Epidemiology of Opioid Use in a State Medicaid Program

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Background

- From 2003 to 2013, the national prevalence of prescription opioid use disorders and associated mortality increased[1]
- Medicaid populations may be especially vulnerable to morbidity and mortality from opioid-related disorders[2,3]
- Limited data exist on characteristics and underlying treatment patterns for Medicaid sub-populations

Objectives/Specific Aims

To describe the demographics, medical utilization, opioid utilization, and clinical characteristics of members in a state Medicaid program who used opioids or were diagnosed with opioid-related disorders during the study period.

Methods

- State Medicaid pharmacy and medical claims data spanning January 2011 to June 2016 were analyzed
- A descriptive cross-sectional design was used
- Three overlapping cohorts were identified from 2012 to 2016:
  1) Members with at least one claim for an opioid prescription (OP)
  2) Members who had at least one ICD (965.0x, T40.x) diagnosis code for opioid overdose (OD)
  3) Members who had at least one ICD (304.0x, 305.5x, F11.x) code for opioid abuse or dependence (AD)
- Members were required to have at least 12 months of continuous eligibility prior to their index date (date of last opioid claim or date of last medical claim with opioid-related diagnosis)
- All descriptive measures were examined in the year prior to index date
- The general state Medicaid population was abstracted from eligibility files and was defined as those members who had any eligibility during 2012 to 2016

Results

Table 1. Baseline characteristics of cohorts in Oklahoma Medicaid, 2012-2016

	Opioid Overdose, % (n=1,347)	Abuse or Dependence, % (n=10,753)	Any Opioid Use, % (n=227,831)	Overall State Medicaid Population, % (n=1,911,975)
Age, years				
≤17	27.0	4.2	54.7	45.0
18-24	7.9	10.4	12.1	12.0
25-34	16.3	33.1	12.7	14.0
35-44	15.9	18.0	8.5	9.3
45-54	18.9	17.9	6.3	6.7
55-64	13.5	12.0	5.3	5.4
≥65	<1	<1	<1	5.4
Female	66.7	71.8	60.1	54.9
Race,				
White	73.5	72.8	64.3	68.0
Black or African American	7.4	12.0	10.4	10.9
American Indian or Alaskan Native	9.6	8.5	11.6	9.7
Asian	<1	<1	<1	1.6
Native Hawaiian or Other Pacific Islander	<1	<1	<1	<1
Mixed	9.3	11.6	8.1	9.5
Residence type				
Unknown	1.6	1.5	1.7	2.6
Metropolitan	59.1	67.6	58.6	59.6
Micropolitan	22.8	18.1	22.1	21.4
Rural	16.5	12.7	17.6	16.5

For both OD and AD cohorts, members were mostly female (66.7% and 71.8%, respectively) and White (73.5% and 72.8%, respectively). The largest age group in the OD cohort was in the ≤17 year age category (27.0%), while the 25-34 age category (33.1%) was largest for the AD cohort (Table 1).

Results Cont.

Table 2. Medical and pharmacy utilization during the 365 days prior to index date of cohorts in Oklahoma Medicaid, 2012-2016

|	Opioid Overdose (n=1,347)	Abuse/Dep-endence (n=10,753)	Any Opioid Use (n=227,831)
All-cause hospitalizations, %			
None	37.6	69.0	81.3
1	33.0	19.7	14.1
≥2	29.5	11.3	4.6
All-cause ER visits, %			
None	9.4	31.3	40.8
1	22.2	19.3	24.3
≥2	68.4	49.4	34.9
Opioid prescription claims per member, %			
None	27.2	15.4	N/A
1-3	16.4	15.5	76.8
4-6	9.2	9.7	8.2
7-9	6.6	10.9	3.7
≥10	40.6	48.4	11.3
Cumulative days' supply, mean (SD)	256.2 (239.2)	256.4 (207.7)	56.6 (131.4)
Daily morphine milligram equivalents, mean (SD)	75.8 (93.1)	91.8 (147.2)	64.4 (244.8)
Overlapping opioid and benzodiazepine prescriptions			
Members with overlap, %	42.4	38.9	9.0
Cumulative days of overlap, mean (SD)	70.7 (113.2)	62.9 (109.1)	13.4 (57.0)

- Two or more hospitalizations were observed in 29.5% of the OD cohort and 11.3% of the AD cohort; two or more ER visits were observed in 68.4% of the OD cohort and 49.4% of the AD cohort (Table 2)
- Substantial proportions of the OD and AD cohorts, 40.6% and 48.4%, respectively, had ≥10 opioid prescription claims, although 27.2% of the OD cohort and 15.4% of the AD cohort did not have any prescription claims (Table 2)

