



# **Understanding the Connection Between Suicide and Substance Abuse: What the Research Tells Us**

September 11, 2014  
2:00-3:30 PM EST

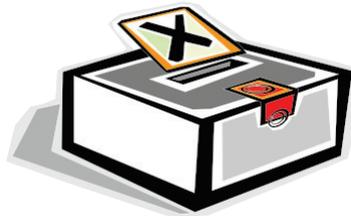
A Collaboration between SAMHSA's Center for Substance Abuse Prevention  
and SAMHSA's Center for Mental Health Services

## Presenters:

Craig Love, Chief Epidemiologist, Center for the Application of Prevention Technologies (CAPT) Laurie Davidson, Senior Project Director, Suicide Prevention Resource Center (SPRC)  
Maria Valenti, Epidemiologist, Center for the Application of Prevention Technologies (CAPT)

# Lobby Poll # 1

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Mental and substance use disorders will surpass all physical diseases as a major cause of disability worldwide by what year?

- a) 2015
- b) 2020
- c) 2050
- d) 2080

# Facilitator

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Chuck Klevgaard  
Coordinator  
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Prevention Technologies  
(CAPT)



This training was developed under the Substance Abuse and Mental Health Services Administration's Center for the Application of Prevention Technologies contract reference #HHSS277200800004C, in collaboration with the Center for Mental Health Services.

For training use only.

# Recording

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This webinar is being recorded and archived, and will be available to all webinar participants.

We may also share this recording with individuals who were unable to participate in this event. Please contact the webinar facilitator if you have any concerns or questions.

# Agenda

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- Understanding the Connection Between Substance Abuse and Suicide
- What do the Data Tell Us?
- Using the Socio-ecological Model to Understand the role of Shared Risk and Protective Factors in Prevention
- An Introduction to Interdisciplinary Collaboration

# Objectives for Today

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By the end of this webinar, participants will be able to:

- Explain the connections between substance abuse and suicide
- Describe how various data substantiate these connections
- Describe the four levels of the Socio-Ecological Model
- List shared risk and protective factors for substance abuse and suicide

# Presenters

8



Laurie Davidson  
Manager, Provider  
Initiatives, SPRC



Craig Love  
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Maria Valenti  
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# Opening Remarks

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Richard McKeon, Ph.D.  
Chief  
Suicide Prevention Branch  
Center for Mental Health Services



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# Understanding the Connections Between Substance Abuse and Suicide



## Which of these are supported by research findings?

1. Alcohol use precedes depression in youth.<sup>1</sup>
2. A higher minimum legal drinking age is associated with lower suicide rates.<sup>2</sup>
3. The effect that marijuana has on sleep may be a factor in increasing suicide risk.<sup>3</sup>
4. Consequences of substance use can be risk factors for suicide.<sup>4</sup>
5. All of the Above



# Substance Abuse and Suicide: Where the Two Intersect



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Substance  
Abuse

Suicide

↑  
Intersection

# Substance Use Disorders: Comorbidity and Suicide

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- Suicide is the leading cause of death among people with substance use disorders (SUDs).<sup>5</sup>
- Comorbidity—or co-occurring mental illness and substance abuse disorders—increases the risk even further.<sup>5</sup>



# Alcohol Abuse and Suicide

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- Compared to the general population, people treated for alcohol abuse or dependence are at about ten times greater risk for suicide.<sup>6</sup>
- Alcohol is present in about 30 to 40 percent of suicides and suicide attempts.<sup>5</sup>



# Substance Abuse and Suicide

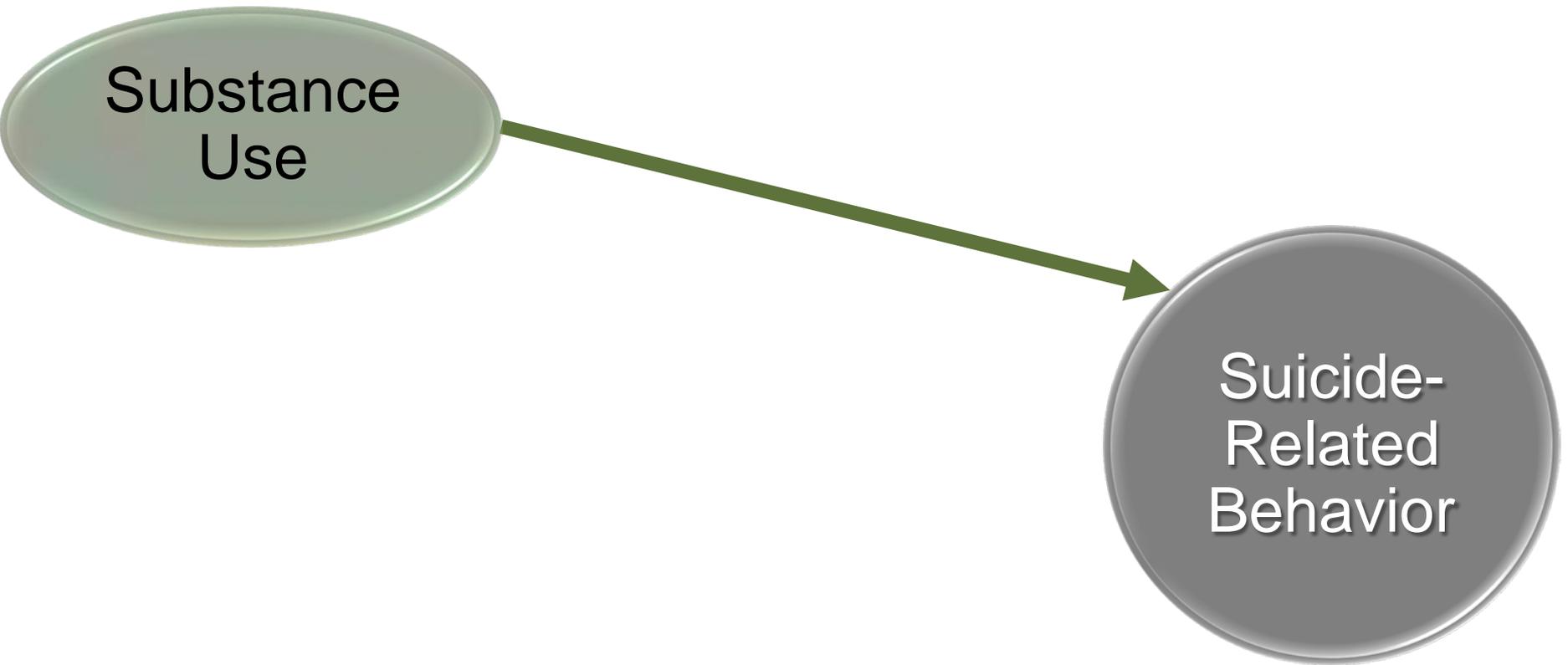
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- Over 200,000 emergency department visits resulted from drug-related suicide attempts in 2011.<sup>7</sup>
- Drug-related suicide attempts rose 41% between 2004 and 2011.<sup>7</sup>



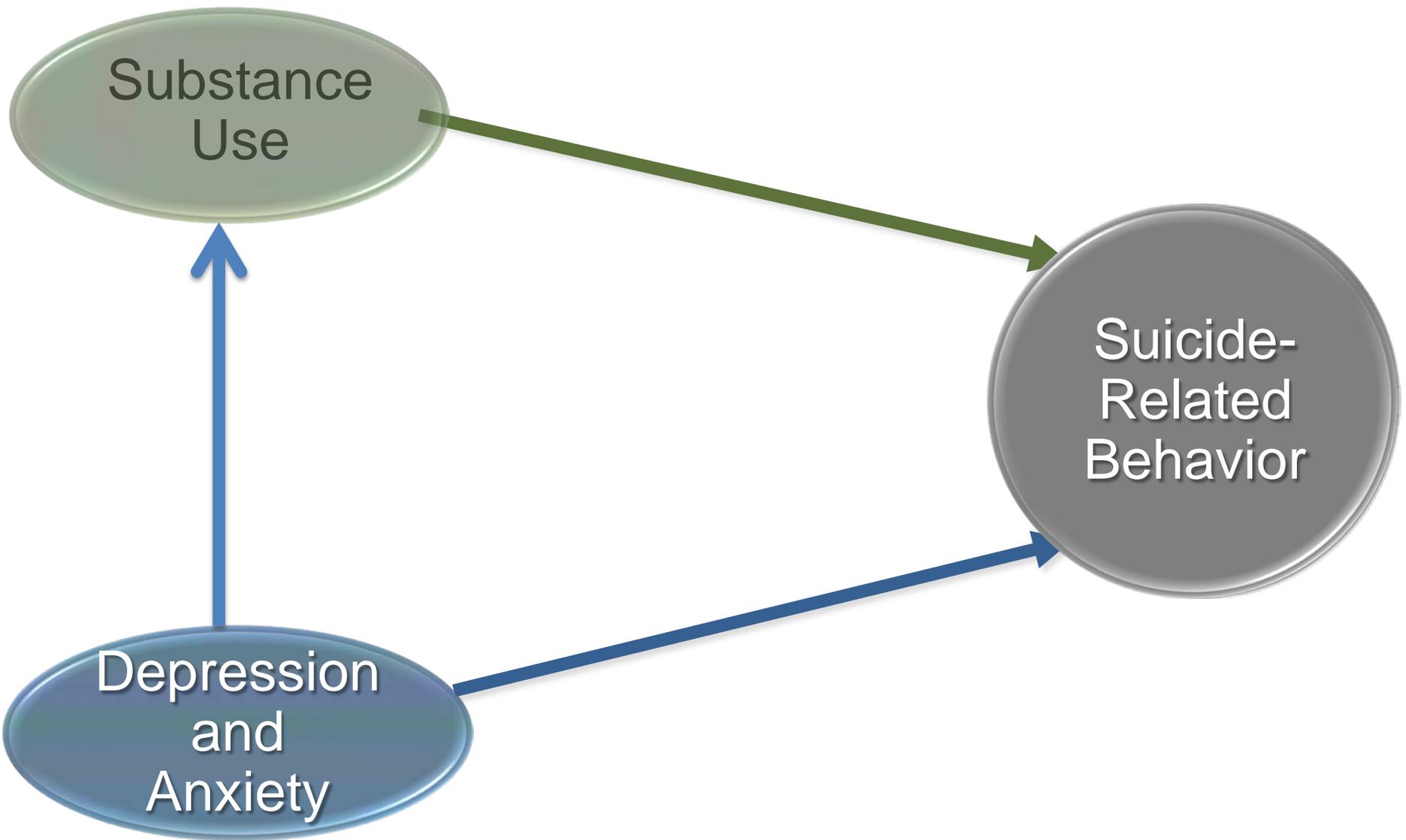
# The Connection Between Substance Use and Suicide<sup>8</sup>

