



Impact of an Oregon health policy strengthening linkage to outpatient mental health care on emergency department length of stay among the pediatric population

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Disclosures

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Background: Pediatric Emergency Mental Health

- The number of emergency department (ED) visits for pediatric and mental health complaints has been increasing
- Multifactorial
- Only 46% of EDs have policies addressing needs of children with mental health concerns
- Experience longer ED stays
- Board an average of 18 hours
- Frequently do not receive psychiatric care

Background: ORS 441.053

- Involve lay caregiver:
 - Encourage patient to sign authorization form and identify lay caregiver
 - Inform on benefits of involving caregiver
- Assessments:
 - Patient risk assessment
 - Long-term needs assessment
 - Behavioral health assessment conducted by a behavioral health clinician
- Care coordination:
 - **Schedule follow-up appointment that occurs within 7 days of discharge**
 - Arrange for caring contact within 48 hours

Objectives

1. Describe trends in pediatric and adolescent mental health ED visits
2. Examine the impact of ORS 441.053 on ED lengths of stay

Methods

- Retrospective cohort study
- Urban, academic, tertiary care, level 1 trauma center
- 8-18 years old
- ICD-10: non-mood psychotic disorders, mood disorders, anxiety and stress disorders, behavioral and emotional disorders, aggression, homicidal ideation, suicidal ideation, intentional self-harm, and hallucinations
- Excluded: dual medical and mental health diagnoses, visits solely for substance use

Methods

- Timeframe:
 - Pre-intervention period: January 1, 2016 – October 5, 2017
 - Washout period: October 6, 2017 – November 30, 2018
 - Post-intervention period: December 1, 2018 – March 31, 2020

Methods

- Objective 1: Describe trends in pediatric and adolescent mental health ED visits
 - Simple descriptive statistics
 - Chi-squared tests or Fisher's exact tests
- Objective 2: Examine the impact of ORS 441.053 on ED LOS
 - Linear regression model with log-transformed length of stay (LOS) data
 - Difference-in-difference

Results: Demographics

- 1,696 mental health (MH) visits (8.1%)
 - Suicide attempt, ideation, self-harm, intentional ingestion: 1,000
 - Mental health condition and no clear medical diagnosis: 674
 - Mental health condition with medical diagnosis and ED orders for restraint, seclusion, or psychiatric consult: 22
- Mean age: 15.0 MH vs. 13.4 medical ($p < 0.001$)
- 62.7% female MH visits vs. 48.7% female medical visits ($p < 0.001$)
- 24.1% MH admit or transfer vs. 18.8% medical ($p < 0.001$)
- 13.1% MH Hispanic/Latino vs. 20.6% medical ($p < 0.001$)
- 46.9% MH public insurance vs. 45.3% medical ($p = 0.011$)

Results: Objective 1

- No significant difference in MH unadjusted median ED LOS ($p = 0.721$)
 - Pre-intervention period:
 - Median (p25-p75) hours: 6.0 (3.1 – 22.4)
 - Min-max hours: 0.7 – **193.4 hours**
 - Post-intervention period:
 - Median(p25-p75) hours: 5.9 (2.9 – 24.9)
 - Min-max hours: 0.9 – **275.6 hours**

Results: Objective 1

- Medications
 - Decrease in use of antipsychotics: 13.2% (76) to 9% (56), $p= 0.020$
 - Increase in use of ketamine: 0.3% (2) to 3.2 % (20), $p <0.001$
 - **No change** in use of benzodiazepines, antidepressants, ADHD medication, OCD medication, or **overall psychiatric medication use**
- No change in use of restraints, seclusion orders, involuntary holds, or psychiatric consults
- Increase in violent, agitated, aggressive behavior, homicidal ideation, impulse control, conduct disorders: 10.3% (59) to 14.0% (87), $p= 0.049$
- Increase in co-occurring substance use: 7.0% (40) to 11.6% (72), $p<0.001$

Results: Objective 2

Cohort	Pre-intervention Mean ED LOS (95% CI)	Post-intervention Mean ED LOS (95% CI)
Medical	2.97 (2.92 – 3.02)	2.76 (2.7 – 2.81)
Mental health, 8-13 yo	7.87 (6.54 – 9.47)	7.2 (5.92 – 8.76)
Mental health, 14-18 yo	6.71 (5.99 – 7.51)	6.48 (5.79 - 7.24)

Results: Objective 2

Time Period	Cohort	Coefficient (95% CI)
Post-intervention vs. pre-intervention	Medical	0.93 (0.91 – 0.95)
Post-intervention vs. pre-intervention	Mental health, 8-13 years	0.92 (0.70 – 1.19)
Post-intervention vs. pre-intervention	Mental health, 14-18 years	0.97 (0.83 – 1.12)

Discussion

- Trends similar to national data
- No change in LOS
 - Increased time to arrange follow-up
 - Appointments can only be made during business hours
 - Severe shortage of child and adolescent psychiatrists

Limitations

- Did not identify successfully scheduled appointments
- Unable to determine severity of illness
- 14-month post-intervention period

Next Steps

- This is the first study exploring the impact of a statewide health policy on emergency psychiatric care of the pediatric population.
- Oregon Medicaid study

Thank You