Figure 1. Age –adjusted prevalence of opioid overdose per 100,000 state Medicaid population by region, 2012-2016
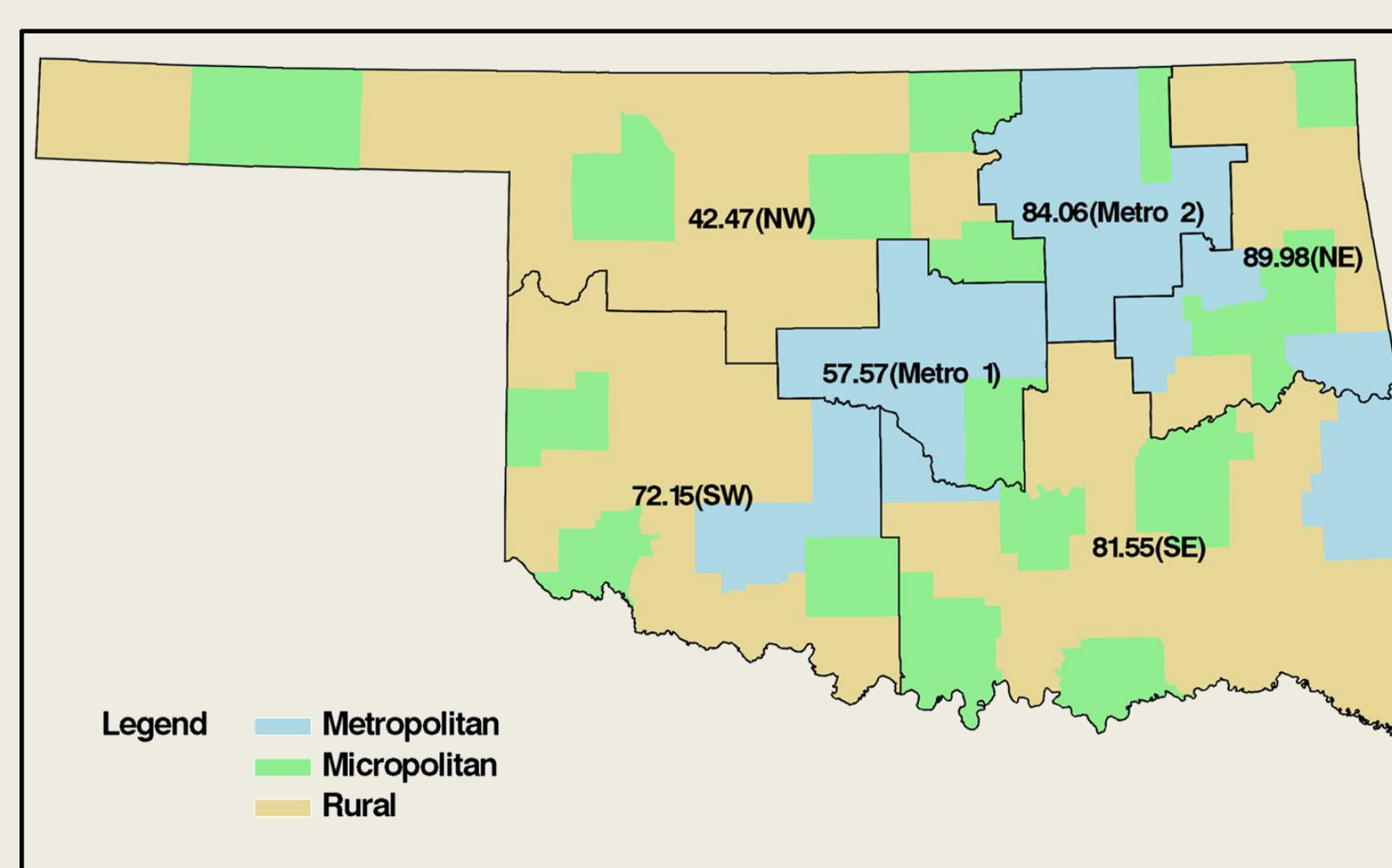
- Prevalence of OD was highest in one of the metropolitan regions (84.1/100,000 members) and Northeast (90.0/100,000 members) regions

