



Prevention of Suicide & Deliberate Self-Harm in Youth

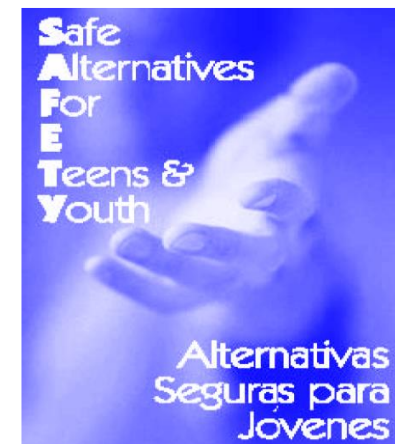
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Professor of Psychiatry & Biobehavioral Science

UCLA School of Medicine

**Plenary: Suicide Prevention
NIMH Outreach Partnership
Program**

**Bethesda, Maryland
August 1, 2019**



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- National Institute of Mental Health (NIMH)
 - R34MH078082
 - MH112147
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- Substance Abuse and Mental Health Services Administration (SAMHSA)
 - U79 SM080041
- American Foundation for Suicide Prevention (AFSP)
 - LSRG-0-009-13
- Centers for Disease Control and Prevention
 - CCR921708,



Presentation Goals

1. Scope of Problem
2. Treatment & Care Delivery
3. Nationwide Suicide Prevention

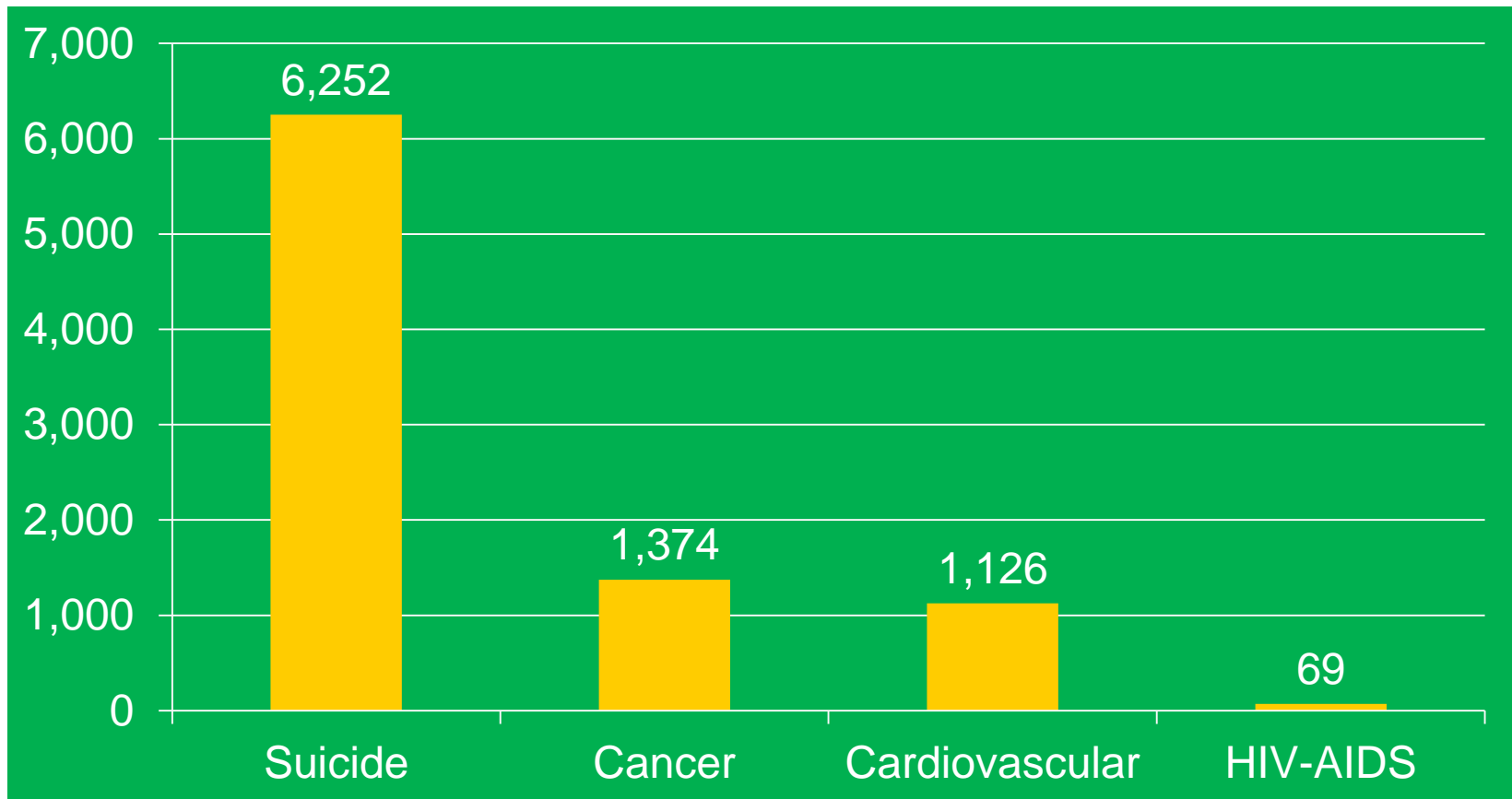
10 Leading Causes of Death, United States 2017, All Races, Both Sexes