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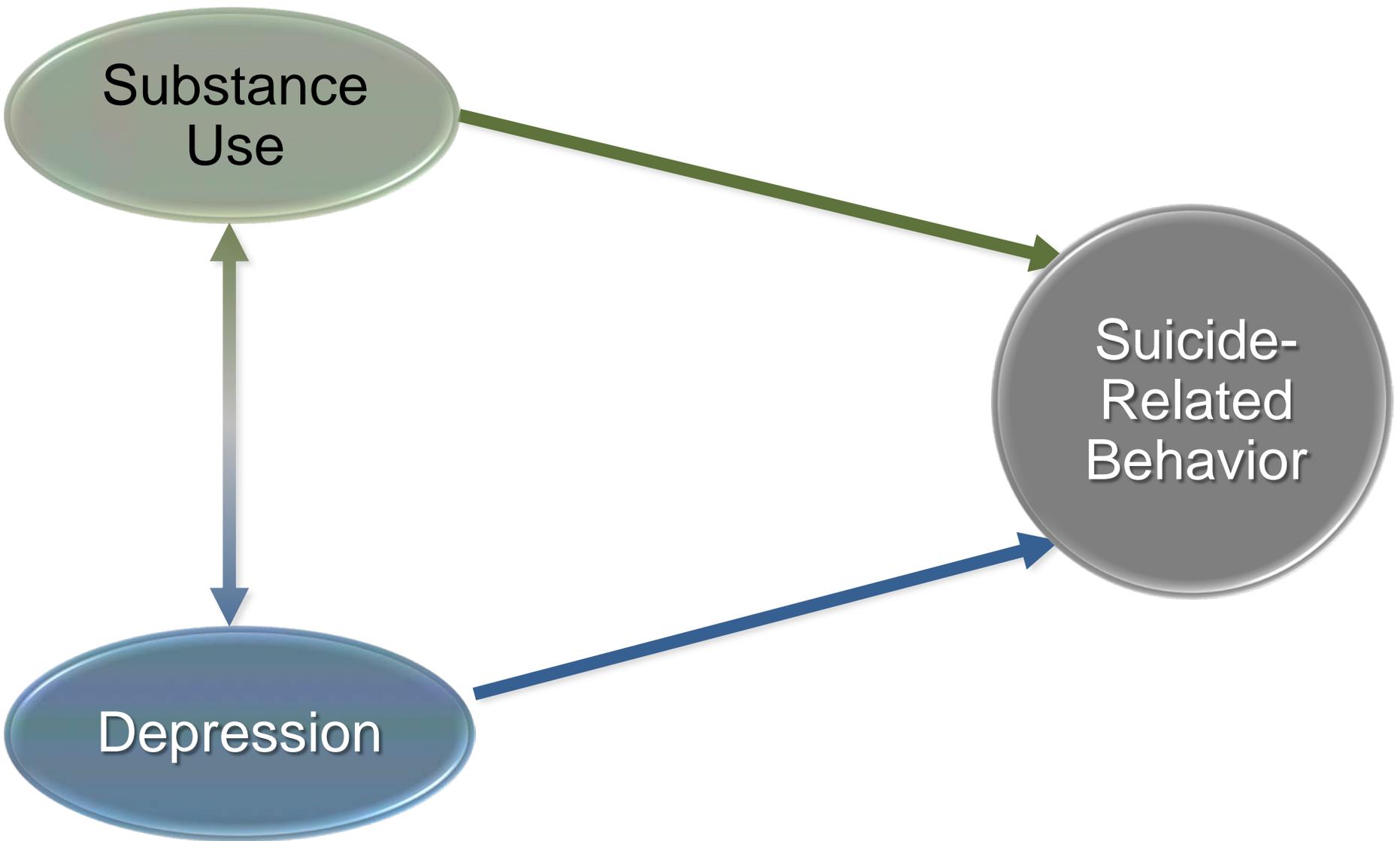
# The Connection Between Substance Use and Suicide<sup>8</sup>

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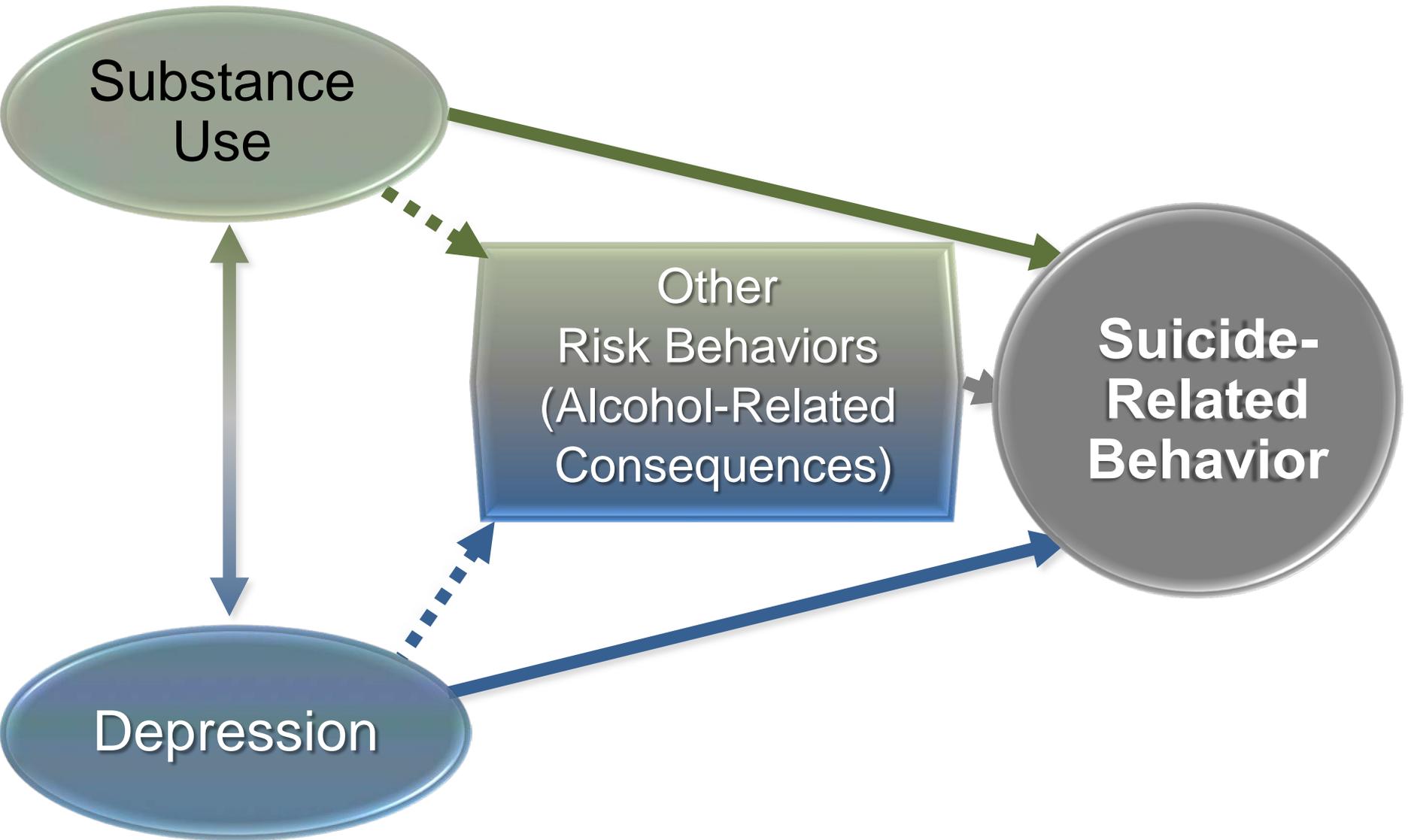
# The Connection Between Substance Use and Suicide<sup>8</sup>

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# The Connection Between Substance Use and Suicide<sup>8</sup>

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# What Do the Data Tell Us?