Figure 2. Age-adjusted prevalence of opioid abuse or dependence per 100,000 state Medicaid population by region, 2012-2016
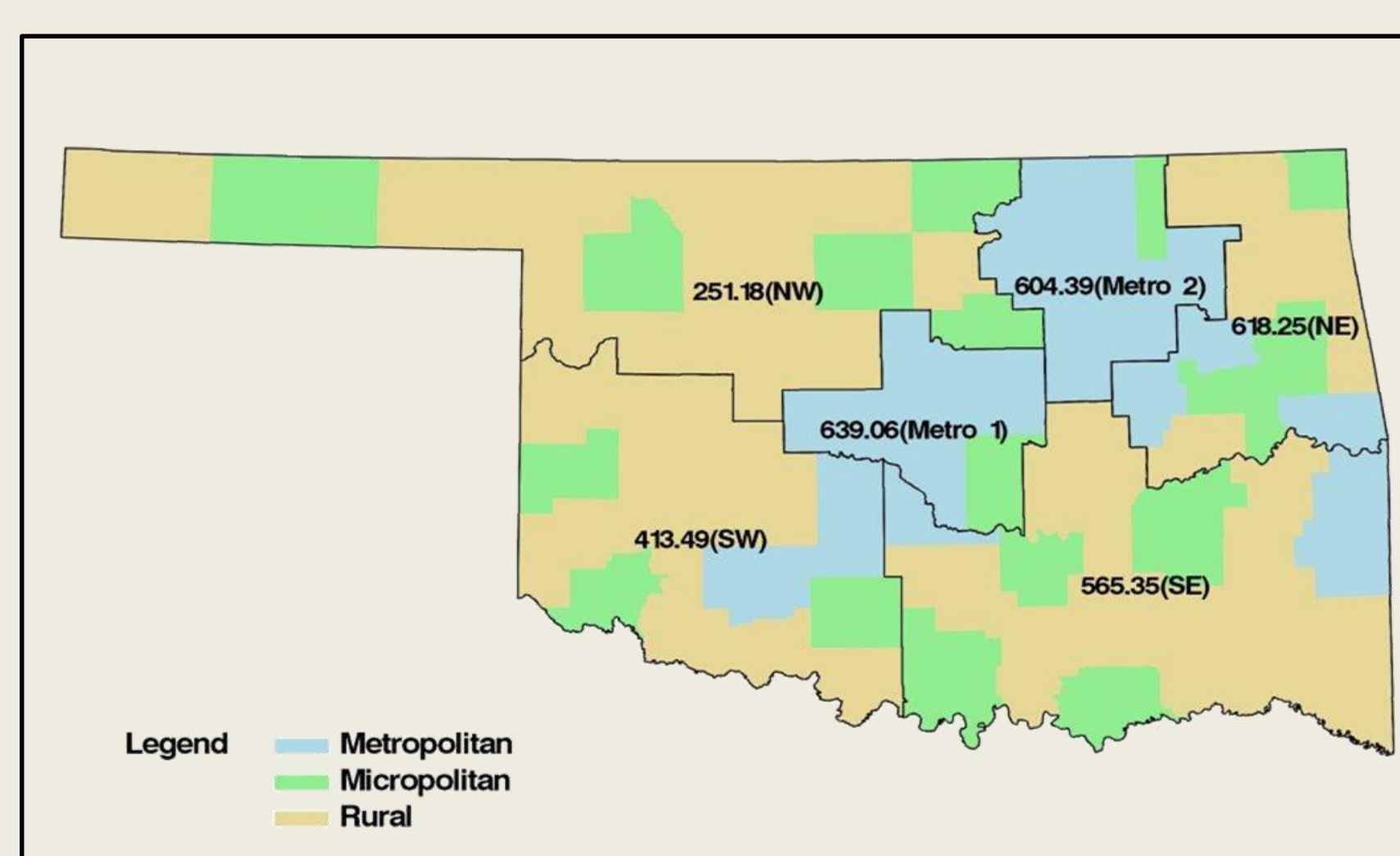
- Prevalence of AD was highest in the Northeast (618.3/100,000 members) and the central metropolitan (639.1/100,000 members) region

Limitations

- Coding misclassification, errors, and non-documentation may be present in administrative claims data, especially with complex substance use disorders
- Service and drug utilization outside of Medicaid coverage were unable to be analyzed
- A single state Medicaid population may not be directly generalizable to other state Medicaid populations

Conclusions

- Much of the OD and AD cohorts exhibited higher medical utilization (at least two hospitalizations or two ER visits) when compared to any opioid use
- Large proportions of members with OD and members with AD showed long-term opioid utilization, however many in both groups did not have any opioid prescription claims
- OD and AD members showed more frequent use of opioids and benzodiazepines at the same time
- Overdose and abuse rates are higher in regions with a greater proportion of metropolitan areas
- Further research is planned to determine the extent these factors are predictive of opioid-related complications

References

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Disclosure Statement

PMC PHARMACY MANAGEMENT CONSULTANTS