, 121*(1), e157-e163.

<sup>10</sup> Breland-Noble, A. M., Elbogen, E. B., Farmer, E. M., Dubs, M. S., Wagner, H. R., & Burns, B. J. (2004). Use of psychotropic medications by youths in therapeutic foster care and group homes. *Psychiatric Services, 55*(6), 706-708.

and 59% in another.<sup>11</sup> Studies reporting results for group homes and residential treatment centers have reported rates of psychiatric medication use of 74%<sup>12</sup> and 48.2%.<sup>13</sup>

Using data from the 2017 Illinois Child Well-Being Study, we calculated the rate of psychiatric medication use among children and youth in out-of-home care at the time the data were collected, 2017-2018. We also compared rates of psychiatric medication use by age of the child and by placement setting.

### **The 2017 Illinois Child Well-Being Study**

The 2017 Illinois Child Well-Being Study provided a snapshot of the well-being of children and youth in out-of-home care in Illinois in 2017. The Children and Family Research Center (CFRC) drew a stratified random sample of 700 children and youth from the population of children and youth in DCFS care in October 2017. The Survey Research Laboratory of the University of Illinois at Chicago conducted interviews with caseworkers, out-of-home caregivers, and children themselves age seven and older, between December 2017 and July 2018. For more information, see the full report of the study (link below).

In a series of questions in the caregiver interview, caregivers were asked about whether their child had the following emotional or behavioral problems: attention deficit disorder, depression, bipolar or extreme mood swings, conduct or behavior problems, oppositional or defiant behavior, extreme stress from past experience of abuse or neglect, problems with attachment to caregivers, eating disorders, sexually aggressive behavior, alcohol or substance abuse problems, and other emotional or mental health problems. When a caregiver reported that their child had one of these problems, a follow-up question was asked about whether the child was currently taking prescription medication for the problem. From the answers to these questions, we also computed how many of these problems the child was taking medication for.

### **Percentage of Child and Youth Receiving Psychiatric Medication**

Across the sample, 20.7% of children and youth were receiving psychiatric medication, according to caregivers. Figure 1 shows the number of different emotional and behavioral problems children and youth received psychiatric medication for. Almost one-tenth of children and youth (9.7%) were receiving medication for more than one type of emotional or behavioral problem and some were receiving medication for four or five different emotional or behavioral problems. This does not tell us how many children and youth were receiving multiple psychiatric medications, however. Some children may have been using a medication that addressed more than one problem, and some children may take multiple medications for one given emotional or behavioral problem

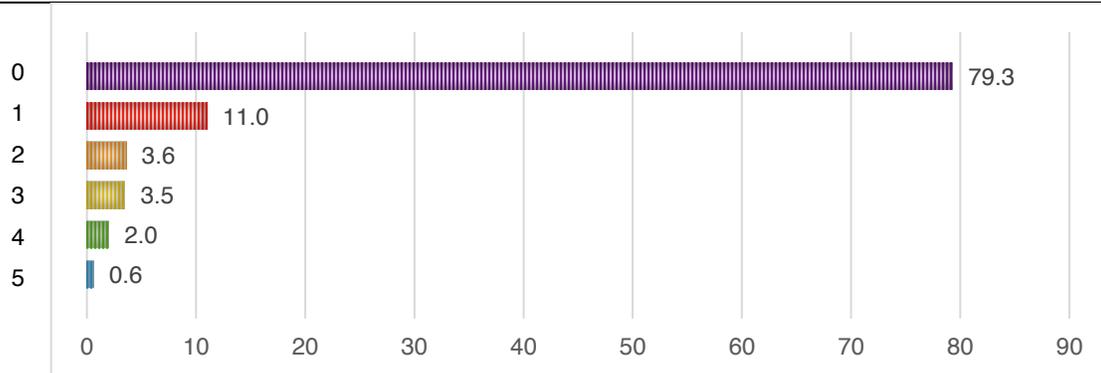
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<sup>11</sup> Brenner, et al. (2014), *ibid.*

