

# Rates of mental health service utilization by children and youth across service settings: A meta-analysis



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# BACKGROUND

- Rates of mental health disorders in children and adolescents are at historically high rates and rising
- Yet, a minority of youth who would benefit from mental health intervention actually access treatment
- There is a clear need for national, state, and local strategies that guide how to finance, manage, and support provision of accessible, effective mental health services (Hoagwood et al 2018).

# BACKGROUND

- Youth access mental health treatment from many sources beyond specialty mental health:
  - Primary care
  - Schools
  - Juvenile Justice
  - Child protective services
  - Other human service agencies

# BACKGROUND

- Reliable information on rates of access and utilization across service sectors can guide decision-making:
  - Which segments of the workforce to target
  - Specific prevention and treatment strategies
  - Collaboration required across sectors
  - Information sharing and management functions in which to invest.
- Many studies over the past 30 years have investigated how children and youth actually use mental health services and in what settings

# PAST RESEARCH

- Past research has yielded a range of conclusions:
  - That certain systems serve as the “de facto” MH service system for youths
  - That services are distributed equitably across sectors
- Variation can be explained by methodological or sampling differences:
  - Population-based surveys
  - Public service system data
  - Evaluation data from national service programs
- Results of studies may also be influenced by national/local policies and shifts in policies
  - Introduction of SCHIP, expansion of Medicaid
  - Recession of 2008 and subsequent cuts to MH funding

# THE CURRENT STUDY

- Systematic review and meta-analysis of U.S. studies of service utilization rates across settings
- Primary aim was to estimate proportions of youth receiving services across sectors for samples drawn from:
  - General population (“universal”)
  - Youth already receiving services or enrolled in a system of care (“at risk”/”targeted”)
- Also aimed to explore study variables that might explain variance in utilization estimates



# METHOD

- Electronic searches in Ovid Medline, PsycInfo, and Cumulative Index to Nursing & Allied Health
- Years: 2000 to present
- Search terms: Focused on mental health, health services, pediatric populations AND
- A range of service settings (e.g., “school\* or charter school\* or elementary school\* or high school\* or institutional schools\* or junior high schools\* or kindergartens\* or middle schools\*”).

# METHOD

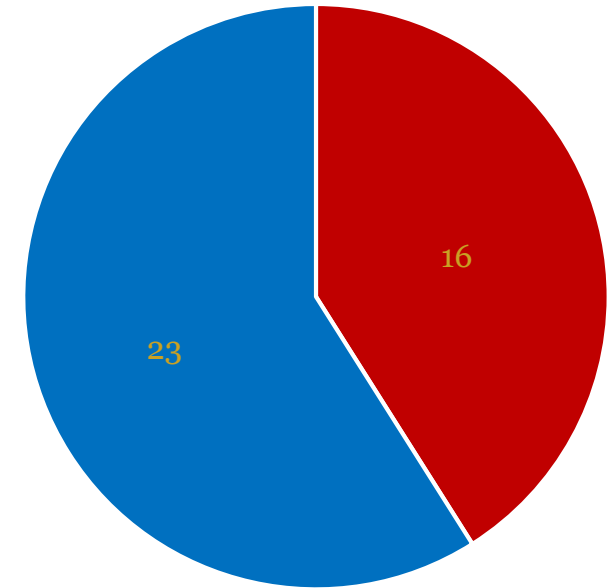
- Eligibility criteria:
  - Empirical article (Reviews, study protocols, and news articles excluded)
  - Publication in peer-reviewed journals, books/book sections, theses and dissertations, conference proceedings, or government reports.
  - Conducted in the United States.
  - Study sample included children, defined as 5-18 years old or grades K-12.
  - Results provided estimates of mental health service utilization in at least two settings.

Search yielded **1452** titles

# STUDY AND SAMPLE CHARACTERISTICS

- This screening process yielded
  - 39 distinct samples drawn from 32 manuscripts
  - **16 samples** from general population (**166,137** youth total)
  - **23 samples** of at-risk / targeted youth (**285,334** youth total)

