



Published in final edited form as:

J Affect Disord. 2011 October ; 133(3): 423–427. doi:10.1016/j.jad.2011.04.036.

Suicide and Suicide Attempts in the Systematic Treatment Enhancement Program for Bipolar Disorder

Ellen B. Dennehy, PhD¹, Lauren B. Marangell, MD², Michael H. Allen, MD³, Cheryl Chessick, M.D³, Stephen R. Wisniewski, PhD⁴, and Michael E. Thase, MD⁵

¹Department of Psychological Sciences, Purdue University, West Lafayette, IN

²Eli Lilly and Co., Indianapolis, IN (work completed while with the Mood Disorders Center, Menninger Department of Psychiatry, Baylor College of Medicine and South Central Mental Illness Research and Education Core, Department of Veterans Affairs, Houston, TX)

³University of Colorado at Denver Depression Center, Denver CO

⁴Epidemiology Data Center, University of Pittsburgh, Pittsburgh, PA

⁵Departments of Psychiatry, University of Pennsylvania School of Medicine and Philadelphia Veterans Affairs Medical Center (Philadelphia, PA)

Abstract

Background—The current report describes individuals with bipolar disorder who attempted or completed suicide while participating in the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) study.

Methods—Baseline and course features of individuals with suicide events are described.

Results—Among the 4360 people with bipolar disorder enrolled, 182 individuals made 270 prospectively observed suicidal acts, including 8 completed suicides. This represents a suicide rate of .014 per 100 person years in STEP-BD, which included frequent clinical visits, evidence based care, and standardized assessment at each patient contact. Approximately 1/3 of those who attempted suicide had more than one attempt during study participation. Those who completed suicide tended to do so early in study participation, and half of them did so on their first attempt.

Limitations—While this study is limited to description of individuals and precipitants of completed suicides and attempts in STEP-BD, further analyses are planned to explore risk factors and potential interventions for prevention of suicidal acts in persons with bipolar disorder.

Conclusions—Persons with bipolar disorder are at high risk for suicide. Overall rates of suicide events in STEP-BD were lower than expected, suggesting that the combination of frequent clinical visits (i.e., access to care), standardized assessment, and evidence-based treatment were helpful in this population.

Keywords

bipolar disorder; suicide; suicide attempt

© 2011 Elsevier B.V. All rights reserved.

Address correspondence to: Ellen B. Dennehy, Ph.D., Department of Psychological Sciences, Purdue University, 703 Third St., West Lafayette, IN 47907-2081, 765 414 4921(voice), 765 496 3362 (fax), edennehy@purdue.edu.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Introduction

Persons with bipolar disorder (“BD”) are at increased risk for suicide. Angst and colleagues (2002) reported a 7% suicide case rate for 106 hospitalized bipolar patients followed for 34-38 years. A meta-analysis found the risk of suicide in BD to be at least 15 times higher than that of the general population (Harris and Barraclough; 1997). It is likely that the proportion of all suicides attributed to BD has been underestimated due to inclusion of patients with bipolar depression in the major depression estimates (Rihmer & Kiss, 2002), and that BD may account for one quarter of all completed suicides.

STEP-BD is a large, NIMH-funded trial that enrolled a total of 4360 individuals with BD from 22 US sites (Sachs et al., 2003; Sachs, 2004). In a cohort of 1500 participants from this study, observed for over 2 years, only previous history of suicide attempt (OR=4.52, $p < .0001$) and percent of days spent depressed in the past year (OR=1.16, $p = .036$) were significantly associated with prospectively observed suicide attempts or completions (Marangell et al., 2006).

The current report describes the characteristics of those participants in STEP-BD with documented suicide attempts or completed suicides during study participation, and describes temporal relationships between treatment and course variables and suicidality.

Methods

Study Overview

STEP-BD combines a prospective study utilizing a common disease-management model and a series of randomized, controlled trials. Detailed information on the methodology and inclusion criteria can be found elsewhere (Sachs et al., 2003; Sachs, 2004). After approval by the respective Human Subjects Panel at each site, patients provided both oral and written consent, in accordance with the Declaration of Helsinki.

Participants

STEP-BD enrolled a total of 4360 participants who were at least 15 years of age and diagnosed with bipolar I, bipolar I, cyclothymia, bipolar NOS, or schizoaffective disorder, bipolar subtype, according to DSM-IV criteria (APA, 1994).