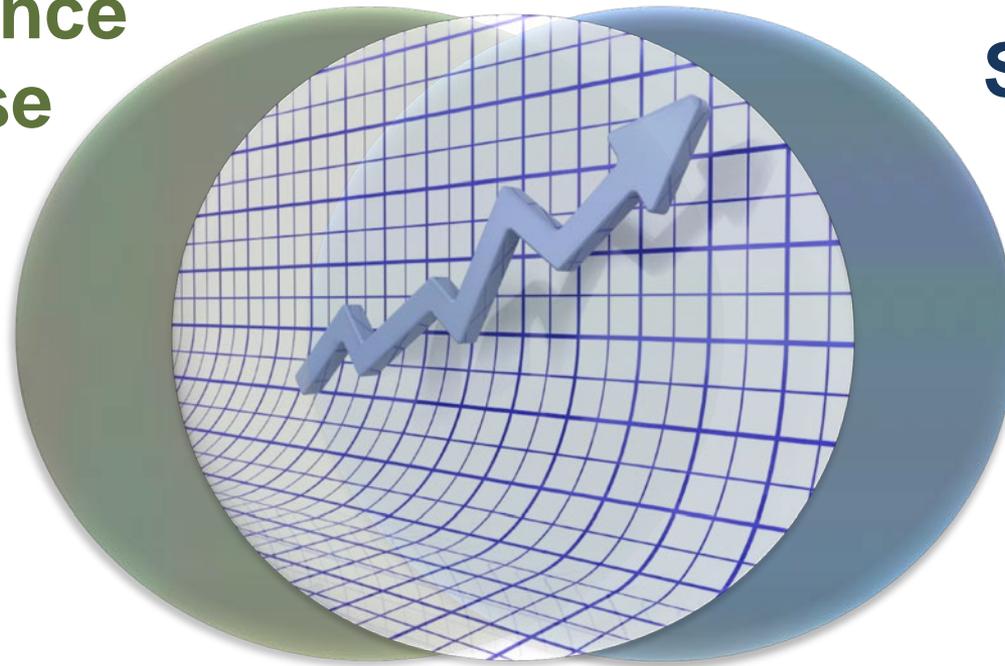


# Substance Abuse and Suicide Epidemiology

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**Substance Abuse**

**Suicide**



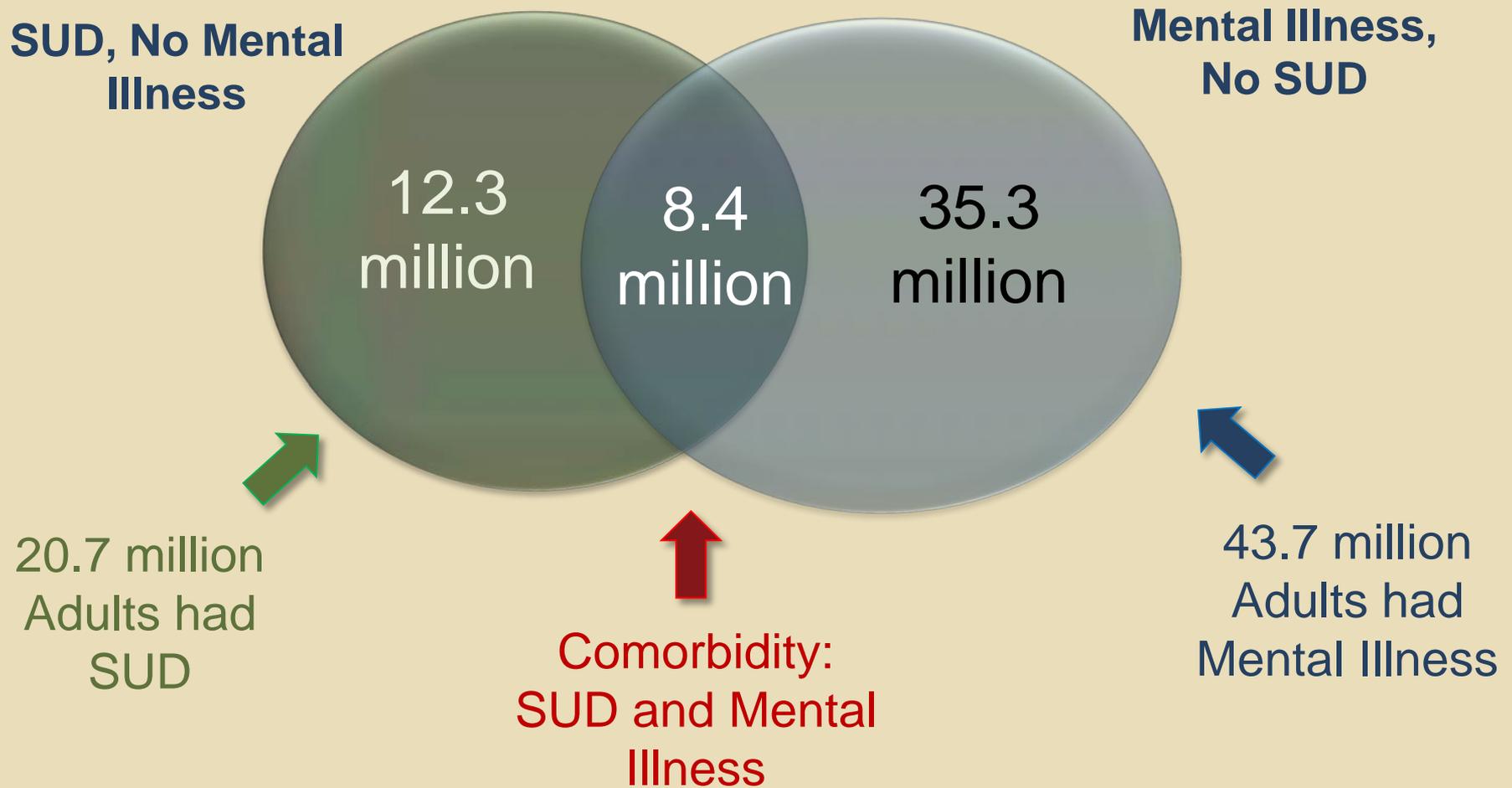
**↑**  
**Intersection**

# SUD, Comorbidity, and Suicide Data

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# Comorbidity: Past-Year SUD and Mental Illness<sup>9</sup>



# Comorbidity and Suicide

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Percentage of Adults Reporting Past-year Suicidal Thoughts, Plans, Attempts, by Substance Use Disorder Status: NSDUH, 2011<sup>10</sup>

Disorder Status	Thoughts	Plans	Attempts
All Adults	3.7	1.0	.5
SUD	11.2	3.6	1.9
Alcohol Use Disorder	10.7	3.5	1.8
Illicit Drug Use Disorder	16.4	6.1	3.3
Co-occurring Mental Illness and SUD	30.7	10	5.4

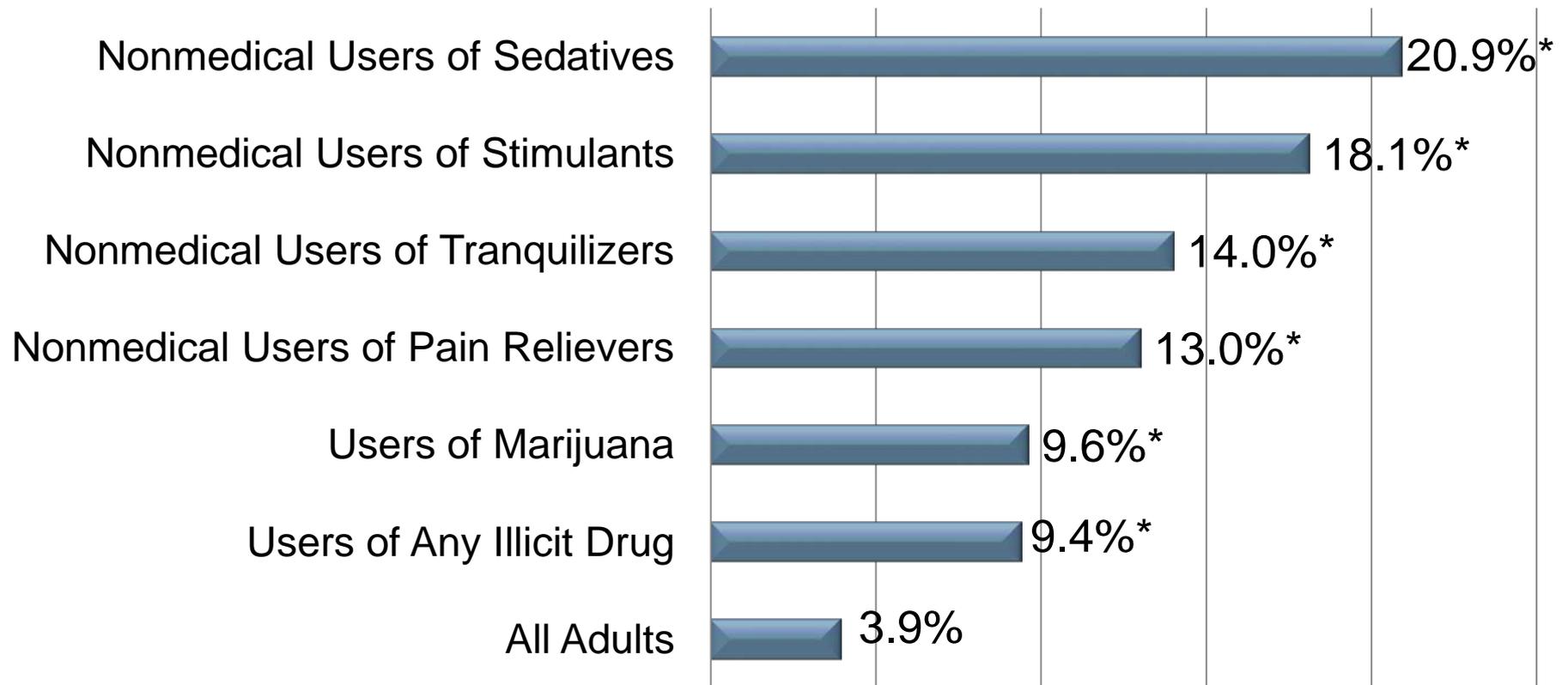
N = 55,268



# Suicidal Thoughts and Behavior Among Adults Who Used Substances

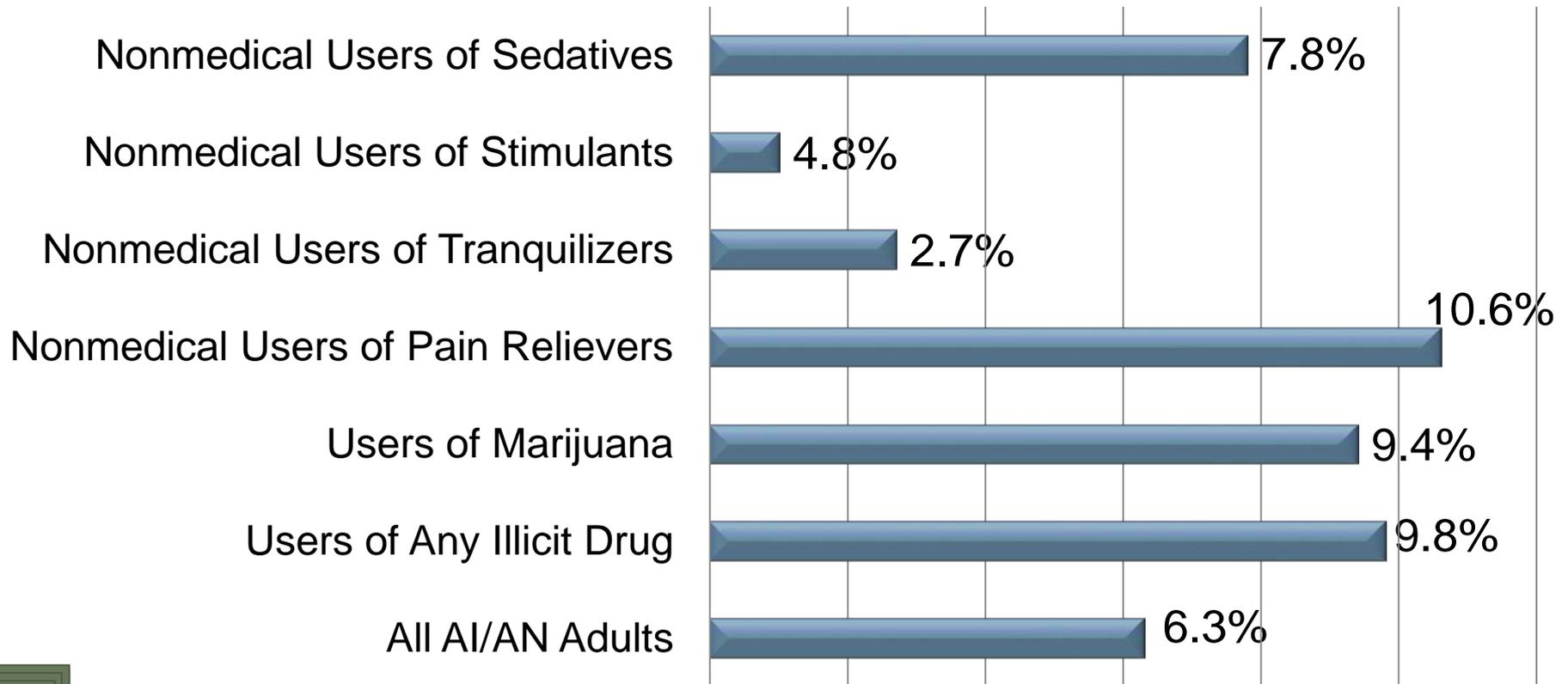
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Percent with Suicidal Thoughts in the Past Year among Adults Aged 18 or Older, by Past-Year Use: NSDUH 2012<sup>9</sup>



# Suicidal Thoughts and Behavior Among American Indian/Alaska Native Adults Who Used Substances

Percent of AI/AN Adults Aged 18 or Older with Suicidal Thoughts in the Past Year: NSDUH 2012<sup>11</sup>



 American Indians/Alaska Natives (AI/AN)

# Handout: Suicide among Racial/Ethnic Populations in the U.S.: American Indians/Alaska Natives

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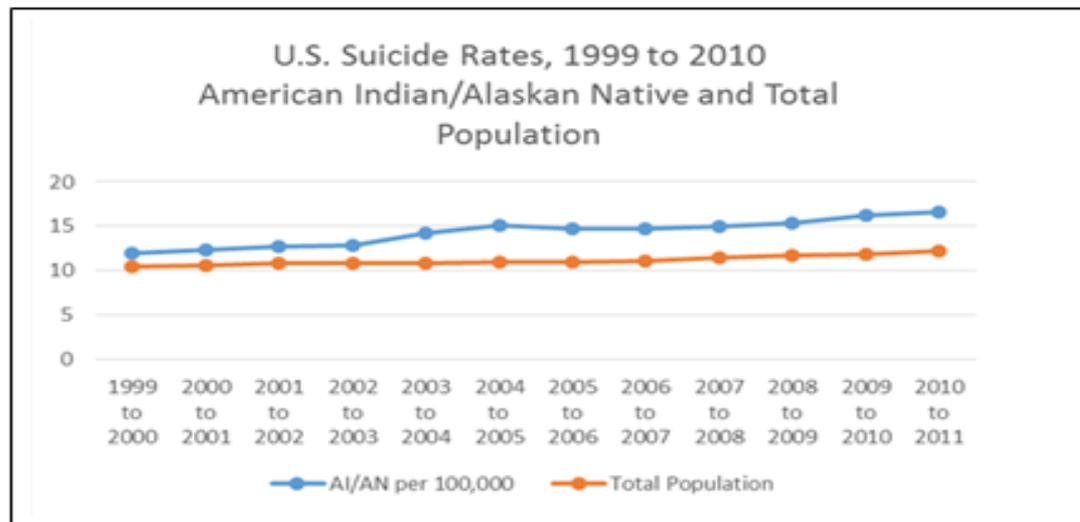
Suicide among Racial/Ethnic Populations in the U.S.

