

1 **Positive Predictive Value of ICD-10-CM Definitions for Adolescent Intentional Self-Harm:**
2 **An Emergency Department Medical Record Review**

3
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27 **Abstract**

28

29 ***Background***

30 Non-suicidal self-injury and suicide attempts are increasing problems among American
31 adolescents. This study proposed a definition for identifying intentional self-harm injuries
32 (ISHIs) in emergency department (ED) records coded with International Classification of
33 Diseases, 10th Revision, Clinical Modification (ICD-10-CM) codes and sought to estimate: (1)
34 the definition's positive predictive value (PPV) in a pediatric population treated in one Kentucky
35 ED, and (2) the proportion of Intentional self-harm injuries (ISHIs) with intent to die (i.e.,
36 suicide attempt) that cannot be captured by ICD-10-CM codes and can only be identified by a
37 medical record abstraction.

38

39 ***Methods***

40 The study definition captured initial encounters for ISHIs based on first valid external
41 cause-of-injury self-harm codes in the ICD-10-CM range X71-X83, T14.91, T36-T65, or T71.
42 Medical records for a random sample of 207 ED discharge records were reviewed following a
43 specified protocol. The PPV for the study definition was reported with its 95% confidence
44 interval (95%CI).

45

46 ***Results***

47 The estimated PPV for the study definition's ability to capture true ISHIs was 88.9%,
48 95%CI (83.8%, 92.8%). The estimated percentage of ISHIs with intent to die was 45.9%, 95%CI
49 (47.1%, 61.0%). The ICD-10-CM code "suicide attempt" (T14.91) captured only 7 cases, but
50 coding guidelines allow assignment of this code only when the mechanism of the suicide attempt
51 is unknown.

52

53 ***Conclusions***

54 This study demonstrated a critical shortcoming in U.S. morbidity surveillance. The ICD-
55 10-CM coding system and coding guidelines do not allow accurate identification of ISHIs with
56 intent to die; modifications are needed to address this issue.

57

58 **Background**

59 Non-suicidal self-injury (NSSI) and attempted suicide are increasingly prevalent among
60 adolescents in the United States. The term NSSI indicates intentional harm towards one's own
61 body, and includes injuries such as cutting, burning, and scratching. NSSI is associated with
62 psychiatric distress and risk of suicide.¹ NSSI is most common among youth, with onset between
63 ages 12-14.² Reported rates of NSSI among adolescents range widely from 7.5% to 46.5% in
64 different samples, and appear to be increasing.^{2, 3} Suicide attempts (SAs) are non-fatal self-
65 injurious behaviors with the intent to die.⁴ Data concerning the prevalence of suicide attempts
66 among adolescents remain limited. In 2019, the Centers for Disease Control and Prevention
67 documented 2,039 suicide deaths among adolescents 14-18 years of age, making it the second
68 leading cause of death within this age group.⁵ Suicide mortality mirrors trends in NSSI and SA:
69 from 2007-2017, the number of suicide deaths among individuals aged 15-19 in the United
70 States nearly doubled.⁶

71 Although NSSI and SA are associated, each introduces distinct challenges concerning
72 assessment, documentation and clinical management among adolescents. Clinical assessment of
73 self-injuries may be complicated by patients' non-disclosure, poor physician-patient rapport,⁷
74 and somnolence attributable to drug overdose. Assessment may be further impeded by comorbid
75 diagnoses associated with self-harm such as attention deficit hyperactivity disorder (ADHD),
76 autism, and intellectual or developmental disabilities. Key to the clinical assessment of NSSI and
77 SA is documentation of the patient's self-reported injury intent. Accurate documentation of SAs
78 is particularly crucial, as a history of SA is the most predictive risk factor for future suicide
79 death. Patients' needs with respect to hospital admission, crisis management, and psychiatric
80 care will differ based on whether they experienced NSSI or SA.

81 The assessment of NSSI and SA is further complicated by adolescents' impulsivity. One
82 study found nearly half (47.6%) of patients reported a ≤ 10 minute interval between the onset of
83 suicidal thoughts and their SA.⁸ The detection of suicidal ideation may be a means to identify
84 SAs. However, if suicidal ideation is not identified due to a patient's impulsivity (i.e. the patient
85 denies ideation because they claim an injury was an act of impulse), challenges arise concerning
86 the accurate assessment of the injury and surveillance of self-harm.

