

Suicide & Self-Harm in Youth: Treatment, Care Delivery, & Prevention

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Science**

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UCLA-Duke Center for Trauma-Informed Adolescent Suicide Self-Harm & Substance Abuse Treatment & Prevention (ASAP)

Mission: To raise the standard of care and improve access to evidence-based services for suicide, self-harm, and substance abuse prevention among traumatized children, their families and communities throughout the United States.

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David Goldston, PhD

Duke

SAMHSA, U79 SM080041



 ACT, SUPPORT
AND PROTECT

A PARTNER IN
 The National Child
Traumatic Stress Network



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Presentation Goals

1. Treatment and Care Delivery
2. Nationwide Suicide Prevention



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Treatment & Care Delivery

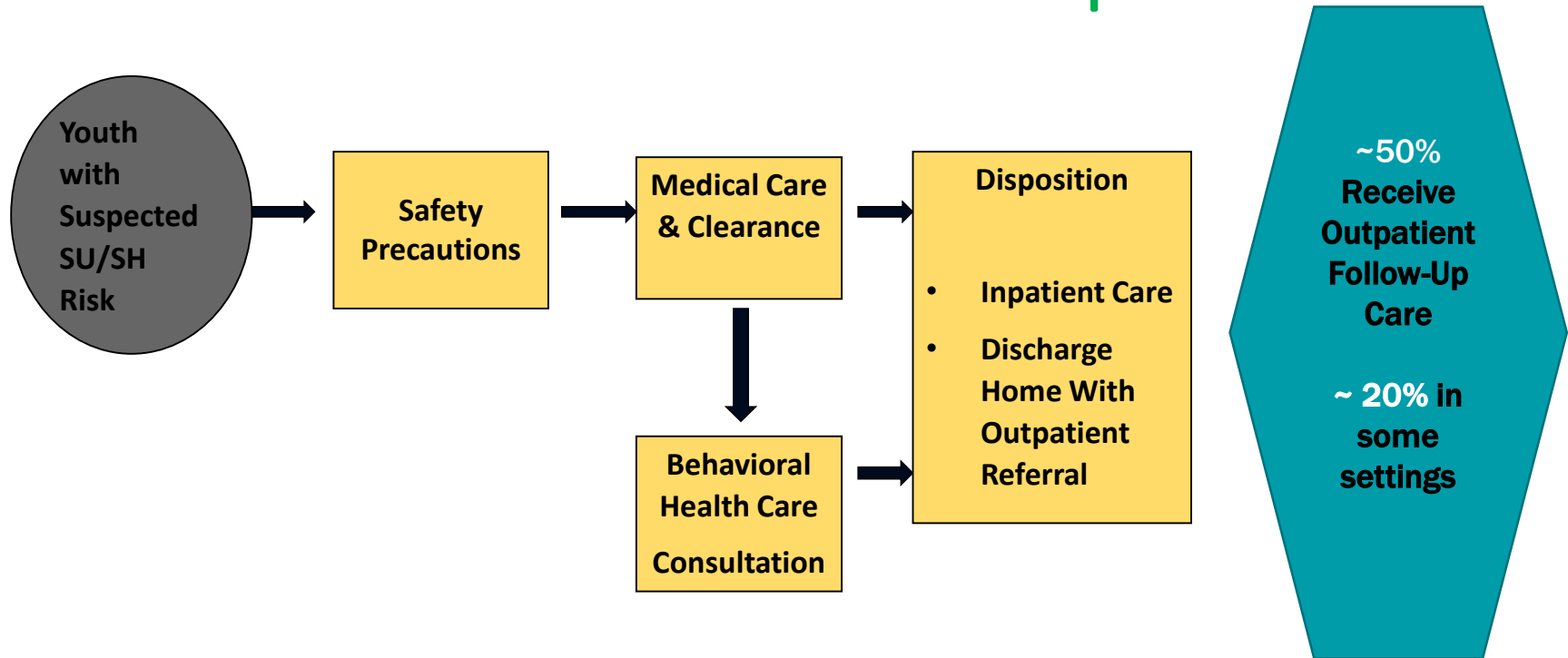


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Usual Care Process: Suicidal Episode



Olfson M, Gameroff MJ, Marcus SC, Greenberg T, Shaffer D. Emergency treatment of young people following deliberate self-harm. Arch

Gen Psychiatry. 2005;62(10):1122-1128. doi:10.1001/archpsyc.62.10.1122.30.

Doshi A, Boudreaux ED, Wang N, Pelletier AJ, Camargo CA. National study of US emergency department visits for attempted suicide and self-inflicted injury, 1997-2001. Ann Emerg Med. 2005;46(4):369-375. doi:10.1016/j.annemergmed.2005.04.018.

Rotheram-Borus MJ, Piacentini J, Van Rossem R, Graae F, Cantwell C, Castro-Blanco D, Miller S, Feldman J. Enhancing treatment adherence with a specialized emergency room program for adolescent suicide attempters. J Am Acad Child Adolesc Psychiatry. 1996 May;35(5):654-63. PubMed PMID: 8935213.



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Emergency/Acute Care Family Intervention for Suicide Prevention (FISP)



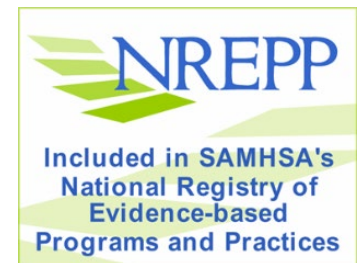
Asarnow JR, Baraff LJ, Berk M, et al. (2011). An emergency department intervention for linking pediatric suicidal patients to follow-up mental health treatment. *Psychiatr Serv.* 2011 Nov;62(11):1303-9.

Rotheram-Borus MJ, Piacentini J, Cantwell C, et al. (2000). The 18-month impact of an emergency room intervention for adolescent female suicide attempters. *J Consult Clin Psychol*: 68(6),1081-93.

Rotheram-Borus MJ, Bradley J. Triage model for suicidal runaways. *Am J Orthopsychiatry.* 1991 Jan;61(1):122-7.

IMPROVED CONTINUITY OF CARE
National Registry of Evidence Based Practices.

Funding: CCR921708, Centers for Disease Control and Prevention.



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FISP Brief Single Session Intervention Goals

- Improve continuity of care following ED discharge, ~50% receive outpatient follow-up care, ~ 20% in some settings*
- Increase safety
- Improve family support and protective monitoring
- Improve youth functioning

Olson M, Gameroff MJ, Marcus SC, Greenberg T, Shaffer D. Emergency treatment of young people following deliberate self-harm. Arch Gen Psychiatry. 2005;62(10):1122-1128. doi:10.1001/archpsyc.62.10.1122.30.

Doshi A, Boudreaux ED, Wang N, Pelletier AJ, Camargo CA. National study of US emergency department visits for attempted suicide and self-inflicted injury, 1997-2001. Ann Emerg Med. 2005;46(4):369-375. doi:10.1016/j.annemergmed.2005.04.018.

Rotheram-Borus MJ, Piacentini J, Van Rossem R, Graae F, Cantwell C, Castro-Blanco D, Miller S, Feldman J. Enhancing treatment adherence with a specialized emergency room program for adolescent suicide attempters. J Am Acad Child Adolesc Psychiatry. 1996 May;35(5):654-63. PubMed PMID: 8935213.



