In the United States in 2015, 11.4% of youth aged 12 to 17 (nearly 3 million adolescents) experienced at least one episode of depression in the past year (NSDUH, 2016).
Had at Least One Major Depressive Episode (MDE) with Severe Impairment in Past Year, ages 12-17 years

Despite the increase in rates of depression, researchers did not observe any changes in mental health treatment.

This “calls for renewed outreach efforts,” the researchers wrote.
Major Depressive Episodes in Adolescents
Percentage of adolescents ages 12 to 17 from 2013 - 2014

Sources
SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUH), 2013 and 2014
The onset of depression during adolescence is associated with poor academic performance, family and social dysfunction, physically ill health, substance use disorders, unemployment, early parenthood and suicide.

Fergusson & Woodward, *Arch Gen Psychiatry*, 2002
Adolescent depression has substantial continuity into adulthood with impaired functioning in work, social, and family life (Weissman et al., 1999) and increased risk for depression and substance dependence in adulthood (McGorry et al, 2007).

- These difficulties are also often evident in adolescents with subclinical levels of depression (Gotlib et al., 1995).
Depression is the most common psychiatric disorder in people who die by suicide (Hawton et al., 2013).
To develop a school-based curriculum to educate high school students, teachers, and parents about teenage depression nationwide.
Long-Range Plan

Phase I: 1999-2001
Develop the program
Pilot the program in local schools

Phase II: 2001-2006
Finalize the curriculum
Pilot the training

Phase III: 2006-2009
Finalize the training
Expand to other states

Phase IV: 2009-Present
Expand nationally with school-based educators as the instructors
Multiple Teaching Modalities

- Lecture and discussion
- Videos (*Day for Night* & *Psychiatry 101*)
- Homework
- Group interactive activities

Teaching the process of medical thinking, comparing other medical conditions to depression
Depression: a feeling or an illness?

- depression – a feeling of sadness
- Depression – a medical illness with particular symptoms
## “Cough” as a symptom exercise

<table>
<thead>
<tr>
<th>Illnesses</th>
<th>Step 1 Ask Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flu</td>
<td>How long have you been smoking?</td>
</tr>
<tr>
<td>Bronchitis</td>
<td></td>
</tr>
<tr>
<td>Emphysema</td>
<td>Do you smoke?</td>
</tr>
<tr>
<td>Hypochondria</td>
<td>Are you coughing up anything?</td>
</tr>
<tr>
<td>Choking</td>
<td></td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td></td>
</tr>
<tr>
<td>Meningitis</td>
<td></td>
</tr>
<tr>
<td>Pneumonia</td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td></td>
</tr>
<tr>
<td>Allergies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2 Exam</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature, blood pressure, pulse, heart rate</td>
<td></td>
</tr>
<tr>
<td>What does the patient look like? (sweating, pale, tired)</td>
<td></td>
</tr>
<tr>
<td>Listen to lungs with stethoscope</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3 Tests</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood tests</td>
<td></td>
</tr>
<tr>
<td>Sputum sample</td>
<td></td>
</tr>
<tr>
<td>Chest x-ray</td>
<td></td>
</tr>
</tbody>
</table>
Patchy area = where you hear crackling sounds

lungs

stomach

diaphragm

heart
Symptoms of Pneumonia

- Cough
- Fever
- Change in appetite or weight
- Fatigue or loss of energy
- Coughing up green phlegm
- Changes in lung sounds when listening with a stethoscope

Test results: Patchy area on chest X-ray
Symptoms of Depression

- Sad, low, or irritable mood or feeling nothing
- Decreased interest or pleasure in activities
- Change in appetite or weight
- Sleeping more or less than usual
- Feeling restless or slowed down
- Fatigue or loss of energy
- Decreased concentration
- Feelings of guilt or worthlessness
- Recurrent thoughts of death or suicide
Major Depression = “D”expression

Five or more symptoms for two or more weeks

The symptoms cause clinically significant distress or impairment in functioning:
  • Socially, academically, or emotionally

