The Society for Clinical Child and Adolescent Psychology (SCCAP): Initiative for Dissemination of Evidence-based Treatments for Childhood and Adolescent Mental Health Problems

With additional support from Florida International University and The Children's Trust.

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Keynote

Suicide risk Assessment & Formulation in Children and Adolescents: An Evidence-Based Approach

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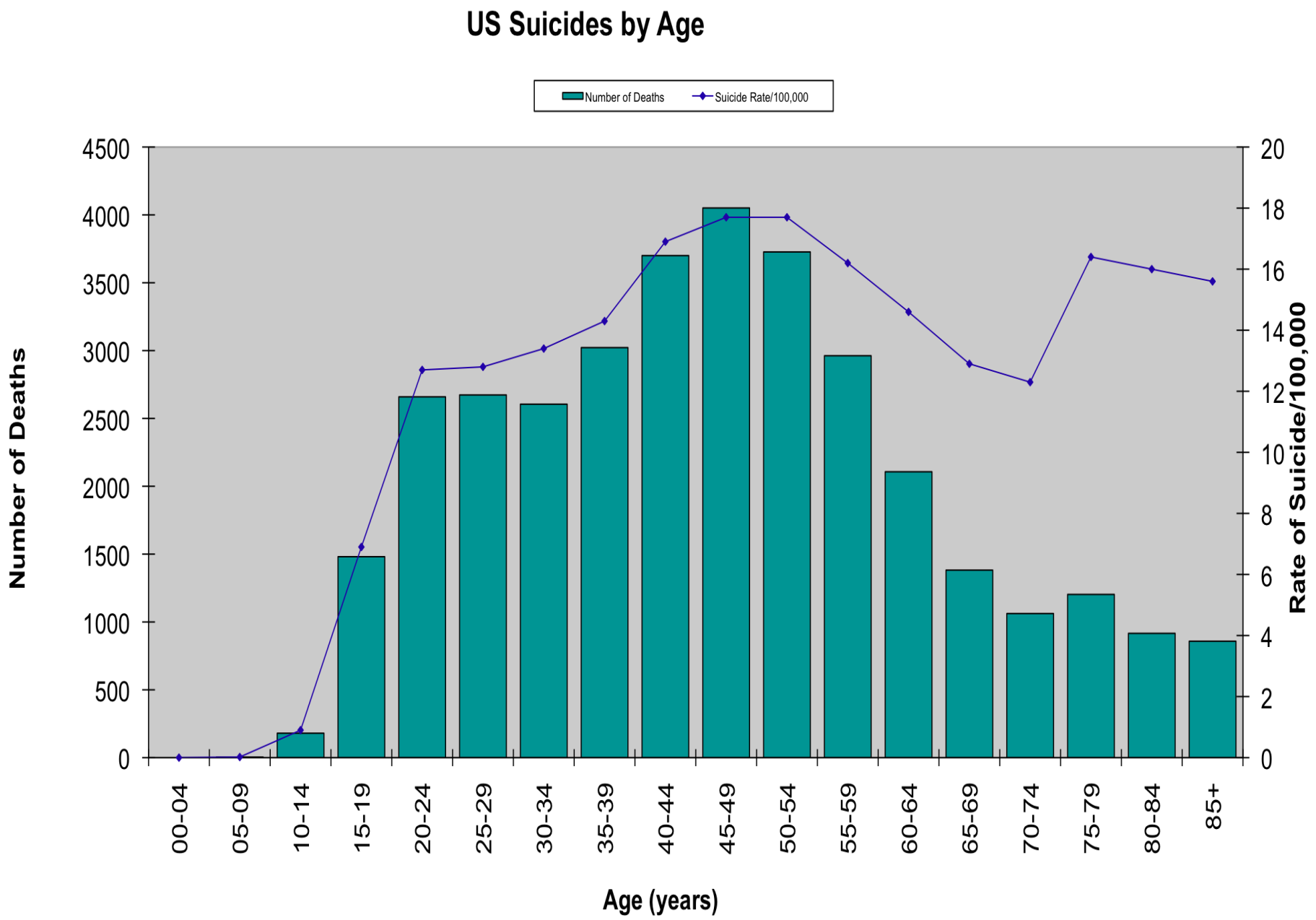


Source: Morbidity and Mortality weekly report (2011), Supplement, Vol. 60 (2007 data)

Youth Suicide and Suicide Attempts

- Suicide: 3rd leading cause of death among youth 10 – 19 years
- Suicide Attempts: National Youth Risk Behavior Survey (YRBS) of High School Students

  In Past Year:

  - 13.8%; seriously considered suicide attempt
  - 6.3%; made one or more suicide attempts
  - 1.9%; were medically treated for a suicide attempt

Youth Suicide Risk Assessment and Formulation

- Understand Suicide Risk Factors
- Collect Pertinent and Accurate Information
- Complete Risk Formulation

Understand Suicide Risk Factors

1. How We Study Suicide Risk Factors
2. Youth Suicide Risk Factors
   - Individual
   - Family
   - School / Community / Social Context
3. Summary

How We Study Suicide Risk Factors

- Population- Based Epidemiologic Studies
  - National Mortality Data – Examine by sociodemographic characteristics
  - Psychological Autopsy Studies
    - Study all suicides in defined demographic area
    - Construct detailed case histories
  - Nationally Representative Community-Based Studies

