WELCOME!
Deepa Camenga, MD, MHS, FAAP
Disclosure Statement

• Neither I nor any member of my immediate family has a financial relationship or interest (currently or within the past 12 months) with any entity producing health care goods or services consumed by, or used on, patients related to the content of this CME activity.

• I do not intend to discuss an unapproved/investigative use of a commercial product/device.
Overview

At the end of this presentation, participants will:

• Understand the prevalence and clinical presentation of depression in adolescents seen in primary care.

• Become familiar with at least two screening tools for adolescents for major depressive disorder.

• Review the benefits and challenges of implementing a screening program in the office.
• This talk will not focus on the specifics of treatment, however further information can be found at ....

Epidemiology of Depression in Adolescents
Epidemiology of Depression

- 8% of 12-17 year olds report a major depressive episode in the past year.

Source: 2011 National Survey on Drug Use and Health
Epidemiology of Depression

Prevalence increases with age, higher in females

Source: 2011 National Survey on Drug Use and Health
Epidemiology of Depression

- 8% of 12-17 year olds report a major depressive episode in the past year.
- However, 25% of adolescents exhibit mild symptoms

Source: 2011 National Survey on Drug Use and Health, 2011 CDC YRBSS
Prevalence of Sadness or Hopelessness which Prevented Usual Activities: 2011

Source: 2011 CDC YRBSS
Prevalence of Sadness

Prevalence of Sadness or Hopelessness which Prevented Usual Activities: 2011

Source: 2011 CDC YRBSS
Risk Factors/Etiology

- Genetics
- Familial/Environmental
- Cognitive Factors
**GENETICS**

- Vulnerability to depression is an inherited trait, i.e., depression runs in families.
- Monozygotic twins have demonstrated higher rates of depression than in dizygotic twins.
Risk Factors/Etiology

**COGNITIVE FACTORS**

- Negative view of self, future and the world.
Risk Factors/Etiology

FAMILIAL/ENV. FACTORS

- Parental depression also affects children by modeling cognitive distortions
- Family discord
- Parental substance abuse or criminality
- Neglect and child maltreatment (especially sexual abuse)
- Bereavement
Adolescent Onset Major Depression is Associated With:

- Risk of death by suicide
- Suicide attempts
- Co-occurring psychiatric disorders
- Recurrence of major depression by young adulthood
- Substance use
- Early pregnancy
- Decreased school performance
- Impaired work, social, and family functioning during young adulthood
Suicide

• Third leading cause of death in adolescents

• 15.8% of high school students considered suicide in past year

• 7.8% of students had attempted suicide in past year

Source: 2011 CDC YRBSS
Risk Factors/Etiology

Genetics

Cognitive Factors

Familial/Environmental

Clinical Presentation of Depression
Clinical Presentation of Depression in Adolescents
Diagnostic Criteria for Major Depressive Disorder

**DSM-IV Criteria**
1. depressed mood most of the day;
2. markedly diminished interest or pleasure in all or almost all activities most of the day;
3. weight loss/gain
4. insomnia/hypersomnia;
5. psychomotor agitation or retardation;
6. fatigue or loss of energy;
7. feelings of worthlessness;
8. diminished ability to think or concentrate or indecisiveness
9. recurrent thoughts of death or suicidal ideation.

Clinical Presentation of Depression
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6. fatigue or loss of energy;
7. feelings of worthlessness;
8. diminished ability to think or concentrate or indecisiveness
9. recurrent thoughts of death or suicidal ideation.