## American Indians/ Alaska Natives



This fact sheet is one in a series that summarizes data and research on suicidal behavior among particular racial and ethnic populations.<sup>1</sup> The term *American Indians/Alaska Natives* (AI/AN) encompasses many ethnic and cultural groups, tribes, and traditions. We use the term here because it is what is used in most national data sets and research. Not all of the facts below apply to all of the subgroups. The Office of Management and Budget defines *American Indian or Alaska Native* as a person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.<sup>1</sup> In 2013, AI/AN people comprised an estimated 1.2% of the U.S. population.<sup>2</sup>

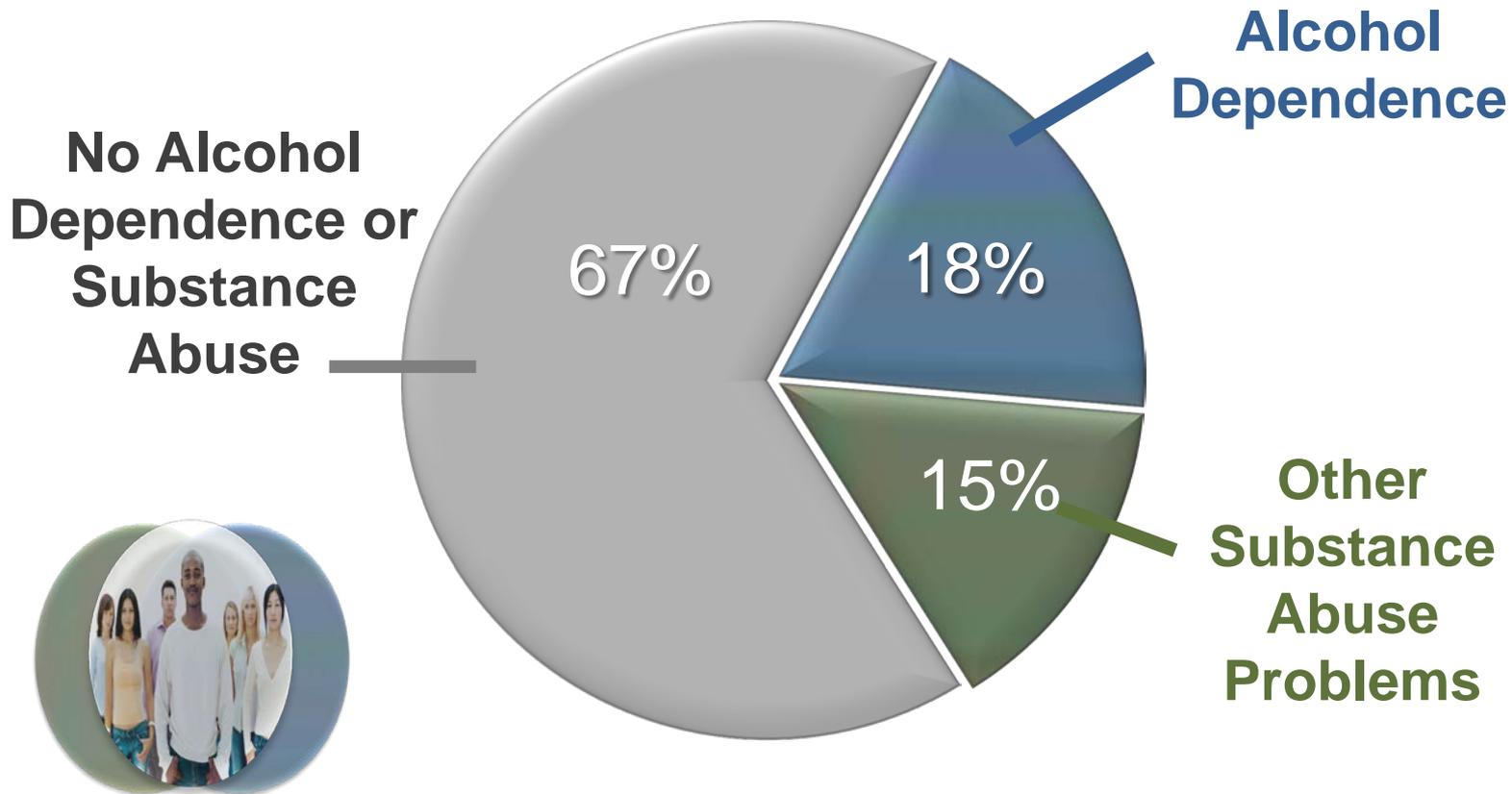
The U.S. Census and national suicide-related data sets categorize data by individual racial groups, (e.g., AI/AN, White) and by one non-specific "other" or "multiple race" category. Therefore, the data in this sheet refer to individuals who classify themselves only as AI/AN and not to those who classify themselves as both AI/AN and of another racial/ethnic background.



# Alcohol Dependence and Suicide

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Percentage of Suicides, by Precipitating Circumstances: National Violent Death Reporting System, 17 states, 2011<sup>12</sup>

