U.S. National Data on Prevalence of Mental Disorders in Children

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Mental disorders and mental health problems appear in families of all social classes and of all backgrounds. No one is immune.
NIMH Initiatives in Child Mental Health Epidemiology

- Included a parental dimensional rating scale of child mental health in National Health Interview Survey (NHIS)
- Added a structured diagnostic interview to the National Health and Nutrition Examination Survey (NHANES)
- Extended the National Comorbidity Survey-Replication (NCS-R) and the National Survey of American Life to Adolescents (NCS-A)
Serious Emotional Disorder: National Health Interview Surveys

- Annual household survey of a nationally representative sample
- One adult and one child (ages 4-17) per household
- Sample sizes:
  2001 = 10,367; 2002 = 9,512; 2003 = 9,399
- Strength and Difficulties Questionnaire (SDQ) (Goodman et al, 1997)
% U.S. Children with Severe Difficulties in Emotional or Behavioral Functioning: National Health Interview Survey

Simpson et al, 2003
Prevalence and Treatment of Mental Disorders among US Children in the 2001–2004 NHANES

Kathleen Ries Merikangas, Jian-Ping He, Debra Brody, Prudence W. Fisher, Karen Bourdon and Doreen S. Koretz

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NHANES Survey Methodology

- **Sample**
  - Mobile examination centers of 2001-2004 NHANES
  - Nationally representative probability sample of US
  - Complex, stratified, multistage, probability cluster design

- **Initial In-person Interview**
  - Computer-Assisted Personal Interview (CAPI) administered by trained interviewers
  - Diagnostic Interview for Children (DISC) \((Shaffer et al, 1996)\)

- **Medical Examination Center Examination**
  - Administered by a physician; medical and health technicians; and dietary and health interviewers

- **Follow-up Questionnaires**
  - Telephone interview with survey staff using Computer-Assisted Telephone Interview (CATI) and a food frequency questionnaire
## NHANES Sample

<table>
<thead>
<tr>
<th>Informant</th>
<th>Age</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>8-15</td>
<td>3,082</td>
</tr>
<tr>
<td>Youths</td>
<td>8-19</td>
<td>8,447</td>
</tr>
</tbody>
</table>
Lifetime Prevalence of Mental Disorders in U.S. Adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A)

Kathleen Ries Merikangas, Ph.D., Jian-ping He, M.Sc., Marcy Burstein, Ph.D., Sonja A. Swanson, Sc.M., Shelli Avenevoli, Ph.D., Lihong Cui, M.Sc., Corina Benjet, Ph.D., Katholiki Georgiades, Ph.D., Joel Swendsen, Ph.D.
Methods: NCS-A

- Dual household-school sampling frame
- A modified version of the World Health Organization (WHO) Composite International Diagnostic Interview Version 3.0 (CIDI)
- Parent/surrogate self administered questionnaire on adolescent mental health
## NCS-A Sample

<table>
<thead>
<tr>
<th>Informant</th>
<th>Age</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent</td>
<td>13-18</td>
<td>6,491</td>
</tr>
<tr>
<td>Youths</td>
<td>13-18</td>
<td>10,123</td>
</tr>
</tbody>
</table>
Sex-Specific Prevalence of 12-month Mental Disorders by Sex, NCS-A (13-18y) and NHANES (8-15y)

<table>
<thead>
<tr>
<th></th>
<th>NCSA-12m</th>
<th>NCSA-12m severe</th>
<th>NHANES 12m</th>
<th>NHANES 12m severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female 19.9</td>
<td>8.4</td>
<td>11.6</td>
<td>9.4</td>
<td>13.0</td>
</tr>
<tr>
<td>Male 20.9</td>
<td>7.1</td>
<td>14.5</td>
<td>13.0</td>
<td></td>
</tr>
</tbody>
</table>

*Any Mental Disorder included anxiety (GAD/Panic), mood (MDD/Dysthymia), ADHD, Conduct, Eating*
Lifetime Prevalence of ADHD and MDE by Different Informants, NCS-A

Adolescent and parent's reports were combined at symptom level using 'OR' rule.

*Adolescent and parent's reports were combined at symptom level using 'OR' rule.
Percent of adolescents with severe difficulties (SDQ) in the past 6 months by domain, NCS-A

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotion</td>
<td>11.8</td>
<td>13.5</td>
<td>10.2</td>
</tr>
<tr>
<td>Conduct</td>
<td>12.2</td>
<td>10.9</td>
<td>13.4</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>6.8</td>
<td>3.9</td>
<td>9.6</td>
</tr>
<tr>
<td>Peer Relationship</td>
<td>17.9</td>
<td>16.1</td>
<td>19.7</td>
</tr>
<tr>
<td>Total Difficulties</td>
<td>9.7</td>
<td>8.6</td>
<td>10.7</td>
</tr>
</tbody>
</table>
Number of Classes of Disorders Among Youth with Any Disorder: NCS-A

- 1 Class: 58%
- 2 Classes: 24%
- 3 Classes: 11%
- > 3 Classes: 7%

Merikangas et al, 2010
Prevalence of Mental Disorders by Severity of Medical Disorders (n=9014)

U Penn Neurodevelopmental Genomics Study, Merikangas et al, 2013
Contributions of Population Diagnostic Surveys

- Magnitude and sociodemographic correlates of different disorders
- Patterns of service use by sector
- Phenomenology and subtypes of disorders
- Patterns of comorbidity across mental disorders and with substance use/disorders and physical disorders
Limitations of Population Diagnostic Studies

- Cross-sectional
- Lack of comprehensive assessment of disorders under age 13
- Symptoms of the most severe disorders, such as psychosis and pervasive developmental disorders, are not included
- Informant variation (parent vs child) & lack of teacher report
Challenges in Diagnoses for SED

- 12 month prevalence rates, though more reliable, don’t account for prior history
- Solely based on DSM system, that has limited predictive or biologic validity
  - Categorical level with arbitrary thresholds
  - Unique to US -- lack of international comparability with ICD-10
- Comorbidity, both mental and physical, is pervasive
- Difficulty in defining SED below age 6
NCS-A Investigators

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