Assessments and Procedures

The Mini International Neuropsychiatric Interview (MINI, Version 5.0; Sheehan et al., 1998) was administered at study entry. Clinical course characteristics were obtained from the Affective Disorders Evaluation (ADE; Sachs, 2004). Use of services is recorded on the Care Utilization (“CU”) Form, a semi-structured interview administered quarterly over the first year, and biannually after that point. Serious Adverse Event (SAE) forms were completed at all visits. Suicide attempts were defined as intentional, self-injurious behaviors with some potential for serious harm and/or lethality. An independent safety officer and SAE committee reviewed all potential suicide events to ensure accurate classification.

Prescription information is entered on the Clinical Monitoring Form (“CMF”, Sachs, Guille & McMurrich, 2002). The CMF also included symptom ratings, assignment of clinical status, and a rating of suicidal ideation.

Intervention

Since STEP-BD was designed as an effectiveness study, subjects received pharmacological interventions as clinically indicated. Study clinicians completed training in the principles of evidence based treatment, and pharmacotherapy guidelines based on published treatment guidelines were supplied in an annually-updated Clinicians Handbook (STEP-BD Clinicians' Handbook, unpublished).

Statistical Analyses

The current paper is designed to describe suicide events in individuals with BD participating in a longitudinal treatment study, including the 8 completed suicides that were observed in STEP-BD. Given discrepancy in cell size, we present means and standard deviations or percentages of individuals experiencing each attribute.

Results

Over the course of STEP-BD, a total of 182 participants experienced 270 suicide events. This includes 8 completed suicides, and 262 suicide attempts. The 8 completed suicides per 4000 individuals in the STEP-BD observed for an average of 15.74 months represent a suicide rate of .014 per 100 person years.

Within the eight people who completed suicide, one had a previous suicide attempt documented during STEP-BD participation. Among the remainder, 119 individuals had one documented suicide attempt, and 55 made more than one suicide attempt (range from 2-5 events). Table 1 describes the demographic and clinical course characteristics of individuals across three groups: those with no prospectively observed suicide event, those with a prospectively observed attempt(s), and those with a prospectively observed completed suicide. Members in all three groups reported a similar age of onset of bipolar symptoms in their teens. While the sample sizes in our completed group are too small to draw any statistical conclusions, our descriptive data are consistent with the published literature in that females were more likely to attempt suicide while males were more likely to complete. Those who completed suicide were more likely to live alone and have no history of a committed relationship than those in the "attempt" and "no event" groups. While the ratio of bipolar diagnoses was similar across those with no event or attempts, and mirrored enrollment in STEP-BD, those who completed suicide were equally likely to be diagnosed with bipolar I and II (n=4 each).

Those who completed suicide had a lower frequency of prior attempts than those who attempted. Half of those who completed suicide during STEP-BD did so on their first lifetime attempt. On average, the suicide events occurred relatively early in treatment, and all patients had been seen by a clinician within a month before the event. There was more current or lifetime history of substance use disorders in those who completed suicide.

Table 2 presents characteristics from the clinical visit that occurred prior to the suicide event. On average, these visits occurred within a month of the event. The numbers suggest that the majority of patients that attempted and completed suicide were not in full syndromal mood episodes at the visits immediately preceding the suicide event, but instead, were more likely to be experiencing subsyndromal symptoms, or were in some stage of recovery from an episode. Patients in the attempted vs. completed groups were taking similar numbers of psychotropic medications, and there was no suggestion that a change in prescribed medications at the most recent clinical visit precipitated suicide events.

There was no strong association of event to calendar month. The greatest number of events occurred in January-March (n=86, 32%) with the rest fairly evenly distributed across the

remaining three quarters (n=55, 66, and 63). Among completed suicides, confirmed method of death was drug overdose (n=2), hanging (n=2), and gunshot (n=2); definitive cause of death was not available for two participants. For those suicide attempts with detail on the exact events, overdose was the dominant method of attempt.

Of those who completed suicide, six were male, ages ranged from 18-57 years, all were single, and five were unemployed. Most were in the early days of treatment in STEP-BD. One individual completed an enrollment visit and never returned, and 4 others had 4 or fewer clinical visits. Only two reported any suicidal ideation at the visit immediately prior to the event.

