CHCS Center for Health Care Strategies, Inc.

TECHNICAL ASSISTANCE TOOL

APRIL 2014

Data Definitions for Psychotropic Medication Oversight and Monitoring

In the past decade, the prescribing of psychotropic medications to children in the United States has increased significantly, raising concerns nationally about the appropriate use and oversight of these medications.[1,2] In particular, the use of psychotropic medications among children and adolescents in the nation's foster care system is a high-priority health and safety concern.[3] Children in foster care represent three percent of the Medicaid child population, but 15 percent of the children using behavioral health services, and 29 percent of total behavioral health service costs.[4] These children are much more likely than other children enrolled in Medicaid to be prescribed psychotropic medications, as well as to receive multiple psychotropic medications.[5]

This technical assistance tool defines a set of measures that states may wish to adopt for monitoring the use of psychotropic medications in children. The measures and definitions were developed by six states participating in the Center for Health Care Strategies' quality improvement collaborative, ***Improving the Use of Psychotropic Medication among Children and Youth in Foster Care***. While developed for the foster care population, the measures are relevant to all child and adolescent populations.

Rates of psychotropic medication use among children and youth in foster care, who rely on Medicaid for health care coverage, can be as high as 50 percent.[6,7] Further, a large proportion—more than 40 percent—of Medicaid-enrolled children in foster care receiving psychotropic medications are prescribed antipsychotics, a particularly powerful class of drugs with serious side effects including weight gain, obesity, diabetes, and metabolic syndrome.[8,9] Adding to the concern is the high variability in rates of antipsychotic use among children in foster care across states, ranging from 2-22 percent.[10]

These high rates of use are often due to gaps in coordination and continuity of care; provider shortages; lack of access to effective medication alternatives (non-pharmacological interventions); and incomplete, insufficient, or inefficient approaches to state oversight and monitoring.[11] To improve oversight and monitoring of psychotropic medication use, states should collect accurate data about prescribing patterns among Medicaid providers. These patterns include the types and dosages of medication being prescribed, the clinicians doing the prescribing, the conditions the medications are being prescribed to treat, and the children to whom the medications are being prescribed. This process begins with establishing state-level consensus on what to monitor, including how to define the variables associated with these patterns.

These issues were explored by a Data Workgroup comprised of representatives from the six states participating in the Center for Health Care Strategies' quality improvement collaborative, ***Improving the Use of Psychotropic Medication among Children and Youth in Foster Care*** (PMQIC), funded by the Annie E. Casey Foundation (see page 4 for a list of participants). The workgroup developed a set of definitions and common measures related to psychotropic medication use among children in foster care.[12] This technical assistance tool shares these definitions and measures to assist other states in their monitoring and oversight efforts and to develop a national consensus around these key indicators.

This is one in a set of psychotropic medications quality improvement resources produced through support from the Annie E. Casey Foundation. For more information, visit www.chcs.org.

Common Definitions

Foster Youth	Children placed away from their parents or guardians in 24-hour substitute care and for whom the state agency has placement and care responsibility (federal definition). For the purposes of data collection, data is collected for children and youth in foster care, from birth through age 18 (18 and 364 days old).
Young Children	All children under age six (five years and 364 days old).
Psychotropic Medications	Medications being used for an emotional or behavioral health condition and alternately referred to as psychiatric medications.
Polypharmacy	When a child is prescribed more than one psychiatric medication at the same time; children would need to be taking the medications simultaneously for more than 90 days.
Co-pharmacy	When a child is prescribed more than one type or class of psychiatric medication (e.g., two antipsychotic medications); children would need to be taking the medications simultaneously for more than 90 days.

NOTE: The issue of *consent* is critical to state oversight and monitoring of psychotropic medication prescribing. However, given that legal requirements vary tremendously across states, no common definition was proposed; rather, the concept is defined by individual state laws or regulations (if they exist).

Minimum Metabolic Monitoring Protocol for Psychotropic Medications

Many psychotropic medications—especially second-generation or 'atypical' antipsychotics—impact a child's overall physical health. These physical impacts of can include rapid weight gain and increased risk for diabetes and heart disease, which makes regular monitoring of metabolic indicators critically important.[13] The table below displays the minimum standard for monitoring specific metabolic indicators agreed upon by the Data Workgroup, based on the clinical expertise of the workgroup members.[14] PMQIC states had the flexibility to establish additional protocols for more frequent monitoring or monitoring of other medications (e.g., Lithium levels).

