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Follow-Up Care Offers and Acceptance in Crisis Line Suicide Prevention Services

A Cross-Sectional Study

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Abstract: *Background:* Prior work has explored the impact of follow-up calls in a crisis line context, but no research has investigated the offer and acceptance of follow-up care. *Aims:* To identify caller/call characteristics associated with whether a caller is offered and accepts follow-up services. *Methods*: This cross-sectional study included data from 55,594 callers to a member center of the 988 Suicide & Crisis Lifeline (988) between 2017 and 2019. Logistic regression analyses were conducted to examine associations between caller/call characteristics and two follow-up outcomes. *Results*: Black callers and those with higher suicide capability and intent had greater odds of being offered and accepting follow-up. Longer call duration was also associated with higher odds of being offered and accepting follow-up. Higher suicidal desire uniquely increased the odds of offers, whereas a higher level of buffers uniquely decreased the odds of offers. *Limitations:* Data were collected from a single 988-member center and cannot be generalized. *Conclusions*: That one-third of callers do not accept follow-up highlights the need to understand reasons for not accepting follow-up. That callers with higher risk profiles are offered and accept follow-up at higher rates is reassuring and underscores the benefit of tailoring follow-up interventions for higher-risk callers.

Keywords: follow-up care, crisis line, suicide, 988, Lifeline

Suicide is a leading cause of death in the United States (CDC, 2024). Crisis lines are critical to suicide prevention endeavors because they facilitate the resolution of suicidal crises and providing linkages to support services that promote long-term recovery. The 988 Suicide & Crisis Lifeline (formerly National Suicide Prevention Lifeline) is the leading national crisis line in the United States, with over 200 crisis centers (Zabelski et al., 2023). Trained crisis counselors provide 24/7 emotional support, risk assessment, safety planning, and treatment referrals to callers in crisis (Matthews et al., 2023) – services that are associated with positive immediate and short-term outcomes (Hoffberg et al., 2020). Crisis centers also offer follow-up services to selected high-risk callers at the end of calls. Since 2005, 988 has received over 23 million calls from people in distress (988 Suicide & Crisis Lifeline, 2021).

Follow-up care is vital to support individuals during the high-risk period after a suicidal crisis. This has motivated the development of suicide prevention interventions for acute care settings (e.g., emergency room/hospital) that often include follow-up contact (Grupp-Phelan et al., 2019; Stanley et al., 2018). Although such interventions can increase successful linkage to mental health care and reduce suicide attempts (Doupnik et al., 2020; Inagaki et al., 2019), follow-up care in a crisis line context is relatively new. Most notably, 988 initiated a policy in 2008 for crisis counselors to offer and provide follow-up calls to callers who report suicidal ideation (Gould et al., 2018). Evaluation of this initiative found that 80% of callers who received follow-up contact reported that the call stopped them from killing themselves, and 91% reported that follow-up kept them safe (Gould et al., 2018).

The follow-up care process includes three key steps: (1) a counselor *offers* follow-up services, (2) a caller *accepts* follow-up services, and (3) a counselor *delivers* follow-up services (such as phone calls, caring letters, and care coordination; see Figure 1). To date, research has exclusively focused on the delivery of follow-up services (Step 3), even though receiving services is contingent upon the offer and acceptance of them. Understanding whether certain call/caller profiles are associated with the offer and acceptance of follow-up services will provide insight into whether

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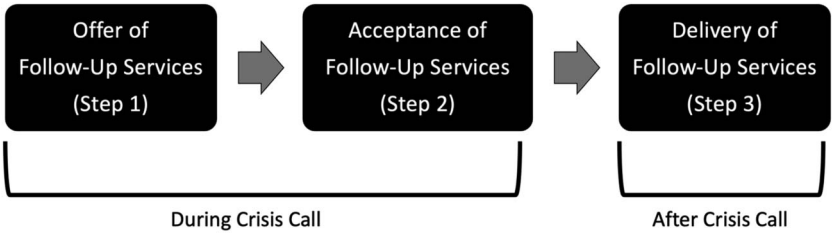

Figure 1. Follow-up care process. *Note*. This illustration demonstrates our conceptualization of the follow-up care process. Prior research has explored Step 3, but no known work has examined Steps 1 and 2 (i.e., foci of our study). Understanding the early steps in this process is critical because the delivery of effective follow-up services is contingent upon the offer and acceptance of them.

certain groups are accessing and benefiting more from such services. Consequently, these *offer and acceptance* profiles can help crisis centers design and improve follow-up care policies and practices. For example, crisis centers can use such profiles to set priorities for their follow-up care program and assess whether their program is effectively reaching the intended population (e.g., callers at highest suicide risk and/or from underserved communities). Relatedly, these profiles can inform the targeted allocation of crisis center resources, such as staffing numbers or counselor time, for follow-up care programming.

