



Published in final edited form as:

Child Adolesc Ment Health. 2010 February 1; 15(1): 44–51. doi:10.1111/j.1475-3588.2009.00532.x.

Suicidal Behaviour Among Youth in Five Public Sectors of Care

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Abstract

Background—Rates of suicidal ideation and behaviours as well as associated risk factors are examined among youth recruited from five public sectors of care (i.e. child welfare, juvenile justice, special education services, alcohol and drug services, and county mental health).

Method—1057 youth (ages 11–18) completed a diagnostic interview and questionnaires assessing relevant suicide risk factors at baseline and 2-year follow-up.

Results—While past year thoughts about death (28%) and talking about killing oneself (7.1%) were comparable to community norms, rates of lifetime suicide attempts (20.1%) were considerably higher in this sample. However, youth in the special education sector reported significantly more suicidal thoughts and behaviours relative to the other sectors. In multivariate analyses, longitudinal predictors of suicidality included major depression, female gender, and involvement in the special education sector.

Conclusions—Efforts to implement screening and evidence based interventions for depression and suicide in the public sector, particularly special education services, are necessary.

Keywords

Suicide; public sector; depression; risk; youth

Introduction

Youth in publicly funded sectors of care (e.g. child welfare, juvenile justice, and special education services) are a particularly vulnerable population whose diagnostic profiles and risk exposure histories are consistent with high risk for suicidal behaviour. Youth in these sectors are likely at greatest risk for a variety of maladaptive outcomes, given their exposure to high rates of poverty, parental psychopathology and substance use, child maltreatment, and community violence (Garland et al., 2001; Glisson & Hemmelgarn, 1998). Also, rates of psychiatric disorders for youth in public service sectors are higher than in the general population (Garland et al., 2001), further underscoring the high-risk status of these youth.

In general, rates of suicidality (i.e. either suicidal ideation or attempts) for children in the juvenile justice sector are double that of community samples (Morgan & Hawton, 2004; Morris et al., 1995; Penn et al., 2003). In a large scale study of children in the juvenile justice system, 21.8% had seriously considered suicide, 19.5% had thought of a plan, and 15.5% had made at least one attempt during the past 12 months (Morris et al., 1995). In a more recent study of 1829 juvenile detainees, 10.3% had thought about committing suicide in the past 6 months, and 11% had made a suicide attempt in their lifetime (Abram et al., 2008). Common correlates of suicidality in this population included female gender (Morris et al., 1995; Wasserman & McReynolds, 2006; Thompson, Ho, & Kingree, 2007), depression (Sanislow et al., 2003; Rohde, Seeley, & Mace, 1997; Penn et al., 2003; Wasserman & McReynolds, 2006; Thompson et al., 2007), substance use (Freedenthal et al., 2007; Holsinger & Holsinger, 2005; Sanislow et al., 2003; Wasserman & McReynolds, 2006), antisocial behaviour (Holsinger & Holsinger, 2005; Rohde et al., 1997; Sanislow et al., 2003; Thompson et al., 2007), and abuse (i.e. physical and sexual) (Holsinger & Holsinger, 2005; Morris et al., 1995).

Similarly, youth in the child welfare system (e.g. foster care) are also more likely to attempt suicide than the general population (Pilowsky & Wu, 2006). In one study, approximately 33% of the children served by the child welfare system had reported suicidal thoughts, threats or attempts, with 8% of the sample attempting suicide during the past 6 months (Hukkanen, Sourander, & Bergroth, 2003). Suicidality was associated with anxious-depressive symptoms, externalizing behaviours, aggression, and violent behaviour (Hukkanen et al., 2003). While longitudinal data of youth in public sectors are scarce, one study of 214 children who had been in foster care for at least 5 months reported that behaviour problems and lack of social support predicted suicidal behaviours (i.e. self injurious behaviour, suicide plans and attempts) 5 years later (Taussig, 2002).

