



# TeenScreen National Center Webinar Series

## *Service Use by At-Risk Youth After School-Based Suicide Screening*

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**SCREENING:  
DIRECT CASE-FINDING BY SELF-  
ADMINISTERED QUESTIONNAIRE  
— M O D E L —**

**SCREEN FOR**

Mood disorder

Suicidal ideation

Suicide attempts

Substance and alcohol abuse



**CASE-MANAGE**



**TREAT**

# Screening

## Underlying rationale

- Strategies to identify and refer suicidal youth are based on the valid premise that suicidal adolescents are under-identified (Kashani et al., 1989; Shaffer et al., 1990; Shaffer & Craft, 1999; Velez et al., 1988).
- Youth suicide occurs in the context of an active, often treatable, mental illness (Brent et al., 1999; Groholt et al., 1998; Shaffer et al., 1996).
- Potent risk factors have been established that can identify high risk youth (Gould et al., 2003).

# Screening

## Examples of Programs

- TeenScreen

*(Shaffer & Craft, 1999; Shaffer et al., 2004)*

- U.S. College Screening Project

Web-based service *(Haas et al., 2003)*

- Signs of Suicide (SOS)

Hybrid of student educational component  
and screen

*(Aseltine, 2003; Asentline & DeMartino, 2004;Aseltine et al., 2007)*

# Screening

## Beneficial Effects

- Clinical validity and reliability findings of school-based screening procedures are encouraging (*Aseeltine, 2003; Aseeltine & DeMartino, 2004; Thompson & Eggert, 1999; Reynolds, 1991; Shaffer & Craft, 1999; Shaffer, 2004*).
- Shown to identify high risk students - very good to excellent sensitivity 75% - 100% few false negatives
- Many high risk teens were not otherwise known (*Scott et al., 2009*)
- “SOS” found short-term decrease in attempts (*Aseeltine et al., 2007*)
- Facility-level risk of serious suicide attempts reduced by screening in *juvenile justice* facilities (*Scherff et al., 2005*)
- Cost effective
- **Safe** (*Gould et al., 2005*)

# Screening Limitations

- Poor specificity - many false positives  
second-stage evaluations necessary
- Suicide risk “waxes and wanes”  
multiple screenings may be necessary
- Implementation meets resistance by HS  
principals and superintendents
- Treatment resources need to be available

# SCREENING

## Gaps in Knowledge about Effectiveness

There has been little systematic assessment of whether at risk youth have accessed services *after* their identification by the screen and whether their health status has improved.

A suicide screening procedure is only as effective as its ability to get at-risk students the care they need.

## SPECIFIC AIMS

### MAIN AIMS:

- What are the rates of service use by at-risk youth?
- What types of services have at-risk youth used?
- What types of barriers to accessing services do at-risk youth and their parents perceive?
- To what extent have at-risk students improved 2-3 years after the screen? Is their subsequent health status a function of receiving services?

## DESIGN

- A follow-up study of a cohort of youth identified as at-risk for suicidal behavior was conducted.
- The cohort of at-risk teenagers was previously identified during a two-stage screening program conducted in 6 schools in Nassau, Suffolk and Westchester counties in New York State.\*
- The 6 schools (2,342 students) were screened from Fall of 2002 through Spring of 2004.\*

\* Gould, M.S., Marrocco, F.A., Kleinman, M., Thomas, J.G., Mostkoff, K., Cote, J., & Davies, M. (2005). Evaluating iatrogenic risk of youth suicide screening programs: A randomized controlled trial. *Journal of the American Medical Association*, 293(13), 1635-1643.

## Specific Aims of Earlier Study

To answer

- Does asking about suicidal ideation or behavior during the course of a screening program create distress or increase suicidal ideation among high school students?
- Does asking about suicidal ideation or behavior create distress or increase suicidal ideation in some *high-risk* students, such as depressed or substance-abusing youngsters or those with a past history of suicide attempts?

# Overall Research Design of Earlier Study

Timeline	Experimental Group	Control Group
<b>Day 1 (survey 1)</b>		
Baseline POMS-A1	✓	✓
Beck Depression Inventory	With suicide question	Without suicide question
Drug Use Screening Inventory	✓	✓
Suicidal Ideation Questionnaire	✓	
Suicide attempt history	✓	
Immediate POMS-A2	✓	✓
<b>Day 3 (survey 2)</b>		
Persistent POMS-A3	✓	✓
Interim depression question	✓	✓
Suicide questions		
Interim suicide item	✓	✓
Suicidal Ideation Questionnaire	✓	✓
Suicide attempt history	✓	✓
Beck Depression Inventory suicide item	✓	✓