How We Study Suicide Risk Factors

- Clinical Descriptive Studies
  - Clinic/Hospital Patient samples
  - Study risk within groups defined by diagnosis, setting (e.g., inpatient), suicide attempt status
  - Less “representative” & generalizable
  - Highly relevant to clinical practice

Adolescent Risk Factors
Suicide Attempts and Suicide

- Individual
- Family
- School/Community/Social Context

Youth Suicide Risk Factors

Suicide Attempts and/or Suicide

- Individual
  - Demographic Risk Factors
  - History of Suicide Attempt / Multiple Attempts
  - Psychiatric Disorder / Psychopathology
  - History of Sexual / Physical Abuse
  - Psychological Characteristics
  - Sexual Orientation – GLB
  - Exposure to Suicide

Youth Suicide Risk Factors

Suicide Attempts and/or Suicide

- Family
  - Family History of Suicide
  - Family Psychiatric History
  - Family Cohesion / Support
- School / Community / Social Context
  - Social Integration / Isolation
  - Perceived Social Support
  - Bullying
  - Availability of Means

Individual Risk Factors

Demographic-Gender

- Youth Risk Behavior Surveillance data from 2009
  - High school students- past 12 months
- Females are at greater risk for:
  - Suicide Ideation: 17.4% of females; 10.5% of males
  - Suicide Plan: 13.2% of females; 8.6% of males
  - Suicide Attempt: 8.1% of females; 4.6% of males

[CDC. (2010). Youth Risk Behavior Surveillance - United States, 2009. *Morbidity and Mortality Weekly Report, 59*(SS-5)]

Individual Risk Factors

Demographic - Gender

- Suicide Rate higher among males than females
  - 10-14 years
    - Males 1.5 per 100,000
    - Females 0.7 per 100,000
  - 15-19 years
    - Males: 11.6 per 100,000
    - Females: 3.0 per 100,000

[CDC. (2011). Web-based Injury Statistics Query and Reporting System (WISQARS) Retrieved Sept. 13, 2011; http://www.cdc.gov/injury/wisqars/index.html]

Individual Risk Factors

Demographic - Age

- When are Suicidal Thoughts most common?
  - Oregon Adolescent Depression Project (OADP): Approximately 16 Years
    - 14 years: 14.6%; 15 years: 16.8%
    - 16 years: 22.5%
    - 17 years: 20.1%; 18 years: 21.0%
  - Youth Risk Behavior Survey (YRBS):* 10th Grade
    - 9th grade: 18.1%
    - 10th grade: 22.0%
    - 11th grade: 18.3%; 12th grade: 18.4%

*Data taken from YRBS 1999

Individual Risk Factors

Demographic - Age

- Suicide rate increases across child and adolescent years
  - 10-14 years
    - 1.1 deaths per 100,000 per year
  - 15-19 years
    - 7.4 deaths per 100,000 per year
  - 20 – 24 years
    - 12.7 per 100,000 per year

[CDC. (2011). Web-based Injury Statistics Query and Reporting System (WISQARS) Retrieved Sept. 13, 2011; http://www.cdc.gov/injury/wisqars/index.html]

Individual Risk Factors

Demographic – Race/Ethnicity

- American Indian/Alaskan Native adolescents have suicide rate higher than the national average
  - 10-14 years: 5.1 per 100,000
  - 15-19 years: 22.7 per 100,000
- White adolescents have suicide rate approx. 1.5X that of Black adolescents

[CDC. (2011). Web-based Injury Statistics Query and Reporting System (WISQARS) Retrieved September 13, 2011from http://www.cdc.gov/injury/wisqars/index.html]