<sup>12</sup> Breland, et al., (2004) *ibid.*; Ringeisen, et al., (2011), *ibid.*

<sup>13</sup> Ringeisen, et al., 2011, *ibid.*

**Figure 1. Number of different problems children received medication for (N=320)**



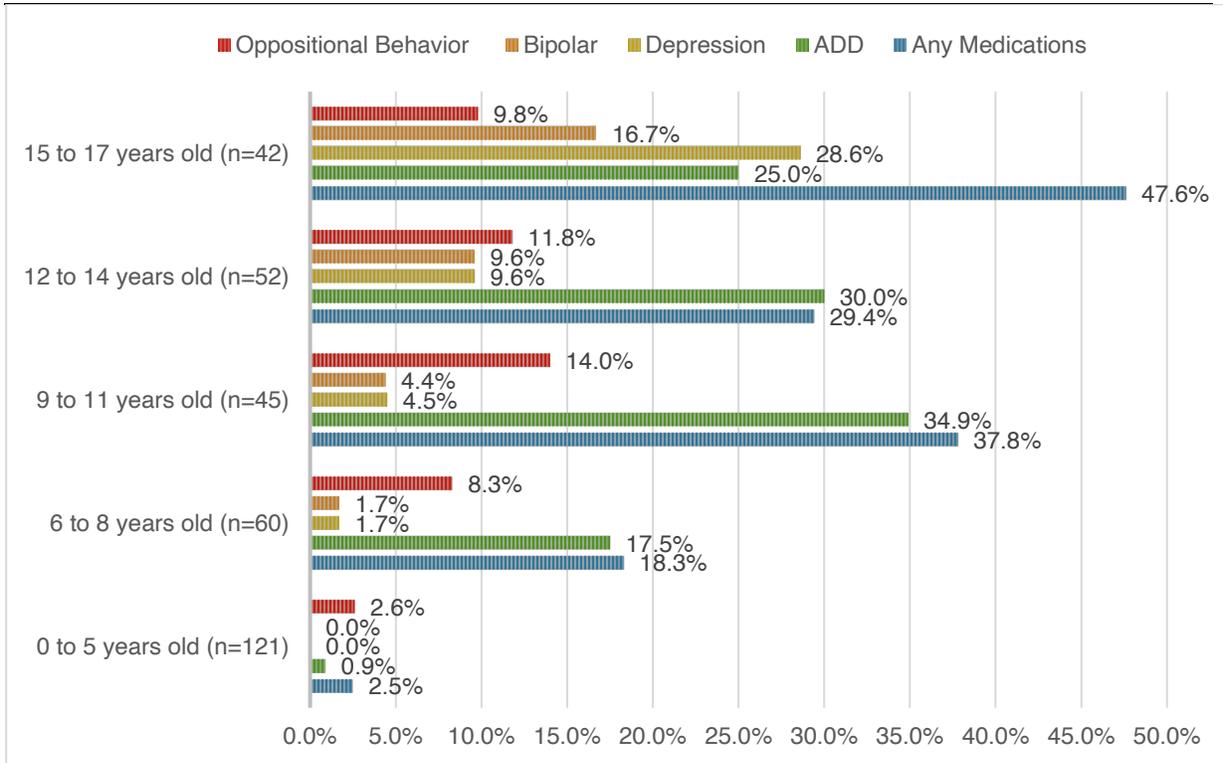
### **Psychiatric Medication Use for Different Age Groups**

As Figure 2 shows, rates of psychiatric medication use differed significantly by age group ( $\chi^2=53.87$ ,  $p<.001$ ). Almost half of youth aged 15 to 17 (47.6%) used psychiatric medication. The higher rate for age 15 to 17 was driven by substantially higher rates of use of medication for bipolar disorder and depression. The proportions using psychiatric medication were smaller but still substantial for 12 to 14 year olds (29.4%) and 9 to 11 year olds (37.8%). Children 8 years old and younger were substantially less likely to receive psychiatric medication.