Discussion

This report presents descriptive detail on individuals who made a prospectively observed suicide attempt or completed suicide while participating in STEP-BD. It is noteworthy that there were only 8 completed suicides among the 4000 individuals with BD who enrolled in the STEP-BD and were followed an average of 16 months (15.74 months). This represents a suicide rate of .014 per 100 person years under care. This is compared to a weighted average rate of .48 per 100 patient years in 21,783 patients reported in six studies of bipolar patients followed for varying lengths but often averaging 10 years (Osby et al., 2001; Brown et al., 2000; Carlson et al., 1974; Angst & Preisig, 1995; Hoyer et al, 2000; Tondo et al., 1998).

Generally, shorter observation periods have been associated with higher rather than lower suicide rates. However, STEP-BD differed from a naturalistic follow-up study in that it emphasized use of evidence-based psychosocial and pharmacological interventions (Dennehy et al., 2007; Miklowitz & Otto, 2006), and provided stable access to quality care. This study suggests a number of challenges in the prevention of suicide in clinical populations. Clinicians are well aware of the finding that history of suicide incurs additional risk (Hawton et al., 2005), and a previous report from STEP-BD demonstrated that prior history of attempt was predictive of suicide events (attempts and completions) in patients with bipolar disorder (Marangell et al., 2006). When the eight completed suicides were isolated, however, 4 (50%) did not have a previous lifetime attempt, consistent with findings from other authors (Roy, 1982; Conwell et al., 1998; Isometsa & Lonnqvist, 1998). While a previous history of attempt was present in only half the completed suicides in STEP-BD, when present, it significantly increases risk (Marangell et al., 2006). Given the lack of sensitivity of previous attempts in predicting suicide in this small number of cases, however, it is important to pursue identification and awareness of other potential predictors.

Of those who completed suicide, most were not severely ill at their last contact, and 75% reported no suicidal ideation at the visit prior to the suicide. They tended to be in the early stages of study participation, with five having four or fewer visits, highlighting the importance of discussing suicidal thoughts, risk factors, and establishing contracts and safety plans early in treatment (Osby et al., 2001). Having comorbid anxiety disorder, or anxiety symptoms, was typical for those who experienced any type of suicide event (MacKinnon et al, 2005, Lee & Dunner, 2008; Kauer-Sant'Anna et al, 2007; Rihmer, 2007; Quarantini et al., 2010; Simon et al., 2004).

Given concerns about the association between antidepressant prescription and suicide, we assessed recent changes in antidepressant prescriptions. Similar to previous findings from STEP-BD (Bauer et al., 2005), very few individuals had a new prescription for an SSRI medication (n=8, 5%) or another category of antidepressant (n=8, 5%) in the 30 days prior to the suicide event. None of those in the completed suicide group had received a new prescription for antidepressant medication.

We looked at the association of suicide event to calendar months. Given the wide geographic variability of STEP sites, and small number of cases, we used a crude division of event by month to assess for trends. While there was no signal for any association between season and event, further work looking at seasonal variation may be warranted (Rocchi et al., 2007; Voracek et al., 2007).

This report is limited by our reliance on prospectively observed and verified suicide events only, without regard for patient report of prior history. Importantly, 35% of participants with no prospectively observed suicide event while participating in STEP-BD reported a prior history of attempt, and may be somehow different from those with no history or prospectively observed suicide event. We will consider this in future analyses. In this report, we chose to focus only on prospectively observed suicide events, as prior history of suicide was collected via patient self-report only, without corroboration of the potential lethality of the act. In contrast, prospectively observed events were entered into SAE forms and monitored by a study clinician. All those that were potential suicide events were reviewed by a committee, and in many cases, queried extensively, before being coded as an “attempt”. Completed suicides required independent confirmation of the method of death, either through the presence of a clear suicide note, or examination by a coroner or other professional. We are confident in the veracity and significance of the events described in the current report.

This study suggests a number of additional challenges in the prevention of suicide in clinical populations. While clinicians rely on the predictive value of past suicide events predicting future risk, only 50% of completed suicides occurred in individuals with prior attempts. Clearly, newly identified or acquired patients also require special consideration. Intensive contact in the early stages of the relationship may help establish the patient-provider relationship and a collaborative approach to risk assessment and prevention. Recent data also point to the importance of including family or significant others in crisis planning (Chessick et al., 2009).