87 It is important to note differences between psychiatric and injury surveillance
88 terminology for suicide and self-harm. Psychiatric terminology alludes to the intended outcome

89 of the act (“non-suicidal” versus “suicide attempt”). Epidemiology and injury surveillance
90 terminology relies on coded discharge diagnoses in the administrative billing records. However,
91 the currently used billing coding system, International Classification of Diseases, 10th Revision-
92 Clinical Modification (ICD-10-CM),⁹ does not distinguish between intentional self-harm with
93 and without lethal intent. While there is a code labeled “suicide attempt” (T14.91), the ICD-10-
94 CM coding guidelines specify that this code may only be assigned when the nature and body
95 region of injury and the mechanism of the suicide attempt are not known.¹⁰ For some injury
96 mechanisms (e.g., poisoning or suffocation), the intentionality of the injury is embedded in the
97 diagnostic code. For example, the 6th character “2” of the code T42.4X2A indicates that the
98 benzodiazepine poisoning was intentional self-harm. In other injury mechanisms, a separate
99 external cause-of-injury (ECI) code is used to describe both the mechanism and intent (e.g.,
100 X78.1XX describes an intentional self-harm injury by knife that is attributed to the mechanism
101 category of cut/pierce). The National Center for Health Statistics maintains the classification of
102 ICD-10-CM codes by mechanism and intent (ICD–10–CM External Cause-of-Injury Matrix),¹¹
103 and provides annual updates on appropriate code usage.¹² The code labeled “suicide attempt”
104 (T14.91) appears in the unspecified self-harm category in the ICD–10–CM External Cause-of-
105 Injury Matrix.

106 For the purpose of injury epidemiology and morbidity surveillance, ICD-10-CM-coded
107 billing data can be used to develop a definition for intentional self-harm injuries but cannot
108 further classify cases by intent to die. Hedegaard et. al. provided insight into challenges of
109 medical documentation and coding of intentional self-harm that should be taken into
110 consideration in establishing a surveillance case definition.¹³ The authors also noted that “in
111 developing a surveillance case definition for hospitalizations and ED visits for suicide attempts
112 and intentional self-harm, consideration should be given to testing the ability of the surveillance
113 case definition to identify true cases.”¹⁰

114 Our study selected a definition for capturing *intentional self-harm injuries* in ICD-10-
115 CM-coded ED discharge data that is aligned with the surveillance case definition for identifying
116 injury ED visits proposed by the Centers for Disease Control and Prevention (CDC). This
117 definition uses the ICD-10-CM External Cause Matrix to identify specific intentional self-harm
118 codes.^{10, 12, 14} The primary goal of the study was to estimate the positive predictive value (PPV)
119 of the selected surveillance definition for capturing true intentional self-harm injuries in a

120 pediatric population treated in an ED. The second goal of this study was to estimate the
121 proportion of pediatric intentional self-harm injuries with lethal intent (suicide attempt) that are
122 not captured by the ICD-10-CM codes and can only be estimated from a medical record
123 abstraction. The third goal of the study was to identify the limitations that may affect the
124 surveillance definition's ability to inform injury prevention and health services planning.

125

126 **Methods**

127

128 The research team conducted a medical record case confirmation study for a sample of
129 ED discharge records from one Kentucky tertiary hospital that were identified as intentional self-
130 harm injuries based on the ICD-10-CM study definition. ED discharge Records for initial injury
131 encounters were identified based on a first listed injury diagnosis code or any mention of an
132 external cause-of-injury code.^{12, 14} For each injury ED record, the first valid external cause-of-
133 injury code¹⁵ was then identified by searching the record for the in the following order: (1) a
134 valid external cause code in the first-listed discharge diagnosis field; (2) a valid external cause
135 code in a dedicated external cause field; (3) a valid external cause code in a discharge diagnosis
136 field other than the first-listed diagnosis field. For example, if an ED record contained a first-
137 listed diagnosis T43.632A (poisoning by methylphenidate, intentional self-harm, initial
138 encounter) and X78.8XXA (intentional self-harm by other sharp object, initial encounter) in a
139 dedicated external cause field, the code T43.632A would be selected as the first valid external
140 cause-of-injury code. Thus, field searches were used both to determine whether the ED discharge
141 record documented an encounter for intentional self-harm and to identify the specific mechanism
142 of each intentional self-harm encounter.

143 An ED record was considered an encounter for intentional self-harm when the first valid
144 external cause-of-injury code was included in the NCHS list of intentional self-harm injuries
145 (Table 1),¹² and the ICD-10-CM code indicated an initial encounter for the injury (i.e., encounter
146 character A).