### **Psychiatric Medication Use in Different Placement Settings**

Rates of psychiatric medication use also differed significantly by placement setting (see Figure 3) ( $\chi^2=47.17$ ,  $p<.001$ ). More than  $\frac{3}{4}$  of youth in congregate care (group homes or residential treatment) were prescribed psychiatric medication, and nearly half (46.7%) of those in specialized foster care. The higher rate for youth in group homes or residential treatment compared to specialized foster care is mainly due to greater use of medication for depression. Much smaller percentages of children and youth in traditional foster care and kinship care were prescribed psychiatric medication. Because youth in congregate care tend to be older than youth in other settings, we conducted a logistic regression analysis and learned that youth age and placement setting each had a significant independent relationship to receiving psychiatric medication (details available from the authors).

**Figure 2. Use of Psychiatric Medication by Age Group (N=320)**



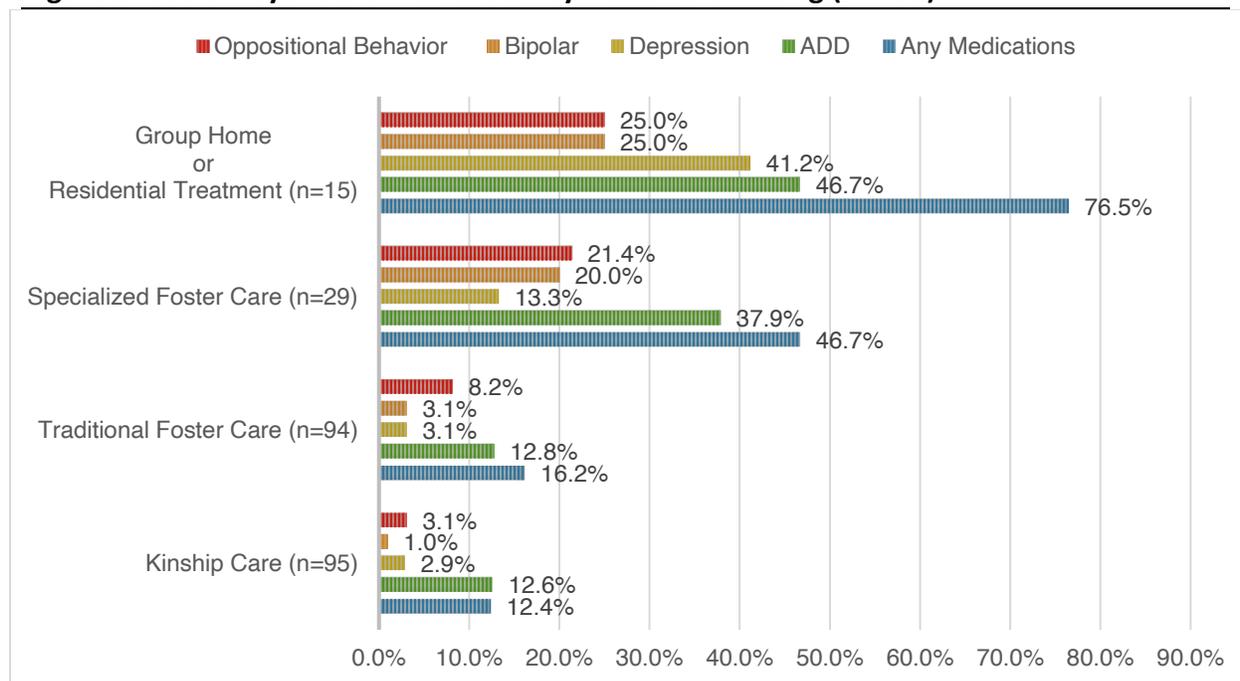
## Discussion

According to caregivers, just over one fifth of children and youth in out-of-home care through IDCFS were receiving psychiatric medication. This is slightly below the median percentage of 25.9% we found across 16 previous studies across the United States. Thus children and youth in Illinois in 2017-2018 were somewhat less likely to receive psychiatric medication than children and youth in earlier studies in other states. It is also slightly smaller than the 26.9% of children and youth receiving psychiatric medication that Harnett and Bruhn found in a 2001 study of children in Illinois DCFS care.<sup>14</sup> This suggests that the rate of psychiatric medication use for Illinois children and youth in out-of-home care is somewhat more moderate than the rest of the country. Less than one-tenth of Illinois children in out-of-home received medication for multiple problems, though we cannot calculate from our data how many actually received multiple medications.

The rate of psychiatric medication use was substantially greater for older youth, and almost half of youth age 15 to 17 were receiving psychiatric medication. Rates of psychiatric medication use also differed dramatically by placement setting, with a large majority of youth in congregate care receiving psychiatric medication and almost half of youth in specialized foster

<sup>14</sup> Harnett & Bruhn, (2006), *ibid*

**Figure 3. Use of Psychiatric Medication by Placement Setting (N=233)**



care. These higher rates were related to bipolar illness and depression in these youth, problems that are more likely to emerge in adolescence than in earlier childhood.