Must endorse 1 or 2

For Major Depressive Episode must have at 5+ symptoms

At least 2 weeks of symptoms
Diagnostic Criteria for Dysthymia

**DSM-IV Criteria**

1. Depressed mood most of the day
2. Poor appetite
3. Loss of self esteem
4. Feelings of hopelessness
5. Insomnia/hypersomnia
6. Low energy/fatigue
7. Poor concentration

Must endorse #1

For Major Depressive Episode must have at 2+ symptoms

At least 1 year of symptoms
Severity of Depression

<table>
<thead>
<tr>
<th>Category</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td># of symptoms</td>
<td>5-6</td>
<td>**</td>
<td>Most</td>
</tr>
<tr>
<td>Severity of symptoms</td>
<td>Mild</td>
<td>**</td>
<td>Severe</td>
</tr>
<tr>
<td>Degree of functional impairment</td>
<td>Mild or normal function with “substantial and unusual” effort</td>
<td>**</td>
<td>Severe</td>
</tr>
</tbody>
</table>

According to the DSM-IV-TR, Moderate episodes of depression “have a severity that is intermediate between mild and severe.”
DSM V and Depression

• The core criterion symptoms for MDD have not changed.

• The duration of symptoms (at least 2 weeks) has not changed.

• Dysthymia categorized as persistent depressive disorder

Source: www.psychiatry.org/dsm5
Presenting Signs/Symptoms

- Declining school performance and/or attendance
- Increasing temper outbursts and arguing
- “Medically unexplained” or “functional” somatic symptoms
- Frequent ambulatory visits and minor illnesses
- Alcohol and/or substance abuse
- Withdrawal from friends and/or family
- Non-suicidal self-injury (e.g., “cutting”)
- Suicidal statements, threats, or behavior
Differential Diagnosis

• Adolescent moodiness does not usually affect function

  • Dysthymic Disorder
  • Substance induced mood disorder
  • Adjustment disorder
  • Depressive Disorder NOS
  • Anxiety disorders
  • PTSD
  • Depressive episode of Bipolar Disorder

  • Eating Disorders
  • ADHD
  • Conduct Disorder

  • Anemia
  • Mononucleosis
  • Thyroid disorders
  • Other Medical disorders
  • Medication adverse effects
Recurrence

• 70% of children with a single major depressive episode will experience a recurrence within five years.

• Adolescent MDD is associated with a recurrence rate of 60 to 80 percent by the end of adolescence.
Screening for Depression in Adolescents
Low Rates of Identification

- Only 50% of adolescents with depression are diagnosed before they reach adulthood
  - PC provider rely on family concerns/presenting complaints
  - Few providers have instituted systemic screening
- 2 out 3 adolescents with depression are not identified in primary care

Low Rates of Treatment

Type of Treatment Received for Major Depressive Episode

Source: 2011 National Survey on Drug Use and Health
There is a need to improve the identification of adolescents with depression.
USPTF Recommendation

- The USPSTF recommends screening of adolescents (12-18 years of age) for MDD when systems are in place to ensure accurate diagnosis, psychotherapy (Cognitive-behavioral or interpersonal), and follow-up.

Review Article

Screening for Child and Adolescent Depression in Primary Care Settings: A Systematic Evidence Review for the US Preventive Services Task Force

Selvi B. Williams, MD, MPH, Elizabeth A. O’Connor, PhD, Michelle Eder, PhD, Evelyn P. Whitlock, MD, MPH

Center for Health Research, Kaiser Permanente, Portland, Oregon; Oregon Evidence-Based Practice Center, Portland, Oregon

The authors have indicated they have no financial relationships relevant to this article to disclose.
Guidelines for Adolescent Depression in Primary Care (GLAD-PC): I. Identification, Assessment, and Initial Management

Rachel A. Zuckerbrot, MD\textsuperscript{a}, Amy H. Cheung, MD\textsuperscript{b}, Peter S. Jensen, MD\textsuperscript{c}, Ruth E. K. Stein, MD\textsuperscript{d}, Danielle Laraque, MD\textsuperscript{e}, and the GLAD-PC Steering Group
GLAD-PC: 3 Recommendations

1. Screen those at high risk or presenting with emotional problem
   – history of previous episodes
   – family history
   – other psychiatric disorders
   – substance abuse
   – trauma
   – psychosocial adversity
2. Clinicians should use standardized depression screening tools to aid in diagnosis and diagnose based on DSM criteria.