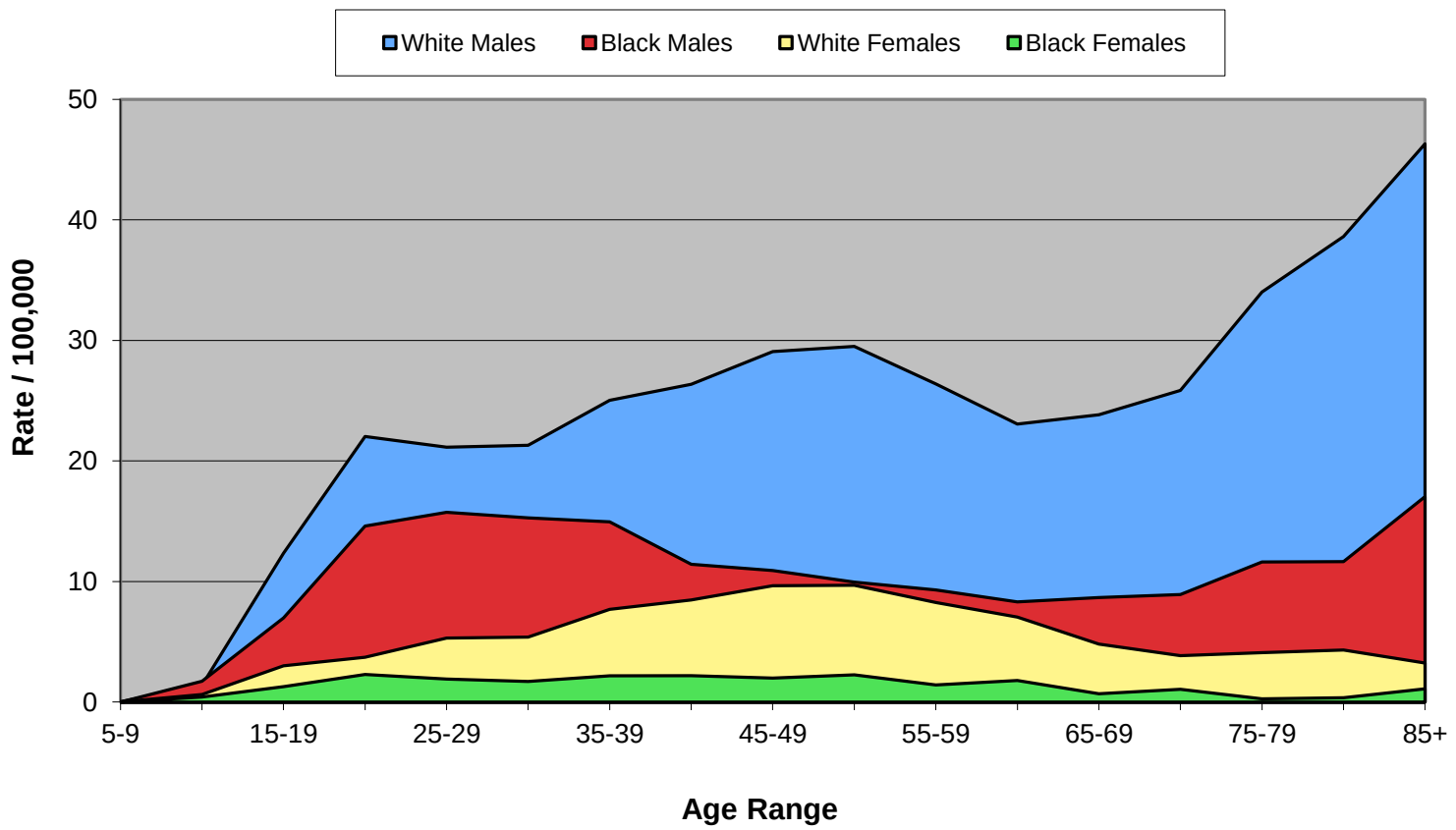
Individual Risk Factors

Suicide Attempts

- Suicide Plan: rates higher among Hispanic (12.2%) than white (10.3%) and black (9.8%) students
- Suicide Attempt: rates higher among black (7.9%) and Hispanic (8.1%) than white (5.0%) students

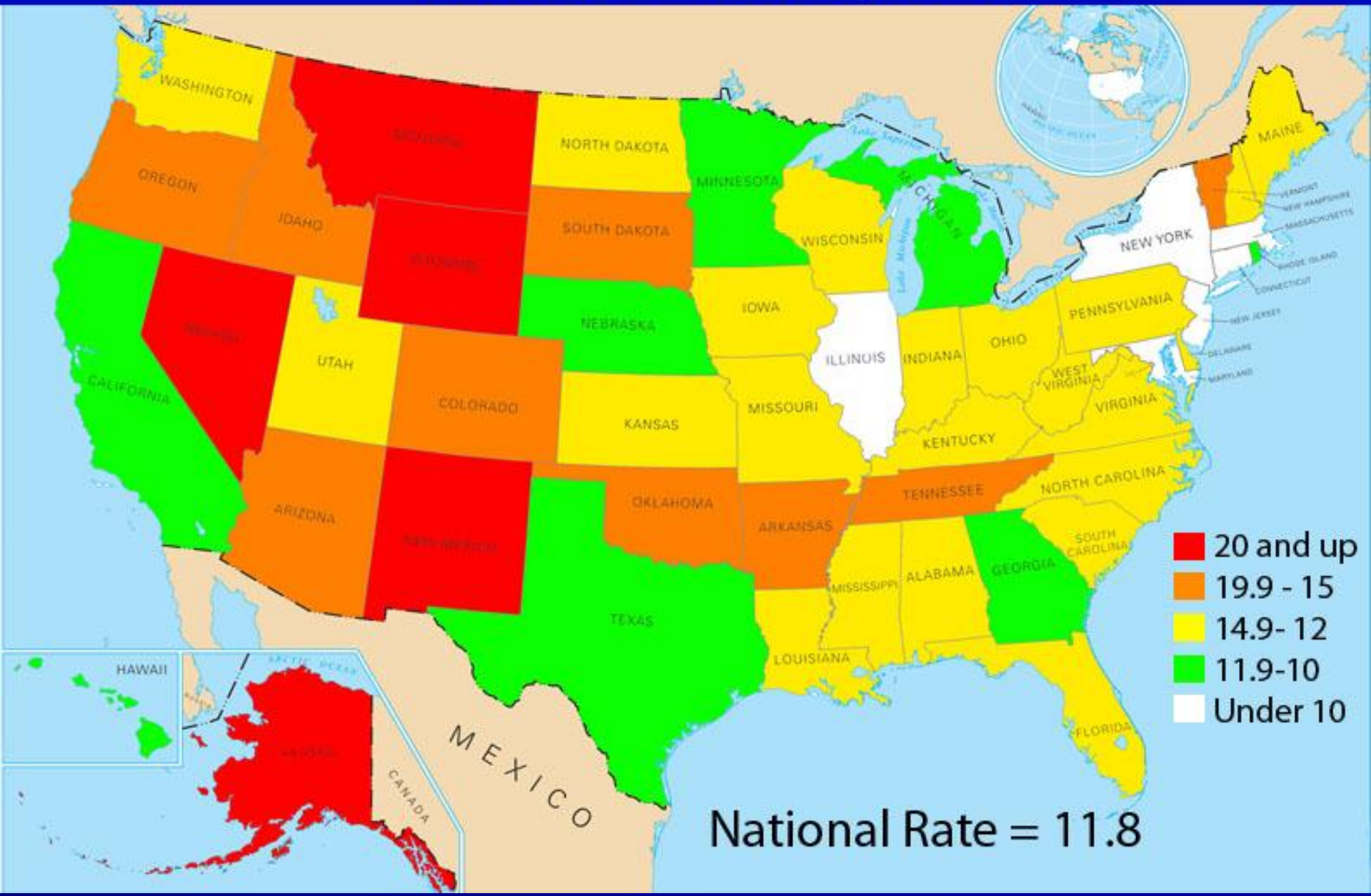
[CDC. (2010). Youth Risk Behavior Surveillance - United States, 2009. *Morbidity and Mortality Weekly Report, 59*(SS-5)]