Number of samples



- General pop
- High risk/targeted

# CODING INFORMATION FROM STUDIES

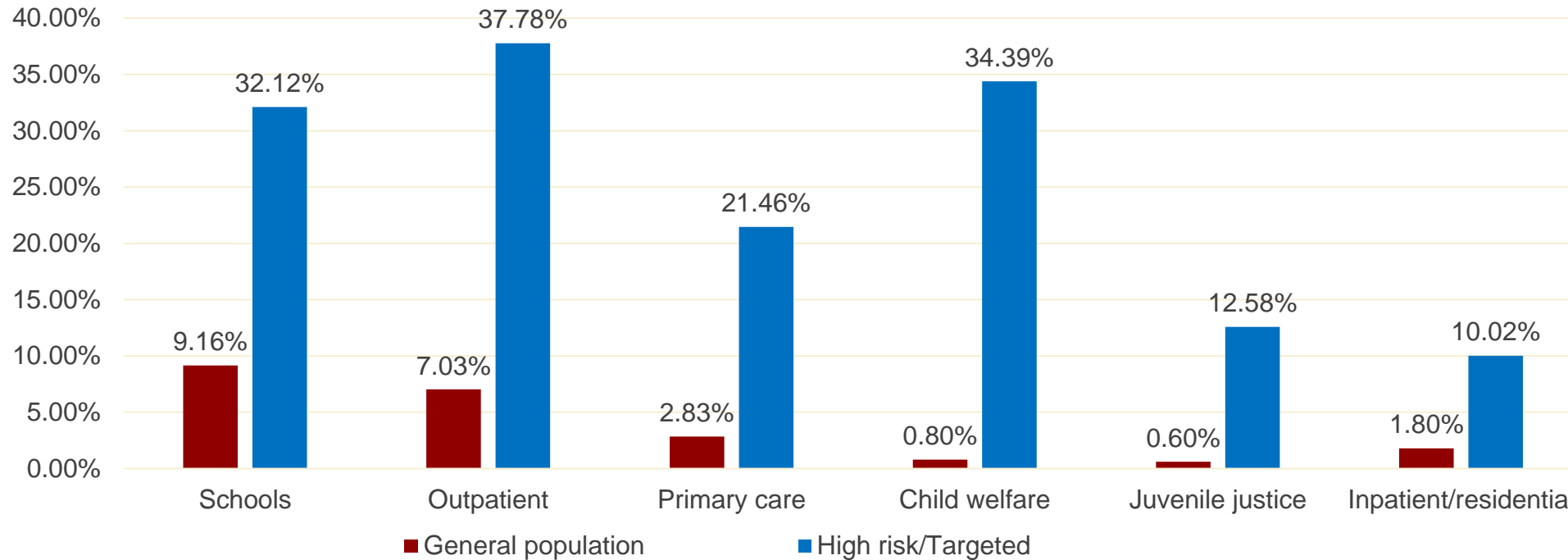
- Settings coded: All settings included in at least 2 studies
  - Outpatient, inpatient, primary care, school, juvenile justice, child welfare, “other”
- Study moderators coded:
  - Region of country, year of publication, type of sample, urbanicity, insurance status, sex, age, race/ethnicity
- Four trained coders coded all studies
- Reliability of coding:
  - ICCs (continuous variables) ranged from .83 to 1.00 (**M = .96**).
  - Kappas (categorical variables) ranged from .74 to .83 (**M = .78**)

# DATA ANALYSIS

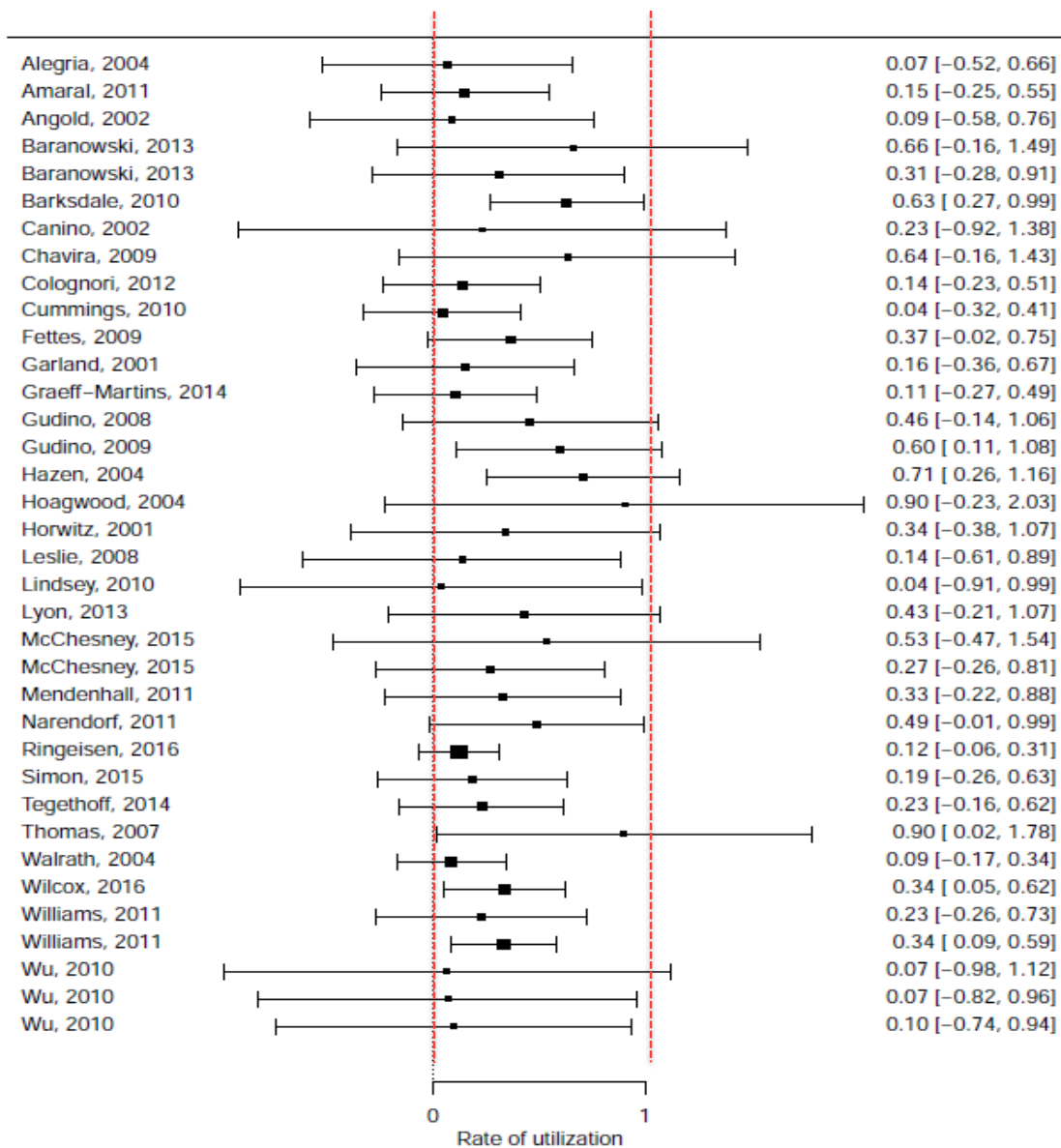
- Because of between-study variation in sampling and methodology, a random effects meta-analytic model was used.
- Proportions were logit transformed prior to analyses and then transformed back into proportions for presentation and interpretation of results
- Mixed effects meta-regression models were used to test moderators of service utilization rate estimates
- To assess publication bias, funnel plots of ES by standard errors with Egger's regression tests for asymmetry.
  - Final effects sizes will be adjusted for funnel plot asymmetry using Duval and Tweedie's trim and fill method