	Age Groups										
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Congenital Anomalies 4,580	Unintentional Injury 1,267	Unintentional Injury 718	Unintentional Injury 860	Unintentional Injury 13,441	Unintentional Injury 25,669	Unintentional Injury 22,828	Malignant Neoplasms 39,266	Malignant Neoplasms 114,810	Heart Disease 519,052	Heart Disease 647,457
2	Short Gestation 3,749	Congenital Anomalies 424	Malignant Neoplasms 418	Suicide 517	Suicide 6,252	Suicide 7,948	Malignant Neoplasms 10,900	Heart Disease 32,658	Heart Disease 80,102	Malignant Neoplasms 427,896	Malignant Neoplasms 599,108
3	Maternal Pregnancy Comp. 1,432	Malignant Neoplasms 325	Congenital Anomalies 188	Malignant Neoplasms 437	Homicide 4,905	Homicide 5,488	Heart Disease 10,401	Unintentional Injury 24,461	Unintentional Injury 23,408	Chronic Low. Respiratory Disease 136,139	Unintentional Injury 169,936
4	SIDS 1,363	Homicide 303	Homicide 154	Congenital Anomalies 191	Malignant Neoplasms 1,374	Heart Disease 3,681	Suicide 7,335	Suicide 8,561	Chronic Low. Respiratory Disease 18,667	Cerebrovascular 125,653	Chronic Low. Respiratory Disease 160,201
5	Unintentional Injury 1,317	Heart Disease 127	Heart Disease 75	Homicide 178	Heart Disease 913	Malignant Neoplasms 3,616	Homicide 3,351	Liver Disease 8,312	Diabetes Mellitus 14,904	Alzheimer's Disease 120,107	Cerebrovascular 146,383
6	Placenta Cord Membranes 843	Influenza & Pneumonia 104	Influenza & Pneumonia 62	Heart Disease 104	Congenital Anomalies 355	Liver Disease 918	Liver Disease 3,000	Diabetes Mellitus 6,409	Liver Disease 13,737	Diabetes Mellitus 59,020	Alzheimer's Disease 121,404
7	Bacterial Sepsis 592	Cerebrovascular 66	Chronic Low. Respiratory Disease 59	Chronic Low. Respiratory Disease 75	Diabetes Mellitus 248	Diabetes Mellitus 823	Diabetes Mellitus 2,118	Cerebrovascular 5,198	Cerebrovascular 12,708	Unintentional Injury 55,951	Diabetes Mellitus 83,564
8	Circulatory System Disease 449	Septicemia 48	Cerebrovascular 41	Cerebrovascular 56	Influenza & Pneumonia 190	Cerebrovascular 593	Cerebrovascular 1,811	Chronic Low. Respiratory Disease 3,975	Suicide 7,982	Influenza & Pneumonia 46,862	Influenza & Pneumonia 55,672
9	Respiratory Distress 440	Benign Neoplasms 44	Septicemia 33	Influenza & Pneumonia 51	Chronic Low. Respiratory Disease 188	HIV 513	Septicemia 854	Septicemia 2,441	Septicemia 5,838	Nephritis 41,670	Nephritis 50,633
10	Neonatal Hemorrhage 379	Perinatal Period 42	Benign Neoplasms 31	Benign Neoplasms 31	Complicated Pregnancy 168	Complicated Pregnancy 512	HIV 831	Homicide 2,275	Nephritis 5,671	Parkinson's Disease 31,177	Suicide 47,173

WISQARS™ Produced By: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention

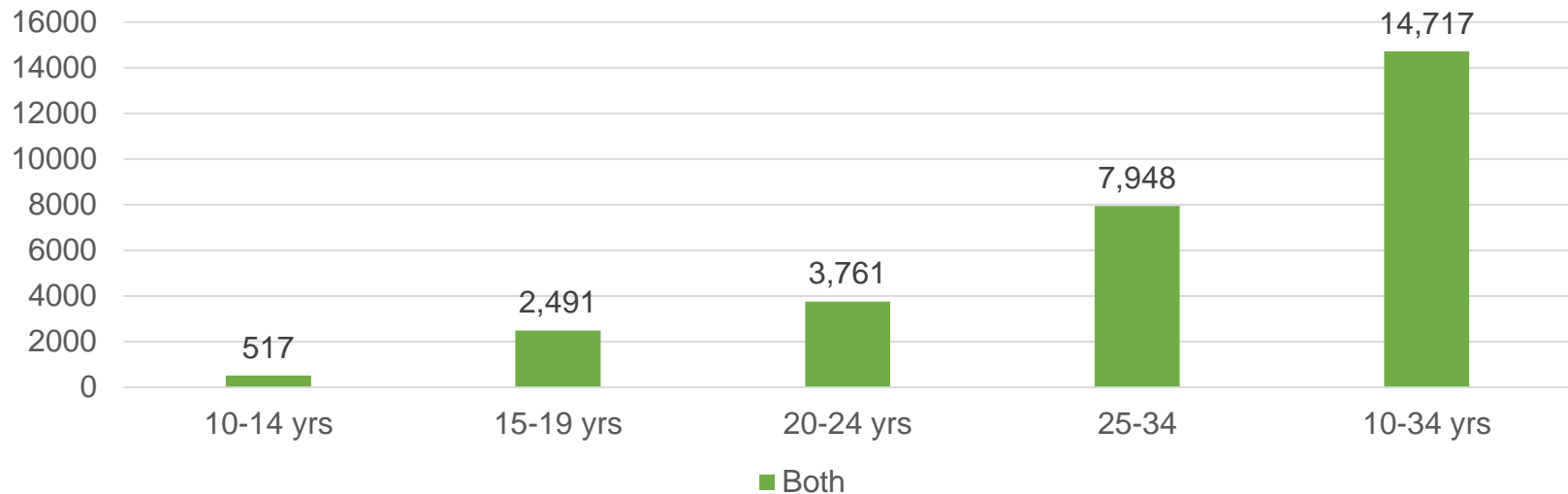
Data Source: National Center for Health Statistics (NCHS), National Vital Statistics System

Suicide Kills More Youths Than Other Major Medical Illnesses



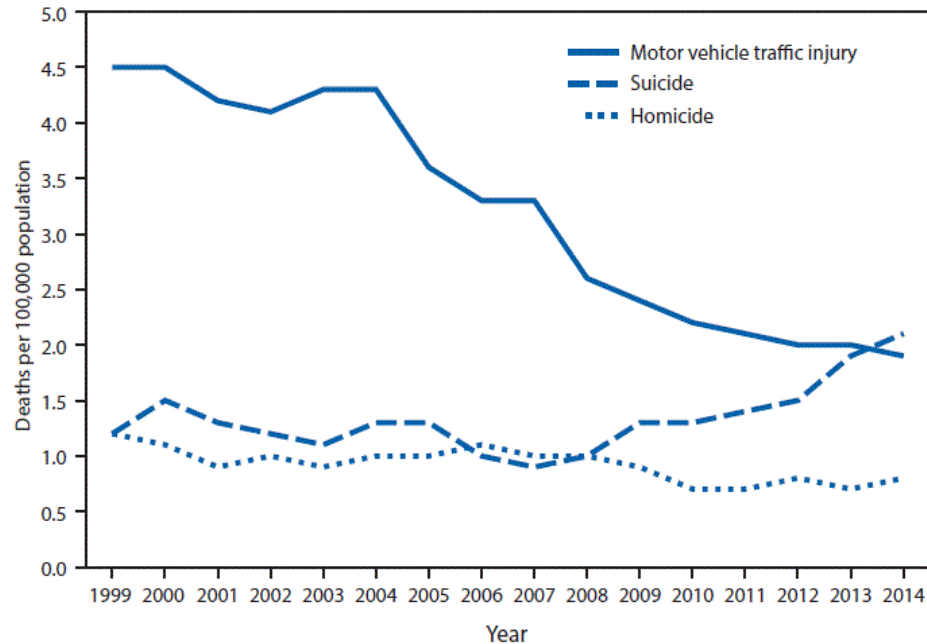
Suicide deaths increase from childhood to adolescence

Number of suicides among young people in the United States, 2017



National Vital Statistics Report, "Deaths: Final Data for 2017."