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Mood Graph I: 3 Mood States

Mood

High= Mania

Middle

Low= Depression

Time

© Johns Hopkins ADAP
Treatment of Mood Disorders

- Medications – antidepressants or mood stabilizers
- Individual psychotherapy
- Education (sleep, exercise) and support
- Family therapy
Mood Graph II: Effects of Treatment

Mood

- High = Mania
- Middle
- Low = Depression

Time

Mood stabilizers

Antidepressants

Mood stabilizers

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Mental Health Literacy (MHL) is defined as “knowledge and beliefs about mental disorders which aid their recognition, management or prevention” (Jorm, et al., 2006).
Symptoms of Depression

Process of medical thinking, comparing Depression to other medical illnesses

Suicide is a serious outcome of Depression

Message of hopefulness

Depression is a treatable medical illness
17-item questionnaire

- 13 individual “yes-no” questions
- 4 clinical vignettes, individual “is having a rough time”, “has the medical illness of Depression”, or “has the medical illness of Bipolar Disorder.”
Depression can be controlled through will power (Y or N)

A person with depression always feels sad (Y or N)

Depression runs in some families (Y or N)

Someone who has major stress always develops depression (Y or N)
In the future, I would be willing to

- live with someone with a mental health problem
- work with someone with a mental health problem
- live nearby to someone with a mental health problem
- continue a relationship with a friend who developed a mental health problem

Likert scale Agree strongly, Agree slightly, Neither agree nor disagree, Disagree slightly, Disagree strongly, DK
Parental consent & student assent with permission to re-contact

Students complete online survey

- Help seeking and utilization of mental health services approximately 4 months after ADAP via adapted Child and Adolescent Services Assessment (CASA)
School personnel as ADAP instructors

- School personnel as the ADAP instructors
  - Health teachers, guidance counselors, psychologists
- One-day, in-person training (6 CEUs provided)
- Practical, sustainable and cost-effective
- Human Subjects exempt, research conducted in established or commonly accepted educational settings
Evaluation of ADAP Student Intervention Effectiveness

**Hypothesis 1:** ADAP increases Depression literacy

**Hypothesis 1.1:** Depression literacy is sustained 4 months post intervention

**Hypothesis 2:** Treatment seeking is higher after the ADAP intervention
66 schools matched & randomized by region

Implementation Regions

- Baltimore Archdiocese High Schools (17)
- New Castle County, Delaware (14)
- Washtenaw County, Michigan (7)
- York County, Pennsylvania (16)
- Adair County, Oklahoma (5)

Number of students = 6,679 (~15,000 total)
Effectiveness Trial of the ADAP Intervention

66 Schools in 5 States

Matched schools then randomized by site

Control Schools

Year 1

Intervention

Year 2

Intervention Schools

Year 2 Intervention
Effectiveness Trial of the ADAP Intervention

- Universal implementation of the curriculum
- Parallel collection of data in all schools
- Tracking use of in-school mental health services where available
- Subgroup of students (with parental consent) with individual data collection of past service use and treatment seeking behavior
Teacher REDCap Survey

- Post-test ADKQ & RIBS
- Demographics (age, sex, race)
- Title, years teaching, degrees
- MH training
- MH treatment, satisfaction with tx
- Experiences in teaching ADAP
  - 65/87=75% completed
Results
Overall Sample
Depression Literacy

% Depression Literate

- Pre-test
- Post-test
- Follow-up

Intervention: % Depression Literate

Control: % Depression Literate
Sex Differences in Depression Literacy

ADKQ Results for Females

ADKQ Results for Males

Intervention
Control

<table>
<thead>
<tr>
<th>Time Point</th>
<th>% Depression Literate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td>Intervention</td>
</tr>
<tr>
<td>Post-Test</td>
<td>Control</td>
</tr>
<tr>
<td>Follow-up</td>
<td>Control</td>
</tr>
</tbody>
</table>

Results for Females

Intervention: 6E-16
Control: 0.1

Results for Males

Intervention: 0.4
Control: 0.3

Time Point: Pre-Test, Post-Test, Follow-up
RIBS results

- Pre
- Post
- Follow-up

% High Stigma

- Control
- Intervention

RIBS High Stigma
Did students self-identify after ADAP (or approach you on behalf of a friend)? If so, please tell us about this.