We plan additional multivariate analyses to further explore risk factors and predictors of suicide attempts in this population.

Acknowledgments

Preliminary work on this topic was funded by an Independent Investigator Award from the National Alliance for Research in Schizophrenia and Depression (LM) and a grant from the American Foundation for Suicide Prevention (LM). Dr. Marangell was previously with the Mood Disorders Center, Menninger Department of Psychiatry, Baylor College of Medicine and South Central Mental Illness Research and Education Core, Department of Veterans Affairs, Houston, TX. The STEP-BD study was conducted with federal funds from the National Institute of Mental Health (NIMH), National Institutes of Health, under Contract N01MH80001. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of NARSAD, the AFSP, the Department of Veterans Affairs, Eli Lilly Co., or the NIMH. Additional details on STEP-BD can be located at http://www.nimh.nih.gov/healthinformation/step-bd_qa_background.cfm

References

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorder: DSM IV. Washington, DC: American Psychiatric Association; 1994.
- Angst J, Preisig M. Course of a clinical cohort of unipolar, bipolar and schizoaffective patients. Results of a prospective study from 1959 to 1985. *Schweizer Archiv fur Neurologie und Psychiatrie*. 1995; 146(1):5–16. [PubMed: 7792568]
- Angst F, Stassen HH, Clayton PJ, Angst J. Mortality of patients with mood disorders: Follow-up over 34–38 years. *Journal of Affective Disorders*. 2002; 68:167–181. [PubMed: 12063145]

- Bauer M, Wisniewski SR, Marangell LB, Chessick C, Allen MH, Dennehy EB, Miklowitz DJ, Thase ME, Sachs GS. Are Antidepressants Associated With New-Onset Suicidality in Bipolar Disorder? *Journal of Clinical Psychiatry*. 2005; 67(1):48–55. [PubMed: 16426088]
- Brown GK, Beck AT, Steer RA, Grisham JR. Risk factors for suicide in psychiatric outpatients: a 20-year prospective study. *Journal of Consulting & Clinical Psychology*. 2000; 68(3):371–7. [PubMed: 10883553]
- Carlson GA, Kotin J, Davenport YB, Adland M. Follow-up of 53 bipolar manic-depressive patients. *British Journal of Psychiatry*. 1974; 124(579):134–9. [PubMed: 4825659]
- Chessick CA, Perlick DA, Miklowitz DJ, Dickinson LM, Allen MH, Morris CD, Gonzalez JM, Marangell LB, Cosrove V, Ostacher M. STED-BD Family Experience Collaborative Study Group. Suicidal ideation and depressive symptoms among bipolar patients as predictors of the health and well-being of caregivers. *Bipolar Disord*. 2009; 11(8):876–884. [PubMed: 19922556]
- Conwell Y, Duberstein PR, Cox C, Herrmann J, Forbes NH, Caine ED. Age differences in behaviors leading to completed suicide. *Am J Geriatr Psychiatry*. 1998; 6:122–126. [PubMed: 9581207]
- Dennehy EB, Bauer MS, Perlis RH, Kogan JN, Sachs GS. Concordance with treatment guidelines for bipolar disorder: Data from the Systematic Treatment Enhancement Program for Bipolar Disorder. *Psychopharmacology Bulletin*. 2007; 40(3):72–84. [PubMed: 18007570]
- Harris EC, Barraclough B. Suicide as an outcome for mental disorders. A meta analysis. *Br J Psychiatry*. 1997; 170:205–228. [PubMed: 9229027]
- Hawton K, Sutton L, Haw C, Sinclair J, Harriss L. Suicide and Attempted Suicide in Bipolar Disorder: A Systematic Review of Risk Factors. *Journal of Clinical Psychiatry*. 2005; 66:693–704. [PubMed: 15960561]
- Hoyer EH, Mortensen PB, Olesen AV. Mortality and causes of death in a total national sample of patients with affective disorders admitted for the first time between 1973 and 1993. *Br J Psychiatry*. 2000; 176:76–82. [PubMed: 10789332]
- Isometsa ET, Lonnqvist JK. Suicide attempts preceding completed suicide. *Br J Psychiatry*. 1998; 173:531–5. [PubMed: 9926085]
- Kauer-Sant'Anna M, Frey BN, Andreazza AC, Cereser KM, Gazalle FK, Tramontina J, daCosta SC, Santin A, Kapczinski F. Anxiety comorbidity and quality of life in bipolar disorder. *Can J Psych*. 2007; 52(3):175–181.
- Lee JH, Dunner DL. The effect of anxiety disorder comorbidity on treatment resistant bipolar disorders. *Depress Anxiety*. 2008; 25:91–97. [PubMed: 17311265]
- MacKinnon DF, Potash JB, McMahon FJ, Simpson SG, Depaulo JR Jr, Zandi PP. Rapid mood switching and suicidality in familial bipolar disorder. *Bipolar Disord*. 2005; 7:441–448. [PubMed: 16176437]
- Marangell LB, Bauer MS, Dennehy EB, et al. Prospective Predictors of Suicide and Suicide Attempts in 1556 Patients with Bipolar Disorders Followed for up to 2 Years. *Bipolar Disorders*. 2006; 8:566–575. [PubMed: 17042830]
- Miklowitz DJ, Otto MW. New psychosocial interventions for bipolar disorder: A review of the literature and introduction of the systematic treatment enhancement program. *Journal of Cognitive Psychotherapy*. 2006; 20(2):215–230.
- Osby U, Brandt L, Correia N, Ekblom A, Sparen P. Excess Mortality in Bipolar and Unipolar Disorder in Sweden. *Arch Gen Psychiatry*. 2001; 58:844–850. [PubMed: 11545667]
- Quarantini LC, Miranda-Scippa A, Nery-Fernandes F, Andrade-Nascimento M, Galvão-de-Almeida A, Guimarães JL, Teles CAS, Netto LR, Lira SB, de Oliveira IR, Post RM, Kapczinski F, Koenen KC. The impact of comorbid posttraumatic stress disorder on bipolar disorder patients. *Journal of Affective Disorders*. 2010; 123:71–76. [PubMed: 19732957]
- Rihmer Z. Suicide risk in mood disorders. *Curr Opin Psychiatry*. 2007; 20(1):17–22. [PubMed: 17143077]
- Rihmer Z, Kiss K. Bipolar disorders and suicidal behaviour. *Bipolar Disorders*. 2002; 4(Suppl. 1):21–25. [PubMed: 12479671]
- Rocchi MB, Sisti D, Miotto P, Preti A. Seasonality of suicide: relationship with the reason for suicide. *Neuropsychobiolog*. 2007; 56(2-3):86–92.