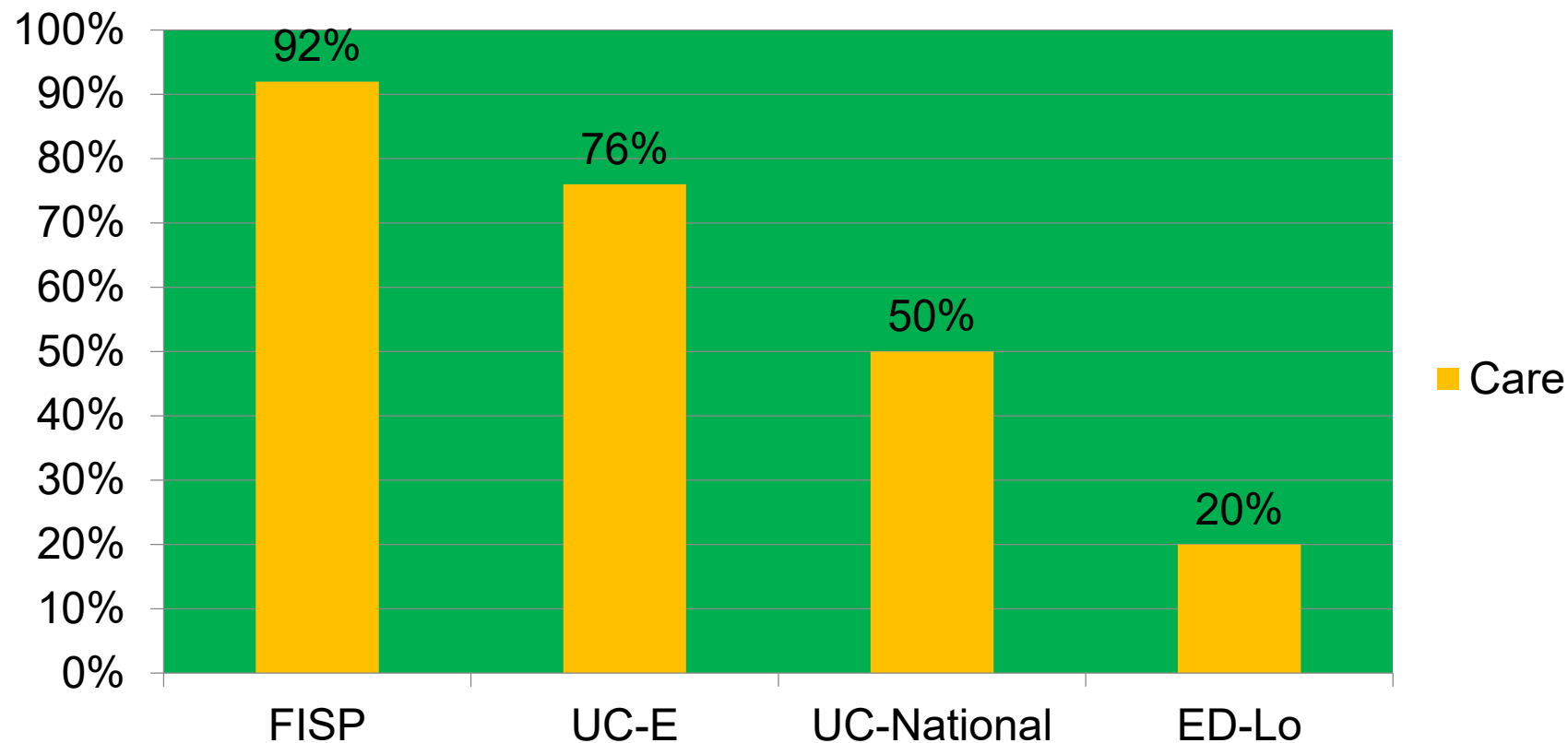
FISP: Therapeutic Assessment

1. Behavioral assessment of imminent risk
2. Increase hope, reasons for living
3. Developmentally informed safety planning process
4. Increase protective support
5. Lethal means counseling
6. Counseling on substance use related disinhibition
7. Caring follow-up contacts to support linkage to treatment



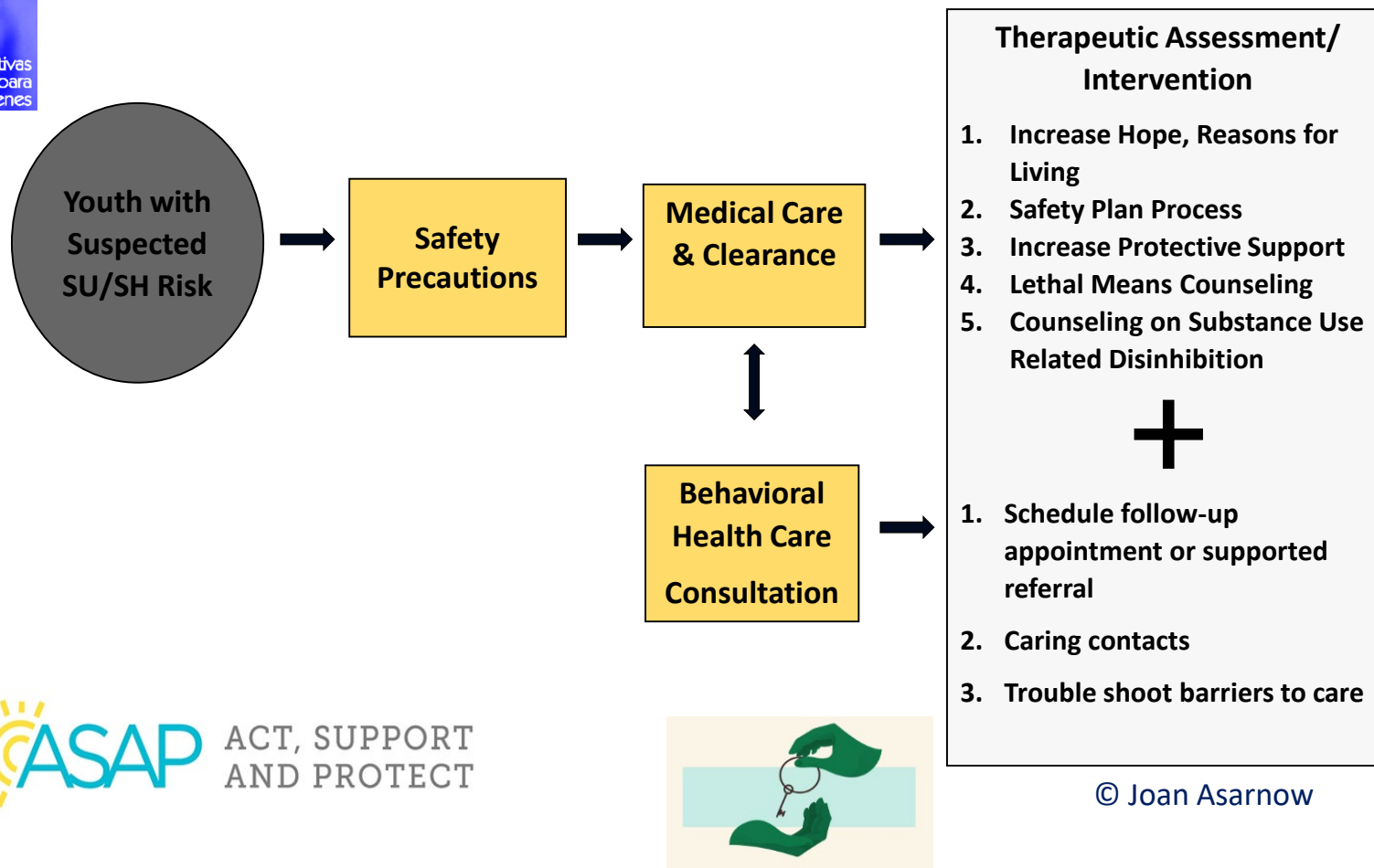
FISP-IMPROVED CONTINUITY OF CARE EMERGENCY SETTINGS

Linked to Follow-Up Care





Care Process: FISP Model



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Outpatient Treatment Nonsignificant Effect on Clinical Outcomes

Instrumental Variable Analysis Modeling Linkage to Any Community Outpatient Treatment (TAU) Post-ED/Hospital Discharge and Clinical/Functioning Outcomes

| | <i>Treatment Equation</i> | | | | <i>Outcome Equation</i> | | | |
|--------------------------|---------------------------|-------------|-------------|--------------|-------------------------|-------------|--------------|--------------|
| | Coefficient | SE | z | p-Value | Coefficient | SE | z | p-Value |
| <i>SUICIDAL BEHAVIOR</i> | | | | | | | | |
| Treatment | | | | | -1.80 | 3.40 | -0.53 | 0.596 |
| FISP | 0.83 | 0.33 | 2.51 | 0.012 | | | | |

Asarnow et al, Psychiatric Services, 2011



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Treatment: What did we know before JCPP Special Issue?