Suicide Rates by Age, Race, and Gender - United States



Source: National Center for Health Statistics, 2006

2008 Suicide Rates by State



CDC WISQARS website http://www.cdc.gov/injury/wisqars/index.html

Individual Risk Factors
Severity of Suicidal Ideation

- Severity of ideation increases likelihood of suicide attempt during next year (OADP)
  - High baseline ideation: 16.7% attempts
  - Moderate baseline ideation: 6.7%
  - Mild baseline ideation: 2.8%
  - No baseline ideation: 0.3%

Individual Risk Factors

Frequency/Severity of Suicidal Ideation

- Frequent thoughts of suicide best predictor of suicide attempt (Kienhorst et al., 1990: 9,393 students; Netherlands)
- Most suicide attempters report history of suicidal ideation (Oregon Adolescent Depression Project; OADP; Lewinsohn et al., 1996)
  - 87.8% females
  - 87.1% males

Individual Risk Factors

History of Suicide Attempt / Ideation / Plan

- History of suicide attempts common among adolescents who die by suicide
  - 44% (Brent et al.; 1988)
  - 34% (Marttunen et al., 1992)
  - 1/3 (Shaffer & Craft, 1999)
- Hospitalized adolescent suicide attempters had higher suicidal ideation scores (SIQ-JR) than a non-psychiatric sample (Reynolds, 1988)

Individual Risk Factors

History of Multiple Suicide Attempts

- In community prospective study, multiple attempts predicts re-attempts (Miranda et al., 2008)
- Multiple attempters have significantly more serious past attempts compared to single attempters (Lewinsohn, Rohde, & Seeley, 1996)
- In community study of 16,000 adolescents, multiple attempts assoc. with health risks (Rosenberg et al., 2005):
  - Heavy alcohol use/hard drug use
  - Sexual assault, Violence

Individual Risk Factors

Psychiatric Disorder

- Seven psychological autopsy studies (Published since 1985; N = 21 to 133 suicide victims)
- Psychiatric Disorders present in 90%- 98%
  - Affective disorders (35%-76%)
  - Substance abuse (26%-66%)
  - Conduct disorder (17%-28%)
- Affective Disorder more common in females; Substance abuse more common in males

[Conwell Y, Brent D (1995). Suicide and Aging I: Patterns of psychiatric diagnosis. International Psychogeriatrics, vol. 7, 149-164.]

Individual Risk Factors

Depressive Disorder

- 85% report significant suicidal ideation; 32% attempt suicide by late adolescence
- Past suicide attempt and current depressive disorder strongest predictors of future suicide attempt
- 1/2 adolescent male suicide victims and 2/3 female suicide victims suffered from depressive disorder

Individual Risk Factors

Alcohol / Substance Use

- Adolescents with alcohol abuse/dependence nearly 7X more likely to attempt suicide than others
  (OADP; Andrews & Lewinsohn, 1992)
- Alcohol abuse predicts eventual suicide in 5-yr follow-up of hospitalized attempters (Kotila, 1992)
- Recent alcohol ingestion common in suicide
  (28%, Hoberman & Garfinkel, 1988; 51%, Marttunen et al., 1991)
- Delaying or preventing alcohol and drug abuse can forestall more serious illnesses and increased risk for suicide. [Center for Substance Abuse Treatment (2008). Substance abuse and suicide prevention: Evidence and implications - a white paper (Vol. DHHS Pub. No. SMA-08-4352)]

Individual Risk Factors

History of Sexual / Physical Abuse

- Risk of suicide attempt increases with severity of childhood sexual abuse: (Fergusson, Horwood, & Lynskey, 1996)
  - 2.9X for contact abuse
  - 11.8X for abuse involving intercourse
- Controlling for age, sex, individual and parental psychiatric disorders, risk for suicide attempt increased in adolescence and young adulthood (Johnson et al., 2002)
  - 5.1X for childhood physical abuse
  - 7.2X for childhood sexual abuse

Individual Risk Factors

Psychological Characteristics

- Psychological autopsy studies of completed suicide
  - 43.4% adolescents displayed antisocial behavior during year (Marttunen et al., 1992)
  - 70% adolescents had hx antisocial behavior (Shafii et al., 1985)
- Aggressive-Impulsive behavior associated with increased risk of suicidal behavior

  (Apter, Plutchik, & van Praag, 1993; McKeown et al., 1998)