- Roy A. Risk factors for suicide in psychiatric patients. *Archives of General Psychiatry*. 1982; 39(9): 1089–95. [PubMed: 7115014]
- Sachs GS. Strategies for improving treatment of bipolar disorder: Integration of measurement and management. *Acta Psychiatrica Scandinavica*. 2004; 110(Suppl 422):7–17.
- Sachs GS, Guille C, McMurrich SL. A clinical monitoring form for mood disorders. *Bipolar Disorders*. 2002; 4(5):323–327. [PubMed: 12479665]
- Sachs GS, Thase ME, Otto MW, Bauer M, Miklowitz D, Wisniewski SR, Lavori P, Lebowitz B, Rudorfer M, Frank E, Nierenberg AA, Fava M, Bowden C, Ketter T, Marangell L, Calabrese JR, Kupfer D, Rosenbaum JF. Rationale, design, and methods of the systematic treatment enhancement program for bipolar disorder (STEP-BD). *Biol Psychiatry*. 2003; 53:1028–1042. [PubMed: 12788248]
- Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, et al. The mini international neuropsychiatric interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry*. 1998; 59(Suppl. 20):22–57. [PubMed: 9881538]
- Simon NM, Otto MW, Wisniewski SR, Fossey M, Sagduyu K, Frank E, Sachs GS, Nierenberg AA, Thase ME, Pollack MH. Anxiety disorder comorbidity in bipolar disorder: Data from the first 500 STEP-BD participants. *American Journal of Psychiatry*. 2004; 161(12):2222–9. [PubMed: 15569893]
- Tondo L, Baldessarini RJ, Hennen J, Floris G, Silvetti F, Tohen M. Lithium treatment and risk of suicidal behavior in bipolar disorder patients. *Journal of Clinical Psychiatry*. 1998; 59(8):405–14. [PubMed: 9721820]
- Voracek M, Tran US, Sonneck G. Facts and myths about seasonal variation in suicide. *Psychological Reports*. 2007; 100(3 Pt 1):810–4. [PubMed: 17688099]

Table 1

Baseline Descriptive and Course Features of Individuals with no Prospective Suicide Event, and those with Prospective Attempted and Completed Suicides.