- Meta-analysis, 19 RCTs, 2,176 youths, through May 2014. Small statistically significant effect for therapeutic interventions vs. TAU for reducing self-harm across diverse interventions. Effect primarily for NSSI, no significant overall effect on SAs⁵
- 3 RCTs show that CBT with **strong combined individual and family component** lead to reduced **suicide attempt rate** relative to comparator conditions: I-CBT; SAFETY; DBT.¹⁻³
- 2 separate demonstrations that DBT is effective for decreasing self-harm in adolescents.³⁻⁴

Esposito-Smythers C, Spirito A, Kahler CW, Hunt J, Monti P. Treatment of co-occurring substance abuse and suicidality among adolescents: a randomized trial. *J Consult Clin Psychol*. 2011 Dec;79(6):728-39.

²Asarnow JR, Hughes JL, Babeva KN, Sugar CA. Cognitive-Behavioral Family Treatment for Suicide Attempt Prevention: A Randomized Controlled Trial. *J Am Acad Child Adolesc Psychiatry*. 2017 Jun;56(6):506-514.

³McCauley E, Berk MS, Asarnow JR, Adrian M, Cohen J, Korslund K, Avina C, Hughes J, Harned M, Gallop R, Linehan MM. Efficacy of Dialectical Behavior Therapy for Adolescents at High Risk for Suicide: A Randomized Clinical Trial. *JAMA Psychiatry*. 2018 Aug 1;75(8):777-785. doi:10.1001/jamapsychiatry.2018.1109.

⁴Mehlum L, Tørmøen AJ, Ramberg M, Haga E, Diep LM, Laberg S, Larsson BS, Stanley BH, Miller AL, Sund AM, Grøholt B. Dialectical behavior therapy for adolescents with repeated suicidal and self-harming behavior: a randomized trial. *J Am Acad Child Adolesc Psychiatry*. 2014 Oct;53(10):1082-91.

⁵Ougrin D, Tranah T, Stahl D, Moran P, Asarnow JR. Therapeutic interventions for suicide attempts and self-harm in adolescents: systematic review and meta-analysis. *J Am Acad Child Adolesc Psychiatry*. 2015 Feb;54(2):97-107.



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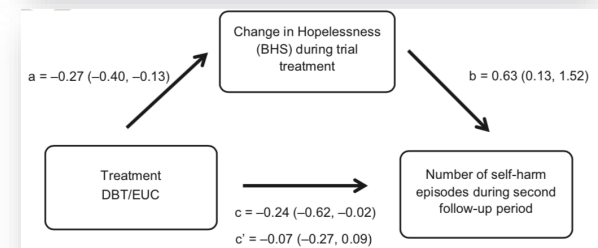
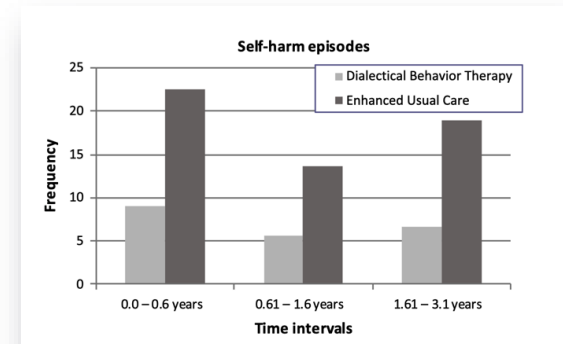
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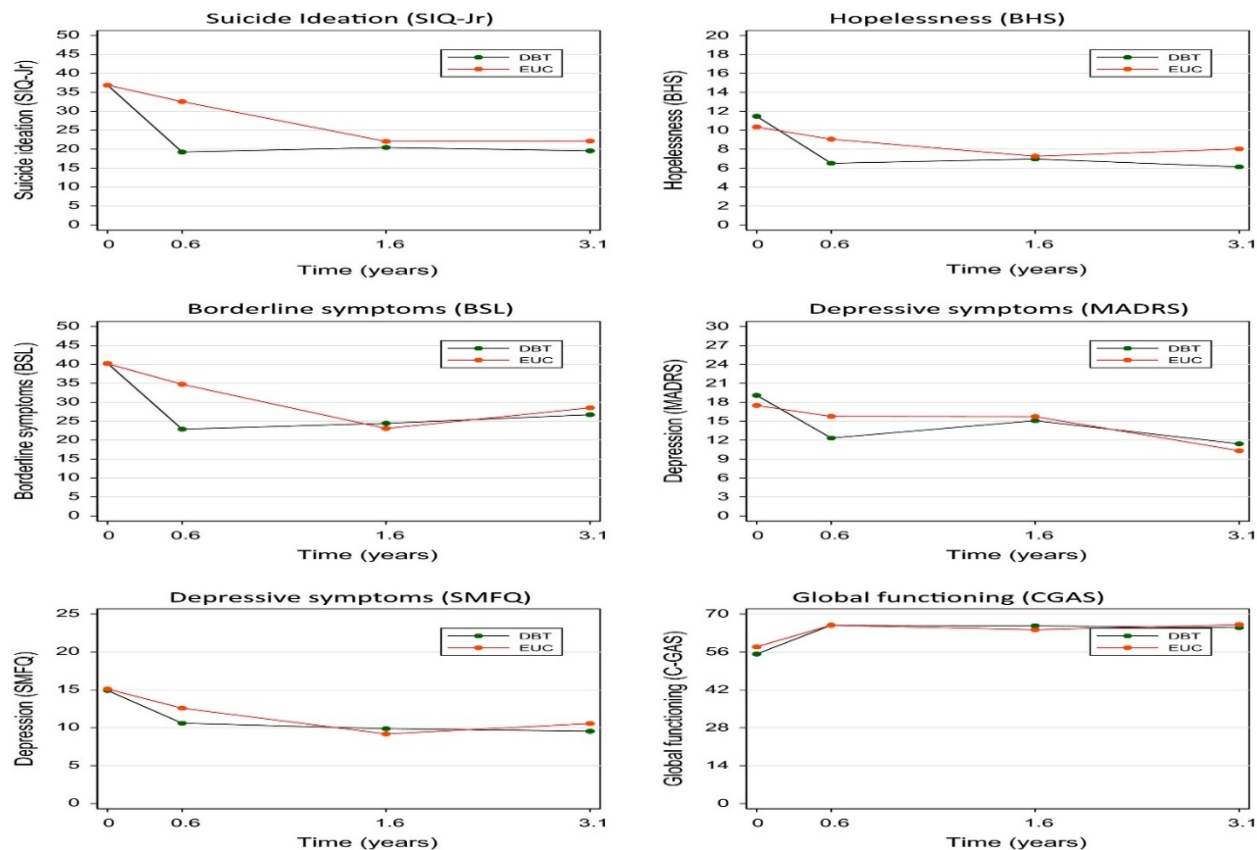
Long term effectiveness of dialectical behavior therapy versus enhanced usual care for adolescents with self-harming and suicidal behavior

Lars Mehlum,¹ Ruth-Kari Ramleth,¹ Anita J. Tørmøen,¹ Egil Haga,¹ Lien M. Diep,¹ Barbara H. Stanley,^{1,2} Alec L. Miller,³ Bo Larsson,⁴ Anne M. Sund,^{4,5} and Berit Grøholt¹

- 3-year follow-up of RCT with suicidal and self-harming adolescents (N=77) with BPD features having received DBT-A or Enhanced usual care
- All treatments delivered at Child and Adolescent outpatient clinics in Oslo, Norway
- DBT-A participants had a persistently stronger long-term reduction in self-harm behavior over all follow-up intervals
- Reduction in hopelessness during the active treatment phase was a mediator of the long-term reduction in frequency of self-harm



Both Groups Improved Over Time



From, Mehlum L, Ramleth RK, Tørmoen AJ, Haga E, Diep LM, Stanley BH, Miller AL, Larsson B, Sund AM, Grøholt B. Long term effectiveness of dialectical behavior therapy versus enhanced usual care for adolescents with self-harming and suicidal behavior. *J Child Psychol Psychiatry*. 2019 May 25.