Individual Risk Factors

Gay, Lesbian, Bisexual (GLB) Youth

- General Population Surveys
  (Garofalo et al., 1998; Remafedi et al., 1998; Bagley & Tremblay, 2000)
  - 42% GLB Youth: Suicidal Ideation past year
  - 28% GLB Youth: Suicide Attempt past year
  - GLB Youth 2-3X more likely to attempt, 4-7X more likely to have an attempt requiring medical care, and 8X more likely to be multiple (4+) attempters
- Unique Risk Factors
  - Stigmatization, discrimination
  - Double Bind: Disclosure vs. Nondisclosure

Individual Risk Factors

Exposure to Suicide

- Suicide victims more likely to have history of sibling/friend attempt or suicide (Shafii et al., 1985)
- Suicide clusters:
  - 1-2% of teenage suicides occur in clusters (estimates range <1% to 13% by state/year) (Gould, Wallenstein, & Kleinman, 1990)
- Mass media, television, and fictional dramatizations of suicide followed by significant increases in number of suicides (Gould, 2003)

Family Risk Factors:
Family History of Suicide

- Family history of suicide:
  - 2.6 times more likely to die by suicide than others (Qin P., Agerbo E., & Mortensen PB, 2002)
  - Even when controlling for poor parent-child relationships and parental psychopathology (Brent et al., 1996; Gould et al., 1996)
- Suicide victims more likely to have family history of ideation, attempt, threat, or suicide (Shafii et al., 1985)

Family Risk Factors

Family Psychiatric History

- 1-Year Longitudinal Study of Suicidal Adolescents
- Survival analyses to examine time-to-attempt
- 352 adolescents, 13-17 yrs, psychiatrically hospitalized
  - 72% female; 86.5% Caucasian
  - Mean age = 15.6 years (SD = 1.3)
  - 11% public assistance; broad range parental education

King, CA et al. (2010). One-year follow-up of suicidal adolescents: Parental history of mental health problems and time to post-hospitalization attempt. *Journal of Youth and Adolescence*.

Family Risk Factors

Family Psychiatric History

- Adolescents TWICE as likely to make suicide attempt if at least one biological parent with history of significant mental health problem (23% vs. 10%)
- Incidence of attempts higher for adolescents with histories of multiple suicide attempts, more severe suicidal thoughts, more severe functional impairment
- Adjustment for these adolescent factors had almost no effect on estimated parent history effect – remained significant

Family Risk Factors

Family Cohesion / Support

- In clinical studies, family environment is predictor:
  - Family dysfunction related to severity of suicidal thoughts – mediated by psychopathology
    (Prinstein et al., 2000)
  - Suicidal adolescent inpatients with mood disorders: less family support than non-suicidal inpatients with mood disorders and non-patients
    (King, Segal, Naylor, & Evans, 1993)
  - Suicidal adolescent inpatients with less family support more likely to attempt suicide in next 6 months
    (King et al., 1995)

School/Community/Social Context

Social Integration and Social Isolation

- Interpersonal conflict/loss is most common precipitant of suicide (Martunnen et al., 1993)
- Interpersonal conflict/loss and legal/disciplinary problems relate to suicide attempts (Brent et al. 1996)
- In large national longitudinal study
  (ADD Health; Bearman & Moody, 2004):
  - social isolation and intransitive friendships predicted suicidal ideation for girls
  - tightly networked school community protective against suicide attempts for boys.

Social Connectedness and Outcomes Following Hospitalization

- Study Aims:

  Determine if post-hospitalization changes in connectedness with family, peers, non-family adults predict suicide attempts, severity of suicidal ideation, and depression across 12-months

- Sample:
  - 338 psychiatrically hospitalized, suicidal adolescents
  - 13-17 years; 71% female; mean age = 15.6 years (SD = 1.3)

[Czyz, Liu, & King (in press). Social connectedness and one-year trajectories among suicidal adolescents following hospitalization, *JCCAP*.]

Social Connectedness and Outcomes Following Hospitalization

- Design – Longitudinal – 12 months
- Measures
  - DISC-IV suicide items; Suicidal Ideation Questionnaire- JR (SIQ-JR)
  - Children's Depression Rating Scale-Revised (CDRS-R)
  - Perceived Emotional/Personal Support Scale (PEPSS)
- Results
  - Improvements in Peer Connectedness: Lower likelihood of suicide attempt across 12 months; Less severe depression (boys and girls) for initial 3 months only, Less severe suicidal ideation (girls)
  - Improvements in Family Connectedness: Less severe depression across 12 months.

School/Community/Social Context:
Bullying

- Bullying after age 8:
  - Males: being a bully (4.7X) or bully-victim (11.8X) have greater odds of suicidal behavior
    - Non-significant after controlling for conduct symptoms
  - Females: frequently victims 4.7X more likely than non-victims to have suicidal behaviors

[Klomek et al., 2009. Childhood Bullying Behaviors as a Risk for Suicide Attempts and Completed Suicides: A Population-Based Birth Cohort Study. *Journal of the American Academy of Child & Adolescent Psychiatry 48*(3), 254-261.]