3. Clinicians should assess depression via direct interviews with patients and families.
Youth presents for visit

Universal Screening

Identify High Risk Youth

Youth presents with emotional issues as chief complaint

**Assess High Risk Youth or Youth with Emotional Issues for Depression**

1) Use systematic depression assessment tool (ie PHQ-9, KADS, CDS etc.)
2) Interview patient and parent to assess for depression and other psychiatric disorders with DSM-IV or ICD10 criteria
3) Assess for safety/suicide risk
Validated Screening Tools Improve Accuracy

• Schubiner et al. (1994) randomized providers to 2 conditions:

  Physician diagnosis aided by a self-report questionnaire

  Gold Standard: Psychologist administered interview

  Physician with verbal interview

Validated Screening Tools Improve Accuracy

- Schubiner et. al (1994) randomized providers to 2 conditions:
  
  **SCREENING TOOL**
  - 80% sensitivity
  - 91% specificity

  **VERBAL INTERVIEW**
  - 18% sensitivity
  - 93% specificity

Youth presents for visit

Universal Screening

Identify High Risk Youth

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Assess High Risk Youth or Youth with Emotional Issues for Depression
1) Use systematic depression assessment tool (i.e. PHQ-9, KADS, CDS etc.)
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3) Assess for safety/suicide risk
Screening Tools: Universal Screening

• Only appropriate when systems are in place to identify, treat, and refer patients

• GAPS questionnaire
  – Emotions section
  – Helps identify whether an adolescent is at risk for experiencing depression
  – Inquires about suicidality

GAPS

• Emotions section
  – Have you had fun during the past two weeks?
  
  – During the past few weeks, have you often felt sad or down or as though you have nothing to look forward to?
  
  – Have you ever seriously thought about killing yourself, made a plan or actually tried to kill yourself?
  
  – Have you ever been physically, sexually, or emotionally abused?
  
  – When you get angry, do you do violent things?
  
  – Would you like to get counseling about something you have on your mind?
Youth presents for visit

Universal Screening

Youth presents with emotional issues as chief complaint

Identify High Risk Youth

Assess High Risk Youth or Youth with Emotional Issues for Depression
1) Use systematic depression assessment tool (i.e. PHQ-9, KADS, CDS etc.)
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Screening Tools: For Those at Risk

- PHQ-9
- PHQ-9: Modified for Teens
- Columbia Depression Scale (DISC Depression Scale)
- Kutcher Adolescent Depression Scale
• Validated tool for adults
• 9 questions:
  – Loss of interest
  – Feeling down, depressed
  – Trouble sleeping
  – Feeling tired
  – Poor appetite/overeating
  – Feeling bad about self
  – Trouble concentrates
  – Moving slowly/fidgety
  – Suicidal thoughts

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**PATIENT HEALTH QUESTIONNAIRE (PHQ-9)**

**NAME:**

**DATE:**

Over the last 2 weeks, how often have you been bothered by any of the following problems? (use ‘x’ to indicate your answer)

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest or pressure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Trouble falling or staying asleep, or sleeping too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Feeling tired or having little energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Poor appetite or overeating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Thoughts that you would be better off dead, or of hurting yourself</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
PHQ-9: Scoring

- 9 questions:
  - Loss of interest
  - Feeling down, depressed
  - Trouble sleeping
  - Feeling tired
  - Poor appetite/overeating
  - Feeling bad about self
  - Trouble concentrating
  - Moving slowly/fidgety
  - Suicidal thoughts

- Assesses functional impairment

Question 1 and 2 endorsed as “2” or “3”

Five or more positive symptoms

Functional impairment at least “somewhat difficult”
Scoring

• 0-4  None
• 5-9   Mild
• 10-14 Moderate
• 15-19 Moderately severe
• 20-27 Severe
PHQ-9 Modified for Teens

- Modified to better represent adolescent depression
- Added questions:
  - Dysthymia
  - Suicide attempts
The Patient Health Questionnaire-2 (PHQ-2)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not At all</th>
<th>Several Days</th>
<th>More Than Half the Days</th>
<th>Nearly Every Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling down, depressed or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Kutcher Adolescent Depression Scale