## Results of Earlier Study

- No differential dropout after Day 1
- Asking about suicidal ideation/behavior does NOT create distress
- Asking about suicidal ideation/behavior does NOT increase suicidal ideation
- High-risk students are NOT more distressed or suicidal after being asked about suicidal ideation or behavior; on the contrary, depressed students and previous suicide attempters appeared less distressed and suicidal after being asked about suicidal ideation or behavior



**SCREENING IS SAFE**

## SPECIFIC AIMS OF CURRENT STUDY

### MAIN AIMS:

- What are the rates of service use by at-risk youth?
- What types of services have at-risk youth used?
- What types of barriers to accessing services do at-risk youth and their parents perceive?
- To what extent have at-risk students improved 2-3 years after the screen? Is their subsequent health status a function of receiving services?

## DEFINITION OF “AT-RISK” YOUTH (I)

- Definition based on extensive research employing the psychological autopsy method for completed suicide and the general population epidemiologic surveys of non-lethal suicidal behavior.
- Depression, substance abuse, and a history of suicidal behavior are the key risk factors for suicidal ideation/behavior among adolescents.
- At-risk cohort includes those youth who reported recent or past suicidal behavior, prominent current suicidal ideation, moderate to severe depression and/or substance use impairment.

## DEFINITION OF “AT-RISK” YOUTH (II)

### Suicidal Ideation Questionnaire (SIQ-JR)

Total score  $\geq 31$

Endorsements of any of 6 SIQ-JR “critical items” at clinically significant levels of “a couple of times a week ” or “ almost every day”

“ I thought about killing myself ”

“ I thought about how I would kill myself ”

“ I thought about when I would kill myself ”

“ I thought about what to write in a suicide note”

“ I thought about writing a will ”

“ I thought about telling people I had a plan to kill myself ”

### Assessment of Suicide Attempts

A report of any attempt

## DEFINITION OF “AT-RISK” YOUTH (III)

### Beck Depression Inventory (BDI)

A total BDI score  $\geq 16$

Endorsement of the BDI item “ I would like to kill myself ” or “ I would kill myself if I had a chance ”

### Drug Use Screening Inventory (DUSI)

Endorsement of 4 out of 8 of the clinically most significant impairment items

“ Have you felt you could not control your alcohol or drug use? ”

“ Have you felt that you were “hooked” on alcohol or drugs? ”

“ Did you have a car accident after using alcohol or drugs? ”

“ Have you accidentally hurt yourself or someone else after using alcohol or drugs? ”

“ Have you broken things or gotten into fights when you have been using alcohol or drugs? ”

“ Have you missed or been late to school because of alcohol or drugs? ”

“ Have you been in trouble at school because of alcohol or drugs? ”

“ Have alcohol or drugs interfered with your homework or school assignments? ”

## CLINICAL PROCEDURES WITH AT-RISK STUDENTS

- A face-to-face clinical evaluation was conducted with all suicidal youth to validate their responses on the screening surveys.
- The parents of each at-risk student were contacted by a project clinical social worker to initiate case-management and referral procedures.

## DESIGN OF FOLLOW UP

- Each at-risk youth and his/her parent were interviewed approximately 2 years after the screen to assess:
  - Information on service use during the intervening period
  - Barriers that may have interfered with seeking or receiving treatment
  - Risk status of the youth at follow-up

# SUMMARY OF ASSESSMENT INSTRUMENTS

	BASELINE	FOLLOW-UP
Adolescents	SIQ-JR plus attempts BDI DUSI CIS-Y Coddington Life Event Schedule Bullying/Bullied Experiences Sensation-seeking Exposure to suicidal behavior Restrictive Emotionality Help Seeking Utilization Questionnaire – brief version	Academic & Occupational Questions SIQ-JR plus attempts BDI DUSI CIS-Y SACA plus HSUQ addendum: <i>Reasons for non-use</i> <i>Frequency of informal sources of help</i> Child-Reasons for Stopping Therapy (CReST items integrated into SACA) Coddington Life Event Schedule
Parents	NA	Parent Demographic Questions CIS-P SACA plus HSUQ addendum: <i>Reasons for non-use</i> <i>Frequency of informal sources (parent)</i> CReST (Items integrated into SACA) Caregiver Strain Questionnaire (CGSQ)

## FOLLOW-UP PROTOCOL

### **SPECIFIC PROCEDURES**

- Telephone interviews with the at-risk cohort and their parents assessed
  - Information on service use during the intervening period
  - Barriers that may have interfered with seeking or receiving treatment
  - Risk status of the youth at follow-up
- Approximately 1 to 1 ½ hours
- Our previous studies have demonstrated feasibility for our specific population and assessment procedures for telephone interviews ranging from 45 minutes to 2 hours
- Costs would increase substantially if home visits were conducted