# PRIMARY FINDINGS: RATES OF UTILIZATION BY SETTING

Proportions of youth receiving MH services across care settings from **16 general population samples** (166,137 youth total) and **23 high-risk/targeted samples** (285,334 youth total)



# ESTIMATED PROPORTION OF YOUTH SERVED IN SCHOOLS



# MODERATOR ANALYSIS

Moderator	estimate	SE	p	k	Q	p
<b>Study Methods</b>						
Year of publication				34	0.0601	<b>0.81</b>
Intercept	25.1504	106.54	0.8134			
Year of publication	-0.0130	0.0530	0.8063			
<b>Characteristics of Sample</b>						
Sample sex (% male)				38	0.0634	<b>0.80</b>
Intercept	- 1.2378	0.4894	0.0114			
Sample % male	.1848	0.7338	0.8012			
Sample age				32	0.2532	<b>0.61</b>
Intercept	- 0.6602	0.9187	.4724			
Sample mean age	-0.0345	0.0687	0.6149			
Sample race				62	0.2650	<b>0.60</b>
Intercept	0.9060	0.2178	<.0001			
% Caucasian in sample	0.2038	0.3959	0.6067			

Note: This analysis based on proportion of youth in school-based services



# SUMMARY OF FINDINGS

- Is there really a *de facto* service system for children and youth?
  - Schools were the most common service setting for all children and youth (9% versus 7% for outpt), however...
  - Among youth with elevated symptoms or already enrolled in a service system, outpatient services were most common (38% versus 32% for schools)
- Moderator analysis did not find study variables with significant influence on rates (but small N of studies)

# SUMMARY OF FINDINGS

- Schools may be most likely to be first point of receipt of service or entry to service systems. However:
  - Outpatient care is still quite prevalent among all youth
  - Outpatient is also more common once children are “known to systems”
  - A large proportion of youth with identified need are served in JJ, CW, and residential/inpatient settings

# IMPLICATIONS?

- The current study clarifies that youth are served across all these service settings
- Schools likely need most attention for building surveillance, screening, early engagement and treatment efforts
  - But many other settings clearly do as well
- Primary care is an obvious setting to invest as well, but results suggest it lags in current utilization
  - This despite primary care's promotion as a point of screening and prevention as well as integration of care

# IMPLICATIONS?

- Given the low relative rates of youth in CW and JJ (against the prevalence of MH problems among US youth), relative rates of utilization via these systems appears quite high
  - Many youth continue to have to experience abuse/neglect or commit offenses to access MH services
  - However, this may be a result of a relatively low N of studies (only 4) with both CW and school data

# LIMITATIONS

- Data limited to what is available in original empirical articles and may be non-representative
  - Many of the articles on children involved in services are of youth with serious and complex needs
  - 3/4 studies with CW rates conducted by 1 team in San Diego Co.
- Unable to assess the overlap across service settings or movement between settings by individual children/youth

# CONTINUED RESEARCH DIRECTIONS

- More research needed:
  - Community/state level variation
  - Overlap among systems through which kids access services
  - More on how youth travel through and across these systems over time

# FOR MORE INFORMATION

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