Measure	Protocol
Personal and family history	Baseline and annually
Waist circumference	Baseline and annually
Weight and body mass index	Baseline, every 4 weeks up to 12 weeks, and then quarterly
Blood pressure	Baseline, 12 weeks and annually
Fasting plasma glucose	Baseline, 12 weeks and annually
Fasting lipid profile	Baseline, 12 weeks and annually

Common Measures

To monitor progress in reducing the inappropriate use of psychotropic medication, the Data Workgroup agreed that states should gather certain data—at baseline and specified timeframes—to measure the percentage of children in foster care at a point in time who are:

- On any psychotropic medication;
- On specific classes of psychotropic medications (e.g., antidepressants, stimulants, mood stabilizers, antianxietals);
- On more than one medication from the same class (i.e., co-pharmacy);
- On two, three, and four or more psychotropic medications (i.e., polypharmacy);
- Under six-years-old on any psychotropic medication;
- Under six-years-old on two, three, and four or more psychotropic medications; and
- Under six-years-old on antipsychotics.

While the Data Workgroup members agreed that each state in the collaborative would monitor the common measures at least quarterly, some states developed the ability to monitor medication use in real time. Working in collaboration with their state Medicaid programs, some states in the Data Workgroup have implemented a mechanism to prevent a prescription from being filled if it reflects one of the above outlier patterns (e.g., co-pharmacy, polypharmacy, or children under the age of six), or if the prescriber has not followed the established consent process.

Some proportion of psychotropic medication prescribing to children in foster care likely results from a lack of access to effective psychosocial interventions. Recognizing this issue, the Data Workgroup recommended that states evaluate qualitative measures, such as the implementation of evidence-based or promising interventions for sleep disorders and/or aggression. Data Workgroup members suggest that diagnoses of sleep disorders and/or aggression may contribute to higher rates of antipsychotic use, despite the lack of a strong evidence base for using psychotropic medications to treat these disorders. Aggression and sleep disorders may be better addressed using evidence-based psychosocial interventions, which carry a lower risk for side-effects, and through a uniform informed consent process, which ensures all necessary information is available to consenters.

States adopting the recommended measures should determine the frequency with which they will monitor trends in these quantitative and qualitative metrics. Please see the Common Measures Specifications table on page 5 for more detail about defining and calculating these common measures.

Conclusion

The collection of reliable, well-defined, longitudinal data that identifies concerning patterns of use in real time is a critical component to improving the appropriate use of psychotropic medications among children and youth in foster care. It is important for stakeholders working on this issue in various state agencies to use the same terminology and collect similar quantitative data in order to more uniformly assess and monitor psychotropic medication use within this vulnerable population. A set of universal definitions and common measures is an essential resource as states continue to pursue efforts to improve appropriate psychotropic medication use.

Data Workgroup Members

The workgroup that developed the definitions and measures in this resource are members of the Center for Health Care Strategies' ***Improving the Use of Psychotropic Medication among Children and Youth in Foster Care: A Quality Improvement Collaborative***, made possible by the Annie E. Casey Foundation. The collaborative is working with behavioral health, child welfare, and Medicaid leaders from six states to improve the oversight and monitoring of psychotropic medication use among children in foster care. Data Workgroup participants included:

- **Melissa Bailey**, Director, Integrated Family Services, Vermont Agency of Human Services
- **Mary Beirne**, Child/Adolescent Psychiatrist, New Jersey Department of Children and Families
- **Christopher Bellonci** (workgroup chair), Associate Professor, Tufts University School of Medicine, and Attending Psychiatrist, Tufts Medical Center
- **Mary Beth Bizzari**, Health Programs Administrator, Vermont Agency of Human Services, Department of Vermont Health Access
- **Colleen Caron**, Director, Data and Evaluation, Rhode Island Department of Children, Youth and Families
- **Janice DeFrances**, Director, Rhode Island Department of Children, Youth and Families
- **Molly Finnerty,** Director, Bureau of Evidence-Based Services and Implementation Science; Director, PSYCKES Project, New York Office of Mental Health
- **Kevin George**, Manager, Foster Care Program, Oregon Department of Human Services
- **Joan Gerring**, Chief Psychiatrist, New York Office of Family Services
- **Debra Lancaster**, Director, Office of Child and Family Health, New Jersey Department of Children and Families
- **Brendan Lee**, Administrative Analyst, Office of Information Technology and Reporting, New Jersey Department of Children and Families
- **Mike Naylor**, Director, Clinical Services in Psychopharmacology, University of Illinois at Chicago
- **Jeanie Ortega-Piron**, Deputy of Guardian and Advocacy (retired), Illinois Department of Children and Family Services
- **Leon Saunders**, Administrator, Management Information Systems, Rhode Island Department of Children, Youth and Families
- **Cindy Walcott**, Deputy Commissioner, Vermont Agency of Human Services, Department for Children and Families, Family Services Division
- **Ted Williams**, Clinical Pharmacist, Oregon State University/Oregon Health Science University College of Pharmacy, Drug Use Research and Management, Oregon Health Authority Division of Medical Assistance Programs