147 The study sample included all records (n=207) for pediatric patients (age <18 years) with
148 discharge dates between January 1, 2016 and September 30, 2019 that met the study definition
149 for intentional self-harm injuries. Patients admitted from an ED to the same acute care hospital
150 are typically reported to the state as inpatient rather than ED discharge records. The records

151 included in this sample therefore included patients who were discharged from the ED to home
152 care, left against medical advice, died in the emergency department, or were transferred to other
153 facilities, including psychiatric hospitals, rehabilitation centers, and other acute care hospitals.

154 A data abstraction form was developed with input from two pediatric emergency
155 medicine physicians, an adolescent medicine physician, and injury epidemiologists. The form
156 was used to collect information on the documented presence of injury, the mechanism and intent
157 of injury, and the presence of risk factors associated with self-harm behavior. The abstract form
158 included separate categories for documented intentional self-harm without intent to die (listed as
159 “Intentional self-harm” for brevity) and intentional self-harm with lethal intent (listed as “Suicide
160 attempt”). Information on documented suicidal ideation was also collected. Two medical
161 students reviewed the sampled records and abstracted data via Research Electronic Data Capture
162 (REDCap), a secure, web-based application.¹⁶

163 The ICD-10-CM Official Guidelines for Coding and Reporting state that the “assignment
164 of a diagnosis code is based on the provider’s diagnostic statement that the condition exists” and
165 assignment “is not based on clinical criteria used by the provider to establish the diagnosis.”¹³
166 The coding guidelines further note that if medical record documentation is unclear or
167 contradictory, the patient’s attending provider should be queried for clarification. The study team
168 could not verify whether medical coders queried the providers for additional clarification when
169 the attending provider’s notes were not complete or specific enough for assigning injury intent.
170 For this reason, we estimated the PPV of the study definitions in two ways: based on the
171 attending physician’s notes only (conservative PPV), and based on the information in the entire
172 medical record for the specific encounter of care.

173 The PPV of the study definition was estimated as the proportion of cases confirmed by
174 the study reviewers as true intentional self-harm injuries (with or without lethal intent) based on:
175 (1) the attending physician’s notes only (study reviewers responded to the question “There is
176 sufficient documentation by the ED attending to confirm the following” by selecting either
177 “Intentional self-harm” or “Suicide attempt”) and (2) the information in the entire medical
178 record associated with this encounter of care (the study reviewers responded to the question
179 “There is sufficient documentation within the medical record for this encounter to confirm the
180 following” by selecting either “Intentional self-harm” or “Suicide attempt”).

181 Statistical analysis was performed using Stata v.15 (College Station, TX)¹⁷ and SAS v.9.4
182 (Cary, NC). The estimated PPVs were reported with their exact 95% confidence intervals (95%
183 CI). Pearson chi-square test was used to compare the equality of proportions obtained from
184 independent groups.

185 **Results**

186 The study sample consisted of 207 cases for pediatric patients aged 4-17. Nearly half
187 (n=100) of the sampled cases were captured by codes for intentional self-harm with a drug
188 poisoning mechanism (T36-T50) (Table 1). The second largest group (n=82) was captured by
189 codes for injuries involving cutting or piercing. The 7 cases with unspecified mechanism were
190 captured via the code T14.91 (suicide attempt).

191 The study reviewers found sufficient information in the attending physician's notes to
192 confirm 184 of the 207 sampled cases as intentional self-harm (Table 2). Thus, the estimated
193 PPV for the study definition's ability to capture true intentional self-harm injuries was 88.9%,
194 95% CI (83.8%, 92.8%). There were 5 additional cases in which sufficient information for
195 confirming an intentional self-harm was found outside the attending physician notes (e.g.,
196 psychiatric attending or behavioral health nurse), suggesting that the PPV could be as high as
197 91.3%, 95% CI (86.6%, 94.8%).

198 The attending physicians documented 79 (38.2%; 95% CI (31.5%, 45.2%)) cases as
199 intentional self-harm with intent to die (i.e., suicide attempt) (Table 2). An additional 16 cases
200 were classified by the study reviewers as suicide attempts using information documented in notes
201 from psychiatric consultations and behavioral health nurse assessments. Based on review of the
202 entire encounter record, the estimated percentage of intentional self-harm ED discharge records
203 with documented intent to die (i.e. suicide attempt) was 45.9%, 95% CI (38.9%, 52.0%).