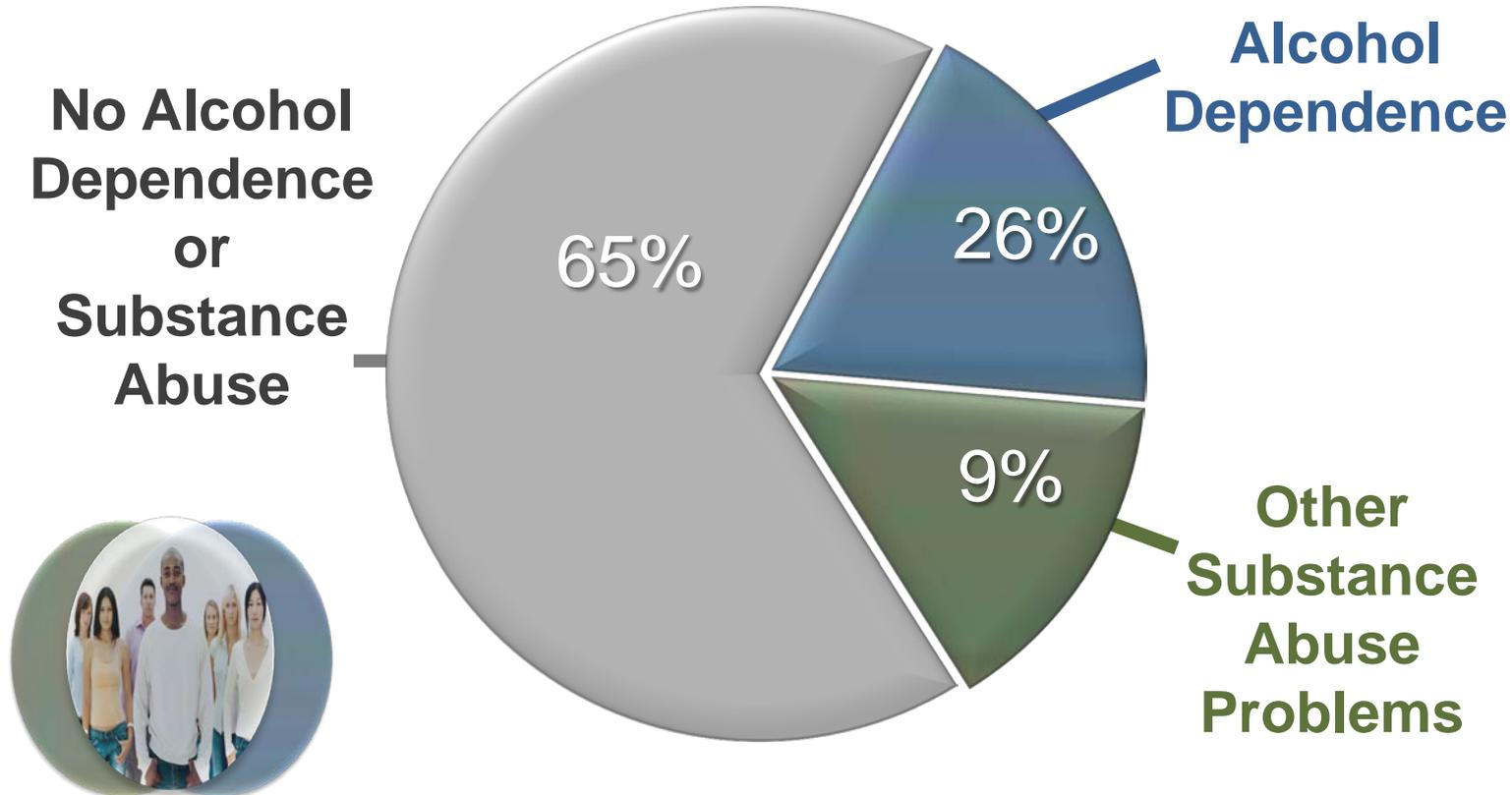


N=10,444

# Alcohol Dependence and Suicide for AI/AN

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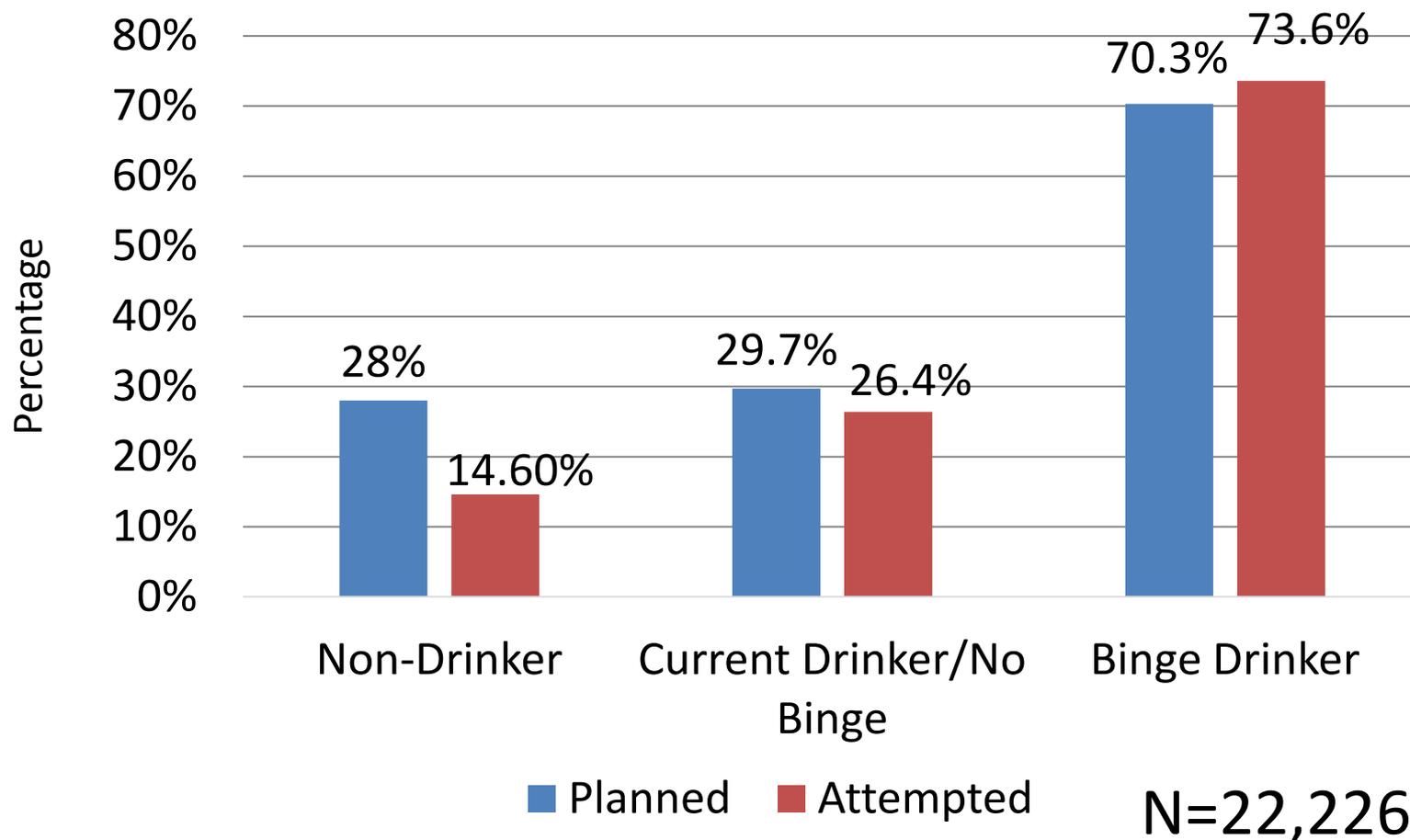
Percentage of Suicides Among AI/AN by Precipitating Circumstances:  
National Violent Death Reporting System, 17 states, 2011<sup>12</sup>



N=168

# Alcohol Consumption and Suicidal Behavior

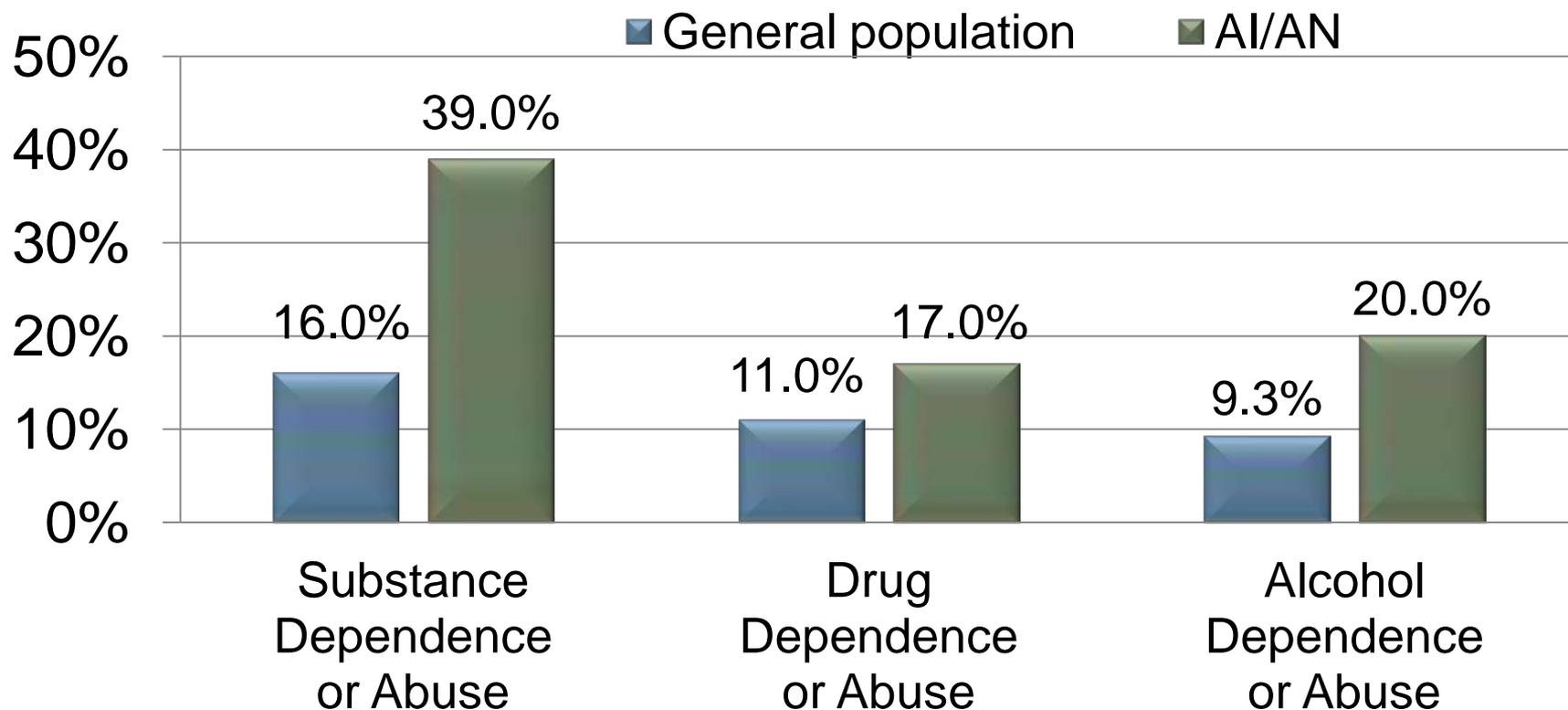
Percentage of U.S. Students Planning and Attempted Suicide by Drinking Status: Youth Risk Behavior Survey (YRBS), 2013<sup>13</sup>



# Substance Dependence or Abuse and Depression Among the General Population and American Indian/Alaska Native Youths

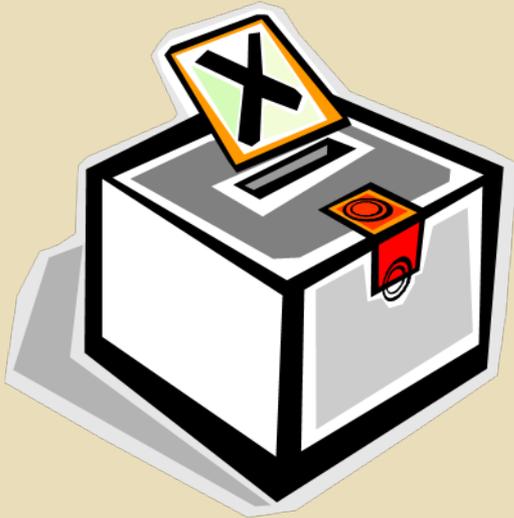
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Ages 12 to 17, by Major Depressive Episode in Past Year: NSDUH, 2012<sup>9,11</sup>



# Poll: Utilizing the Data

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Which audiences in your community need to understand these data the most?

- a) Parents
- b) Primary care practitioners
- c) School and College/University Faculty
- d) Behavioral Health providers
- e) Youth serving organizations



# Using the Socio-ecological Model to Understand the role of Shared Risk and Protective Factors in Prevention



# Risk and Protective Factors



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## **Risk Factors**



Characteristics or conditions that precede and are associated with a higher likelihood of problem outcomes



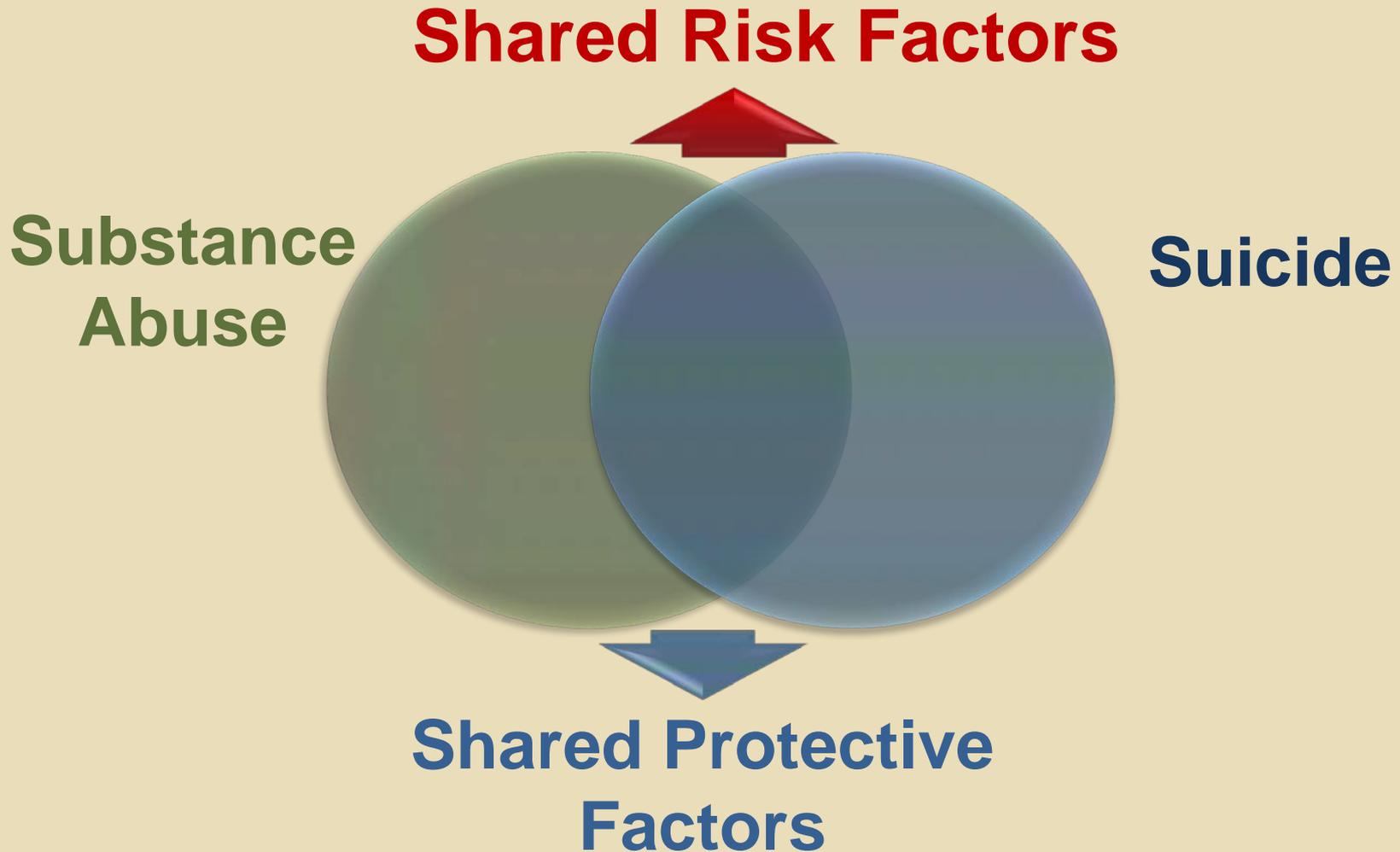
## **Protective Factors**

Characteristics or conditions that lower the likelihood of problem outcomes, or that reduce the negative impact of a risk factor