This study addressed two research questions:

1. What call/caller characteristics are associated with whether a caller is *offered* follow-up services?
2. What call/caller characteristics are associated with whether a caller *accepts* follow-up services?

Method

Participants and Procedure

This cross-sectional study sample included 55,594 callers to a 988-member center crisis line between 2017 and 2019. The center, which is located in a large, ethnically diverse metropolitan area, is one of the largest by call volume, with approximately 300 volunteers and 60 paid staff during the study timeframe. Approximately two-thirds of calls were received from the same region as the center in Southern California. The dataset for analysis was restricted to first-person suicide/crisis calls. A suicide/crisis call is defined as any call where the person mentions suicide or emotional/mental distress; these calls can be made by the person experiencing the crisis (i.e., first person) or another person (i.e., third person). For context, a total of 155,446 suicide/crisis calls were received during the study timeframe. Third person (n = 82,630) and repeat calls (n = 17,222) were excluded from the analysis.

Data were collected during routine service delivery. The crisis line, accredited by the American Association of Suicidology, is staffed 24/7 by paid employees and volunteers who undergo a 90-hr training program and supervised apprenticeship. All callers are asked, "Are you currently having thoughts of suicide?" For everyone who replies "Yes," a safety assessment is conducted, which can include an evaluation of suicidal desire, capability, intent, and protective buffers (Joiner et al., 2007). The battery of questions may vary depending on level of caller distress. Based on the counselor's safety assessment and discretion, an evidence-based safety planning intervention may be delivered (e.g., Safety Planning Intervention; Labouliere et al., 2020; Stanley & Brown, 2012), and follow-up care services may be offered. Follow-up services are voluntary, and callers must accept the offer to receive a follow-up call. Follow-up calls generally involve a safety assessment, safety plan review, inquiry about community referrals made during the crisis call, and provision of additional referrals. Quality assurance specialists perform a monthly review of a random sample of counselor calls to monitor services. Call information is recorded in iCarol, a web-based helpline platform. Data were deidentified by the 988-member center before sharing with research partners at University of Denver. The University of Denver Institutional Review Board approved this secondary data analysis study. This manuscript was prepared in accordance with the Enhancing the QUAlity and Transparency Of health Research Network guidelines for cross-sectional studies (STROBE Statement; Vandenbroucke et al., 2007).

Measures

Dependent Variables

The two dependent variables included the *offer* and *acceptance* of follow-up services. These variables indicate whether an individual was *offered* follow-up care (No = 0; Yes = 1) and *accepted* follow-up care (No = 0; Yes = 1) during crisis line contact.

Independent Variables

Racial/Ethnic Identity was assessed by asking callers, "Do you mind telling me your race or ethnicity?" Responses were recorded as one of the following categories: Black, Asian, Caucasian/White, Hispanic/Latino, Native American/Alaskan Native, Native Hawaiian/Pacific Islander, Other, Did not ask, and Decline to answer.

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Gender Identity was assessed by asking callers, "Do you mind telling me what gender you identify as?" Responses were recorded as one of the following categories: Female, Male, Transgender, Questioning, Other, Did not ask, and Decline to answer.

Age was assessed by asking callers their current age.

Number of Concerns was a sum score based on the presence (coded 1) or absence (coded 0) of a list of presenting problems, including addiction, anxiety, drug abuse, depression, loneliness, grief, child abuse, elder abuse, bullying, rape, LGBTQ issues, financial stress, homelessness, legal problems, health, COVID, relationship problems, social issues, school, work, trauma, third-party suicidality, suicide loss, and cutting experiences.