- 30/65 = 46%

Many teachers reported several

- “a student told me I saved her life because she said she knew something was wrong but didn’t know what it was”

- Talked to parent; parent called me to ask for appropriate interventions
38 (19%) of students said they needed help for depression, of these, 44% obtained services for depression after the ADAP program.

37% said that, they needed help for anxiety, worrying or feeling nervous.

4% said in the past four months, they needed help with problems related to alcohol.
Cumulative number of students taught ADAP

<table>
<thead>
<tr>
<th>Year</th>
<th>Students Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>541</td>
</tr>
<tr>
<td>2001</td>
<td>1,466</td>
</tr>
<tr>
<td>2002</td>
<td>3,680</td>
</tr>
<tr>
<td>2003</td>
<td>5,226</td>
</tr>
<tr>
<td>2004</td>
<td>6,846</td>
</tr>
<tr>
<td>2005</td>
<td>7,650</td>
</tr>
<tr>
<td>2006</td>
<td>8,716</td>
</tr>
<tr>
<td>2007</td>
<td>10,372</td>
</tr>
<tr>
<td>2008</td>
<td>12,253</td>
</tr>
<tr>
<td>2009</td>
<td>15,100</td>
</tr>
<tr>
<td>2010</td>
<td>17,617</td>
</tr>
<tr>
<td>2011</td>
<td>20,489</td>
</tr>
<tr>
<td>2012</td>
<td>26,116</td>
</tr>
<tr>
<td>2013</td>
<td>40,101</td>
</tr>
<tr>
<td>2014</td>
<td>50,879</td>
</tr>
<tr>
<td>2015</td>
<td>58,545</td>
</tr>
<tr>
<td>2016</td>
<td>66,787</td>
</tr>
</tbody>
</table>
66,787 students taught in
219 schools in 20 states
ADAP to Date

- In our 17\textsuperscript{th} year
- Trained over 1,200 instructors
- Taught over 66,000 students
- Multi-year collaborations in Delaware, Florida, Illinois, Indiana, Maryland, Ohio, Oklahoma, Pennsylvania, Texas, and Washington, DC
Next steps

- NREPP
- Linkage to publically available data systems
- Middle school program
Depression Education App

- Developed at Johns Hopkins
- Dr. Anne Ruble & Dr. Vinay Parekh
- Targeted for teenagers and parents
- Interactive text and videos

- mADAP in the Apple App store
Major Depression

- WHO GETS Major Depression?
- SYMPTOMS OF Major Depression?
- Major Depression IS A SYNDROME
- Major Depression VS. NORMAL SADNESS
DEPRESSION: a feeling or an illness?

If asked, most people would say they have felt "depressed." What most mean by this is that they have felt sad. Sadness is a universal feeling. Not everyone, however, will experience a clinical depression. 

**Clinical depression is a medical illness with particular symptoms:** changes in mood (either sad, angry, or feeling nothing), physical changes (sleep, energy, appetite), and a decrease in self-confidence. Having this group of symptoms stay for a **period of several weeks** is clinical Depression.

How do doctors know that Depression is a medical illness?

**Doctors know that Depression is a medical illness because it has a**
Symptoms Decreased Interest
ADAP Team

- **Program Expansion**
  - Katie Heley
  - Haley Eldridge

- **Program Development**
  - Dr. Karen Swartz
  - Barbara Schweizer
  - Sallie Mink
  - Mary Beth Beaudry
  - Dr. Elizabeth Kastelic
  - Dr. Anne Ruble
  - Dr. Vinay Parekh
  - Dr. J. Raymond DePaulo, Jr.

- **Program Evaluation**
  - Dr. Holly Wilcox

- **Collaborating Schools**
  - High Schools: public, private and parochial

- **Advisors**
  - Student focus groups and feedback forms
  - Adults and adolescents living with mood disorders
  - Family members affected by mood disorders and suicide
  - Film team
  - Family & friends