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, $p < .05$.

Prior Self-Harm is Reliable Predictor: Suicide & Premature Death More Likely for Self-Harm vs. General Population

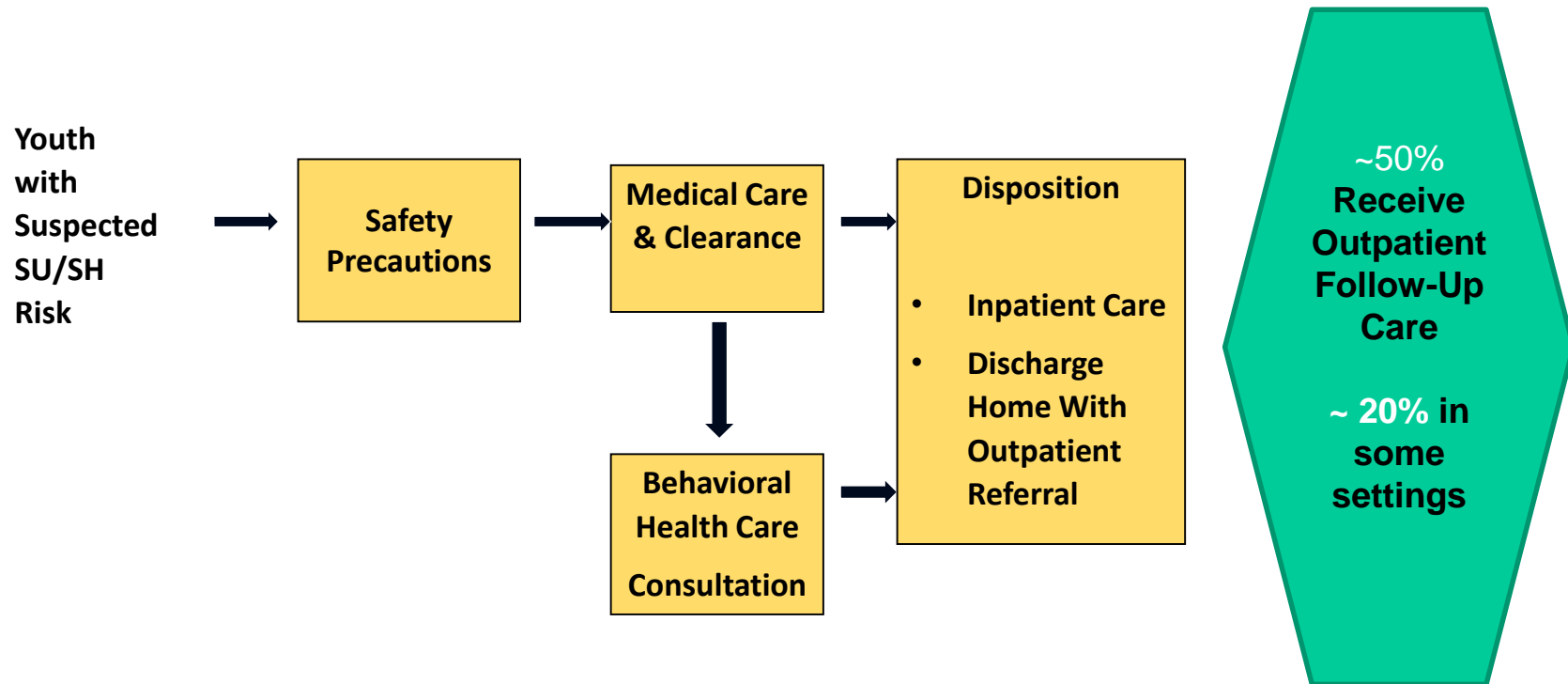
Hazard ratios for all cause and cause specific mortality for self harm cohort versus age, sex, and practice matched comparison cohort, 2001-2014 (age 10-19), UK, N=16,912

Cause of death*	Self harm cohort (n=8638)		Comparison cohort (n=170 274)		Hazard ratio (95% CI)	
	No of deaths	Rate per 1000 person years	No of deaths	Rate per 1000 person years	Unadjusted	Adjusted†
All causes:	43	5.47	176	1.11	5.78 (4.08 to 8.20)	5.71 (4.02 to 8.11)
Boys	25	12.03	74	1.76	8.61 (5.31 to 13.95)	8.64 (5.29 to 14.12)
Girls	18	3.11	102	0.88	3.95 (2.35 to 6.63)	3.93 (2.33 to 6.62)
All natural causes	15	1.91	104	0.66	3.38 (1.93 to 5.90)	3.41 (1.95 to 5.99)
All unnatural causes	28	3.56	72	0.45	9.31 (5.85 to 14.81)	9.35 (5.84 to 14.97)
Suicide	13	1.65	17	0.11	18.67 (8.32 to 41.87)	17.48 (7.55 to 40.46)
Suicide (including open verdicts)	16	2.04	24	0.15	17.31 (8.52 to 35.16)	16.95 (8.28 to 34.68)
Acute alcohol or drug poisoning	11	1.40	6	0.04	38.20 (13.23 to 110.28)	34.33 (10.19 to 115.69)
Accident	12	1.52	47	0.30	5.96 (3.08 to 11.53)	5.97 (3.05 to 11.68)

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.