Buffering Level was a sum score based on the presence (coded 1) or absence (coded 0) of a list of protective factors, including core values (e.g., duty to family/religious beliefs), counselor engagement, future plans, ambivalence, sense of purpose, social support, and supportive others in life.

Suicide Desire was a sum score based on the presence (coded 1) or absence (coded 0) of a list of suicide desire factors, including perceived burdensomeness, helplessness, hopelessness, isolation, feeling trapped, persistent suicidal thoughts, and psychological pain.

Suicide Intent was a sum score based on the presence (coded 1) or absence (coded 0) of a list of intent factors, including an expressed intention to die, self-rated suicidal intent of three or higher on a five-point scale at beginning of call, suicide plan, preparatory suicidal behavior, and in-progress suicide attempt.

Suicide Capability was a sum score based on the presence (coded 1) or absence (coded 0) of a list of capability factors, including acute mental illness symptoms, extreme rage, mood changes, current intoxication, current violent behavior, decreased sleep, suicide means availability, as well as history of substance use, violence, and suicide attempts.

Call Length was calculated using data tracking the time (in minutes) from beginning to end of contact.

Data Analysis

Descriptive statistics were used to summarize sample characteristics. Logistic regression analyses were performed to explore the correlates of follow-up care *offers* and *acceptance*, separately. For both dependent variables, the analysis proceeded in two steps. First, univariable logistic regression analyses were performed to examine unadjusted associations between each independent variable and dependent variable. Second, multivariable logistic regression analyses were conducted to examine adjusted associations between each independent variable and dependent variable. Inspection of the multivariable models found no violations of model assumptions, including influential cases and multicollinearity. Odds ratios (ORs) were used as measures of association. A p-value less than .05 was used as the criterion for statistical significance. McFadden's Pseudo-R^2 was used to assess the predictive power of the final multivariable models (Allison, 2014). Notably, the analytic sample for the *offer* analyses included all callers, and the analytic sample for the *acceptance* analyses included callers who had been made an offer.

Of the total sample, 68% had complete data. Variables with missing data, by amount, included race/ethnicity (30%), age (6%), and gender (4%). Two data management decisions relevant to missingness deserve mention. *Did not ask* and *Decline to answer* responses were treated as missing. Counselors are trained to record the presence but not absence of factors that comprise certain variables (i.e., concerns, buffers, suicide desire/intent/capability); for analytic purposes, this means that factors without an affirmative response (coded as 1) were treated as absent (coded as 0). To reduce bias in estimates that can result from a complete case analysis, multiple imputation by chained equations was used for missing data (White et al., 2011). The *mi chained* command was used to generate 30 imputed datasets. Descriptive statistics are reported using nonimputed data. Regression results are reported using imputed data. Stata 17 was used for analyses.

Results

Table 1 provides a summary of descriptive characteristics. Participants were, on average, in their late twenties. The majority identified as female. Most identified as either Latinx or White. Just over 3% of callers were offered follow-up. Of those who were offered follow-up, approximately 63% accepted it. Descriptives based on follow-up offer and acceptance statuses are included to support interpretation of regression results.

Offer of Follow-Up

Table 2 provides regression findings for follow-up offers. Univariable analyses indicated that racial/ethnic identity, call length, number of caller concerns, and suicidal desire, capability, and intent were significantly associated with follow-up offers. In the multivariable analysis, the odds of being offered follow-up were lower for Asian than for Black callers. Longer call duration was associated with higher odds of being offered follow-up. A higher number of caller concerns as well as higher suicidal desire, capability, and intent were associated with higher odds of being offered

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Table 1. Descriptive statistics of Crisis Line callers in the overall sample and by offer and acceptance status

