Factors Associated with High Levels of Chronic Psychotropic Polyclass in Oklahoma Foster Children

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Background

- Studies have consistently shown children in foster care have higher rates of psychotropic medication use and are on multiple classes of psychotropic medications at one time (chronic psychotropic polyclass) compared to non-foster children.
- Less is known about medication classes prescribed at various levels of chronic psychotropic polyclass and factors associated with higher levels of polyclass.

Objectives

- Compare levels of chronic psychotropic polyclass (defined as the presence of at least one claim for a psychotropic medication for at least 90 consecutive days) among children in foster care in the Oklahoma Medicaid (MOK) population.
- Identify factors associated with the highest level of chronic psychotropic polyclass by foster children within the MOK program.

Methods

- **Research team**: Stakeholders from The University of Oklahoma College of Pharmacy's Pharmacy Management Consultants (PMC), The Oklahoma Health Care Authority (OHCA), and the Oklahoma Department of Human Services (DHS).
- **Study Design**: Cross-sectional, retrospective analysis of paid prescription, outpatient, and inpatient Oklahoma Medicaid claims from January 1 through December 31 2016.
- **Population**: A subgroup of 2,092 foster care children up to 20 years old taking at least one psychotropic medication during calendar year 2016.
- **Statistical Analysis**: Analysis was conducted using SAS version 9.4 (SAS Institute, Cary, NC). Descriptive statistics compared demographics of the foster care population across levels of chronic psychotropic polyclass. Multivariable logistic regression was used to analyze factors associated with the highest level psychotropic polyclass.

Table 1: Demographics of Foster Care Population on Any Psychotropic Medication by Level of Polyclass

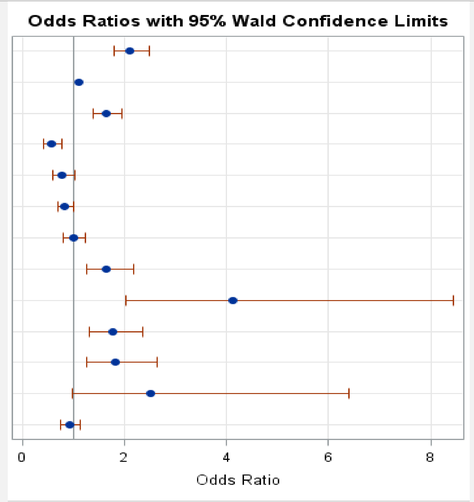
	Non-Chronic Psychotropic Medication Use (n=775)	Single-Class Chronic Medication Use (n=458)	2-3 Chronic Psychotropic Medications (n=728)	4-5 Chronic Psychotropic Medications (n=131)	p-value
Age (Mean, S.D.)	10.15 (4.53)	9.29 (3.58)	11.74 (3.34)	13.13 (2.89)	<0.0001
Age Group					<0.0001
0-4	11.4% (88)	4.8% (22)	0.3% (2)	0.0% (0)	
5-12	53.9% (418)	74.0% (339)	57.2% (416)	35.9% (47)	
13-20	34.7% (269)	21.2% (97)	42.6% (310)	64.1% (84)	
Sex (% Male)	53.7% (416)	62.2% (285)	60.2% (438)	71.0% (93)	0.0002
Race					0.0025
White	51.0% (395)	51.8% (237)	56.3% (410)	65.7% (86)	
Black	12.4% (96)	9.6% (44)	12.8% (93)	9.9% (18)	
American Indian or Alaskan Native	10.3% (80)	8.5% (39)	5.4% (39)	4.6% (6)	
Mixed	26.1% (202)	29.5% (135)	24.7% (180)	19.9% (86)	
Unknown[a]	0.3% (2)	0.7% (3)	0.8% (6)	0.0% (0)	
Rural	16.1% (125)	14.2% (65)	16.1% (117)	10.7% (14)	0.345
Mean Months Eligible (Mean, S.D.)	11.55 (1.51)	11.88 (0.68)	11.91 (0.64)	11.98 (0.15)	<0.0001
Receiving Psychotherapy	36.5% (283)	48.0% (220)	61.4% (447)	53.4% (70)	<0.0001
Residence Status					<0.0001
Own Residence	14.2% (110)	49.7% (53)	0.4% (62)	35.7% (7)	
Foster Home	49.7% (385)	50.2% (230)	51.1% (372)	45.8% (60)	
Group Home	0.4% (3)	1.3% (6)	2.5% (18)	3.8% (5)	
Other	35.7% (277)	36.9% (169)	37.9% (276)	45.0% (59)	
Overweight/Obese	4.1% (32)	2.4% (11)	7.3% (53)	12.2% (16)	<0.0001
Hyperlipidemia	0.7% (5)	0.2% (5)	0.8% (6)	3.1% (4)	0.004
Charlson Co-morbidity	0.12 (0.37)	0.13 (0.46)	0.11 (0.34)	0.11 (0.38)	0.5077
Medication Utilization					
ADHD[b]	57.7% (447)	81.4% (373)	86.1% (627)	98.5% (129)	<0.0001
Antipsychotic	17.3% (134)	10.7% (49)	68.0% (495)	99.2% (130)	<0.0001
Antidepressant	39.6% (307)	26.0% (119)	76.9% (560)	97.0% (127)	<0.0001
Mood stabilizer	12.0% (93)	6.1% (28)	30.4% (221)	83.2% (109)	<0.0001
Anxiolytic	24.0% (186)	10.7% (49)	19.2% (140)	44.3% (58)	<0.0001