Treatment of Suicidal & Self-Injurious Adolescents with Emotional Dysregulation: CARES

- 2 Site Study of DBT vs. Individual and Group Supportive Therapy (Multiple PI)
- Seattle: Linehan & McCauley
- Los Angeles: Berk & Asarnow
- Statistician: Robert Gallo

NIMH MH093898



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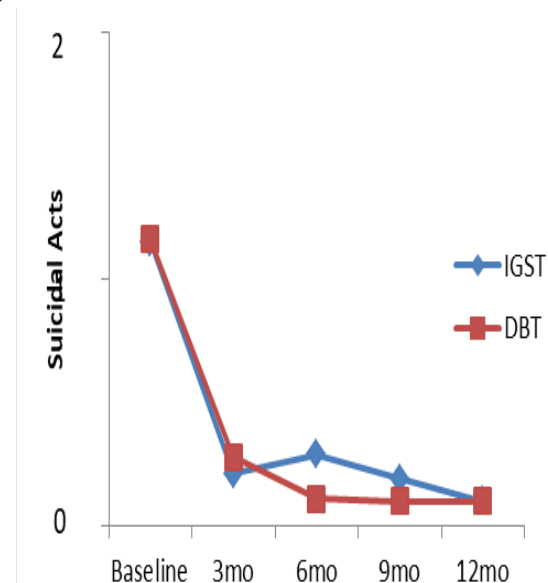
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Greater Reduction in Suicide Attempts Among DBT vs. IGST Youths: 6 Months

OR 0.30; 95% CI 0.10, 0.91, $p < .05$

| | IGST | DBT |
|----------|-------|-------|
| 0 | 78.5% | 90.3% |
| 1 | 13.9% | 8.3% |
| ≥ 2 | 7.7% | 1.4% |

Generalized linear mixed-effects model for ordinal data (Hedeker & Mermelstein, 2000).



Data From: McCauley E, Berk MS, Asarnow JR, Adrian M, Cohen J, Korslund K, Avina C, Hughes J, Harned M, Gallop R, Linehan MM. Efficacy of Dialectical Behavior Therapy for Adolescents at High Risk for Suicide: A Randomized Clinical Trial. *JAMA Psychiatry*. 2018 Aug 1;75(8):777-785.

DBT: higher rates of clinically significant change (Absence of SH)

| | 6-Months | 12-Months |
|--------------------------------|---------------------|----------------------|
| IGST | 27.6% | 32.2% |
| DBT | 46.5% | 51.2% |
| Difference | 18.9% | 19% |
| $\chi^2(1)=$ | 6.67, p=.011 | 6.44, p=0.012 |

Data from: McCauley E, Berk MS, Asarnow JR, Adrian M, Cohen J, Korslund K, Avina C, Hughes J, Harned M, Gallop R, Linehan MM. Efficacy of Dialectical Behavior Therapy for Adolescents at High Risk for Suicide: A Randomized Clinical Trial. JAMA Psychiatry. 2018 Aug 1;75(8):777-785.

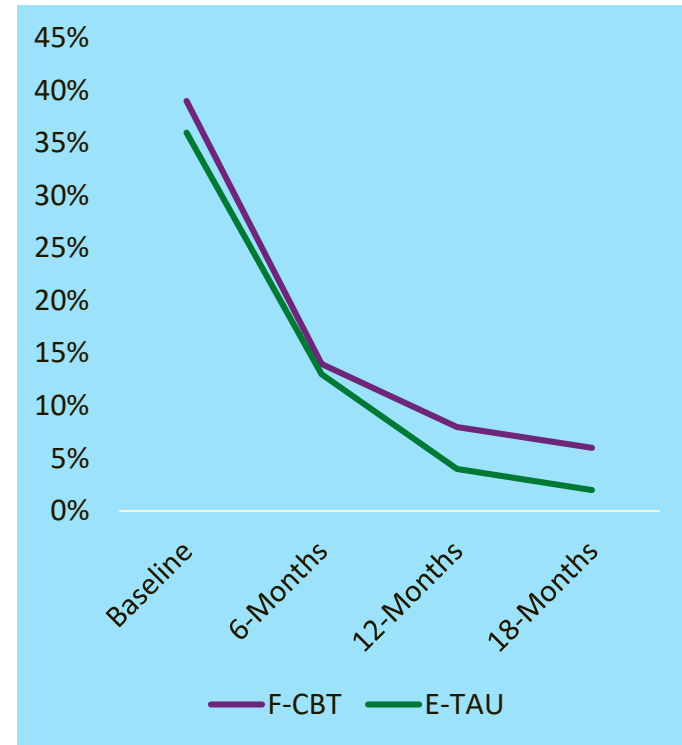
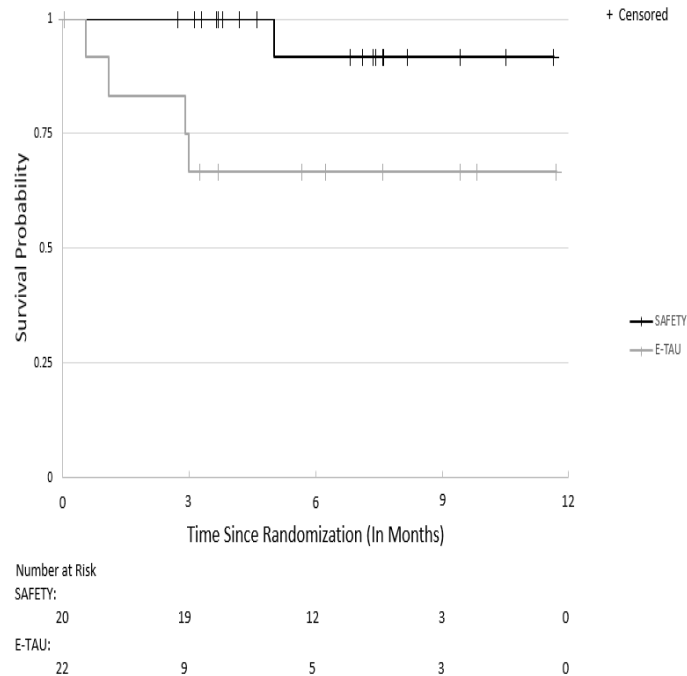


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Independent Replication Needed!



Asarnow, J. R., Hughes, J. L., Babeva, K. N., & Sugar, C. A. (2017). Cognitive-behavioral family treatment for suicide attempt prevention: a randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, 56(6), 506-514.

Esposito-Smythers, C., Wolff, J. C., Liu, R. T., Hunt, J. I., Adams, L., Kim, K., et al. (2019). Family-focused cognitive behavioral treatment for depressed adolescents in suicidal crisis with co-occurring risk factors: a randomized trial. *Journal of Child Psychology and Psychiatry*.