204 More than half of the medical records documented suicidal ideation. Based on the review
205 of the entire record for the sampled encounters of care, we estimated that 55.6% (95% CI
206 (48.5%, 62.4%)) of the ED discharge records for intentional self-harm indicate patients with
207 suicidal ideation (Table 2). More than two-thirds of patients had histories of depressed mood
208 disorder (n=143, 69.1%) and mental health treatment (n=144, 69.6%). The most commonly
209 documented stressors and risk factors for intentional self-harm were relationship stressors and
210 lack of social support (n=138, 66.7%), school-related stressors (n=108, 52.2%), bullying (n=44,
211 21.3%), sexual abuse (n=36, 17.4%), and physical abuse (n=25, 12.1%) (Table 3).

212 The medical records indicated that 119 (57.5%) of the patients were currently in therapy,
213 132 (63.8%) were taking medications for mental/behavioral conditions, and 71 (34.3%) were on
214 medications for other health conditions. Fifteen patients were maintained on 72-hour hold; in
215 another 106 cases a 72-hour hold was ordered but then discontinued. In more than 90% of the
216 cases there was documentation of a plan in place for treatment or follow-up service after
217 discharge. Overall, 153 (73.9%) patients were discharged routinely to home/self-care but 23 of
218 them were held initially for observation; the remaining 54 (26.1%) were discharged/transferred
219 to psychiatric or other inpatient units.

220 Half (50.5%) of patients with documentation confirming a suicide attempt had a service
221 marker for observation versus 10.7% of patients with confirmed self-harm but no suicide attempt
222 ($p < 0.001$). There was no statistically significant difference in the proportion of patients with
223 observation service marker between patients with confirmed suicidal ideation (33.0%) and those
224 with no suicidal ideation (23.9%; $p = 0.15$).

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226

227 **Discussion**

228 This medical record review determined that the study surveillance definition for
229 intentional self-harm had a high PPV for the population served by one Kentucky ED. This study
230 also identified a shortcoming in any surveillance definition dependent on ICD-10-CM coding:
231 ICD-10-CM codes fail to reflect critical clinical information on suicidality. According to the
232 ICD-10-CM coding guidelines, the code T14.91 (suicide attempt) is to be assigned only when the
233 mechanism of the intentional injury cannot be determined.¹⁰ The code is thus interpreted as
234 “intentional self-harm with unspecified mechanism of injury.” Because of these limitations in the
235 ICD-10-CM codes, the study surveillance definition for intentional self-harm is unable to
236 distinguish between intentional self-harm without lethal intent and intentional self-harm with
237 intent to die (i.e., an actual suicide attempt). Our study found that 79 (38.2%) of the intentional
238 self-harm injuries in this pediatric sample included documentation by the attending physician
239 indicating the injury was inflicted with the intent to die/suicide attempt, a status that cannot be
240 determined from the ICD-10-CM codes available for epidemiological analysis and policy or
241 program decisions. This analysis also found that the suicide attempt code (T14.91) was not

242 always used as instructed by guidelines. In two cases, T14.91 was used in tandem with codes that
243 specified the mechanism of injury.

244 Our findings may prompt other researchers to initiate medical record reviews to estimate
245 the prevalence of suicide attempts among pediatric patients treated in emergency department
246 settings. A sub-indicator for intentional-self harm that accounts for the concurrent presence of a
247 code for suicidal ideation (R45.851) may be informative in epidemiological and policy research.

248 Examination of patients' discharge status provides insight into the severity of injury and
249 suicidality. Although the majority (73.9%) of patients were discharged home with instructions
250 for outpatient follow-up, over a quarter of cases (26.1%) required admission to a different
251 inpatient facility. These findings show that approximately one in four cases in the study sample
252 warranted immediate psychiatric or medical management that an outpatient setting could not
253 provide. The decision to admit patients may reflect not only the need for further medical or
254 psychiatric management, but also individual-level factors such as ability to follow-up, social
255 support, and availability of outpatient resources.

256 Nuanced challenges may arise from the impulsive nature of self-harm decision-making
257 among adolescent patient populations. The relationship between impulsivity and self-harm
258 behavior is well-documented,¹⁸ especially among adolescents who report both non-suicidal self-
259 injury and suicide attempt.¹⁹ However, the commonplace nature of impulsive decision-making
260 may complicate the clinician's assessment. Specifically, adolescent patients' self-reported
261 history may vary throughout the course of an encounter. Furthermore, adolescents' feelings of
262 suicidal ideation may fluctuate, exacerbating inconsistent reporting.