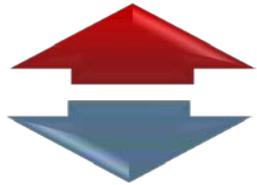
# Shared Risk and Protective Factors



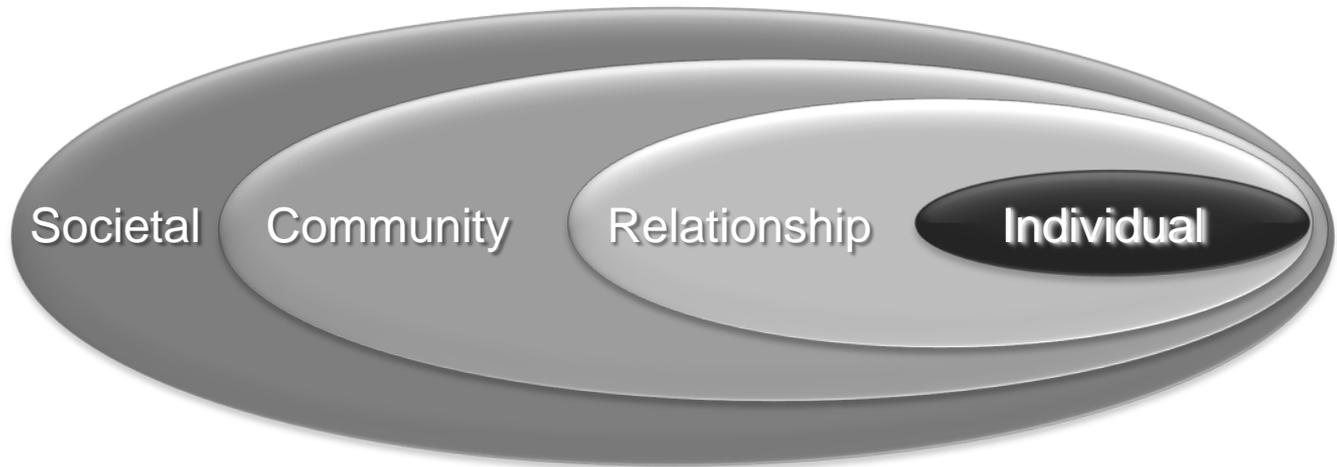
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**Shared  
Risk  
Factors**

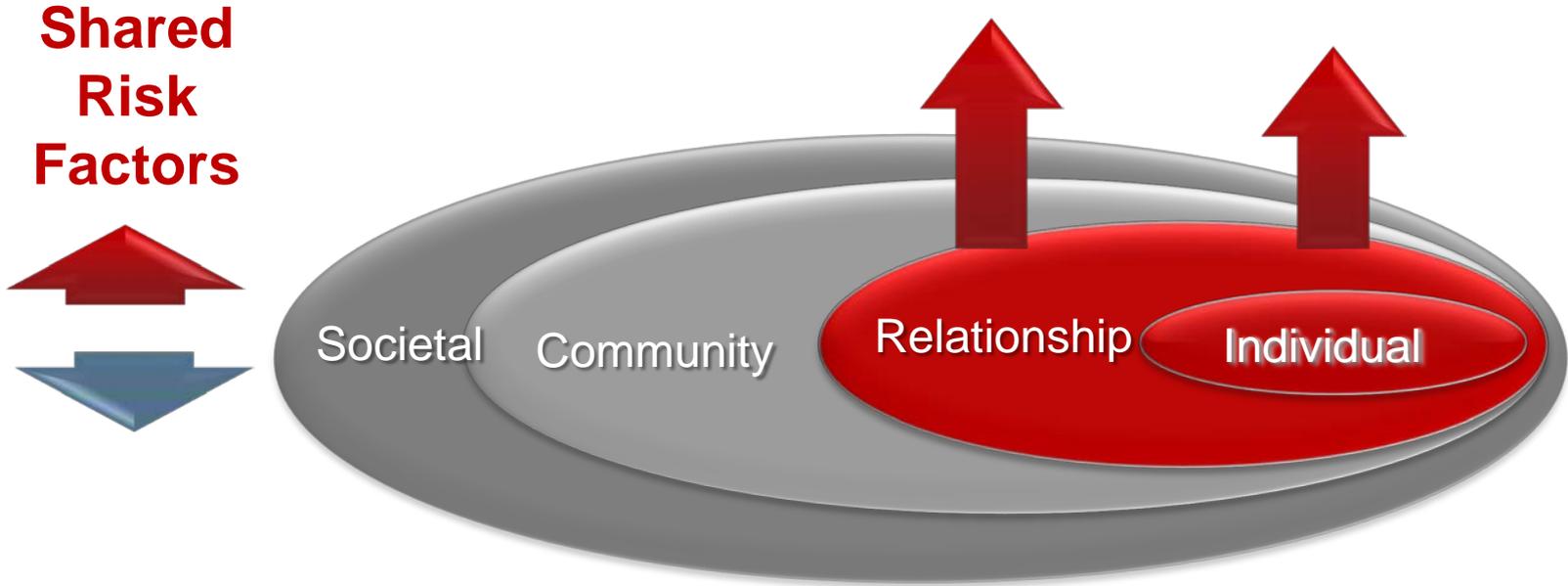


**Shared  
Protective  
Factors**



# Examples: Shared Individual/Relationship Risk Factors

**Adverse Childhood Experiences<sup>16-19</sup>**  
**Under- or Unemployment<sup>20,21</sup>**  
**Mood Disorders<sup>20,23</sup>**

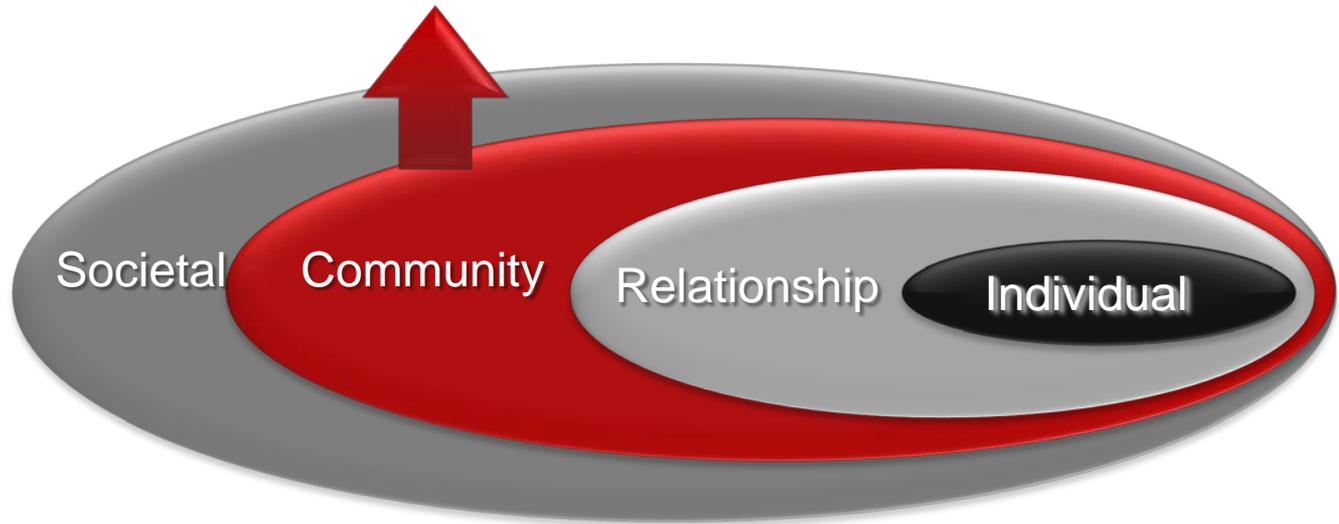
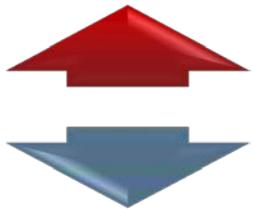


# Examples: Shared Community Risk Factors

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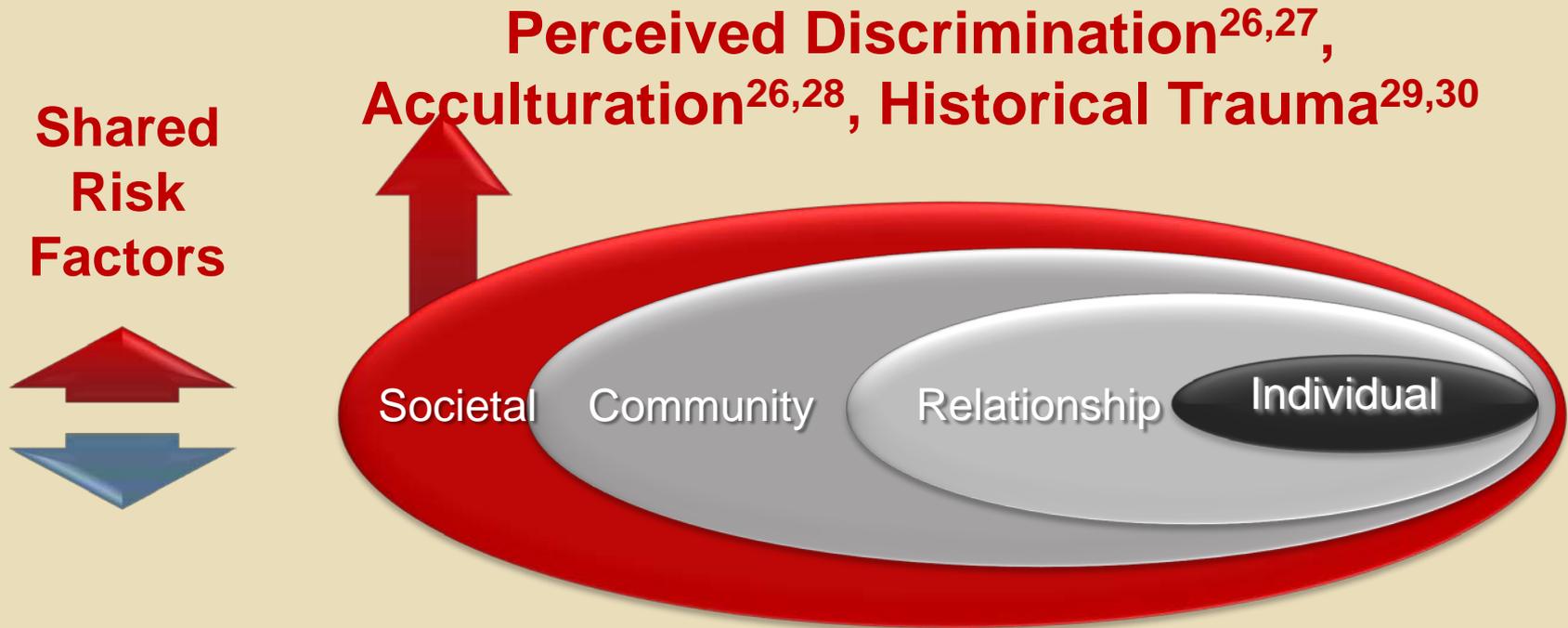
## Chronic Community Disorganization<sup>24,25</sup>