	No Prospective Suicide Event (n=4178)	Prospective Suicide Attempt (n=174)	Completed Suicide (n=8)
Age (x, SD)	39.77 (12.94)	36.11 (11.47)	35.63 (13.65)
Female (n, %)	2359 (56.46%)	118 (67.82%)	2 (25.0%)
White or Caucasian (n, %)	3724 (89.13%)	158 (90.80%)	7 (87.50%)
Marital Status (n, %)			
Married or Living as Married	1361 (35.35%)	61 (37.66%)	0 (0%)
Separated, Divorced, or Widowed	1014 (26.34%)	35 (21.60%)	2 (25.0%)
Never Married or Lived as Married	1417 (36.81%)	64 (39.51%)	6 (75.0%)
Diagnosis (n, %)			
Bipolar I	2669 (63.88%)	128 (73.56%)	4 (50.0%)
Bipolar II	1131 (27.07%)	35 (20.11%)	4 (50.0%)
Other	378 (9.05%)	11 (6.32%)	0 (0.0%)
Current or Lifetime Alcohol Use Disorder (n, %)	1626 (43.27%)	88 (53.99%)	5 (62.5%)
Current or Lifetime Substance Use Disorder (n, %)	1119 (29.78%)	63 (38.65%)	6 (75.0%)
Current or Lifetime Anxiety Disorder (n, %)	1894 (50.43%)	114 (69.94%)	3 (37.5%)
Current or Lifetime History of Panic Disorder (n, %)	809 (21.56%)	55 (33.74%)	3 (37.5%)
History of Psychotic Disorder Diagnosis (n, %)	1506 (36.05%)	76 (43.68%)	4 (50.0%)
Age of Onset of Bipolar Disorder (x, SD)	17.21 (8.74)	14.76 (7.05)	16.63 (8.72)
Percentage with age of onset <18 years	2470 (61.08%)	130 (76.47%)	5 (62.50%)
History of Suicide Attempt (n, %)	1444 (34.56%)	121 (69.54%)	4 (50.0%)
Family History of Suicide (n, %)	268 (9.34%)	16 (11.51%)	0 (0%)
Mean Time in STEP before First Event (in months)	N/A	10.28 (9.92)	6.57 (3.70)

Table 2

Characteristics of the Visit Prior to the first* Event, by Event Group

	Prospective Suicide Attempt (n=174)	Prospective Completed Suicide (n=8)
Time Between Assessment (CMF) and Event (in months)	0.76 (1.42)	0.70 (.57)
GAF in Past Week	58.67 (11.40)	62.0 (8.37)
GAF in Past Month	57.74 (12.41)	61.14 (8.88)
Mean estimate of % of Days with Abnormal Anxiety in last 10 days	44.66 (40.73)	54.29 (46.14)
Clinical Status at last CMF		
Depressed	52 (32.30%)	2 (28.57%)
Hypomanic/Manic/Mixed	11 (6.83%)	0
Subsyndromal Symptoms	35 (21.74%)	2 (28.57%)
Recovering/Recovered	63 (39.13)	3 (42.86%)
Additional psych treatment noted on CMF (includes ER, hospital, outpatient)	33 (20.50%)	1 (14.29%)
Presence of Delusions	4 (2.48%)	0 (0%)
Presence of Hallucinations	12 (7.45%)	0 (0%)
Mean Number of Medications Prescribed at last CMF (mean, SD)	4.17 (2.04)	4.14 (1.57)
Lithium discontinuation within 30 days prior to event	4 (2.30%)	0
SSRI started within 30 days prior to event**	8 (4.60%)	0
Non-SSRI Antidepressant started within 30 days prior to the event***	8 (4.60%)	0

* for those individuals with multiple attempts, only the characteristics of the visit prior to the first attempt are described here.

** SSRI Antidepressants = citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline,

*** Non-SSRI antidepressants = bupropion, mirtazapine, nefazadone, venlafaxine, duloxetine