Independent variables	Overall sample (n = 55,594)	Not offered (n = 53,735)	Offered (n = 1,859)	Not accepted (n = 695)	Accepted (n = 1,164)
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
Race/ethnicity					
Black	3,967 (10.2)	3,785 (10.1)	181 (13.8)	49 (10.0)	132 (16.2)
Asian	3,318 (8.6)	3,238 (8.6)	80 (6.1)	32 (6.5)	48 (5.9)
White	12,619 (32.5)	12,185 (32.5)	434 (33.2)	187 (38.1)	247 (30.2)
Latinx	15,345 (39.6)	14,852 (39.6)	493 (37.7)	180 (36.7)	313 (38.3)
NAAN/NHPI[a]	528 (1.4)	518 (1.4)	10 (0.8)	5 (1.0)	5 (0.7)
Other identity	3,014 (7.8)	2,904 (7.8)	110 (8.4)	38 (7.7)	72 (8.8)
Gender identity					
Female	31,562 (59.1)	30,521 (59.2)	1,041 (57.2)	387 (57.3)	653 (57.2)
Male	21,277 (39.9)	20,517 (39.8)	759 (41.8)	285 (42.2)	474 (41.5)
Gender minority[b]	531 (1.0)	512 (1.0)	18 (1.0)	5 (0.5)	14 (1.0)
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Age (in years)	28.64 (13.74)	28.62 (13.75)	28.81 (13.61)	28.27 (13.30)	29.13 (13.79)
Concerns	3.14 (2.02)	3.11 (2.01)	3.83 (2.29)	3.52 (2.09)	4.02 (2.38)
Suicide buffers	1.98 (1.94)	1.98 (1.95)	1.95 (1.66)	1.88 (1.77)	1.99 (1.58)
Suicide desire	2.03 (1.88)	1.98 (1.86)	3.30 (2.12)	3.07 (2.05)	3.44 (2.14)
Suicide capability	0.75 (1.10)	0.77 (1.08)	1.61 (1.49)	1.35 (1.43)	1.77 (1.50)
Suicide intent	0.47 (0.86)	0.44 (0.81)	1.57 (1.22)	1.37 (1.21)	1.69 (1.22)
Call length	21.56 (12.20)	21.15 (11.81)	33.28 (16.79)	29.71 (16.06)	35.41 (16.85)

Note. Of the 55,594 participants in the overall sample, 3.3% (n = 1,859) were offered follow-up services. Of the 1,859 who were offered follow-up services, 62.6% (n = 1,164) accepted follow-up services. The table results were obtained using nonimputed data, meaning that missing data were excluded from calculations of descriptive statistics (e.g., valid percentages). [a]NAAN/NHPI represents Native American, Alaskan Native, Native Hawaiian, or Pacific Islander individuals and were combined for analysis due to low case frequency in constituent categories. [b]Gender minority represents individuals identifying as transgender, questioning, or other and were combined for analysis due to low case frequency in constituent categories.

follow-up. In contrast, a higher number of suicidal buffers was associated with lower odds of being offered follow-up. The Pseudo-R^2 for the final multivariable model was .18.

Acceptance of Follow-Up

Table 3 provides regression findings for follow-up acceptance. Univariable analyses revealed the same set of correlates for follow-up acceptance as with offers. In the multivariable analysis, the odds of accepting follow-up were lower for White than Black callers. Greater call duration, higher levels of suicidal capability, and intent were associated with higher odds of follow-up acceptance. The Pseudo-R^2 for the final multivariable model was .04.

Discussion

Follow-up care has been linked to favorable outcomes in acute care settings, but limited work exists on follow-up in a crisis line environment. This is the first known research identifying correlates of follow-up care offers and acceptance in that environment. Overall, the study revealed distinct profiles differentiating individuals who were and were not offered follow-up, as well as those who did and did not accept it. For context, the demographic profile of callers in this study largely reflected that of crisis hotline users in similar research (e.g., high percentage of young adult, female, and White callers), though our sample was more ethnically diverse (e.g., Matthews et al., 2023; Roth & Szlyk, 2021).

A major study finding was that crisis line callers with higher suicidal intent and capability are offered and accept follow-up services at a higher rate. This finding is favorable because these individuals possess a combination of characteristics that constitute a high-risk profile. Specifically, it is reassuring that these higher-risk callers are being selectively chosen for follow-up services *and* are selectively choosing to accept them. That high-risk callers are more likely to be offered follow-up services provides evidence that counselors are allocating follow-up care resources to callers who most need them. That high-risk callers are more likely to accept follow-up aligns with

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Table 2. Logistic regression models for offer of follow-up services