- 6 items
- Score 0 for a), 1 for b) etc.
- Total scores at or above 6 suggest 'possible depression
Columbia Depression Scale

- 22 questions
- Teens report symptoms over last 4 weeks

<table>
<thead>
<tr>
<th>Score</th>
<th>Chance of Depression</th>
<th>How often is this seen?</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–6</td>
<td>Very Unlikely</td>
<td>in 2/3 of teens</td>
</tr>
<tr>
<td>7–11</td>
<td>Moderately Likely</td>
<td>in 1/4 of teens</td>
</tr>
<tr>
<td>12–15</td>
<td>Likely</td>
<td>in 1/10 of teens</td>
</tr>
<tr>
<td>16 and Above</td>
<td>Highly Likely</td>
<td>in 1/50 of teens</td>
</tr>
</tbody>
</table>
Which Tool to Use?

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: ___________________________ DATE: ______________

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(Use 'Y' to indicate your answer)

1. Little interest or pleasure in doing things
   - Not at all
   - Several days
   - More than half the days
   - Nearly every day

2. Feeling down, depressed, or hopeless
   - 0
   - 1

3. Trouble falling or staying asleep, or sleeping too much
   - 0
   - 1

4. Feeling tired or having little energy
   - 0
   - 1

5. Poor appetite or overeating
   - 0
   - 1

6. Feeling bad about yourself—or that you're a failure or that people will dislike you
   - 0
   - 1

7. Trouble concentrating on things, such as reading the newspaper or watching television
   - 0
   - 1

8. Moving or speaking so slowly that other people could have noticed, or the opposite—being so fidgety or restless that you have been moving around a lot more than usual
   - 0
   - 1

9. Thinking that you would be better off dead, or of hurting yourself
   - 0
   - 1

6-item Kutcher Adolescent Depression Scale (KADS)

Over the last week, how have you been "on average" or "usually" regarding the following items?

1) Low mood, sadness, feeling down, depressed, just can't be bothered
   - hardly ever
   - much of the time
   - most of the time
   - all of the time

2) Feelings of worthlessness, hopelessness, letting people down, not being a good person
   - hardly ever
   - much of the time
   - most of the time
   - all of the time

3) Feeling tired, feeling fatigued, low in energy, hard to get motivated, hard to get things done, want to stay in bed a lot
   - hardly ever
   - much of the time
   - most of the time
   - all of the time

4) Feeling life is not much fun, not feeling good when usually (before work would feel good, not getting as much pleasure from the things you used to get pleasure from)
   - hardly ever
   - much of the time
   - most of the time
   - all of the time

5) Thinking that you would be better off dead, or of hurting yourself
   - hardly ever
   - much of the time
   - most of the time
   - all of the time

PHQ-9: Modified for Teens

Name: ___________________________ Date: ______________

Instructions: How often have you been bothered by each of the following symptoms during the past two weeks? For each symptom put an “X” in the box beneath the answer that best describes how you have been feeling.

1. Feeling down, depressed, irritable, or hopeless?
   - not at all
   - several days
   - more than half the days
   - nearly every day

2. Little interest or pleasure in doing things?

3. Trouble falling asleep, staying asleep, or sleeping too much?

4. Poor appetite, weight loss, or overeating?

5. Feeling tired, or having little energy?

6. Feeling sad about yourself — or feeling that you are a failure, or that people will dislike you

7. Trouble concentrating on things like school work, reading, or watching TV?

8. Moving or speaking so slowly that other people could have noticed?

9. Feeling bad about yourself — or feeling that you are a failure, or that people will dislike you

10. Feeling that you would be better off dead, or of hurting yourself in some way?

In the past year, have you felt depressed or sad most days, even if you feel okay sometimes?

If you are experiencing any of the problems on this form, how difficult has these problems made it for you to do your work, take care of things at home or get along with other people?