Shared  
Risk  
Factors



# Examples: Shared Societal Risk Factors

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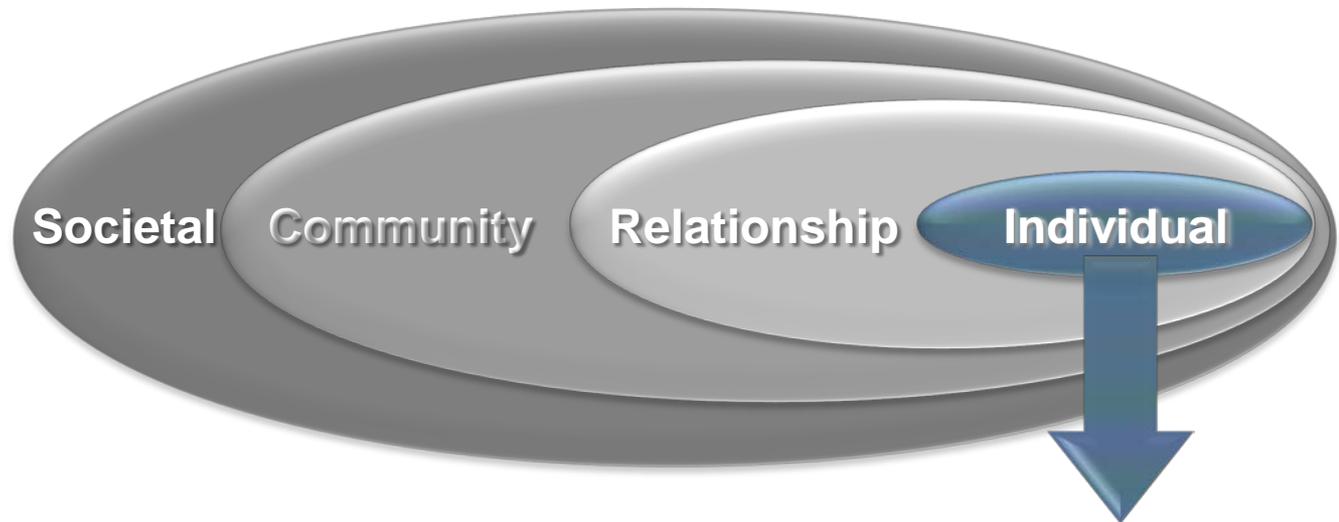


# Shared Individual Protective Factors

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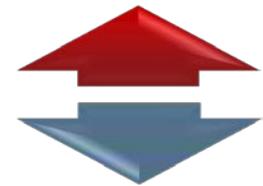


**Shared  
Protective  
Factors**

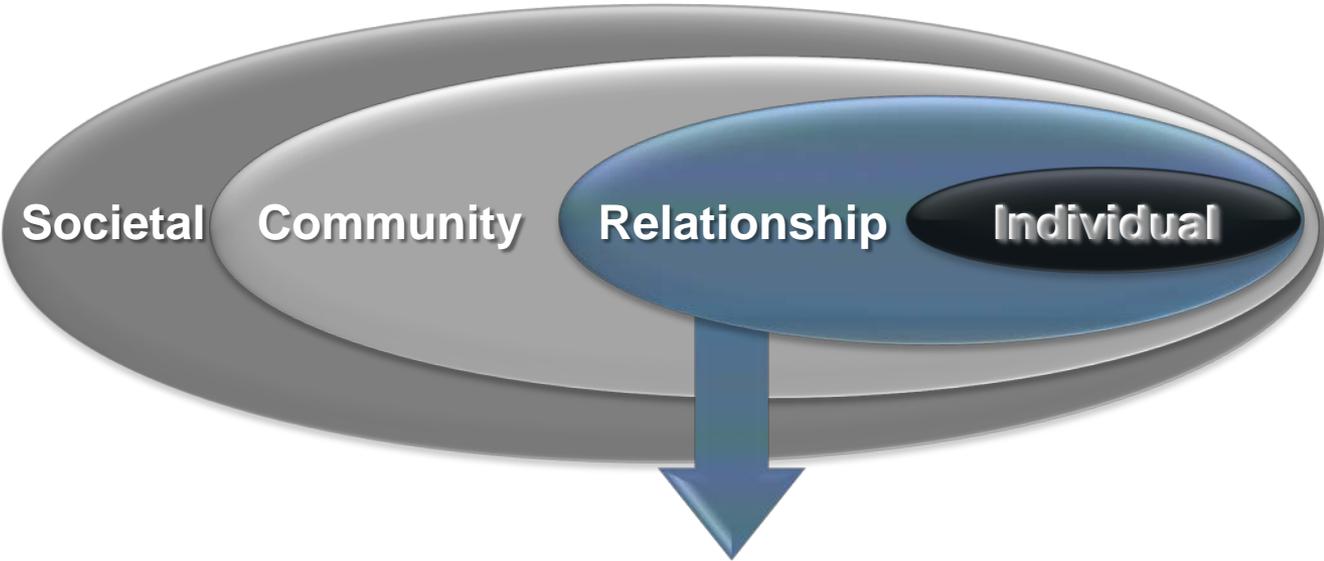


**Religiosity<sup>31,32</sup>, Self-Regulation or  
Coping Ability<sup>33-37</sup>**

# Shared Relationship Protective Factors



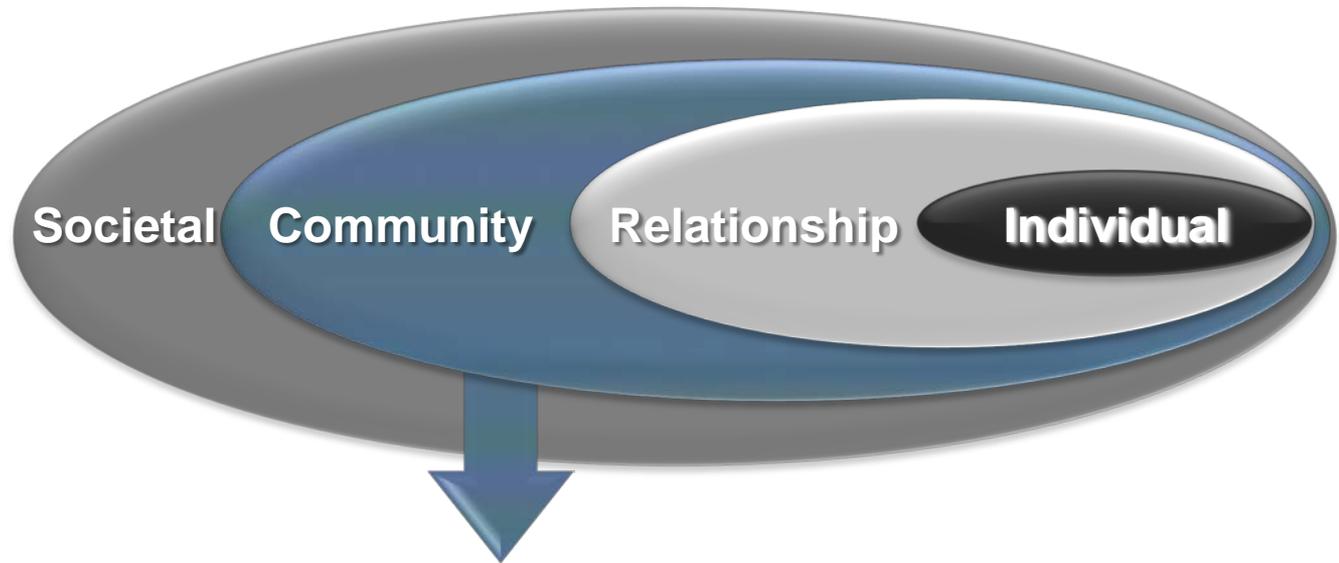
**Shared  
Protective  
Factors**



**Connectedness to Individuals and Family  
Social Support<sup>38-44</sup>**

# Shared Community Protective Factors

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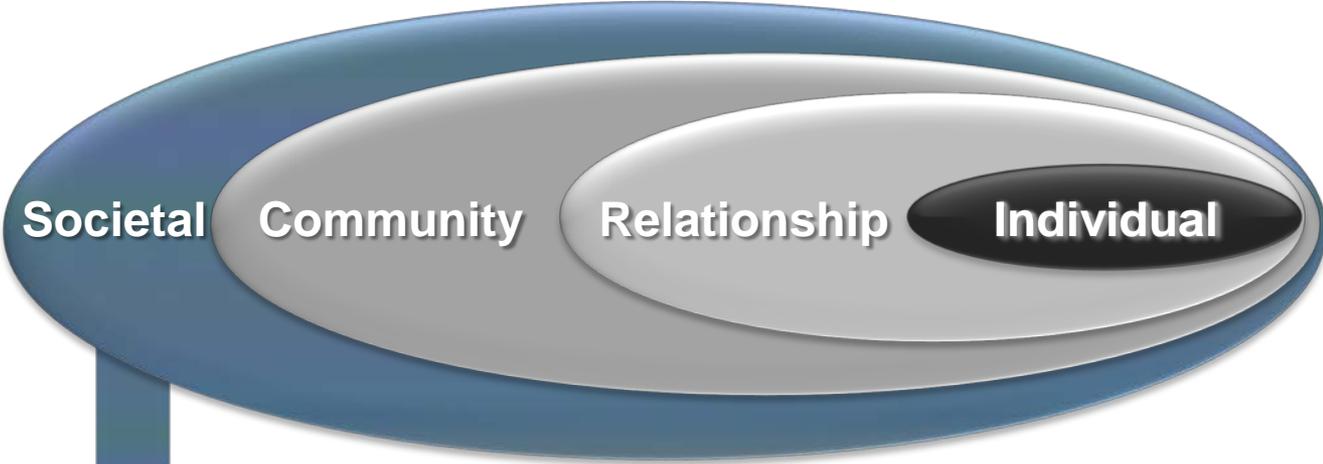


**Supportive School Staff/Environment<sup>45,47</sup>**  
**Effective Classroom Management<sup>47,48</sup>**

# Shared Societal Protective Factors



**Shared  
Protective  
Factors**



**Societal   Community   Relationship   Individual**

**Cultural Norms and  
Practices<sup>27,30,45,49</sup>**

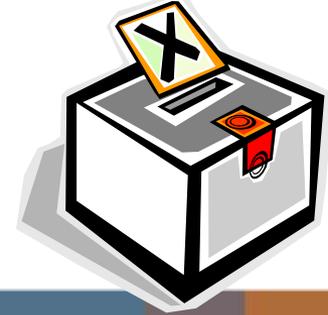


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# Collaborating Across Disciplines: An Introduction



# Poll Question: Intervention



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## Poll 1:

Select the benefit to collaborating across disciplines that is most important to you?