**SAMPLE**  
*at Baseline*

Total

N = 2,342

At-Risk

N = 317 (13.5%)

Age

14.9 years

15.0 years

Male

1360 (58.1%)

132 (41.6%)

Female

982 (41.9%)

185 (58.4%)

Ethnicity

White

1903 (80.3% )

248 (78.2%)

African American

109 (5.1%)

15 (4.7%)

Hispanic

181 (7.3%)

31 (9.8%)

Asian

76 (3.8%)

12 (3.8%)

Other

73 (3.5%)

11 (3.5%)

**TABLE 1**  
 Characteristics of Follow-Up Participants and Nonparticipants

	Total ( <i>n</i> = 317)		Participants ( <i>n</i> = 223)		Nonparticipants ( <i>n</i> = 94)	
Age*, mean (SD)	15.0	(1.0)	15.0	(1.2)	14.7	(1.1)
Sex*, <i>n</i> (%)						
Male	132	(41.6)	82	(36.8)	50	(53.2)
Female	185	(58.4)	141	(63.2)	44	(46.8)
Ethnicity, <i>n</i> (%)						
White	248	(78.2)	178	(79.8)	70	(74.5)
African American	15	(4.7)	9	(4.0)	6	(6.4)
Hispanic	31	(9.8)	23	(10.3)	8	(8.5)
Asian	12	(3.8)	6	(2.7)	6	(6.4)
Other	11	(3.5)	7	(3.1)	4	(4.3)
Risk status at screen, <i>n</i> (%)						
Serious ideation	82	(26.5)	54	(25.0)	28	(29.8)
Past attempts	92	(29.0)	66	(29.6)	26	(27.7)
Depression	251	(79.9)	173	(78.6)	78	(83.0)
Substance problem	79	(24.9)	62	(27.8)	17	(18.1)
Functional impairment at screen, <i>n</i> (%)	145	(45.7)	100	(44.8)	45	(47.9)

\**p* < .05.

## Service Use by At-Risk Youth After Suicide Screening

**TABLE 2**

Treatment Status at Time of Screen by Students' Demographic and Clinical Characteristics

	In Treatment ( <i>n</i> = 90)		Not in Treatment ( <i>n</i> = 227)		Odds Ratios (95% Confidence Interval)
Age*, mean (SD)	15.27	(1.21)	14.81	(1.14)	1.39 (1.13 1.71)
Sex, <i>n</i> (%)					
Male	36	(40.0)	96	(42.3)	1.10 (0.67 1.81)
Female	54	(60.0)	131	(57.7)	
Ethnicity, <i>n</i> (%)					
White	76	(84.4)	172	(75.8)	1.76 (0.94 3.29) <sup>a</sup>
African American	3	(3.3)	12	(5.3)	
Hispanic	8	(8.9)	23	(10.1)	
Asian	1	(1.1)	11	(4.8)	
Other	2	(2.2)	9	(4.0)	
Risk status at screen, <i>n</i> (%)					
Serious ideation	24	(27.9)	58	(25.9)	1.11 (0.63 1.94)
Past attempts	39	(43.3)	53	(23.3)	2.51 (1.50 4.22)**
Depression	73	(82.0)	178	(79.1)	1.21 (0.64 2.26)
Substance problem	25	(27.8)	4	(23.8)	1.23 (0.71 2.14)
Functional impairment at screen, <i>n</i> (%)	53	(68.9)	92	(42.4)	2.42 (1.43 4.11)*

<sup>a</sup>The analysis contrasted whites versus all others.

\**p* < .01; \*\*\**p* < .001.

## SCREENING REFERRAL RECOMMENDATIONS

N = 227 not receiving any  
mental health services

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Referral Made	118
Provider List Provided	35
No Recommendation	74

## UTILIZATION OF A NEW\* SERVICE *At Follow-Up*

Recommendation Type	Used New Service
<b>Referral (N = 78)</b>	<b>54 (69.2%)</b>
Provider List Provided (N = 26)	11 (42.3%)
No Recommendation (N = 47)	15 (31.9%)

\*a NEW service is defined as a participant who was not currently utilizing any type of service at the time of the screening program

\*\*151 = number of participants in follow-up that were not in a concurrent service at the time of the screen

## Service Use by At-Risk Youth After Suicide Screening

**TABLE 3**

Service Use Follow-Through Among Those Given a Referral<sup>a</sup> by Students' Demographic and Clinical Characteristics