A few studies have also found that youth from special education services are at increased risk for suicide (Lamorey & Leigh, 1996). In fact, youth with learning disabilities were three times more likely to have reported a suicide attempt in the past year than youth in the general population (Blum, Kelly, & Ireland, 2001). Factors associated with suicide attempts in these samples have included violent behaviour, poor school performance, sexual activity and physical abuse (Blum et al., 2001; Svetaz, Ireland, & Blum, 2000), as well as emotional distress, being a victim of violence, and carrying a weapon (Svetaz et al., 2000). Other risk factors have included substance use and cigarette smoking (Svetaz et al., 2000).

The current report, a substudy of the 'Patterns of Care (POC) study', is one of the first to systematically examine suicidality across five public sectors of care. While previous studies have examined public sectors of care individually, the design of this study allows for the comparison of rates of suicidality and risk factors across juvenile justice, child welfare, special education school based services (for seriously emotionally disturbed children), alcohol and drug services, and county mental health sectors. Further, unlike most studies conducted in public sectors of care, the POC study examined risk for suicidality over time rather than relying solely on cross-sectional data. This aims of the study are therefore to assess rates of suicidality across varying public sectors of care, and to utilise longitudinal data to examine predictors of suicidality in these high risk youth.

Method

Participants

Participants in this study were part of the 'Patterns of Care' (POC) study sample (PI: R. Hough). The original sample of 1715 youth (ages 6–18) were randomly selected from a list of all youth who were 'active' in one or more of five San Diego County public sectors of care (alcohol and drug [AD], child welfare [CW], juvenile justice [JJ], mental health [MH], and public school

services for youth with serious emotional disturbance [SED] during the first half of 1997 [total population = 12,662]). Simple random sampling techniques with stratification by race/ethnicity and restrictiveness of care (aggregate versus home residence) were used. Data were obtained for 67% of the eligible sample, with interviews completed between late 1997 and early 1999. Diagnostic data were obtained for 1618 youth. The majority of the participants were male and the race/ethnic distribution was: Caucasian (39%), Latino (26%), African American (21%), Asian American/Pacific Islander (6%), mixed ethnicity (5%) and other/unknown (3%). Approximately 25% of the youth were 6–11 years old, 30% were 12–15 years old, and 45% were 16–18 years old. Participants did not differ significantly from non-participants on age, gender, sector affiliation, or racial/ethnic distribution except that slightly fewer Asian-Americans participated compared to the eligible sample.

The participants in this sub-study included only pre-adolescents and adolescents aged 11–18 ($n = 1244$), who were old enough to respond to a diagnostic interview and to provide information regarding substance use disorders. The gender distribution at baseline was 64% male ($n = 790$) and 32% female ($n = 392$); gender was missing for 62 cases. The ethnic distribution was as follows: 33% were non-Hispanic White, 30% were Latino American, 21% were African American, 8% were Asian American/Pacific Islander and 7% were biracial/multiracial. Approximately 7.8% of this sub-sample were 11 years old, 38.4% were 12–15 years old, and 54.0% were 16–18 years old. Most of the parent/caregiver informants were biological parents (68%) while others included foster, adoptive, step-parents, and professional caregivers.

The POC study included in-person interviews at baseline (POC I) and at 2-year follow-up (POC II). POC II interviews were completed with 92.4% of POC I youth and/or adult participants. Only 7.6% of all target youth refused to participate in the POC II, and 6% could not be located. Suicidality and diagnostic data at 2-year follow-up were obtained from 1057 participants aged 11–18.

Procedure and measures

Written informed consent was obtained from the parent and assent from the youth. Parents and youth were interviewed individually regarding the youth's mental health, service use, and a variety of factors associated with mental health service use and clinical psychopathology. Interviews were conducted in English or Spanish, depending on participant preference. The interview procedures averaged 3 hours; parents and youth were compensated (up to \$40) for their time. Interviewer training and reliability checks have been described previously and reliability estimates were good (Garland et al., 2001).

Interviewer administered measures

Demographic information was obtained through a series of standardised questions for parent and child age, child gender, family income, parent marital status (married/not married), country of birth, race/ethnicity and parent highest level of education. Race/ethnicity was coded as non-Hispanic White, Hispanic, Asian American/Pacific Islander, African American and Other. Parents' highest level of education was coded as no high school, high school diploma, community college, or college degree.