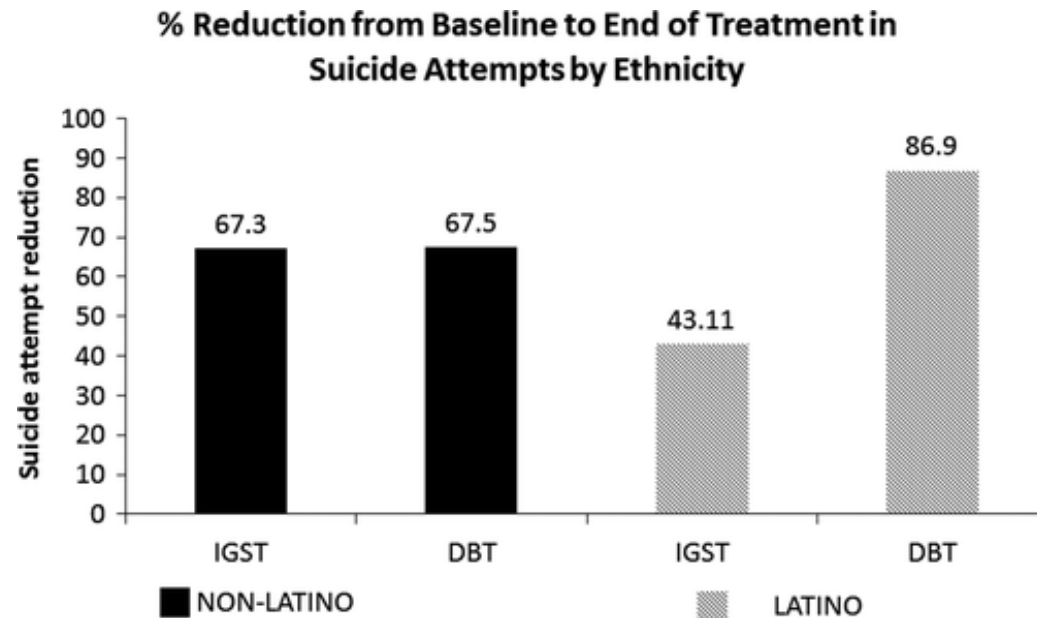


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Personalizing Treatment: Can we Match Youths to Treatments That Will Be Most Beneficial?



Adrian, M., McCauley, E., Berk, M. S., Asarnow, J. R., Korslund, K., Avina, C., et al. (2019). Predictors and moderators of recurring self-harm in adolescents participating in a comparative treatment trial of psychological interventions. *Journal of Child Psychology and Psychiatry*, First published: 30 July 2019, DOI: (10.1111/jcpp.13099)

Prevention Can Save Lives

Garrett Lee Smith Memorial Program (GLS): Suicide Mortality Outcomes for State & Tribal Program

1. **An estimated 882 deaths avoided/lives saved between 2007 and 2015 through implementation of GLS program.**
2. Total impact was stronger with longer periods of implementation
3. Program effects faded when programs were discontinued
4. Importance of persistent implementation and continued funding of comprehensive, community-based youth suicide prevention programs, like the GLS program

Godoy Garraza L, Kuiper N, Goldston D, McKeon R, Walrath C. Long-term impact of the Garrett Lee Smith Youth Suicide Prevention Program on youth suicide mortality, 2006-2015. *Journal of Child Psychology and Psychiatry*, First published: 08 May 2019, DOI: (10.1111/jcpp.13058) [Epub ahead of print]

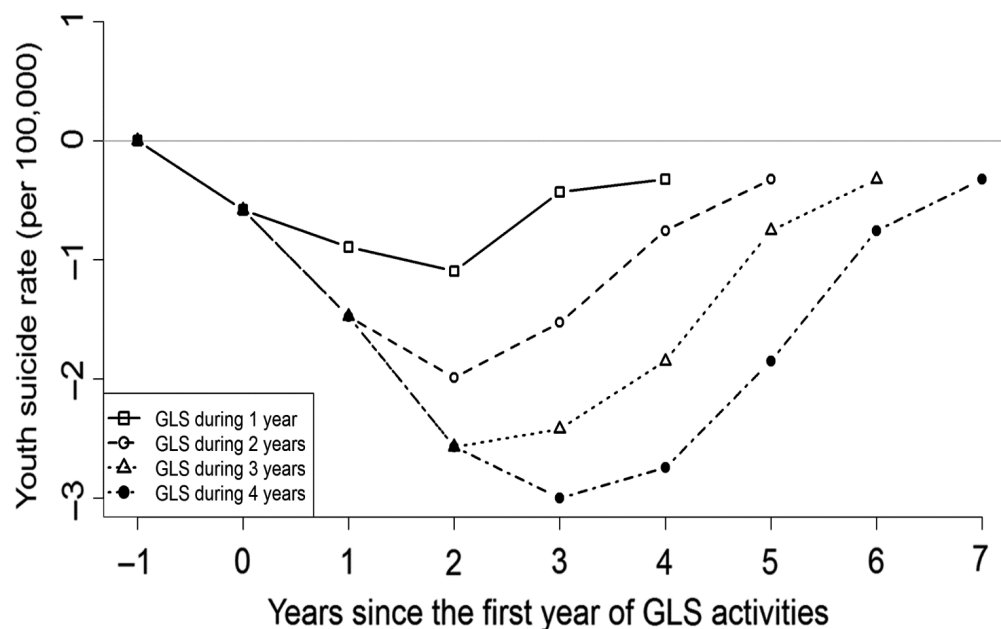


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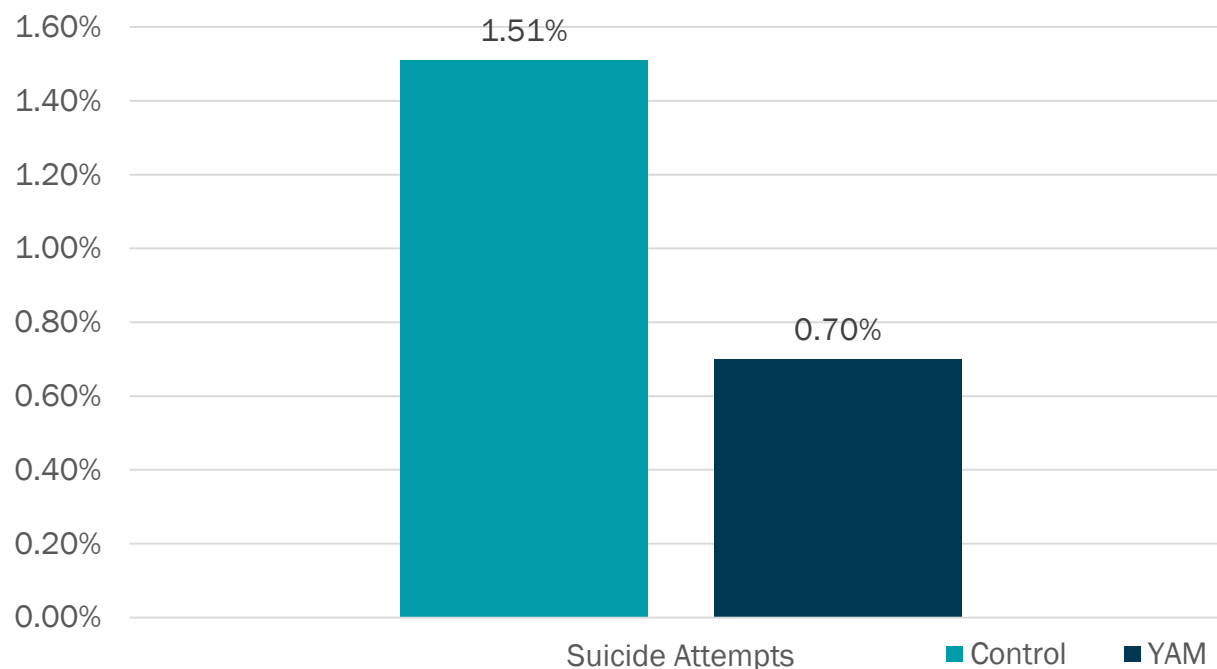
Long-term impact of the Garrett Lee Smith Youth Suicide Prevention Program on youth suicide mortality, 2006–2015. Estimated effect of GLS on youth suicide mortality rate per 100,000 following the start of program activities in counties exposed to GLS activities during one, two, three, and four consecutive years (Year 0: first year of GLS activity)