School/Community/Social Context:

Availability of Means - Firearms

- Firearms used by 66.4% male suicide victims; 48.3% female suicide victims (McIntosh, 2000)
- Availability of firearms in home differentiates adolescent suicide victims (74.1%) from hospitalized suicidal adolescents (33.9%) (Brent et al., 1998)
- Keeping firearms locked, unloaded, with ammunition locked in a separate location all have a protective effect for suicide attempts and unintentional injuries. (Grossman et al., 2005)

Protective Factors

- Family Cohesion: students with high degree of mutual family involvement 3.5 to 5.5X less likely to be suicidal
  - Controlled for depression and life stress (Rubenstein et al, 1989, 1998)
- Means Restriction: Firearm restriction / locking may prevent suicides (Berman and Jobes, 1995; Garland & Zigler, 1993)

Collect Pertinent and Accurate Information

- Ascertain background and acute risk factors
- Focus closely on suicidal ideation and intent; previous history of suicide attempt
- Conduct mental status exam
- Inquire about availability of means
- Obtain information from parents and collateral sources

Ascertain Suicidal Ideation and Intent

- Manage emotional reactions to suicidal youth
  - Strive for collaborative, nonadversarial stance
  - Communicate that problem resolution is key
- Be familiar with suicide assessment tools, and understand appropriate use
- Conduct functional/behavioral analysis of suicidal behavior

Parent-Adolescent Agreement
Adolescents' Suicidal Thoughts and Behaviors

- Research Aims
  - Examine extent to which psychiatrically hospitalized adolescents and their parents agree about presence of suicidal thoughts, plans, attempts
  - Explore what predicts adolescent-only and parent-only reported suicidal thoughts and behaviors

[Klaus, Mobilio, & King (2009). *Journal of Clinical Child and Adolescent Psychology*, *38*, 245-255]

Parent-Adolescent Agreement

Adolescents' Suicidal Thoughts and Behaviors

- Extent of Parent-Adolescent disagreement
  - 37% parents unaware of suicidal thoughts
  - 59% parents unaware of suicide plans
- Predictors of Adolescent- Only Endorsement
  - Suicidal Thoughts: Parent hx mental illness, Adolescent with fewer internalizing symptoms
  - Suicide Plans: Lower adolescent perceived family support, Less Parental distress
  - Suicide Attempts: Lower perceived family support

Suicidal Ideation and Impulses

Clinically Useful Instruments (somewhat)

- Suicidal Ideation Questionnaire - Junior
  - Self-report; 15-item, 7-point frequency scale (SIQ-JR; Reynolds, 1988)
  - Excellent psychometric properties
  - Evidence of predictive validity
    - suicide attempts in American Indian adolescents (Keane et al., 1996)
    - post-hospitalization suicide attempts in adolescents (King et al., 1995)

Suicidal Ideation Questionnaire-JR

Recent Findings

- Sample: 691 psychiatrically hospitalized, suicidal adolescents, 12-17 years

- Method:
  - Exploratory factor analysis with randomly selected ½ sample
  - Construct factor model
  - Confirmatory factor analysis with other ½ sample
  - Examine predictive validity of full scale and factors for boys and girls at 6 and 12 month follow-up

Suicidal Ideation Questionnaire-JR

Recent Findings from Psychometric Study

- **Total scores and factor scales ONLY had predictive validity for girls**
  - **No scale differences in sensitivity/specificity**
  - **Active Ideation scale (range = 0-18); 1 point increase --- 11.9% increase in likelihood of attempt over 12 months**
- **Findings re: gender and prediction consistent with community-based prospective study (Lewinsohn et al., 2001)**
- **Not idiosyncratic to instrument –challenge as male adolescents much higher suicide rate**

Suicidal Ideation and Impulses

Clinically Useful Instruments

- **Beck Hopelessness Scale (BHS)**
  - **Self-report, 20-item true/false scale (Beck et al., 1974; Beck & Steer, 1988)**
  - **Evidence of predictive validity**
    - **Higher scores associated with treatment drop-out in adolescents (Brent et al., 1997)**
    - **Higher scores predict suicide attempts (among adolescents with prior history of attempt; Goldston et al., 2000)**

Suicidal Ideation and Attempt Severity

Clinically Useful Instruments

- Columbia Suicide Severity Rating Scale (C-SSRS)
  - Interview format (Posner et al., 2007, 2011)
    - Assesses suicidal ideation along a spectrum: “wish to be dead” to “suicide intent with a specific plan”
    - Details actual, interrupted, aborted attempts, preparatory acts, and self-injurious behavior
  - Assesses for previous week and lifetime (or since last interview)

Suicidal Ideation and Attempt Severity

Clinically Useful Instruments

- **C-SSRS: Increasingly being used to assess suicidal behaviors in research, including treatment trials**
  - **Determine extent to which intense affect predicted future suicidal behavior (Hendin, Al Jurdi, Houck, Hughes, & Turner, 2010)**
  - **Assess suicidal behavior after beginning use of anti-depressants in adolescents (Emslie, Ventura, Korotzer, & Tourkodimitris, 2009)**