Diagnostic Interview Schedule for Children - IV (C-DISC-IV; Shaffer et al., 2000)

—The computer assisted version of the DISC was administered to parents and youth. In this study, the DISC was used to identify DSM-IV anxiety, behaviour, and mood disorders during the past year. The anxiety and mood disorders section included major depressive disorder, dysthymia, manic episode, generalised anxiety disorder, separation anxiety disorder, social phobia, post traumatic stress disorder, panic disorder, and obsessive compulsive disorder. The

disruptive behaviour disorder section included: attention deficit hyperactivity disorder, conduct disorder, and oppositional defiant disorder. The reliability and validity of the DISC are well supported (Shaffer et al., 2000).

Items assessing suicidality—Within the depressive disorders module of the DISC, three suicidality items are administered to all respondents. All youth are asked to answer ‘yes’ or ‘no’ to the following queries: 1) ‘Have you often thought about death/people dying/being dead in the past year?’; 2) ‘Have you talked seriously about killing yourself in past year?’; and 3) ‘Have you ever made a suicide attempt or tried to kill yourself?’. Positive responses are followed by more detailed probing regarding number of suicide attempts and frequency of thoughts. In this study, respondents were coded as having ‘suicidal behaviour’ if they responded ‘yes’ to both 1) thinking about death *or* talking seriously about suicide in the past year *and* 2) having at least one lifetime suicide attempt. Throughout this paper, ‘frequent thoughts about death and dying’ are referred to as passive suicidal ideation while ‘talking seriously about suicide’ is considered active suicidal ideation.

Composite International Diagnostic Interview—Substance Abuse Module, DSM-IV version (CIDI-SAM; Robins, Cottler, & Babor, 1995)—The CIDI-SAM is a structured clinical interview consisting of questions that are based on the DSM-IV diagnostic criteria for psychoactive substance use disorders. The CIDI-SAM was used to identify alcohol use disorders, as well as cannabis, amphetamine, cocaine, opioid, and hallucinogen use disorders and was administered to children older than 10. The CIDI-SAM has demonstrated good validity (Crowley et al., 2001) and both test-retest and interrater reliability (Horton, Compton, & Cottler, 2000).

Self report questionnaires

The Personal Experience Inventory (PEI; Winters & Henly, 1989)—The PEI is a 276-item self-report questionnaire that identifies problems commonly associated with adolescent substance abuse. It documents the onset, nature, and degree of alcohol and other substance use. Frequency of cigarette smoking was obtained through the PEI. The PEI has demonstrated good reliability (Winters, Stinchfield, & Latimer, 2004), including good internal consistency and test-retest reliability in an ethnically diverse sample (Winters, Latimer, Stinchfield, & Egan, 2004). In addition, the PEI has demonstrated good convergent validity (Winters, Stinchfield, & Henly, 1996), criterion validity (Winters, Stinchfield, et al., 2004), and predictive validity (Stinchfield & Winters, 2003; Winters et al., 1996; Winters, Stinchfield, & Henly, 1993).

Childhood Trauma Questionnaire, Short Form (CTQ; Bernstein et al., 1997)—The CTQ is a 34-item scale designed to measure adolescents’ lifetime experience of abuse and neglect. Five subscales assess: physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect. Alphas for the subscales in the current sample were .89, .85, .85, .73, and .89, respectively. Past studies have supported the reliability and validity of the CTQ (Bernstein et al., 1997).

Mother/Father Support (Use, Needs, Outcomes, and Costs in Child and Adolescent Populations [UNOCCAP] Workgroup, 1996)—The Mother/Father Support questionnaire is a 10-item measure developed by the UNOCCAP Workgroup to assess children’s and adolescents’ perceptions of parental behaviours (e.g. How often did your mom and/or dad shout or yell at you because she or he was mad at you?). A 7-point scale is used (1 = never and 7 = always) and on this scale youth indicate the frequency with which their mother and father showed each behaviour. The internal consistency of the scale has been supported (mother alpha = .83, father alpha = .89) in previous studies (Lau et al., 2006).