Psychotropic Medication Use among Children and Youth in Foster Care – Common Measures Specifications

#	Measure	Numerator	Denominator	Notes
1	**Percentage of children in foster care on any psychotropic medication**	# of children in foster care on any psychotropic medication	# of total children in foster care	• Medications being used for an emotional or behavioral condition. • The following are automatically assumed to be psychotropic medications: – Antipsychotics – Stimulants – Antidepressants – Anti-anxiety medications (including Buspar) – Mood stabilizers (Lithium). • Alpha-agonists can be assumed to be used for a psychiatric indication given the low incidence of pediatric hypertension and the high utilization of these medications for ADHD. • Anti-convulsants would require confirmation that there is no seizure diagnosis in order to be considered as a psychotropic.
2	**Percentage of children in foster care on a specific class of medication**	# of children in foster care on a specific class of medication (e.g., antidepressant, antipsychotic, anti-anxietal medications, etc.)	# of total children in foster care	• States have discretion to determine which classes of medications they intend to track – a new measure would be created for each class of medication tracked. • Classes of medications defined according to Psychiatric Services and Clinical Knowledge Enhancement System (PSYCKES) New York state's drug classification system.[15]
3	**Percentage of children in foster care on more than one psychotropic medication from the same class** (defined above as co-pharmacy)	# of children in foster care on more than one medication from the same class simultaneously for 90 days or more	# of total children in foster care	• Psychotropic medication as defined in measure #1. • Classes of medications defined according to PSYCKES (NY) drug classification system.[16]
4	**Percentage of children in foster care on 2 psychotropic medications; 3 psychotropic medications; or 4+ psychotropic medications**	# of children in foster care on 2 psychotropic medications simultaneously for 90 days or more **OR** # of children in foster care on 3 psychotropic medications simultaneously for 90 days or more **OR** # of children in foster care on 4 or more psychotropic medications simultaneously for 90 days or more	# of total children in foster care	• Psychotropic medication as defined in measure #1. • Oversampling will result since those on 4 psychotropic medications will also appear in the rate of those on 3 and 2 psychotropic medications.
5	**Percentage of children in foster care <6 years old on any psychotropic medication**	# of children <6-years-old on any psychotropic medication	# of children <6 years old in foster care	• Psychotropic medication as defined in measure #1. • <6-years-old is defined as any child between the ages of 0 and 5 years and 364 days.
6	**Percentage of children in foster care <6 years on 2; 3 and 4+ psychotropic medications**	# of children in foster care <6 years on 2 psychotropic medications simultaneously for 90 days or more **OR** # of children in foster care <6 years on 3 psychotropic medications simultaneously for 90 days or more **OR** # of children in foster care <6 years on 4 or more psychotropic medications simultaneously for 90 days or more	# of children <6 years old in foster care	• Psychotropic medication as defined in measure #1. • <6-years-old is defined as any child between the ages of 0 and 5 years and 364 days.
7	**Percentage of children in foster care <6 years old on any antipsychotic medication**	# of children in foster care <6-years-old on any antipsychotic medication	# of children <6 years old in foster care	• <6 years old is defined as any child between the ages of 0 and 5 years and 364 days.
8	**Implementation of evidence-based or promising interventions for sleep disorders and/or aggression**	Yes/No	N/A	• This is a qualitative goal – it has either been achieved or not achieved.
9	**Development of an informed consent process or increased adherence to the state's informed consent process**	Yes/No	N/A	• This is a qualitative goal – it has either been achieved or not achieved.