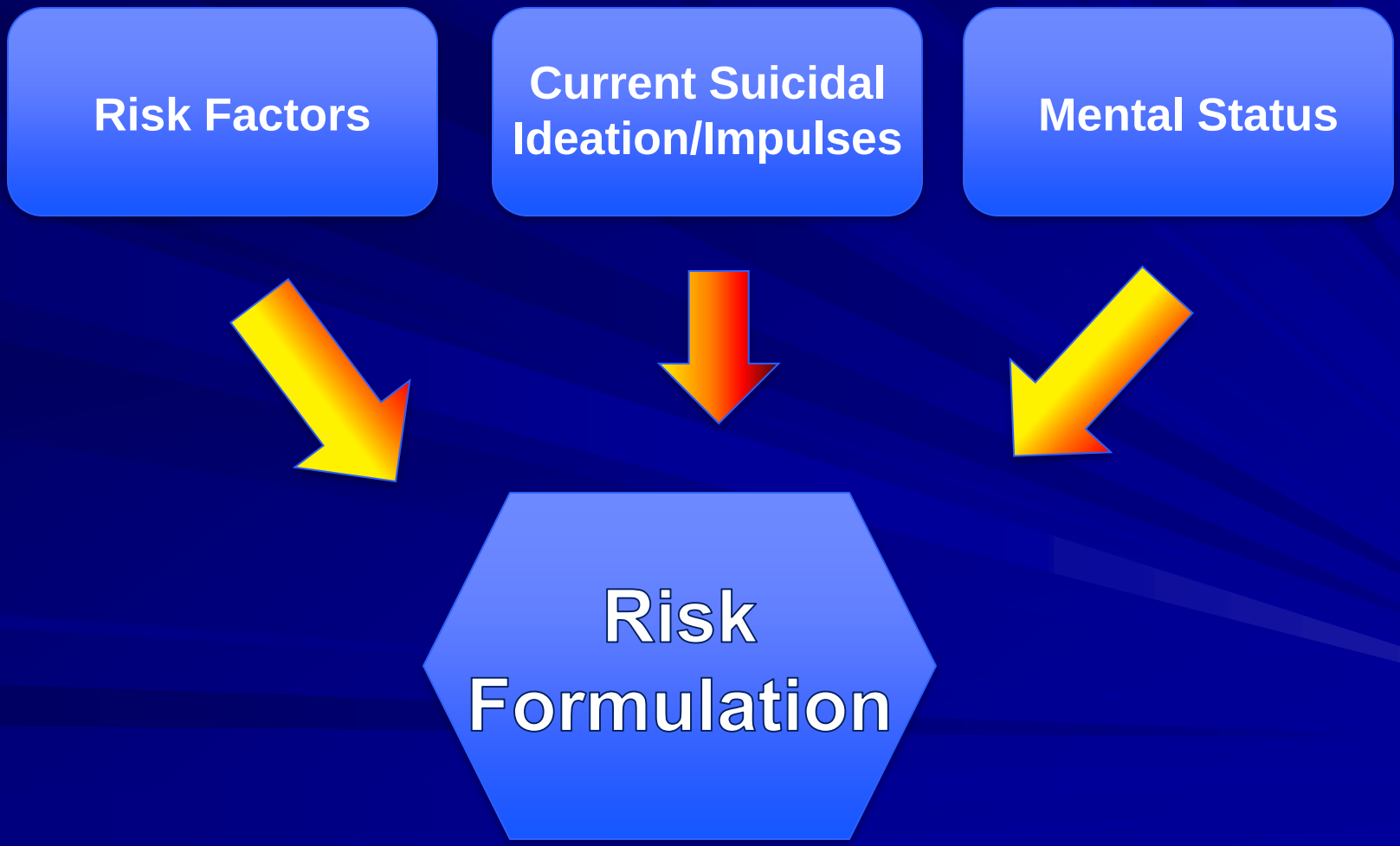
Mental Status

Warning Signs of Imminent Risk

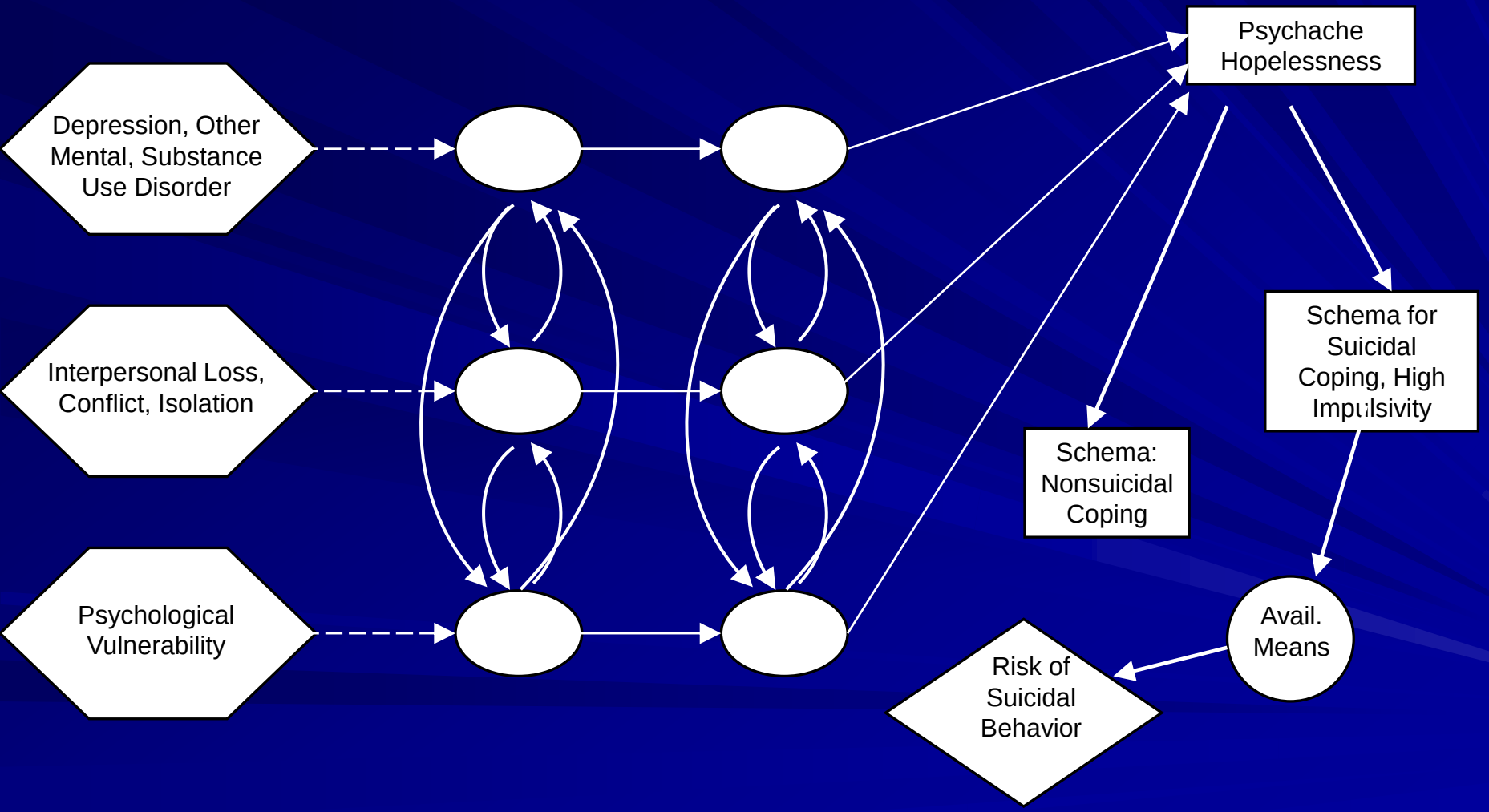
- **Threatening to hurt/kill self or talking of wanting to hurt/kill self**
- **Seeking access to firearm, pills, or other means**
- **Talking/writing about dying or suicide, when out of ordinary for youth**
- **Additional warning signs:**