Data analyses

The proposed aims and corresponding analyses were conducted to examine rates of passive and active suicidal ideation, suicidal behaviours, and risk factors among youth in public service sectors. Although all of the factors being examined have been associated with suicide in the literature, findings are somewhat mixed for many of the variables and most studies have used cross-sectional rather than longitudinal data. Initially, descriptive analyses (i.e. chi square tests) were used to examine the distribution of suicidal ideation and suicide attempts for each sector relative to the other four sectors. Next, bivariate analyses were used to examine whether risk factors at baseline (time 1) increased the likelihood of suicidal behaviour 2 years later (time 2). All variables that were significant at $p < .05$ were retained for the multivariate logistic regression models predicting suicidal behaviour. Analyses were conducted with SPSS 14.0 Complex Samples Module, which allows for sample design specifications and weighting to be incorporated into the analyses.

Results

Approximately 28% of youth reported frequent thoughts about death while fewer reported seriously talking about suicide (7.1%) in the past year. The percentage of participants who reported a suicide attempt in their lifetime was 20.1%. Of the participants who had a lifetime suicide attempt ($n = 227$), 42.8% had made one attempt, 20.3% had made two attempts, 18.3% had made three attempts, and 20% had made four or more attempts.

The proportion of youth in each sector who reported thoughts about death, seriously talking about killing themselves, and suicide attempts relative to other sectors are presented in Table 1. As is shown, rates of lifetime suicide attempts in the five sectors ranged from 14–30% and were significantly higher for youth in special education school based services (30%) relative to the other sectors and significantly lower for those in juvenile justice (14%) relative to the other sectors. Similarly, children in special education services reported talking about killing themselves significantly more often (13%) than children in the other sectors (6%) while youth in juvenile justice reported talking about killing themselves significantly less often than children in the other public sectors (5% vs. 8%). Thinking about death or being dead was common across all sectors, with rates ranging from 25%–42%. Only the comparison of thoughts about death among youth in alcohol and drug services relative to youth in the other sectors, 42% vs. 27% respectively, was significant.

Table 2 presents bivariate relationships for those variables that have been previously identified in the literature (in community and psychiatric populations) as being associated with suicidality using cross-sectional methods; however in the current study, baseline (time 1) risk factors were used to predict suicidal behaviour 2 years later. Significant demographic predictors of suicidal behaviour included gender (female), child age, and affiliation with the juvenile justice or special education sector. Children, aged 13–15 at baseline, had the highest rates of suicidal behaviour at follow-up 2 years later (i.e. when they were between the ages of 15–17 years). Those in special education had higher rates of overall suicidal behaviours when compared to other sectors, whilst those in juvenile justice had the lowest rates of suicidal behaviours. Clinical and health behaviour predictors included a diagnosis of major depression or disruptive disorder (i.e. conduct disorder, oppositional defiant disorder, or ADHD), and smoking most days of the week; alcohol use disorders did not reach conventional levels of significance ($p = .06$). Significant family environment predictors included social support from both mother and father, with less social support being associated with more suicidal behaviour as well as physical and sexual abuse, which also increased the risk of suicidal behaviour at 2-year follow-up.

Multivariate analyses were used to examine the independence of significant predictors. Variables with a significance level of $p < .05$ in the bivariate analyses were retained for the final multivariate model. As shown in Table 3, gender, special education sector, and depression remained significant predictors of suicidal behaviour in the multivariate analyses. Disruptive disorders did not reach conventional levels of significance ($p = .07$).

Discussion

Compared to national estimates, rates of passive (i.e. thoughts about death) and active suicidal ideation (i.e. talking seriously about suicide) in the past year (29%) and lifetime suicide attempts (20.1%) among youth from public sectors of care are high. In a national study, which included 4023 adolescents, the rate of lifetime suicidal ideation was 23% and the weighted population lifetime suicide attempt prevalence estimate was 3.1% (Waldrop et al., 2007). In another study of adolescents ($N = 1710$), lifetime suicidal ideation was 21.1% and the prevalence of attempts was 7.1% (Andrews & Lewinsohn, 1992). Such rates are extremely concerning given that many youth who complete suicide have a positive history of suicide attempts and ideation (Shaffer et al., 1996).