We are not aware of previous studies that report the rate of psychiatric medication for youth age 15 to 17 or for youth in congregate care through child protective services, so we cannot tell whether their substantially higher rate is unique to Illinois or typical nationally. The higher rate for teen-agers reinforces our knowledge that adolescents in out-of-home care are often afflicted by mental health problems, and it indicates the importance of providing quality psychiatric care for this population. It is doubly important given that many of these youth will not return to permanent homes and will age out of foster care. Youth aging out of foster care are at high risk for a wide range of issues, including mental health problems, homelessness, school failure, unemployment, and involvement with the criminal justice system.<sup>15</sup>

It is not surprising that youth in congregate care and specialized foster care have much higher rates of psychiatric medication use. Their mental health problems were probably an important reason that many of these youth were placed in these settings rather than less intensive placements. The high rates of psychiatric medication in these settings make it clear how important

<sup>15</sup> See, e.g., Courtney, M. E., Dworsky, A., Brown, A., Cary, C., Love, K., & Vorhies, V. (2011). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at age 26*. Chapin Hall Center for Children; Pergamit, M., Keller, T. E., Cusick, G. R., & Courtney, M. E. (2007). Approaching the transition to adulthood: Distinctive profiles of adolescents aging out of the child welfare system. *Social Services Review*, 81(3), 453–484.

it is to support quality psychiatric care in these settings and maintain a vigorous program of monitoring psychiatric medication use.

This analysis has limitations. The sample sizes for several subgroups are small, which means that many of the percentages reported here are likely to be imprecise estimates of the actual percentages among children in the subgroup across the state. We are relying on caregiver reports, which are likely to be less reliable than medical records. We do not know children and youth's diagnoses or the specific medications that were prescribed. We have no data on monitoring, side effects, or adverse incidents. Nevertheless, our findings that psychiatric medication is used with one-fifth of children and youth in our sample and with majorities of particularly vulnerable youth suggests the value of more in-depth studies of psychiatric medication use among youth in out-of-home care through IDCFS.

## Appendix

### Studies on Use of Psychiatric Medication in Out-of-Home Care Across Age Groups

DosReis, S., Zito, J. M., Safer, D. J., & Soeken, K. L. (2001). Mental health services for youths in foster care and disabled youths. *American Journal of Public Health, 91*(7), 1094-1099.

Ferguson, D. G., Glesener, D. C., & Raschick, M. (2006). Psychotropic drug use with European American and American Indian children in foster care. *Journal of Child & Adolescent Psychopharmacology, 16*(4), 474-481.