263 Providers may be influenced by stigma and insurance coverage concerns when
264 documenting intentional self-harm or suicide attempts in the medical record. While these issues
265 are most commonly associated with life insurance, the legacy of health insurance exclusions
266 persists.²⁰ The federal Health Insurance Portability and Accountability Act (HIPAA), the Mental
267 Health Parity and Addiction Equity Act of 2008, and more recently the Affordable Care Act,
268 have long prohibited employment-based health plans from denying benefit eligibility based on
269 preexisting conditions, including depression,²¹ yet some insurers still attempt to deny coverage
270 for injuries caused by intentional self-harm and suicide attempts.²²

271 Mental health experts and advocates have argued that intentional self-harm injuries
272 should not be included under source-of-injury exclusions, as they are attributable to a preexisting

273 medical condition, namely depression. Although later federal regulations specified that
274 exclusions cannot be applied to intentional self-harm cases even if the individual has no formally
275 diagnosed mental illness prior to the injury,²³ the financial and social challenges associated with
276 documented intentional self-harm and suicide attempts must be considered. Healthcare providers
277 and medical coders may associate documenting intentional self-harm in the medical record with
278 stigma,²⁴ insurance denials and potential financial hardship for patients following discharge. The
279 risk of burdening patients with significant bills may deter providers from specific and
280 appropriate documentation. Such concerns may be more present in primary care facilities, as
281 there exist strict medico-legal requirements for emergency medicine physicians to provide
282 thorough documentation for high-risk patients.

283

284 ***Limitations***

285 This study provides data from a single hospital system in which the study cases received
286 care and may not be generalizable to other settings. In addition, the percentage of patients
287 admitted to inpatient facilities in this sample is an underestimate because the discharge records
288 for the pediatric patients who were seen in the study hospital ED and admitted to inpatient care
289 in the same hospital were considered inpatient records and not included in this study. Two
290 pediatric cases in the study ED's discharge data that were not captured by the sampling criteria
291 included intentional self-harm codes. In these cases, an external cause-of-injury code other than
292 intentional self-harm was listed in a prioritized field, and an intentional self-harm code was listed
293 in a secondary diagnosis field. This finding indicates a slight risk of excluding cases when using
294 standard selection criteria. In sum, additional case confirmation studies in different health care
295 settings are needed to evaluate the ability of self-harm codes to identify true cases.

296 Last, given the direct statistical relationship between PPV and population prevalence, the
297 estimated PPVs in this sample may be higher than in hospital systems that care for
298 disproportionately fewer cases of self-harm.²⁵ This sample was drawn from a tertiary care center
299 with a large catchment area, and smaller hospital systems may encounter a lower prevalence of
300 self-harm in their patient population.

301

302 **Conclusion**

303

304 Our review of pediatric ED visits captured by the study surveillance definition for
305 intentional self-harm injuries found a high positive predictive value (88.9%). The medical record
306 review also found that more than one-third of the intentional self-harm injuries were suicide
307 attempts. However, the ICD-10-CM coding does not support capture and reporting of intentional
308 self-harm injuries with lethal intent. The limitations in the coding system identified by our
309 findings could impede service delivery for this highly vulnerable population. The wording for the
310 code T14.91, suicide attempt, does not correspond to the way the code is used, because its use is
311 only permitted when the mechanism of the suicide attempt is not specified in the medical record.
312 Epidemiologists should be made aware of this limitation to avoid interpreting the frequency of
313 T14.91 as a count of records indicating suicide attempt. Further studies are needed to support the
314 development and the validation of surveillance definitions for intentional self-harm injuries in
315 ED and inpatient settings among pediatric patients as well as the general population.

316

317 **Declarations**

318 *Ethics Approval*

319 This study was approved by the University of Kentucky Institutional Review Board.

320 *Consent for Publication*

321 This manuscript does not contain data from any individual person and is therefore not
322 applicable.

323 *Availability of Data and Materials*

324 The abstract form used in this study has been included in this submission. Data are not
325 available because of data use agreement restrictions.

326 *Competing Interests*

327 The authors have no competing interests to disclose.

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331 *Authors' Contributions*

332 DS performed data abstractions and contributed to the introduction of the manuscript. AH
333 performed data abstractions and contributed to manuscript development. As pediatric emergency
334 medicine physicians, GC and HZ guided development of the abstract form and helped with

335 interpreting the clinical relevance of results. JC provided methodological input and oversight on
336 the project, facilitated collaborations with physician consults, and contributed to all sections of
337 manuscript development.