Treatment & Care Delivery

Usual Care Process: Suicidal Episode



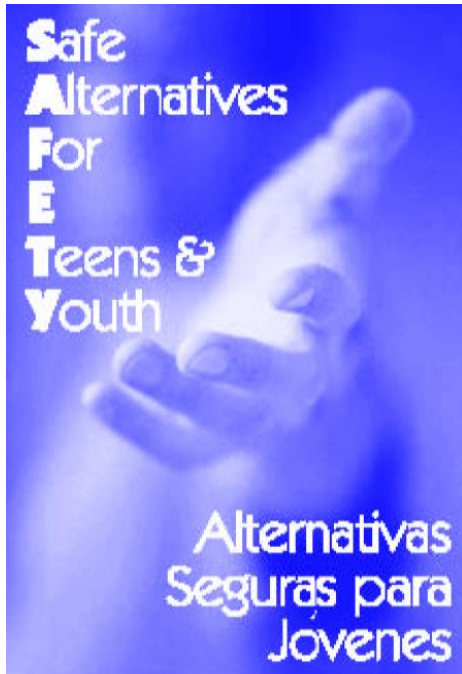
Olfson M, Gameroff MJ, Marcus SC, Greenberg T, Shaffer D. Emergency treatment of young people following deliberate self-harm.

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.

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



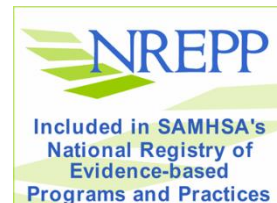
IMPROVED CONTINUITY OF
CARE
National Registry of Evidence
Based Practices.

Funding: CCR921708, Centers for
Disease Control and Prevention.

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.

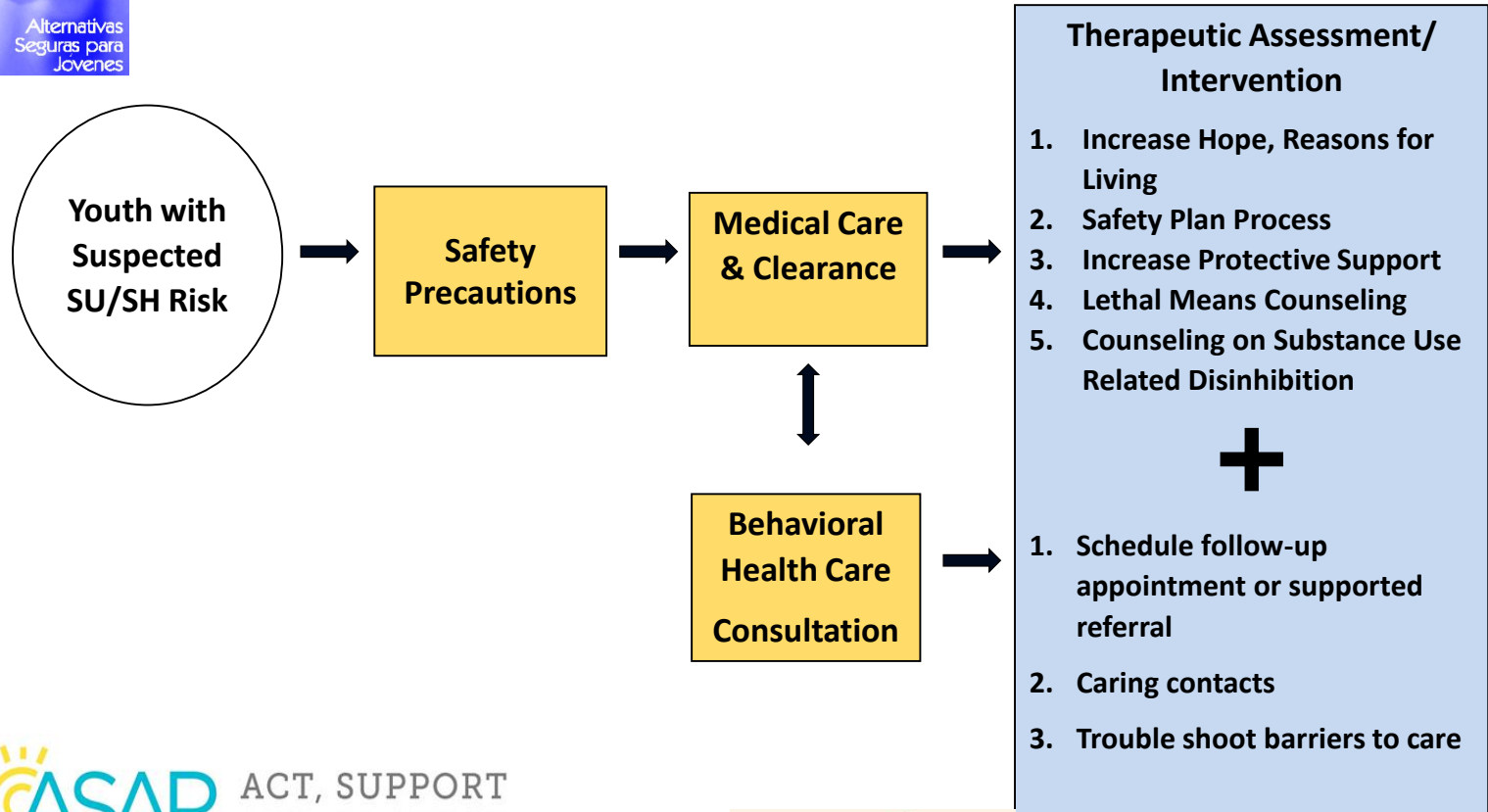
Rotheram-Borus MJ, Piacentini J, Cantwell C,
et al. (2000). The 18-month
impact of an emergency room intervention for
adolescent female suicide attempters. *J
Consult Clin Psychol:* 68(6),1081-93.