Florida Health and Human Services Appropriation Committee (2005, April 14). *Mental health services for minors and incapacitated persons*. Senate Staff Analysis and Economic Impact Statement. <http://archive.flsenate.gov/data/session/2005/Senate/bills/analysis/pdf/2005s1090.ha.pdf>

Glesener, D., Anderson, G., Li, X., Brown, J., Amell, J., Regal, R., & Ferguson, D. (2018). Psychotropic medication patterns for American Indian children in foster care. *Journal of Child and Adolescent Psychopharmacology, 28*(3), 225-231.

Green, D.L., Hawkins, W. & Hawkins, M. (2005). Medication of children and youth in foster care. *Journal of Social Work in Disability and Rehabilitation, 4*(1-2) 43-55,

Hartnett, M.A. & Bruhn, C. (2006). *The Illinois Child Well-Being Study. Year One Report*. Urbana, IL: Children and Family Research Center. [https://www.cfrillinois.edu/pubs/rp\\_20050201\\_IllinoisChildWellBeingStudyYearOneFinalReport.pdf](https://www.cfrillinois.edu/pubs/rp_20050201_IllinoisChildWellBeingStudyYearOneFinalReport.pdf)

Kutz, G. D. (2011). *Foster Children: HHS Guidance Could Help States Improve Oversight of Psychotropic Prescriptions*: Testimony Before the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, Committee on Homeland Security and Governmental Affairs, US Senate. US Government Accountability Office.

Martin, A., Van Hoof, T., Stubbe, D., Sherwin, T. & Scahill, L. (2003). Multiple psychotropic pharmacotherapy among child and adolescent enrollees in Connecticut Medicaid managed care. *Psychiatric Services, 54*(1), 72-77.

Raghavan, R., Lama, G., Kohl, P. & Hamilton, B. (2010) Interstate variations in psychotropic medication use among a national sample of children in the child welfare system. *Child Maltreatment, 15*(2) 121-131.

Raghavan, R., Zima, B. T., Andersen, R. M., Leibowitz, A. A., Schuster, M. A., & Landsverk, J. (2005). Psychotropic medication use in a national probability sample of children in the child welfare system. *Journal of Child & Adolescent Psychopharmacology*, 15(1), 97-106.

Ringeisen, H., Casanueva, C., Smith, K., & Dolan, M. (2011). *NSCAW II Baseline Report: Children's Services*. OPRE Report #2011-27f, Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Rubin, D., Matone, M., Huang, Y. 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*, 34(8), 1492-1499.

Texas Department of State Health Services (2006). *Use of psychoactive medication in Texas foster children Fiscal Year 2005*. Austin, TX: Author [https://www.dfps.state.tx.us/Child\\_Protection/Medical\\_Services/documents/reports/2006-06\\_Use\\_of\\_Psychotropic\\_Medications\\_in\\_Foster\\_Child.pdf](https://www.dfps.state.tx.us/Child_Protection/Medical_Services/documents/reports/2006-06_Use_of_Psychotropic_Medications_in_Foster_Child.pdf)

Zima, B. T., Bussing, R., Crecelius, G. M., Kaufman, A., & Belin, T. R. (1999). Psychotropic medication use among children in foster care: relationship to severe psychiatric disorders. *American Journal of Public Health*, 89(11), 1732-1735.

Zito, J. M., Safer, D. J., Zuckerman, I. H., Gardner, J. F., & Soeken, K. (2005). Effect of Medicaid eligibility category on racial disparities in the use of psychotropic medications among youths. *Psychiatric Services*, 56(2), 157-163.

Zito, J. M., Safer, D. J., Sai, D., Gardner, J. F., Thomas, D., Coombes, P., ... Mendez-Lewis, M. (2008). Psychotropic medication patterns among youth in foster care. *Pediatrics*, 121(1), e157-e163.

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### **Related Publication**

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