	Service Use Follow-Through ( <i>n</i> = 54)		No Service Use Follow-Through ( <i>n</i> = 24)		Odds Ratios (95% Confidence Interval)
	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>	
Age ( <i>N</i> = 78), mean (SD)	14.9	(1.1)	15.1	(1.1)	0.86 (0.55 1.34)
Sex					
Male ( <i>n</i> = 31)	20	64.5	11	35.5	1.44 (0.54 3.81)
Female ( <i>n</i> = 47)	34	72.3	13	27.7	
Ethnicity, % <sup>b</sup>					
White ( <i>n</i> = 53)	39	73.6	14	26.4	2.01 (0.75 5.42) <sup>c</sup>
African American ( <i>n</i> = 3)	3	100	0	0	
Hispanic ( <i>n</i> = 13)	8	61.5	5	38.5	
Asian ( <i>n</i> = 5)	2	40.0	3	60.0	
Other ( <i>n</i> = 4)	2	50.0	2	50.0	
Risk status at screen <sup>d</sup>					
Serious ideation ( <i>n</i> = 29)	21	72.4	8	27.6	1.31 (0.48 3.61)
Past attempts ( <i>n</i> = 20)	14	70.0	6	30.0	1.05 (0.35 3.18)
Depression ( <i>n</i> = 58)	44	75.9	14	24.1	3.14 (1.09 9.10)*
Substance					
Problem ( <i>n</i> = 27)	19	70.4	8	29.6	1.09 (0.39 3.00)
Functional impairment at screen ( <i>n</i> = 37)	28	75.7	9	24.3	2.12 (0.78 5.75)

<sup>a</sup>Among those not in treatment at the time of the screen.

<sup>b</sup>Row percents.

<sup>c</sup>The analysis contrasted whites versus all others.

<sup>d</sup>The risk status groups are not mutually exclusive.

\**p* < .05.

## TYPE OF TREATMENT

N = 53\*

Psychotherapy alone	44 (83.0%)
Psychotherapy and Medication	6 (11.3%)
Other	3 ( 5.7%)

\*1 unknown treatment type

## TYPE OF SERVICE

N = 54

Outpatient Alone	25 (46.2%)
School Services Alone	7 (12.9%)
Multiple Services	22 (40.7%)

## Service Use by At-Risk Youth After Suicide Screenings

**TABLE 4**  
Perceived Barriers to Service Among Those Given a Referral Who Did Not Follow Through

	Parents ( $N^a = 17$ )		Youths ( $N^a = 18$ )	
	<i>n</i>	%	<i>n</i>	%
Structural				
Services too expensive	1	5.9	2	11.1
Did not know where to go	0	0	1	5.6
Had to wait too long	0	0	0	0
Transportation	0	0	1	5.6
Would take too much time	0	0	2	11.1
Any of the structural barriers	1	5.9	2	11.1
Perceptions about mental health problems				
Parent did not think child had a problem	9	52.9	NA	
Child did not think child had a problem	5	29.4	12	75.0
Problem not serious enough	9	52.9	6	33.3
Thought it would get better	5	29.4	4	22.2
Wanted to solve problem ourselves	7	41.2	1	5.6
Thought family would help	3	17.6	1	5.6
Child no longer needed help	4	23.5	2	11.1
Any perceptions about mental health problems	16	94.1	17	94.4
Perceptions about mental health services				
Concerned what family would say	0	0	0	
Concerned what others would say	0	0	0	
Would not do any good	1	5.9	4	22.2
Did not help in past	0	0	2	11.1
Child ashamed	0	0	0	0
Parent ashamed	0	0	NA	
Against beliefs	0	0	0	0
Would not trust advice	1	5.9	1	5.6
Family objected	0	0	0	0
Too personal	1	5.9	2	11.1
Any perceptions about mental health services	2	11.8	4	22.2

<sup>a</sup>Twenty-four participants in the follow-up study had been given a referral and did not receive follow-up service use. The smaller *n*'s of parents and youths in the table reflect missing data. NA = not applicable.

## CONCLUSIONS (I)

- Vast majority of at-risk youth were not in treatment at time of screen.
- Approximately two thirds of those referred to treatment had used a new service by the follow-up 2 years later.
- Services accessed were mainly outpatient services, incorporating some form of psychotherapy rather than pharmacotherapy.
- Access to services by youths depends on the recognition and action of key adults, as well on their own perception of a problem.

## CONCLUSIONS (II)

- Screening seems to be effective in enhancing the likelihood that students at risk for suicidal behavior will get into treatment.

However, nearly one third of at-risk students still do not get into treatment.

- Screening and referral services need to be coordinated to facilitate timely access into treatment.
- Need to enhance the engagement of parents and youths and address their perceptions about mental health problems.

# Contact Information

[MentalHealthCheckups@childpsych.columbia.edu](mailto:MentalHealthCheckups@childpsych.columbia.edu)

212-265-4426

**[www.teenscreen.org](http://www.teenscreen.org)**