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



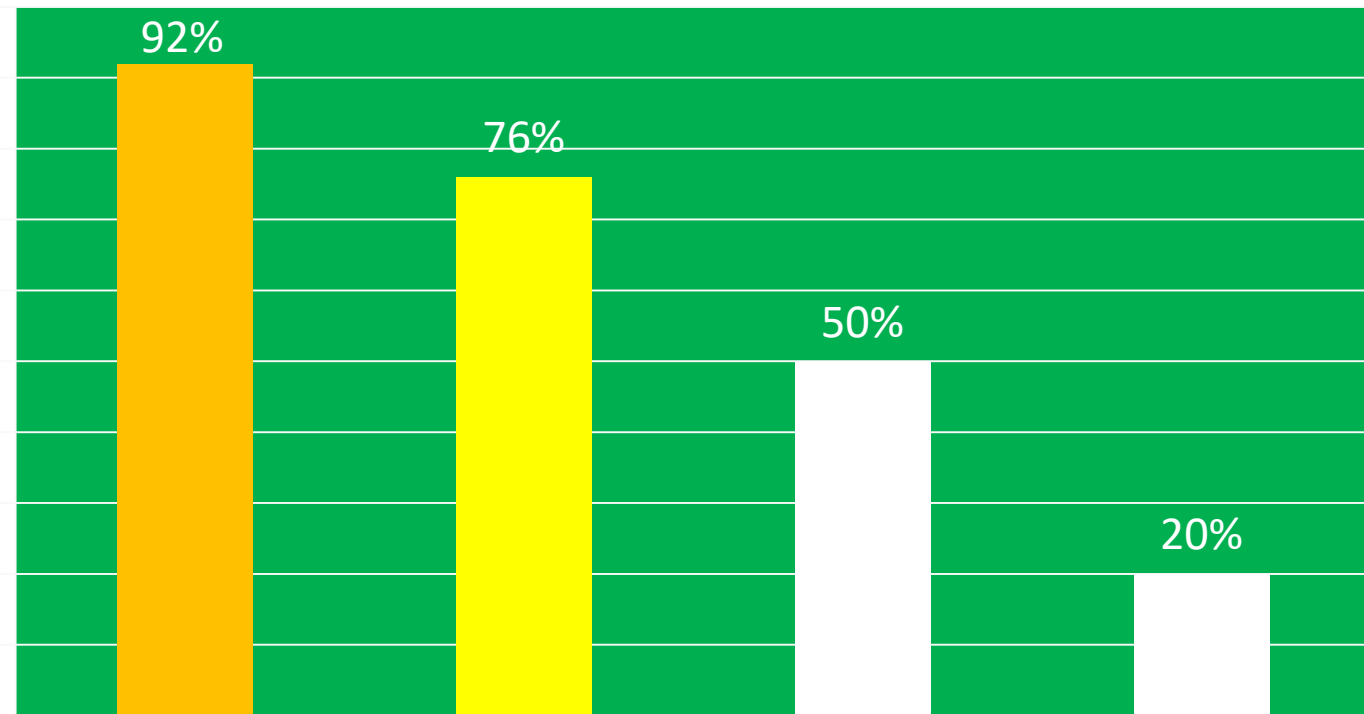


Care Process: FISP Model



FISP-IMPROVED CONTINUITY OF CARE EMERGENCY SETTINGS

National Strategy for Suicide Prevention, Objective 8.4



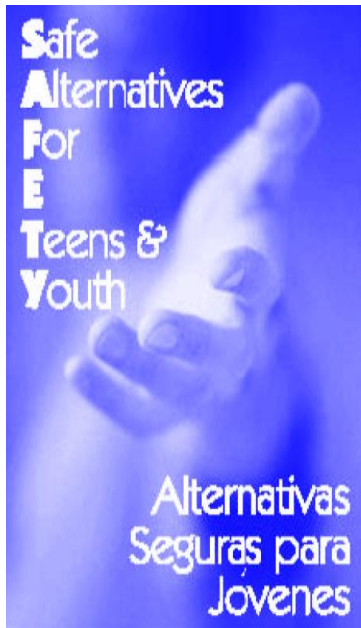
OR 6.2, 95% CI 1.8-21.3, p=.004. FISP (Orange) vs Enhanced Usual ED Care (Yellow) vs. National Data (White)

Asarnow JR, Baraff LJ, Berk M, Grob CS, Devich-Navarro M, Suddath R, Piacentini JC, Rotheram-Borus MJ, Cohen D, Tang L. An emergency department intervention for linking pediatric suicidal patients to follow-up mental health treatment. Psychiatr Serv. 2011 Nov;62(11):1303-9.

TAU 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
SUICIDAL BEHAVIOR								
Treatment					-1.80	3.40	-0.53	0.596
FISP	0.83	0.33	2.51	0.012				



Cognitive-Behavioral Family Treatment for Suicide Attempt Prevention: A Randomized Controlled Trial

NIMH R34MH078082

American Foundation for Suicide Prevention

Asarnow JR, Hughes JL, Babeva K, Sugar C. Cognitive-behavioral family treatment for suicide attempt prevention: a randomized controlled trial. *J Am Acad of Child Adolesc Psychiatry*. 2017; 56(6): 506-514. doi:10.1016/j.jaac.2017.03.015.

SAFETY PROGRAM: DBT-Informed Cognitive-Behavioral Family Treatment for Youths after a Suicide Attempts/ Self-Harm Episode

- **Time limited, 12-week program**
- **Designed to**
 - **be incorporated within emergency mental health programs**
 - **address need for treatment after a suicide attempt or self-harm episode**
 - **Builds on DBT, CBT, MST, FISP, SNAP treatments**