About the *Psychotropic Medications Virtual Learning Community*

This technical assistance tool is one in a series of resources developed for the Center for Health Care Strategies' ***Psychotropic Medications Virtual Learning Community***—a collaborative learning network for state behavioral health, child welfare, and Medicaid leaders. The community also includes webinars and opportunities for peer-to-peer exchange between states working to reduce inappropriate psychotropic medication use among children and youth in foster care through improved oversight and monitoring.

About the Center for Health Care Strategies

The Center for Health Care Strategies (CHCS) is a nonprofit health policy resource center dedicated to improving health care access and quality for low-income Americans. CHCS works with state and federal agencies, health plans, providers, and consumer groups to develop innovative programs that better serve people with complex and high-cost health care needs. For more information, visit **www.chcs.org**.

Endnotes

[1]R. Mojtabai and M. Olfson. "National Trends in Psychotropic Medication Polypharmacy in Office-based Psychiatry." *Arch Gen Psychiatry,* 67, no.1 (2010), 26–36.
[2] M. Olfson, S. Crystal, C. Huang, and T. Gerhard. "Trends in Antipsychotic Drug Use by Very Young, Privately Insured Children." *Journal of the American Academy of Child & Adolescent Psychiatry,* 49, no.1 (2010), 13–23.
[3] Administration for Children and Families (ACF), Centers for Medicare & Medicaid Services (CMS), and Substance Abuse and Mental Health Services Administration (SAMHSA). State Medicaid Director Letter, November 23, 2011. Available at**:** http://www.medicaid.gov/Federal-Policy-Guidance/downloads/SMD-11-23-11.pdf (accessed January 29, 2014).
[4] S. Pires, K. Grimes, T. Gilmer, K. Allen, and R. Mahadevan. "Faces of Medicaid: Examining Children's Behavioral Health Services Use and Expenditures." Center for Health Care Strategies, December 2013.
[5] Ibid.
[6] B.T. Zima, R. Bussing, G.M. Crecelius, A. Kaufman, and T.R. Belin. "Psychotropic Medication Treatment Patterns among School-Aged Children in Foster Care." *Journal of Child and Adolescent Psychopharmacology*. 9, no.3 (1999), 135-47.
[7] J.M. Zito, D.S. Safer, D. Sai, J.F. Gardner, D. Thomas, P. Coombes, M. Dubowski, and M. Mendez-Lewis. "Psychotropic Medication Patterns Among Youth in Foster Care." *Pediatrics,* 121, no.1 (2008), e157-e163.
[8] S. Pires, et al, op cit.
[9] Metabolic syndrome refers to a group of risk factors, including a large waistline, high triglyceride level, low levels of "good" cholesterol, high blood pressure, and high fasting blood sugar, which can lead to health problems, such as diabetes and stroke. U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute, http://www.nhlbi.nih.gov/health/health-topics/topics/ms/ (accessed February 11, 2014).
[10] D. Rubin, M. Matone, Y.S. Huang, S. dosReis, C. Feudtner, and R. Localio. "Interstate Variation in Trends of Psychotropic Medication Use Among Medicaid-Enrolled Children in Foster Care." *Children and Youth Services Review,* 34, no. 8 (2012), 1492-9.
[11] ACF, CMS, SAMHSA, op cit.
[12] The six states participating in the Center for Health Care Strategies' *Improving the Use of Psychotropic Medication among Children and Youth in Foster Care* are Illinois, New Jersey, New York, Oregon, Rhode Island, and Vermont.
[13] C. Correll, P. Manu, V. Olshanskiy, B. Napolitano, J.M. Kane and A.K. Malhotra. "Cardiometabolic Risk of Second-Generation Antipsychotic Medications During First-Time Use in Children and Adolescents." *Journal of the American Medical Association*, 302, no.16 (2009), 1765-1774.
[14] American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, et al. "Consensus Development Conference on Antipsychotic Drugs and Obesity and Diabetes." *Diabetes Care,* 27, no. 2 (2004), 596-601.
[15] New York State Office of Mental Health, Bureau of Evidence-Based Services and Implementation Science. "Psychiatric Services and Clinical Knowledge Enhancement System of Medicaid (PSYCKES-Medicaid)." Revised May 2012. Available at: http://www.omh.ny.gov/omhweb/psyckes_medicaid/resources/clinician/using_psyckes/users_guide.pdf.
[16] Ibid.