	Univariable			Multivariable		
Independent variables	*OR*	95% CI	*p*	*OR*	95% CI	*p*
Race/ethnicity[a]						
Asian	0.59	[0.46, 0.76]	<.001	0.68	[0.52, 0.89]	.005
White	0.79	[0.67, 0.94]	.007	0.91	[0.76, 1.08]	.280
Latinx	0.74	[0.63, 0.87]	<.001	0.85	[0.71, 1.02]	.075
NAAN/NHPI	0.54	[0.29, 0.98]	.043	0.57	[0.30, 1.06]	.076
Other racial identity	0.86	[0.68, 1.08]	.188	0.83	[0.65, 1.06]	.141
Gender identity[b]						
Male	1.08	[0.98, 1.19]	.104	0.96	[0.86, 1.06]	.396
Gender minority	1.06	[0.66, 1.70]	.818	0.66	[0.39, 1.11]	.119
Age (in years)	1.00	[0.99, 1.00]	.558	1.00	[1.00, 1.00]	.600
Concerns	1.16	[1.14, 1.19]	<.001	0.98	[0.95, 1.00]	.063
Suicide buffers	0.99	[0.97, 1.02]	.510	0.83	[0.80, 0.85]	<.001
Suicide desire	1.39	[1.36, 1.42]	<.001	1.14	[1.11, 1.17]	<.001
Suicide capability	1.60	[1.56, 1.65]	<.001	1.18	[1.14, 1.23]	<.001
Suicide intent	2.50	[2.41, 2.60]	<.001	1.97	[1.89, 2.06]	<.001
Call length	1.06	[1.05, 1.06]	<.001	1.04	[1.03, 1.04]	<.001

Note. *N* = 55,594. The results in the table are pooled estimates obtained using imputed data. [a]The reference group is Black. NAAN/NHPI represents Native American, Alaskan Native, Native Hawaiian, or Pacific Islander individuals and were combined for analysis due to low case frequency. [b]The reference group is female. Gender minority represents individuals identifying as transgender, questioning, or other and were combined for analysis due to low case frequency.

Table 3. Logistic regression models for acceptance of follow-up services

	Univariable			Multivariable		
Independent variables	*OR*	95% CI	*p*	*OR*	95% CI	*p*
Race/Ethnicity[a]						
Asian	0.62	[0.39, 1.04]	.070	0.63	[0.37, 1.06]	.083
White	0.59	[0.41, 0.85]	.005	0.56	[0.39, 0.82]	.003
Latinx	0.71	[0.50, 1.02]	.061	0.72	[0.50, 1.03]	.072
NAAN/NHPI	0.52	[0.16, 1.62]	.256	0.48	[0.15, 1.60]	.235
Other racial identity	0.76	[0.46, 1.26]	.286	0.72	[0.44, 1.20]	.208
Gender identity[b]						
Male	0.99	[0.81, 1.20]	.911	0.91	[0.74, 1.12]	.370
Gender minority	2.11	[0.69, 6.47]	.192	2.34	[0.74, 7.40]	.148
Age (in years)	1.00	[1.00, 1.01]	.207	1.01	[1.00, 1.01]	.136
Concerns	1.10	[1.06, 1.15]	<.001	1.04	[0.99, 1.09]	.128
Suicide buffers	1.04	[0.98, 1.10]	.150	0.99	[0.93, 1.05]	.632
Suicide desire	1.09	[1.04, 1.14]	<.001	0.98	[0.93, 1.03]	.422
Suicide capability	1.22	[1.14, 1.31]	<.001	1.13	[1.04, 1.22]	.002
Suicide intent	1.24	[1.15, 1.35]	<.001	1.14	[1.04, 1.24]	.006
Call length	1.02	[1.02, 1.03]	<.001	1.02	[1.01, 1.02]	<.001

Note. *N* = 1,859. The results in the table are pooled estimates obtained using imputed data. [a]The reference group is Black. NAAN/NHPI represents Native American, Alaskan Native, Native Hawaiian, or Pacific Islander individuals and were combined for analysis due to low case frequency. [b]The reference group is female. Gender minority represents individuals identifying as transgender, questioning, or other and were combined for analysis due to low case frequency.

research suggesting that higher psychiatric symptom severity or suicide risk is associated with greater help-seeking behavior (e.g., Calear & Batterham, 2019; Han et al., 2017). Of relevance, crisis line callers have already engaged in help-seeking behavior, so accepting follow-up services from the same organization may be less

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threatening. Notably, follow-up calls in a crisis line context can have life-saving results (Gould et al., 2018) but may be improved by tailoring follow-up interventions to address suicidal intent and capability in this high-risk group (e.g., means safety interventions; Anestis et al., 2017).