[ ] not difficult at all  [ ] somewhat difficult  [ ] very difficult  [ ] extremely difficult

Has there been a time in the past month when you have had suicidal thoughts about ending your life?

[ ] Yes  [ ] No

Have you EVER, in your WHOLE LIFE, tried to kill yourself or made a suicide attempt?

[ ] Yes  [ ] No
<table>
<thead>
<tr>
<th>Tool</th>
<th># items</th>
<th>Administration/Scoring Time</th>
<th>Properties</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHQ-9</td>
<td>9 plus severity items</td>
<td>5 min</td>
<td>90% sens. 79% spec.</td>
<td>Free</td>
</tr>
<tr>
<td>PHQ-9 A</td>
<td>9 + 4 teen specific questions</td>
<td>5 min</td>
<td>88% sens. 88% spec. Not validated in research setting</td>
<td>Free</td>
</tr>
<tr>
<td>PHQ-2</td>
<td>2 items</td>
<td>1 min &lt;1 min</td>
<td>74% sens. 75% spec.</td>
<td>Free</td>
</tr>
<tr>
<td>Columbia Depression Scale</td>
<td>22 items</td>
<td>Varies</td>
<td>80-100% sens. and spec.</td>
<td>With permission</td>
</tr>
<tr>
<td>KADS</td>
<td>6 items</td>
<td>5 min</td>
<td>92% sens. 71% spec.</td>
<td>Free</td>
</tr>
<tr>
<td>Physician Interview after Targeted Training</td>
<td>varies</td>
<td></td>
<td>18 % sens. 93% spec.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Richardson LP et. al. Pediatrics (2013)
Richardson LP et. al Pediatrics (2010)
All positive screens must be followed up with a clinician interview
What we don’t know about screening

• Does it improve health outcomes?
• Does it increase the proportion of patients treated for depression?
Practical Considerations
Practical Considerations for Implementing Screening in the Office

• Providing a space that maintains the adolescent’s confidentiality

• Allotting sufficient time to complete

• Determining who will administer/score screening tool

• Availability of referral network

• Integrating screening tools into EMR
There are challenges for

• Adolescents
  – Time to make appointments
  – Stigma
  – Maintaining confidentiality

• Parents
  – Insurance coverage for services
  – Availability of services
There are challenges for

- Pediatricians
  - Time
  - Training
  - Places for referral
  - Coding and reimbursement
Benefits of screening

• Accepted by patients and parents

• Once implemented by office, generally rated as acceptable by providers

• Take ~ same amount of time as verbal interview

• Validated screening tools improve the diagnostic accuracy of identifying depression

Taliaferro et.al. CLIN PEDIATR June 2013 vol. 52 no. 6 557-567
What to do with a positive?

Depression management care pathway.

- Screen Positive for Depression (1)
- Suicide Risk Assessment (3)
- Assessment to Confirm Diagnosis (2)
- Brief Supportive Counseling (4)
- Symptom Reassessment (9a)
- Treatment Adherence (7 & 8) & Symptom Reassessment (9b)
- Communication & Documentation (6)
- Treatment Adjustment (11)
- Remission: Yes (10a) Maintain or End Treatment
- Remission No (10b)

Primary Care Tools

Report From the American Academy of Pediatrics Task Force on Mental Health (Supplement Article)

This supplement outlines strategies to enhance pediatric mental health at both the community level and in individual pediatric practices. The report also provides clinical algorithms to guide primary care clinicians through the process of implementing mental health care into a pediatric practice.

- Introduction
- Strategies for Preparing a Community
- Strategies for Preparing a Primary Care Practice
- Algorithms for Primary Care
- Sources of Specialty Services for Children With Mental Health Problems and Their Families
- Evidence-Based Child and Adolescent Psychosocial Interventions Updated 6/13
- Mental Health Readiness Inventory

Summary

• Depression is a common condition in adolescence.
• There are low rates of identification and treatment of adolescent depression.
• Validated screening tools improve the accuracy of diagnosing depression.
• Several validated screening tools are available.
• It is feasible to implement screening in the pediatric office.