Godoy Garraza L, Kuiper N, Goldston D, McKeon R, Walrath C. Long-term impact of the Garrett Lee Smith Youth Suicide Prevention Program on youth suicide mortality, 2006–2015. *Journal of Child Psychology and Psychiatry*, First published: 08 May 2019, DOI: (10.1111/jcpp.13058) [Epub ahead of print] . N=481 exposed counties; N=851 non-exposed counties

School- Based Preventive Interventions Can Make a Difference: Saving & Empowering Young Lives in Europe (SEYLE) Study

Youth Aware of Mental Health Intervention Led to Lower Rate of Incident Suicide Attempts Relative to Control Condition



From: Wasserman, D., Hoven, C. W., Wasserman, C., Wall, M., Eisenberg, R., Hadlaczky, G., et al. (2015). School-based suicide prevention programmes: the SEYLE cluster-randomised, controlled trial. *The Lancet*, 385 (9977), 1536-1544.



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School- Based Preventive Interventions Can Make a Difference: Saving & Empowering Young Lives in Europe (SEYLE) Study, Barzilay & WELYE Consortium, Journal of Child Psychology & Psychiatry, 2019.

Without Preventive Intervention: Who Attempts Suicide Over 12 Months?

- Previous SA
- SI- 12 months earlier
- Deliberate Self Injurious Behavior- 12 months earlier
- Health risk behavior- 12 months earlier
- SI + HRB
- SI + D-SIB



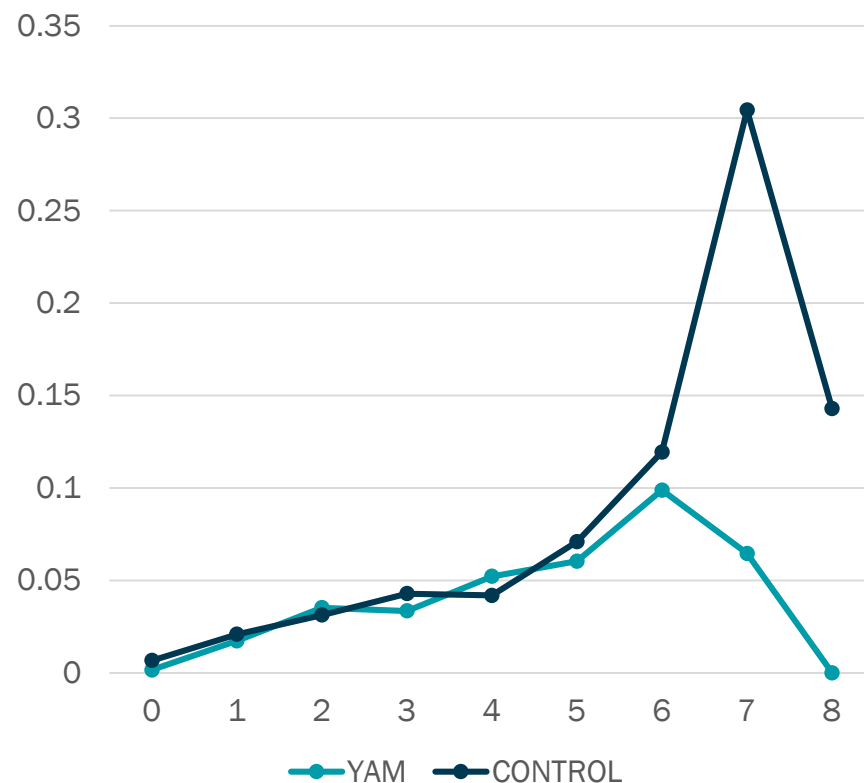
School-Based Suicide Prevention Interventions May Weaken Effects of Risk Factors: SEYLE

Multinational Study of Adolescents

- Health risk behaviors and self-injury predicted repeated suicide attempts among control/no-intervention group
- Three SEYLE interventions attenuated the combined effect of ideation and self-injury on likelihood of suicide attempts
- Youth Aware of Mental Health program (YAM) diminished the direct effect of health risk behaviors on the likelihood of suicide attempts

Barzilay et al. and SEYLE Consortium, 2019

Rate of suicide attempts during 1-year follow-up as a function of number of risk behaviors reported at baseline among YAM/CONTROL groups

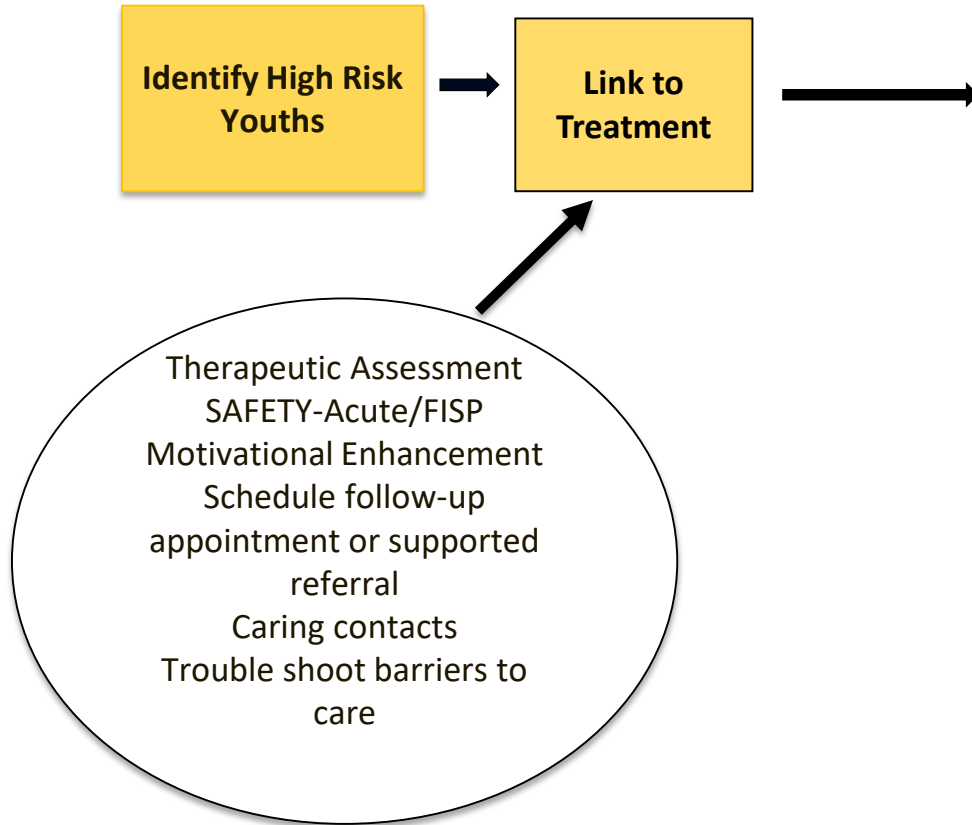


Take Home Points

- Identifying youths at risk is critical first step- current data point to value of brief screeners and innovative new directions, **screening is useful when resources are available to care for youths identified as at-risk**
- **Treatments that work have been identified.** DBT has demonstrated efficacy for reducing SH in 2 RCTs, and other approaches have shown promise in single RCTs for reducing SAs. **We have evidence to guide effective treatment.**
- While not every suicide can be prevented, we can reach for zero and suicides can be prevented. **Nationwide suicide prevention strategies can and do work. We have an evidence base to guide us in reducing suicide rates.** Implementation is a challenge for now and the future.