[a]The 11 members of unknown race were excluded from the final regression model (Table 5)
[b]ADHD = attention deficit hyperactivity disorder

Table 2: Odds of Having the Highest Level of Chronic Psychotropic Polyclass (4-5 Medications)

Effect	Point Estimate	95% Wald Confidence Limits	
Presence of Psychotherapy (Reference=None)	2.12	1.80	2.49
Age (Yrs)	1.11	1.09	1.13
Male (Reference=Female)	1.66	1.40	1.96
American Indian or Alaskan Native (Reference=White)	0.58	0.42	0.79
Black (Reference=White)	0.79	0.61	1.02
Mixed (Reference=White)	0.84	0.69	1.01
Rural (Reference=Urban)	1.00	0.79	1.25
Foster Home (Reference=Own Residence)	1.66	1.25	2.19
Group Home (Reference=Own Residence)	4.13	2.02	8.44
Other (Reference=Own Residence)	1.77	1.33	2.36
Overweight/Obese (Reference=not Overweight or Obese)	1.83	1.27	2.64
Presence of Hyperlipidemia (Reference=None)	2.52	0.99	6.40
Charlson Score - Deyo (Mean)	0.92	0.74	1.14

Odds Ratios with Confidence Limits



Results

- ADHD medications were the most commonly prescribed medication class from the non-chronic level up to two to three chronic medications.
- However, at four to five chronic concurrent medications, antipsychotics were the most commonly prescribed medication with 99.2% of children taking them at this level.
- High-level chronic psychotropic use was 2.1 times greater for those receiving psychotherapy compared to those with no psychotherapy (95% CI: 1.80 to 2.49).
- High-level chronic psychotropic use was also more likely in males (OR=1.66, 95% CI: 1.40 to 1.96), but less likely in American Indian/Alaskan Native patients (OR=0.58, 95% CI: 0.42 to 0.79).
- Being overweight or obese was associated with an 83% higher odds of the highest level of psychotropic polyclass (95% CI: 1.27 to 2.64).

Discussion/Conclusion

- Despite higher mental health service utilization, rates of psychotropic medication use and psychotropic polyclass remain a concern in foster youth, and metabolic adverse effects were observed in this population.
- A pattern of ADHD medications being the most common medication class when 3 or less are concurrently prescribed and antipsychotics being prescribed in virtually everyone taking 4 or more psychotropic medications may be key to identifying youth with similar prescription patterns that may need more monitoring.
- Other outcomes as a result of psychotropic medication use in foster youth should be explored to further inform potential opportunities for policy implications.

Limitations

- Administrative claims data are limited to the available information and errors may include incorrect diagnoses codes or inclusion of reversed claims.
- Prescriptions paid for in cash are not reflected in data.
- Some variables in the administrative claims data are subject to self-reporting (ex: race).
- Caution should be taken in generalizing findings to other Medicaid programs.

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- The remaining authors have no relevant conflicts of interest to declare.