Another key finding was that greater call duration was linked to more follow-up offers and acceptance. That call duration is associated with more follow-up offers may, in part, be related to call complexity. Counselors may spend more time with and offer follow-up care to callers with more complex needs, which we accounted for but may not have fully captured in our analysis. That call duration is associated with more follow-up acceptance suggests that caller–counselor interaction time may be an active ingredient in facilitating acceptance of follow-up care. Time spent together may contribute to greater rapport between callers and counselors, which can result in more positive crisis line service user outcomes (Lake et al., 2022). This may help to explain why greater call duration has also been associated with greater perceived effectiveness of follow-up interventions (Gould et al. 2018). Regardless, if time spent on a call increases follow-up acceptance rates, then crisis lines may be forced to make difficult decisions about allocating limited resources. Thankfully, increased 988 funding promises greater opportunities and incentivization for crisis line service centers to invest in and standardize follow-up programming (e.g., offer follow-up to *all* suicidal callers; 988 Suicide & Crisis Lifeline, 2023). Ideally, this funding will lead to a more robust workforce to reduce burden on counselors who, based on our study's findings, may be tasked with working with a higher concentration of higher-risk callers during follow-up care.

An unexpected finding related to differences in rates of offer and acceptance across racial–ethnic identities. Callers who identified as Black were offered and accepted follow-up at a higher rate than callers who identified as Asian and White, respectively. Although the cause of the differences is unclear, the finding that Black callers were more often offered and accepted follow-up care is encouraging given concerns about discrimination and stigma as barriers to mental health help-seeking and service utilization in the Black community (Alang, 2019; Alvidrez et al., 2008; Ward et al., 2013). Moreover, the willingness of Black callers to accept follow-up care in the crisis line context is good news given that suicidal individuals with minoritized racial/ethnic identities (Tang et al., 2022) and Non-Hispanic Black people specifically (Sheehan et al., 2018) report lower rates of formal mental health service utilization than Non-Hispanic White people. Black callers may consider crisis lines a safer option than the formal mental health service system for follow-up care due to the relative anonymity of crisis line service utilization.

Finally, although we identified similar correlates for follow-up offers and acceptance, the overall follow-up offer model had greater predictive power than the acceptance model (i.e., higher Pseudo-R^2 value; Allison, 2014). Given that crisis lines are designed to assess crises and follow-up offers are informed by such assessments, the relative strength of our offer model is understandable. In contrast, the relative weakness of our acceptance model suggests that there are many factors not embedded in crisis line assessments that influence whether callers accept follow-up. Future research seeking to understand caller decisions about accepting follow-up should consider drawing insights from traditional mental health treatment engagement/nonattendance literature. That work has identified many types of contributors to treatment engagement/non-attendance that may translate to a crisis line context, including presenting problem (e.g., psychiatric disorder type, symptom severity), beliefs relating to mental health symptoms/treatment (e.g., perceived treatment need/motivation), knowledge about mental health services/treatment, referral source (e.g., referrer type, communication quality), practical challenges (e.g., financial/transportation resources), social support, social/cultural influences (e.g., cultural identity, religious beliefs, stigma), and previous service experiences (Mitchell & Selmes, 2007; Sweetman et al., 2021).

Limitations

Our data were from a large 988-member center, but results may not generalize to all crisis callers. Not all callers were asked exactly the same questions because their relative importance varies based on caller distress. Although imputation was used for missingness, obtaining race/ethnicity information from all callers would bolster confidence in related findings. Demographic information for most counselors were not collected, which limited our ability to assess whether counselor-caller identity matching affects follow-up outcomes. Finally, measures were derived from questions routinely used in crisis hotline services (Joiner et al., 2007), but future work should assess the measures' psychometric properties.

Conclusion

Despite the importance of follow-up care following mental health crises, the issue is understudied in a crisis line context. Our findings advance the understanding of the early stages of the follow-up care process (i.e., offers and acceptance) and hold promise for informing service

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improvements to promote equitable and optimal follow-up care programming.

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