  Hopelessness, rage/uncontrolled anger, recklessness, feeling trapped, increased alcohol/drug use, social withdrawal, anxiety/agitation, no reason for living

Complete Risk Formulation



Suicidal Risk: A Developmental Model



Risk Formulation

- Integrate and prioritize information
  - Warning signs of imminent risk?
  - Examples of moderate/high suicide risk status
    - Plans and preparation for suicide attempt
    - History of multiple suicide attempts plus current alcohol/drug abuse or significant hopelessness

Summary

- Risk factors include individual, family, school/community and broader social level factors.
- Risk factors are complex and transactional
- Clinical prediction of risk for a low base rate behavior requires:
  - Complex clinical judgments
  - Repeated assessments
  - Understanding of distal and proximal risk factor

For more information, please go to the main website and browse for workshops on this topic or check out our additional resources.

Additional Resources

Online resources:

1. Suicide Prevention Resource Center website http://www.sprc.org/
2. American Association of Suicidology http://www.suicidology.org
3. SCCAP: Society of Clinical Child & Adolescent Psychology: http://effectivechildtherapy.com/sccap/

Books:

1. Suicide Prevention Resource Center (2008). *Assessing and managing suicide risk: Core competencies for mental health professionals*. Newton, MA: Education Development Center, Inc.

Peer-reviewed Journal Articles:

1. Gould, M. S., Greenberg, T., Velting, D. M., & Shaffer, D. (2003). Youth suicide risk and preventive interventions: A review of the past 10 years. *Journal of the American Academy of Child & Adolescent Psychiatry*, *42*(4), 386-405.
2. Johnson, J. G., Cohen, P., Gould, M. S., Kasen, S., Brown, J., & Brook, J. S. (2002). Childhood adversities, interpersonal difficulties, and risk for suicide attempts during late adolescence and early adulthood. *Archives of General Psychiatry*, *59*(8), 741-749.
3. King, C. A., Kerr, D. C. R., Passarelli, M. N., Foster, C. E., & Merchant, C. R. (2010). One-year follow-up of suicidal adolescents: Parental history of mental health problems and time to post-hospitalization attempt. *Journal of Youth and Adolescence*, *39*(3), 219-232.
4. King, C. A., & Merchant, C. R. (2008). Social and interpersonal factors relating to adolescent suicidality: A review of the literature. *Archives of Suicide Research*, *12*(3), 181 - 196.
5. Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1996). Adolescent suicidal ideation and attempts: Prevalence, risk factors, and clinical implications. *Clinical Psychology: Science and Practice*, *3*(1), 25-46.
6. Miranda, R., Scott, M., Hicks, R., Wilcox, H. C., Harris Munfakh, J. L., & Shaffer, D. (2008). Suicide attempt characteristics, diagnoses, and future attempts: Comparing multiple attempters to single attempters and ideators. *Journal of the American Academy of Child & Adolescent Psychiatry*, *47*(1), 32-40
7. Shaffer, D. & Craft, L. (1999). Methods of adolescent suicide prevention. *Journal of Clinical Psychiatry*, *60*(2), 70-74.

Other Resources:

Center for Substance Abuse Treatment. (2008). Substance abuse and suicide prevention: Evidence and implications - a white paper (Vol. DHHS Pub. No. SMA-08-4352). Rockville, MD: Substance Abuse and Mental Health Services Administration.

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