Multivariate analyses, which included all significant bivariate predictors, further supported the elevated suicide risk for youth in special education services, as well as youth who are female and suffer from depression. Perhaps one of the most well-established findings in the literature is the relationship between depression and suicidal behaviour. In this study, a diagnosis of major depression was associated with a four-fold increase in suicidal behaviour. Depressive disorders have been reported to be the most prevalent disorders in suicide victims, with prevalence rates ranging from 49%–64% and have been linked to an increased risk for suicidal ideation, suicide attempts, reattempts, and completed suicides (Brent et al., 1993; Marttunen et al., 1991; Shaffer et al., 1996). Increased suicide risk is often associated with conditions that do not respond to treatment, such as chronic depressive disorder comorbid with alcohol or substance abuse, and psychotic symptoms. However, depression has been linked to attempts, and reattempts in adolescents regardless of comorbid disorders (Brent et al., 1993; Goldston et al., 1999).

Consistent with previous studies, gender emerged as a significant predictor of suicidal behaviour. In this study, being female was associated with a two-fold increase risk for suicidal behaviour at 2-year follow-up. In the Youth Risk Behaviour Surveillance Survey, girls were more likely to have seriously considered attempting suicide (23.6%), made a specific plan (17.7%), and attempted suicide (11.2%) than were boys (14.2%, 11.8%, and 6.2%, respectively) (Grunbaum et al., 2002). As frequently discussed, while rates of suicide attempts may be higher in females, suicide completions are higher in males (Renaud et al., 2005; Shaffer et al., 1996). Reasons for these differences include both psychopathology profiles and the type of method used for suicide (Shaffer, Gould, & Hicks, 1994). While depression is often more common in women, aggressive behaviour, substance abuse and impulsivity are more common in men and more often associated with suicide completion (Shaffer et al., 1996; Sourander et al., 2001). Further, females tend to choose less lethal methods, like poisoning by drugs and cutting, which have slower rates of action, whereas males often use more violent and lethal methods, such as firearms and hanging, whose consequences are more immediate and less reversible (Värnik et al., 2008).

Unique to this study were the comparisons of rates of suicidal behaviour across five public sectors of care, with each sector being compared to the other four sectors. Findings revealed that youth in special education services were at highest risk for having made a suicide attempt in their lifetime as well as in the past year relative to the other sectors. The same pattern was present for talking about killing oneself. The fact that special education affiliation was

associated with the highest risk for suicidal behaviours relative to the other sectors is not altogether surprising given that it is often necessary for such youth to have an impairing psychiatric diagnosis in order to receive school based special education services. However, the same is true for children who receive services from publicly funded mental health sectors, yet higher rates of suicidal behaviour, relative to the other sectors, did not emerge for this group. Prevalence data from the POC study (Garland et al., 2001) shed light on these findings. In the Garland et al. (2001) study, the prevalence of any disorder was highest in the special education sector (70.2%), followed by mental health (60.8%), alcohol and drug (60.3%), juvenile justice (52.1%), and child welfare (41.8%), suggesting the youth in special education services have the highest rates of psychopathology. Garland et al. (2001) also report that the prevalence rate of major depression was higher in the special education group, relative to the other sectors, which further explains the increased risk for suicidal behaviour in this group. Additionally risk factors that were not assessed in this study, such as repeating a grade and poor academic performance may also have contributed to increased rates of suicidal behaviours in the special education services sector. In previous studies, repeating a grade (school retention) has been associated with a higher likelihood of suicide attempts, cigarette use, and sexual abuse among youth with emotional and learning disabilities (Blum et al., 2001).

Limitations

The participants in this study are from San Diego County and therefore findings may not be generalisable to other regions. Also, the rate of participation was 67%, which may mean that youth who were most difficult to locate or least willing to participate are not represented. However, the sociodemographic characteristics of participants and non-participants were comparable except for a slightly lower participation rate by Asian Americans. Furthermore, this is a high-risk sample of youth who have had contact with public service systems of care and therefore are more likely to receive any type of service use. Consequently, study findings are likely to be inconsistent with those from general community samples of children. At the same time, however, understanding the unique characteristics of children who come from high-risk samples is an important strength of this study. Finally, the list of risk and protective factors assessed in this study is not exhaustive and therefore other variables that were not measured (e.g. gun in home, religiosity, school connectedness) may have had an added impact on suicidal behaviours.