Process of Care: Suicide Prevention Services



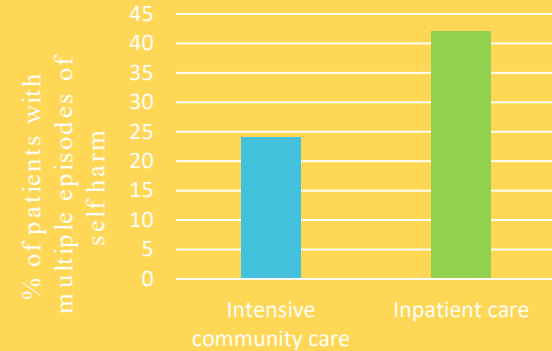
When Safe

Outpatient Evidence-Based Treatment

As Needed Intensive Community Care

When Unsafe

Hospital/Inpatient



From: Ougrin, D., Corrigall, R., Poole, J., et al. (2018). Comparison of effectiveness and cost-effectiveness of an intensive community supported discharge service versus treatment as usual for adolescents with psychiatric emergencies: a randomised controlled trial. *The Lancet Psychiatry*, 5(6), 477-485.

Take Home Points

- Reducing access to the means of suicide (e.g. firearms, pesticides, certain medications) can reduce the risk that suicidal/self-harm urges will result in death
- Alcohol and drug use policies to reduce the harmful use of alcohol and drugs can make a difference.

Self-Harm Predicts Premature Death by Suicide & Other Unnatural Causes

| | SH Cohort Rate /100,000 | Comparator Rate /100,000 | Hazard Ratio |
|---------------------------|----------------------------|-----------------------------|--------------------------|
| Unnatural Causes | 3.56 | 0.45 | 9.31 (5.85, 14.81) |
| Suicide | 1.65 | 0.11 | 18.67 (8.32, 41.87) |
| Alcohol/Drug Poisoning | 1.40 | 0.04 | 38.20 (13.23, 110.28) |
| Accident | 1.52 | 0.30 | 5.96 (3.08, 11.53) |

Data From: Morgan C, Webb RT, Carr MJ, Kontopantelis E, Green J, Chew-Graham CA, Kapur N, Ashcroft DM. Incidence, clinical management, and mortality risk following self harm among children and adolescents: cohort study in primary care. *BMJ*. 2017 Oct 18;359:j4351. doi: 10.1136/bmj.j4351.



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Lock and Protect



Sometimes kids go through times when they feel stressed, down, alone, and hopeless.

When kids are very upset, risk for suicide and harming themselves increases.

You can protect your child during these times by being there for them and doing all you can to stop them from getting guns, drugs, or other things that could lead to death.

This tool can help you to make decisions about how to best protect your child.

[Get Started](#)

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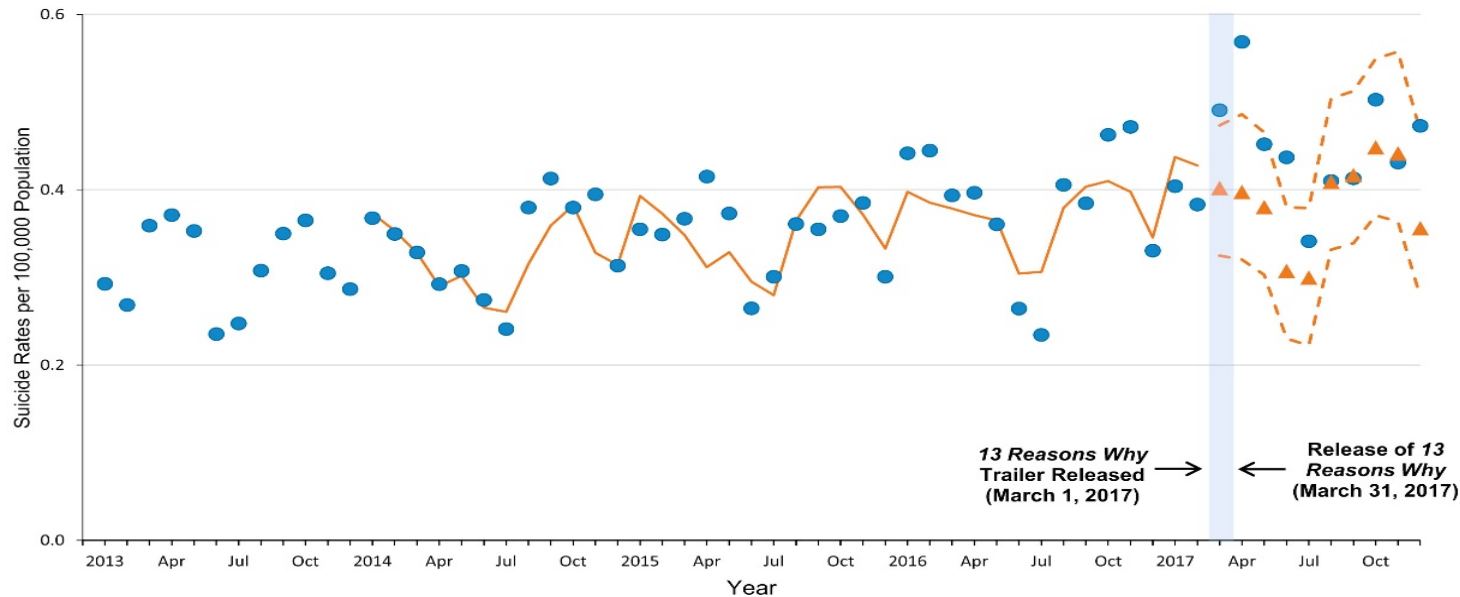
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13 Reasons Why: Environmental Exposure that Permeated Culture

1. Time series studies showing increased rates of suicide deaths and ED visits for suicidal episodes following release.
 - Bridge JA, Greenhouse JB, Ruch D, Stevens J, Ackerman J, Sheftall AH, Horowitz LM, Kelleher KJ, Campo JV. Association Between the Release of Netflix's 13 Reasons Why and Suicide Rates in the United States: An Interrupted Times Series Analysis. *J Am Acad Child Adolesc Psychiatry*. 2019 Apr 28.
 - Niederkrotenthaler, T., Stack, S., Till, B., Sinyor, M., Pirkis, J., Garcia, D., et al. Association of increased youth suicides in the United States with the release of 13 Reasons Why. *JAMA Psychiatry*. 2019 May 29,
 - Cooper MT Jr, Bard D, Wallace R, Gillaspay S, Deleon S. Suicide Attempt Admissions From a Single Children's Hospital Before and After the Introduction of Netflix Series 13 Reasons Why. *J Adolesc Health*. 2018 Dec;63(6):688-693.



Release of 13 Reasons Why associated with significant increase in monthly suicide rates among U.S. youth ages 10-17 years



From: Bridge JA, Greenhouse JB, Ruch D, Stevens J, Ackerman J, Sheftall AH, Horowitz LM, Kelleher KJ, Campo JV. Association Between the Release of Netflix's 13 Reasons Why and Suicide Rates in the United States: An Interrupted Times Series Analysis. J Am Acad Child Adolesc Psychiatry. 2019 Apr 28.