SAFETY Treatment Sessions Include Youth, Parent & Family Components



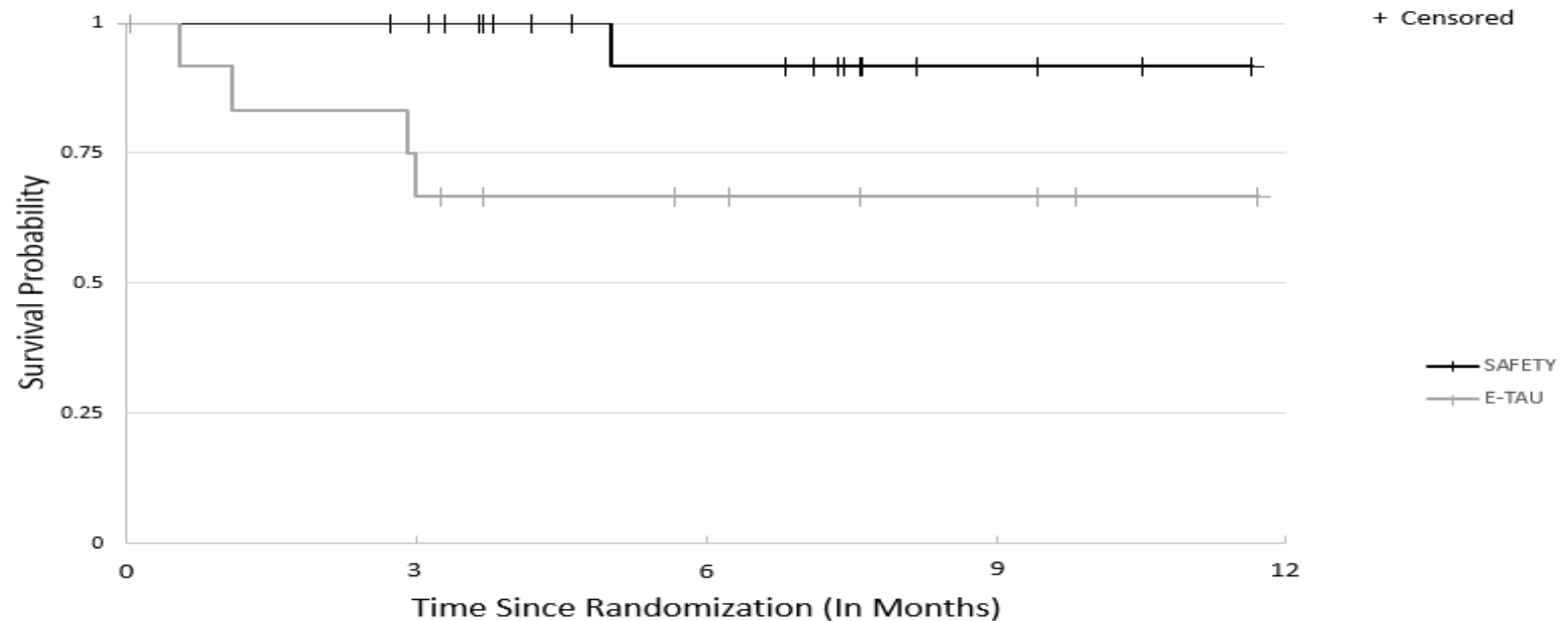
Session Components

- Youth
- Parent
- Family

Build a “family” when needed.

Higher probability of survival without a suicide attempt for youths randomized to SAFETY vs. Enhanced-TAU:

1.00 vs. 0.67, $p < .02$, NNT=3 at 3-months; 0.92 vs. 0.67 at 365 days; Wilcoxon $X^2(1)=5.81$, $p < .02$



Number at Risk

SAFETY:

20

19

12

3

0

E-TAU:

22

9

5

3

0

Asarnow JR, Hughes JL, Babeva K, Sugar C. Cognitive-behavioral family treatment for suicide attempt prevention: a randomized controlled trial. *J Am Acad of Child Adolesc Psychiatry*. 2017; 56(6): 506-514.
doi:10.1016/j.jaac.2017.03.015.

Treatment of Suicidal & Self-Injurious Adolescents with Emotional Dysregulation

NIMH MH093898

C
A
R
E
S

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



CARES: Study Design

•12-18 years old
•Suicide Attempt
•Repetitive Self-Harm
•Current suicidal ideation
•Emotionally Dysregulated, BPD
N = 173

Dialectical Behavior Therapy for
6 months
(DBT)
N = 86

Individual and Group
Supportive Therapy for 6
months
(IGST)
N = 87

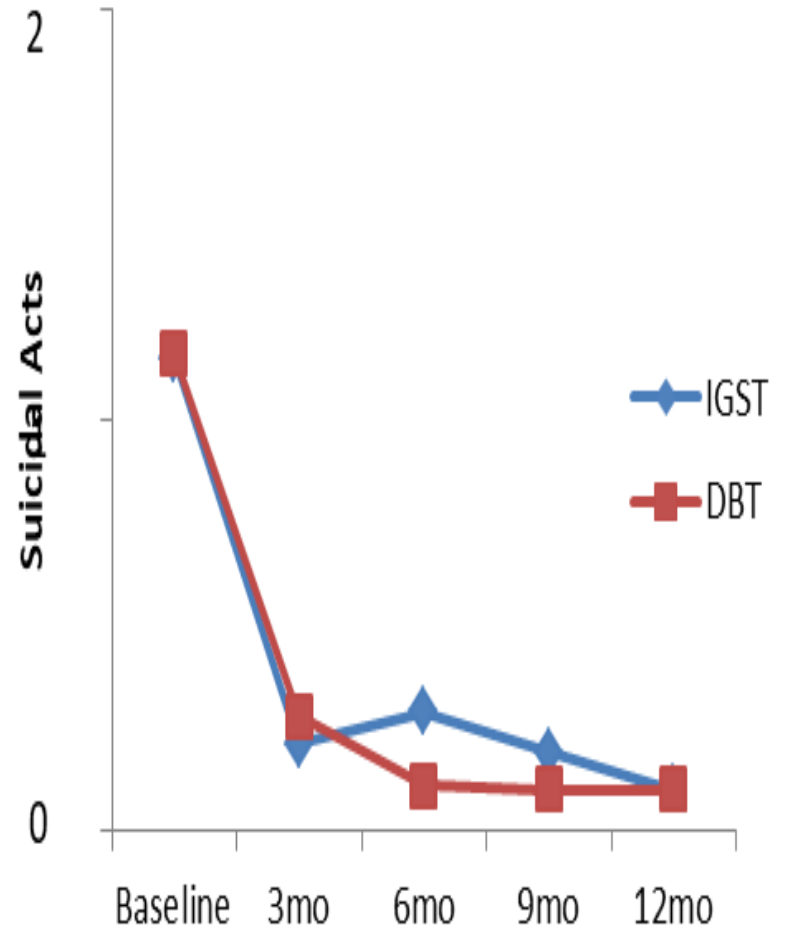
*Outcomes monitored at 3, 6, 9, and 12 months. Randomization considered: age (<16, ≥16); SA history (1, >1); NSSI (0-6, >6); Psychiatric medication (yes, no).

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).



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

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.

Treatment: What do we know?

- 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.⁵
- 3 RCTs show that CBT with **strong combined individual and family component** lead to reduced suicide attempt relative to comparator conditions: I-CBT; SAFETY; DBT.¹⁻³
- 2 separate demonstrations that DBT is effective for decreasing self-harm in adolescents.³⁻

¹Esposito-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.