Conclusions

Taken together, the diagnostic prevalence data and risk factor exposure data reinforce the appropriateness of targeting youth in public sectors of care for depression screening, treatment, and suicide prevention efforts. Females and youth who are active in special education services seem to be at highest risk. Few studies have examined treatments for child and adolescent suicidality in publicly funded service sectors; however, existing data from other real world settings suggest that treatments such as cognitive behaviour therapy, dialectical behaviour therapy, and pharmacotherapy may be promising in this regard. While evidence-based interventions may be useful in these settings, they will undoubtedly need to be tailored to meet the complex needs of these children, including comorbid aggressive and antisocial behaviours, scholastic difficulties, and problems associated with socioeconomic disadvantage. Future research is necessary to examine suicide risk factors using longitudinal designs as well as the quality of mental health services available to children and adolescents in public sectors of care.

Key Practitioner Message

- Youth in public sectors of care are a vulnerable population

- Rates of suicidal thoughts and lifetime suicide attempts are common among children in public sectors of care, and most common in emotionally disturbed youth who receive special education services
- Using longitudinal data, female gender, major depressive disorder, and special education sector involvement increased the risk for suicidal behaviour
- Screening efforts are necessary to identify youth at risk for suicide, particularly in the special education sector
- Additional research is necessary to examine both prevention and treatment programs for suicidal behaviour and depression in public sectors of care

Acknowledgments

This research was supported by NIMH grant U01 MH55282 to Dr. Hough and NIMH grant K01 MH072952 to Dr Chavira.

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Table 1Proportions of youth who endorsed suicidal ideation and attempts across the five public sectors of care ($N = 956$)

	Often thought about death and dying in past year Weighted %	Talked seriously about killing self in past year Weighted %	Suicide attempt in lifetime Weighted %
SE-active ($n = 268$)	31.5%	13.1%	30.1%
Not active ($n = 688$)	27.5%	5.7%	17.8%
OR (95% CI)	1.21 (.87–1.69)	2.51 (1.51–4.17)	1.99 (1.41–2.81)***
JJ-active ($n = 300$)	29.2%	4.8%	14.0%
Not active ($n = 656$)	27.8%	8.1%	22.9%
OR (95% CI)	1.07 (.73–1.60)	.58 (.32–1.0)	.55 (.35–.84)**
		$p = .054$	
CW-active ($n = 202$)	24.7%	6.6%	19.0%
Not active ($n = 754$)	29.5%	7.3%	20.6%
OR (95% CI)	.79 (.52–1.17)	.89 (.45–1.75)	.90 (.59–1.39)
AD-active ($n = 114$)	41.5%	4.2%	20.2%
Not active ($n = 842$)	27.6%	7.2%	20.1%
OR (95% CI)	1.86 (1.2–2.87)***	.56 (.19–1.65)	1.00 (.59–1.71)
MH-active ($n = 515$)	29.7%	6.5%	22.1%
Not active ($n = 441$)	26.4%	7.9%	17.6%
OR (95% CI)	1.18 (.85–1.65)	.81 (.48–1.37)	1.32 (.93–1.88)

Note: SE = special education services for those with serious emotional disturbances; JJ = juvenile justice; CW = child welfare, AD = alcohol and drug services; MH = county mental health. Active/not active signifies whether participant was receiving services in a given sector.

OR = odds ratio; 95% CI = 95% confidence interval;

**
 $p < .01$;

 $p < .001$

Table 2

Demographic, clinical and family environment predictors of suicidal behaviour using longitudinal data (2-year follow-up)