- Greater impact on individuals
- Better use of resources
- Generating new partnerships
- Solving behavioral health problems in new ways

## Poll 2:

Select the challenge to collaborating across disciplines that most frequently gets in the way

- Turf issues
- Lack of time
- Perception it will take too long
- Lack of Leadership
- Different languages

# Questions?

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Laurie Davidson  
Manager, Provider  
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Maria Valenti  
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Team, CAPT

# Objectives for Next Webinar

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- Present best practices and interventions for addressing shared risk and protective factors for substance abuse and suicide
- Share strategies for overcoming challenges to collaborating across disciplines to address substance abuse and suicide prevention

# References

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1. Hallfors, D. D., Waller, M. W., Bauer, D., Ford, C. A., & Halpern C. T. (2005). Which Comes First in Adolescence—Sex and Drugs or Depression? *American Journal of Preventive Medicine*, 29(3), 163-170.
2. Brickmayer J. & Hemenway, D. (1999). Minimum age drinking laws and youth suicide, 1970 - 1990. *American Journal of Public Health*, 89, 1365-1368
3. Kilmer, J. (2014). The Overlap of College Student Substance Use and Depression: Implications for Prevention. Counseling Center Metro Conference, New York, NY, January 8, 2014.
4. Suicide Prevention Resource Center & Rodgers, P. (2011). *Understanding risk and protective factors for suicide: A primer for preventing suicide*. Newton, MA: Education Development Center, Inc.
5. Center for Substance Abuse Treatment. (2008). *Substance Abuse and Suicide Prevention: Evidence and Implications—A White Paper*. DHHS Pub. No. SMA-08-4352. Rockville, MD: Substance Abuse and Mental Health Services Administration.
6. Center for Substance Abuse Treatment. (2009). *Addressing Suicidal Thoughts and Behaviors in Substance Abuse Treatment*. Treatment Improvement Protocol (TIP) Series 50. HHS Publication No. (SMA) 09-4381. Rockville, MD: Substance Abuse and Mental Health Services Administration.
7. Substance Abuse and Mental Health Services Administration. (2013). *Drug Abuse Warning Network, 2011: National Estimates of Drug-Related Emergency Department Visits*. HHS Publication No. (SMA) 13-4760, DAWN Series D-39. Rockville, MD: Substance Abuse and Mental Health Services Administration.
8. Davidson, L. (2010, April). *Alcohol Use, Depression, and Young People: Implications for Addressing Suicide Risk*. Presented at the Suicide Prevention Resource Center's Research to Practice Webinar Series, Online.

# References (cont'd.)

9. Substance Abuse and Mental Health Services Administration. (2013). *Results from the 2012 National Survey on Drug Use and Health: Mental Health Findings*, NSDUH Series H-47, HHS Publication No. (SMA) 13-4805. Rockville, MD: Substance Abuse and Mental Health Services Administration.
10. Substance Abuse and Mental Health Services Administration. (2013). *Behavioral Health, United States, 2012*. HHS Publication No. (SMA) 13-4797. Rockville, MD: Substance Abuse and Mental Health Services Administration.
11. United States Department of Health and Human Services. Substance Abuse and Mental Health Services Administration. Center for Behavioral Health Statistics and Quality. (2013). *National Survey on Drug Use and Health, 2012*. ICPSR34933-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor]. <http://doi.org/10.3886/ICPSR34933.v1>.
12. Centers for Disease Control and Prevention (CDC), National Centers for Injury Prevention and Control. (2012). *Injury Statistics Query and Reporting System (WISQARS) [online]. Fatal Injury Reports, 1999 – 2011*. Retrieved September 9, 2014, from <http://www.cdc.gov/injury/wisqars/fatal.html>
13. Centers for Disease Control and Prevention. (2014). *Youth Risk Behavior Surveillance System, 2013 Results*. Retrieved September 3, 2014, from <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>
14. Bronfenbrenner, U. (1994). Ecological models of human development. In T. Husen & T. N. Postlethwaite (Eds.), *International Encyclopedia of Education, Volume 3, 2<sup>nd</sup>. Edition* (pp. 1643-1647). Oxford: Pergamon Press.
15. McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly*, 15, 351-377.
16. Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., Croft, J. B. (2002). Adverse childhood experiences and personal alcohol abuse as an adult. *Addictive Behaviors*, 27, 713-725.

# References (cont'd.)

17. Nurius, P. S. (2012). Adverse childhood experiences (ACE) within a social disadvantage framework: distinguishing unique, cumulative, and moderated contributions to adult mental health. *Journal of Prevention and Intervention in the Community, 40*, 278-90.
18. Corcoran, P., Gallagher, J., Keeley, H. S., Arensman, E., & Perry, I. J. (2006). Adverse childhood experiences and lifetime suicide ideation: a cross-sectional study in a non-psychiatric hospital setting. *Irish Medical Journal, 99*, 42-5.
19. Dube, S.R., Anda, R.F., Felitti, V.J., Chapman, D., Williamson, D.F., & Giles W.H. (2001). Childhood abuse, household dysfunction and the risk of attempted suicide throughout the life span: Findings from Adverse Childhood Experiences Study. *Journal of the American Medical Association, 286*,3089–3096
20. Dooley, D., Prause, J., & Ham-Rowbottom, K. A. (2000). Underemployment and depression: longitudinal relationships. *Journal of Health and Social Behavior, 41*, 421-436.
21. Henkel, D. (2011). Unemployment and substance abuse: A review of the literature (1990 – 2010). *Current Drug Abuse Reviews, 4*, 4-27.
22. Swendsen, J. D., & Merikangas, K. R. (2000). The comorbidity of depression and substance abuse. *Clinical Psychology Review, 20*, 173-1889.
23. Kessler, R. C., Borges, G., Walters, E.E. (1999). Prevalence of and risk factors for lifetime suicide attempts in the *National Comorbidity Survey*. *Archives of General Psychiatry, 56*, 617-626.
24. Hays, S. P., Hays, C. E., & Mulhall, P. F. (2004). Community risk and protective factors and adolescent substance use. *Journal of Primary Prevention, 24*, 125-142.
25. Latkin, C. A., & Curry, A. D. (2003). Stressful neighborhoods and depression: A prospective study of the impact of neighborhood disorder. *Journal of Health and Social Behavior, 44*, 34-44.

# References (cont'd.)

26. Yoder, K.A., Whitbeck, L.B., Hoyt, D.R., & LaFromboise, T. (2006). Suicidal ideation among American Indian youths. *Archives of Suicide Research, 10*, 177-190.
27. Whitbeck, L.B., Hoyt, D.R., McMorris, B.J., Chen, X., & Stuben, J.D. (2001). Perceived discrimination and early substance abuse among American Indian children. *Journal of Health and Social Behavior, 42*, 405-424.
28. Epstein, J. A., Botvin, G. J., & Diaz, T. (2001). Linguistic acculturation associated with higher marijuana and polydrug use among Hispanic adolescents. *Substance Use and Misuse, 36*, 477-499.
29. Whitbeck, L.B., Walls, M.L., Johnson, K.D., Morrisseau, A.D., McDougall, C.M. (2009). Depressed affect and historical loss among North American indigenous adolescents. *American Indian and Alaska Mental Health Research, 16*,16-49.
30. Whitbeck, L.B., Chen, X., Hoyt, D.R., & Adams, G.W. (2004). Discrimination, historical loss, and enculturation: Culturally specific risk and resiliency factors for alcohol abuse among American Indians. *Journal of Studies on Alcohol, 65*, 409-418.
31. Nonnemaker, J. M., McNeely, C. A., & Blum, R. W. (2003). Public and private domains of religiosity and adolescent health risk behavior: Evidence from the National Longitudinal Study of Adolescent Health. *Social Science and Medicine, 57*, 2049-2054.
32. Dunn, M.S. (2005). The relationship between religiosity, employment, and political beliefs on substance use among high school seniors. *Journal of Drug Education, 49*, 73.
33. DeWall, C. N., McCullough, M. E., Fincham, F. D., Pond, R. S., Lambert, N. M., Nezlek, J. B. (2014). Explaining the relationship between religiousness and substance use: Self-control matters. *Journal of Personality & Social Psychology, 107*, 339-351.
34. Kaslow, N. J., et al. (2002). Risk and protective factors for suicidal behavior in abused African American women. *Journal of Consulting and Clinical Psychology, 70*, 311-319.

# References (cont'd.)

35. Marty, M. A., Segal, D. L., & Coolidge, F. L. (2010). Relationships among dispositional coping strategies, suicidal ideation, and protective factors against suicide in older adults. *Aging & Mental Health, 14*, 1015-1023.
36. Wills, T. A., & Stoolmiller, M. (2002). The role of self-control in early escalation of substance use: A time-varying analysis. *Journal of Consulting and Clinical Psychology, 70*, 986–997.
37. Hustad, J.T.P., Carey, K.B., Carey, M.P., & Maisto, S.A. (2009). Self-Regulation, alcohol consumption, and consequences in college student heavy drinkers: A simultaneous latent growth analysis. *Journal of Studies on Alcohol and Drugs, 70*, 373–382.
38. Borowsky, I. W., Resnick, M. D., Ireland, M., & Blum, R. (1999). Suicide attempts among American Indian and Alaska Native Youth: Risk and protective factors. *Archives of Pediatric and Adolescent Medicine, 153*, 573-580.
39. Borowsky, I. W., Ireland, M., & Resnick, M. D. (2001). Adolescent suicide attempts: Risks and protectors. *American Academy of Pediatrics, 3*, 485 - 493.
40. Eisenberg, M. E., & Resnick, M. D. (2006). Suicidality among gay, lesbian and bisexual youth: The role of protective factors. *Journal of Adolescent Health, 39*, 662-668.
41. Wright, D. & Pemberton, M. (2004). *Risk and Protective Factors for Adolescent Drug Use: Findings from the 1999 National Household Survey of Drug Abuse* (DHHS Publication No. SMA 04-3874, Analytic Series A-19). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
42. Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. E., et al. (1997). Protecting adolescents from harm: findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association, 278*, 823-832.
43. Chino, M. & Fullerton-Gleason, L. (2006). Understanding suicide attempts among American Indian adolescents in New Mexico: Modifiable factors related to risk and resiliency. *Ethnicity and Disease, 16*, 435-442.

# References (cont'd).

54

44. Sale, E., Sambrano, S., Springer, J. F., & Turner, C. W. (2003). Risk, protection, and substance use in adolescents: A multi-site model. *Journal of Drug Education, 33*, 91-105.
45. Pharris, M.D., Resnick, M.D. & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. *Journal of Adolescent Health, 21*, 400-406.
46. McCarty, C.A., Rhew, I.C., Murowchick, E., McCauley, E., & Vander Stoep A. (2012). Emotional health predictors of substance use initiation during middle school. *Psychology of Addictive Behaviors, 26*, 351-357.
47. Hawkins, J. D., Catalano, R. F., Morrison, D. M., O'Donnell, J., Abbott, R. D., & Day, L. E. (1992). *The Seattle Social Development Project: Effects of the first four years on protective factors and problem behaviors*. In J. McCord & R. E. Tremblay (Eds.), *Preventing antisocial behavior: Interventions from birth through adolescence* (pp. 139-161). New York: Guilford Press.
48. Hawkins, J. D., Kosterman, R., Catalano, R. F., Hill, K. G., Abbott, R. D. (2005). Promoting positive adult functioning through social development intervention in childhood: Long-term effects from the Seattle Social Development Project. *Archives of Pediatric and Adolescent Medicine, 159*, 25-31.
49. Herman-Stahl, M., Spencer, D.L., & Duncan, J.E. (2003). The implications of cultural orientation for substance use among American Indians. *American Indian and Alaska Native Mental Health Research, 11*, 46-66.