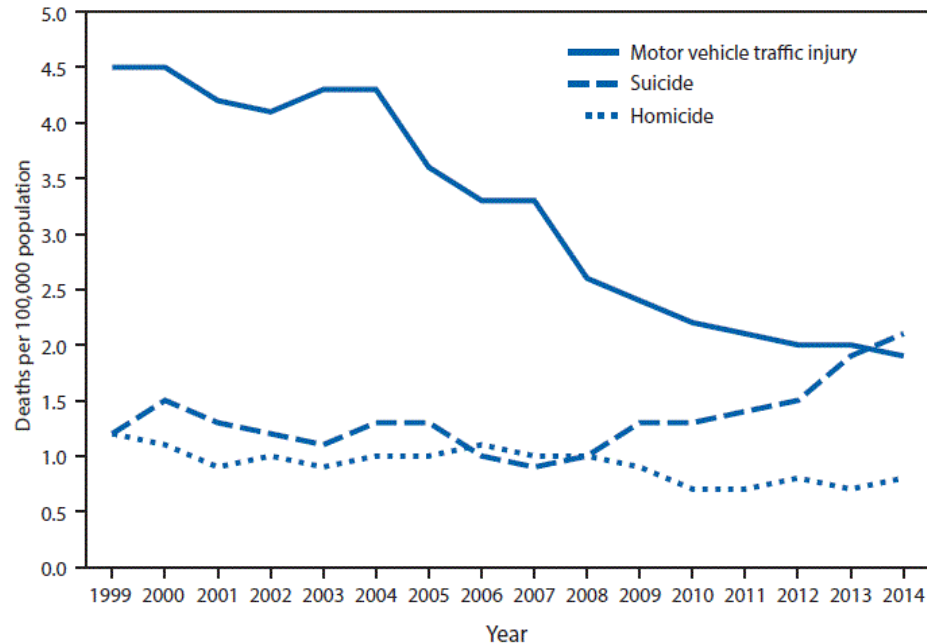
²Asarnow JR, Hughes JL, Babeva KN, Sugar CA. Cognitive-Behavioral Family Treatment for Suicide Attempt Prevention: A Randomized Controlled Trial. *J Am Acad Child Adolesc Psychiatry*. 2017 Jun;56(6):506-514.

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, Tørmoen 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.

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>

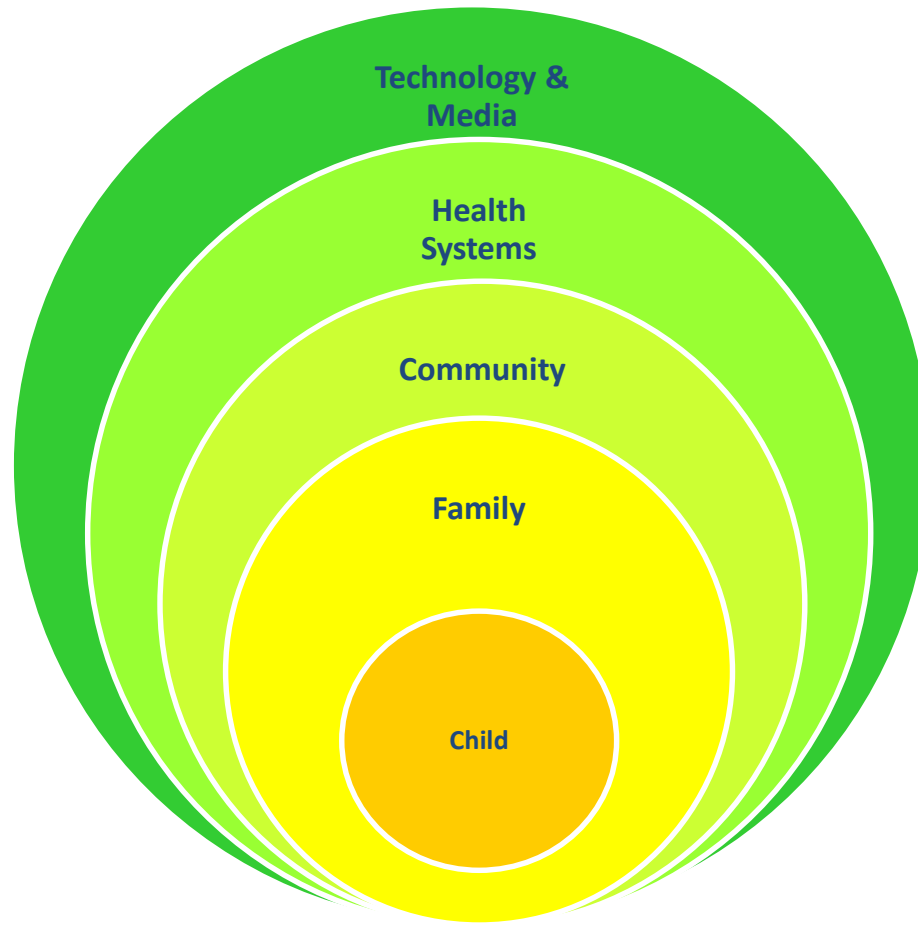
<https://www.cdc.gov/mmwr/volumes/65/wr/mm6543a8.htm>

Differences in death rates for suicide and motor vehicle accidents are not statistically different, $p < .05$.

SAFETY: Parents as Seat Belts



Nationwide Suicide Prevention



Social Ecological Perspective



Commitment to suicide prevention in health and behavioral health care systems

Randomized Trial of Stepped Care for Suicide Prevention in Teens & Young Adults

NIMH, MH112147

PIs: Joan Asarnow & Greg Clarke



Primary Study Aims

- Use rigorous RCT methodology to compare:
 1. Stepped Care for Suicide Prevention (ZSQI+ SCSP)
 2. Health System TAU, Enhanced by Zero Suicide Quality Improvement