	Suicidal behaviour group weighted % (unweighted n)	Non-suicidal group weighted % (unweighted n)	F-test	Odds Ratio	p-value
Gender			32.08	3.48	.001
Male	6.8% (53)	93.2% (500)			
Female	20.1% (64)	79.9% (193)			
Ethnicity			0.65	—	.621
Caucasian/White	13.5% (51)	86.5% (249)			
Black/African American	11.0% (25)	89.0% (160)			
Hispanic/Latino	10.9% (32)	89.1% (205)			
Asian/Pacific Islander	7.2% (6)	92.8% (53)			
Biracial/Multiracial	9.2% (8)	90.8% (47)			
Sector of care					
Special Education					
Active	22.8% (55)	77.2% (181)	28.65	3.09	.001
Not active	8.7% (67)	91.3% (533)			
Juvenile Justice					
Active	7.8% (30)	92.2% (245)	5.82	.55	.016
Not active	13.2% (92)	86.8% (469)			
Child Welfare					
Active	9.3% (16)	90.7% (156)	.92	.74	.339
Not active	12.2% (106)	87.8% (558)			
Alcohol and Drug Services					
Active	11.6% (10)	88.4% (91)	.003	1.02	.955
Not active	11.4% (112)	88.6% (623)			
County Mental Health					
Active	12.1% (75)	87.9% (365)	.46	1.06	.499
Not active	10.6% (47)	89.4% (349)			
Born in US			1.97	1.49	.160
Born in US	12.2% (95)	87.8% (497)			
Not born in US	8.5% (22)	91.5% (185)	3.91	—	.021
Child's age at baseline					

	Suicidal behaviour group weighted % (unweighted <i>n</i>)	Non-suicidal group weighted % (unweighted <i>n</i>)	<i>F</i> -test	Odds Ratio	<i>p</i> -value
11–12 years	6.0% (8)	94.0% (128)			
13–15 years	15.8% (49)	84.2% (210)			
16–18 years	10.7% (64)	89.3% (376)			
Income			0.39	0.86	.532
Below poverty level	11.8% (63)	88.2% (314)			
Above poverty level	10.4% (50)	89.6% (348)			
Major depressive disorder			37.82	7.13	.001
Diagnosis	42.2% (25)	57.8% (24)			
None	9.3% (88)	90.7% (654)			
Disruptive disorder			5.52	1.74	.019
Diagnosis	14.4% (76)	85.6% (346)			
None	8.8% (45)	91.2% (357)			
Substance use disorder			3.12	1.60	.078
Diagnosis	15.8% (33)	84.2% (132)			
None	10.5% (89)	89.5% (577)			
Alcohol use disorder			3.49	1.74	.062
Diagnosis	17.2% (26)	82.8% (90)			
None	10.7% (96)	89.3% (606)			
Smoking			8.47	2.02	.004
Smoking most days of week	17.0% (45)	83.0% (172)			
Not smoking most days	9.2% (75)	91.8% (531)			
Social support					
Social support from mother	<i>M</i> = 51.87	<i>M</i> = 57.26	14.55	n/a	.001
Social support from father	<i>M</i> = 52.38	<i>M</i> = 55.65	5.03	n/a	.025
Child abuse					
Physical abuse	<i>M</i> = 10.65	<i>M</i> = 8.08	10.42	n/a	.001
Sexual abuse	<i>M</i> = 9.26	<i>M</i> = 6.18	15.13	n/a	.001

Note: 'Suicidal behaviour' signifies a 'yes' response to both 1) thinking about death or talking about suicide in the past year *and* 2) having at least one lifetime suicide attempt. Active/not active signifies whether participant was receiving services in a given sector.

Table 3

Logistic regression analyses assessing independence of predictors of 'suicidal behaviour' using 2-year follow-up data (i.e. baseline predictors of 'suicidal behaviour' at 2-year follow-up)

	Odds Ratio (95% Confidence Interval)	<i>p</i> -value
Gender	2.168 (1.42, 4.83)	.002
Child's age at baseline	1.229 (0.78, 1.93)	.372
Special Education	3.769 (2.07, 6.88)	.001
Juvenile Justice	1.289 (0.63, 2.63)	.485
Depression	2.703 (1.18, 6.19)	.019
Disruptive disorder	1.656 (0.96, 2.87)	.072
Smoking most days of the week	1.146 (0.62, 2.12)	.664
Social support from mother	0.987 (0.96, 1.01)	.291
Social support from father	0.996 (0.98, 1.02)	.730
Physical abuse	1.042 (0.99, 1.10)	.134
Sexual abuse	1.032 (0.97, 1.09)	.303
Overall model	$F = 65.58$.001

Note: 'Suicidal behaviour' signifies a 'yes' response to both: 1) thinking about death or talking about suicide in the past year *and* 2) having at least one lifetime suicide attempt