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340 epidemiologist at the National Center for Health Statistics, and to Svetla Slavova, PhD, associate
341 professor of biostatistics and mentor at the University of Kentucky.

Table 1. Mechanism for intentional self-harm and suicide attempt in the study sample

| Code ^a | Mechanism | # of cases | % of total cases |
|-------------------|--------------------------------------|------------|------------------|
| T14.91 | Unspecified | 7 | 3.38 |
| T36-T50 | Drug poisoning | 100 | 48.31 |
| T54 | Toxic effect of corrosive substances | <5 | - |
| T71 | Asphyxiation due to hanging | <5 | - |
| X78 | Cut/pierce | 82 | 39.61 |
| X79 | Struck by/against | <5 | - |
| X80 | Fall | <5 | - |
| X83 | Other specified means | 10 | 4.83 |
| | Total | 207 | |

343 ^aX71–X83, intentional self-harm due to drowning and submersion, firearms, explosive or
344 thermal material, sharp or blunt objects, jumping from a high place, jumping or lying in front of
345 a moving object, crashing of motor vehicle, and other specified means; T36–T50 with a 6th
346 character of 2 (except for T36.9, T37.9, T39.9, T41.4, T42.7, T43.9, T45.9, T47.9, and T49.9,
347 which are included if the 5th character is 2), intentional self-harm due to drug poisoning
348 (overdose); T51–T65 with a 6th character of 2 (except for T51.9, T52.9, T53.9, T54.9, T56.9,
349 T57.9, T58.0, T58.1, T58.9, T59.9, T60.9, T61.0, T61.1, T61.9, T62.9, T63.9, T64.0, T64.8, and
350 T65.9, which are included if the 5th character is 2), intentional self-harm due to toxic effects of
351 nonmedicinal substances; T71 with a 6th character of 2, intentional self-harm due to
352 asphyxiation, suffocation, strangulation; and T14.91, suicide attempt.¹³
353

354 **Table 2.** Counts of confirmed intentional self-harm, suicide attempt, and suicidal ideation in the
 355 study sample.
 356

| | Source: attending physician notes only | | | Source: all notes available in the medical record | | |
|--|--|------|--------------|---|------|--------------|
| | N | % | 95% CI | N | % | 95% CI |
| Sufficient documentation for intentional self-harm | 184 | 88.9 | (83.8, 92.8) | 189 | 91.3 | (86.6, 94.8) |
| Sufficient documentation for self-harm with intent to die (i.e. suicide attempt) | 79 | 38.2 | (31.5, 45.2) | 95 | 45.9 | (39.0, 52.9) |
| Sufficient documentation for suicidal ideation | 106 | 51.2 | (44.2, 58.2) | 115 | 55.6 | (48.5, 62.4) |

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Table 3. Prevalence of risk factors associated with self-harm and suicide attempt cases included in the sample (N=207).

| Risk Factors | Number of Records (%) |
|--|-----------------------|
| History of depressed mood disorder | 143 (69.1) |
| History of mental health treatment (medication/counseling) | 144 (69.6) |
| History of substance abuse/dependence treatment | 19 (9.2) |
| Crisis within last two weeks | 18 (8.7) |
| Work-related stressors | <5 |
| School-related stressors | 108 (52.2) |
| Relationship stressors/Lack of social support | 138 (66.7) |
| Financial stressors | 8 (3.9) |
| Patient is a victim of bullying | 44 (21.3) |
| Patient is a victim of physical abuse | 25 (12.1) |
| Patient is a victim of sexual abuse | 36 (17.4) |
| Patient has a physical disability or health problem | 12 (5.8) |
| Recent death of friend or family member (non-suicide) | 31 (15.0) |
| Anniversary of a traumatic event | 5 |
| Eviction or loss of home | 0 |
| History of suicide attempts | 45 (21.7) |
| History of expressed suicidal thoughts | 76 (36.7) |

| | |
|--|-----------|
| History of expressed suicidal plans | 23 (11.1) |
| Legal/criminal problems | 21 (10.1) |
| Patient is a current/recent prisoner | <5 |
| Housing instability/Homelessness | 19 (9.2) |
| Family history of depression | 73 (35.3) |
| Family history of suicide or suicide attempt | 41 (19.8) |
| Foster care | 17 (8.7) |
| Recent move | 11 (5.3) |

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