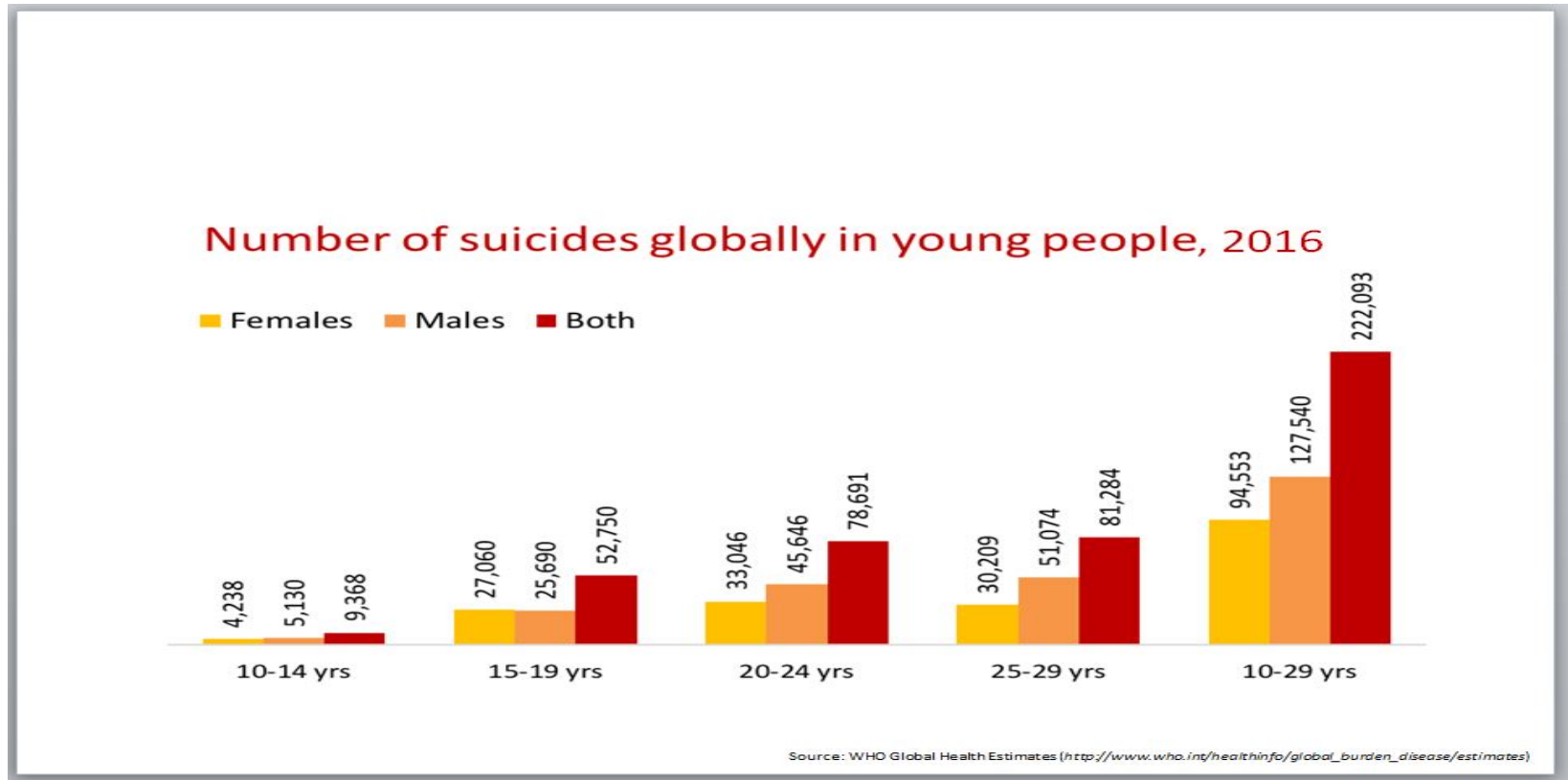


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Suicide Rates Increase During Adolescence



Childhood to Adolescence

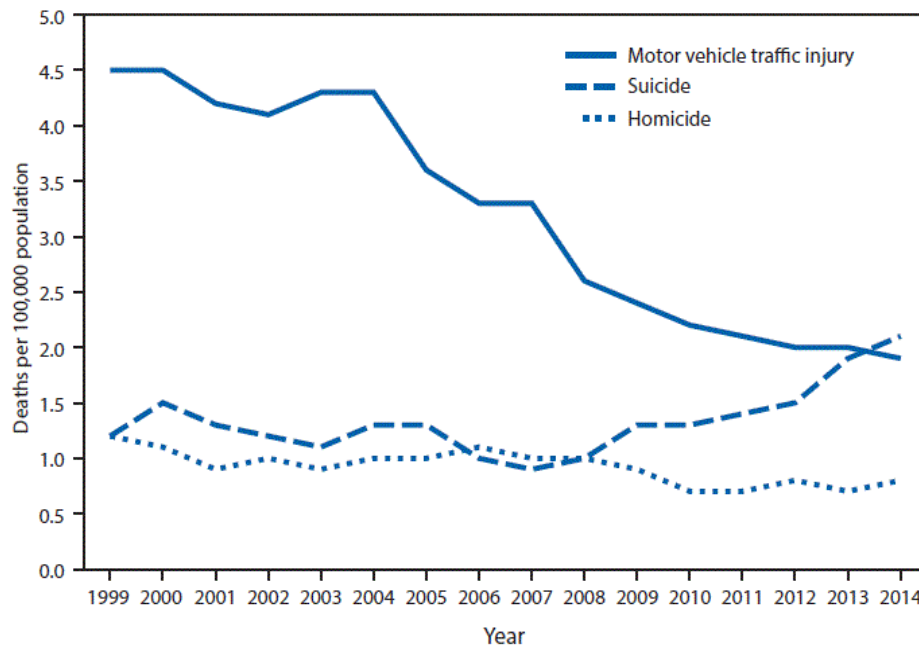


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Comparison with Declines in Other Leading Causes of Death: Decline in Deaths from Motor Vehicle Traffic Injuries



QuickStats: Death Rates for Motor Vehicle Traffic Injury, Suicide, and Homicide Among Children and Adolescents aged 10–14 Years — United States, 1999–2014. MMWR Morb Mortal Wkly Rep 2016;65:1203. DOI: <http://dx.doi.org/10.15585/mmwr.mm6543a8external icon>. <https://www.cdc.gov/mmwr/volumes/65/wr/mm6543a8.htm>
Differences in death rates for suicide and motor vehicle accidents are not statistically different, $p < .05$.

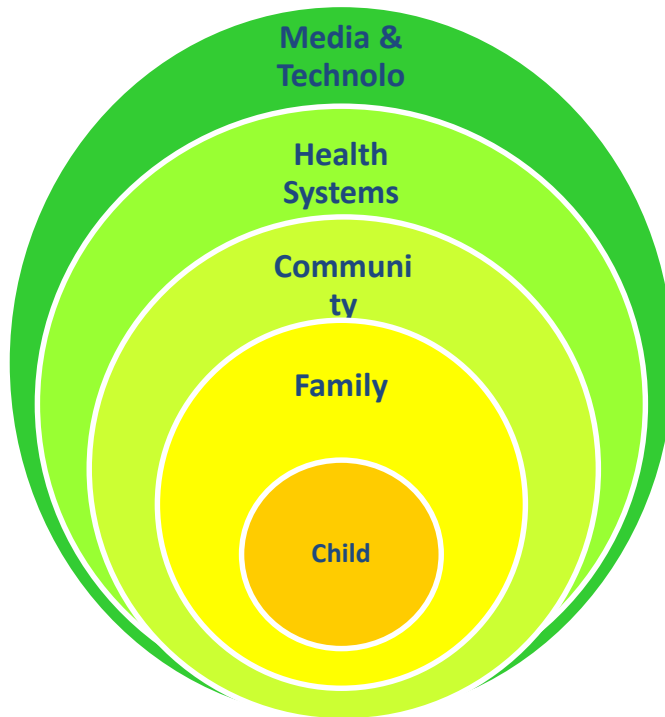


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SAFETY: Can Families & Communities, Function Like Protective Seatbelts?



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Thank You ???



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