- To evaluate cost-effectiveness



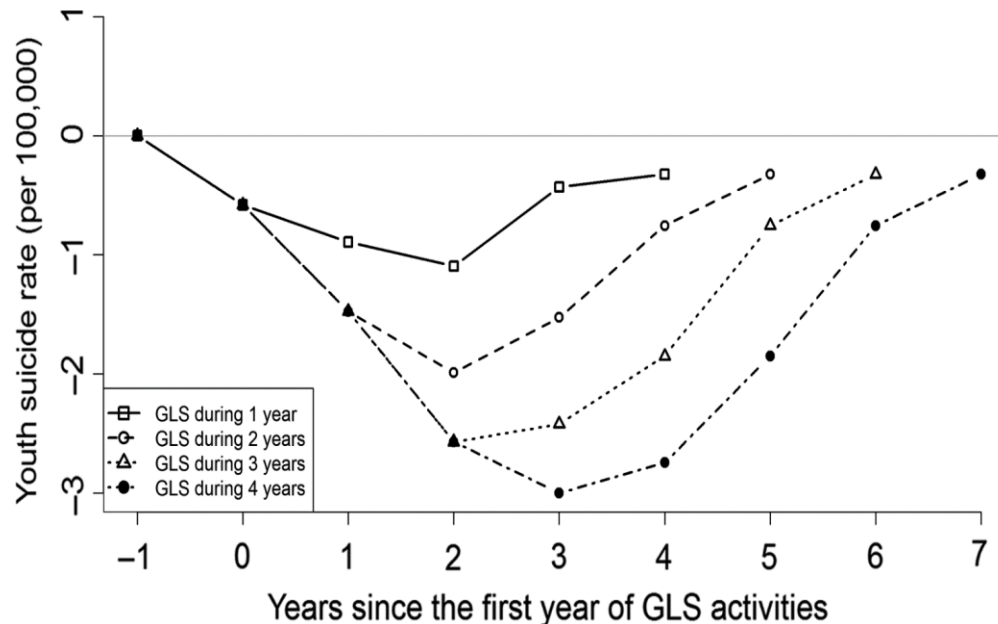
SZH Stepped STEP2Health Care Model

- Treatment model matches assessed need/risk level to intensity of services (care manager + eCBT/DBT video, with stepped up in-person group and/or individual treatment added for higher risk youths)
- Monitoring of patient outcomes (clinical dashboard), with real-time feedback to clinicians to facilitate decision-making and use of the stepped care algorithms
- 12 month treatment period with youths transitioned to usual care health system services following a 6-month acute treatment period

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

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

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.





Joan Asarnow, PhD
UCLA
David Goldston, PhD
Duke
SAMHSA, U79
SM080041



Traumatic stress associated with increased risk of suicidal and self-harm behavior

www.asapnctsn.org



ABOUT US CONTACT US **WHAT WE DO**  

TRAINING LOGIN

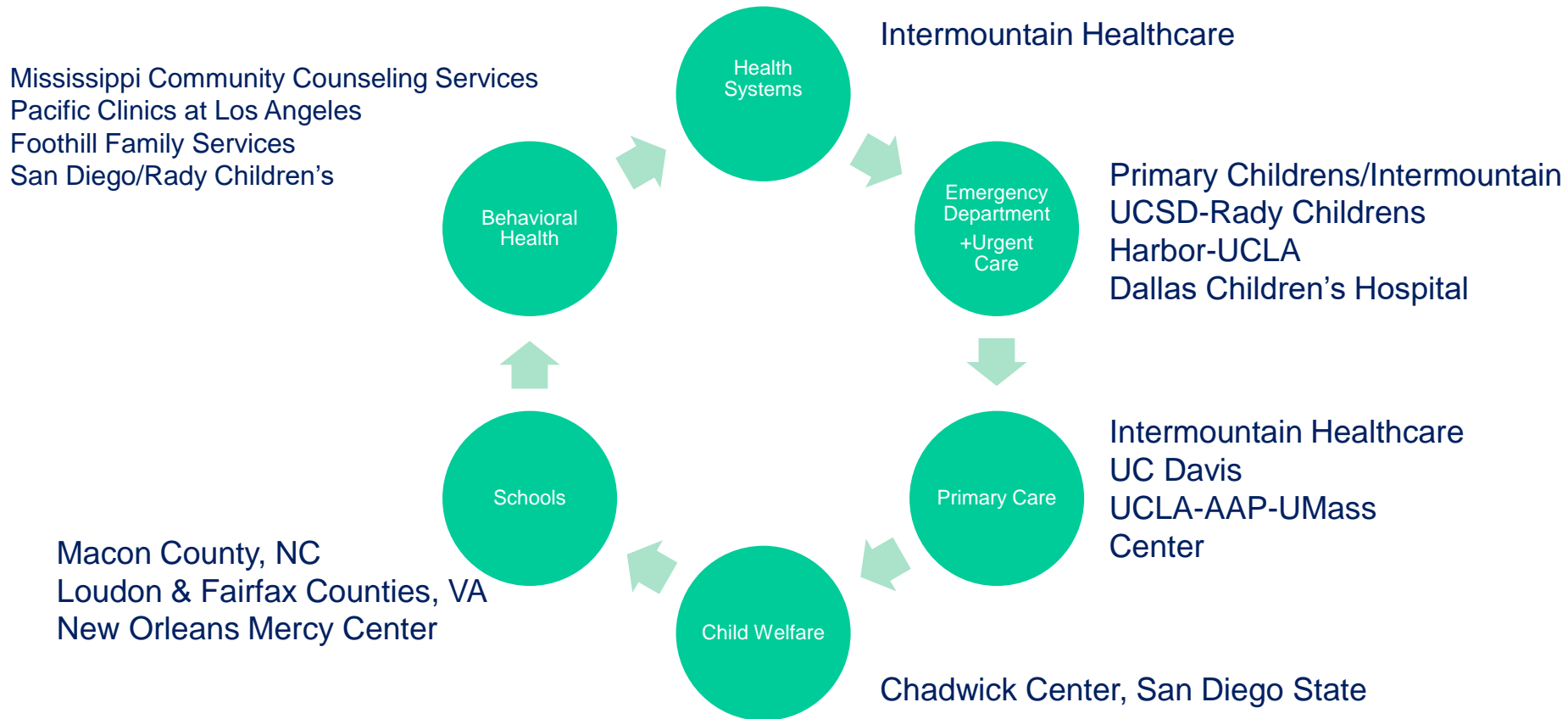


UCLA-DUKE ASAP CENTER

for Trauma-Informed Suicide,
Self-Harm & Substance Abuse
Prevention & Treatment

3 attempts in the last year **46%** of U.S. youth report experiencing an Adverse Childhood Event **21%** of U.S. high school students hav

ASAP Center: Service System Collaborations





[FAD](#)

[TALK TO SOMEONE](#)

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](#)

Thank You
???



ACT, SUPPORT
AND PROTECT