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Trends in suicidal ideation in an emergency department during COVID-19

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ABSTRACT

Objective: This study aims to detail changes in presentations at a United States Emergency Department for suicidality before and after the outbreak of COVID-19.

Methods: A retrospective chart review was conducted of all adult patients who presented to an ED with suicidality and underwent psychiatric consultation during the study period. The cohorts consisted of patients who presented between December 2018 – May 2019 and December 2019 – May 2020. Information was collected on demographics, characteristics of suicidality, reasons for suicidality and disposition. The first wave from March – May 2020 was examined, using a difference-in-differences design to control for factors other than COVID-19 that may have influenced the outcomes' trend.

Results: Immediately following the pandemic outbreak there was a statistically significant increase in the proportion of undomiciled patients represented in visits for suicidality (40.7% vs. 57.4%; p -value <0.001). In addition, the proportion of patient visits attributed to social (18.0% vs. 29.2%; p -value 0.003) and structural (14.2% vs. 26.4%; p value <0.001) reasons for suicidality increased. Conversely, the proportion of visits due to psychiatric symptoms (70.5% vs 50.0%; p -value <0.001) decreased. Furthermore, patient visits were more likely to result in a medical admission (2.1% vs. 8.3%; p -value 0.002) and less likely to result in a psychiatric admission (68.4% vs 48.6%; p -value <0.001) during the initial phase of the pandemic.

Conclusions: COVID-19 was associated with increased ED presentations for suicidality among undomiciled patients, as well as greater likelihood of social and structural reasons driving suicidality among all visits.

1. Introduction

Over 3 million people have died from SARS-CoV-2, and the COVID-19 pandemic continues to transform human life through its disruption to social networks, structures, economies, and cultural norms. Evidence around its anticipated psychological toll continues to emerge [1–3]. The pandemic's association with suicidality has been of particular interest, based on precedent set during other large-scale epidemics, disasters, and crises [4–7].

Cautionary words regarding suicidality were issued at the start of the pandemic, given potential impact on risk through the removal of protective factors and the added burden of isolation, quarantine, fear, grief, and economic strain [8–10]. Others yet have identified the collective external threat of the virus as potentially protective against suicide through an increased sense of social cohesion and have cautioned that unfounded “alarmist” messages around pandemic-related suicide may

become a self-fulfilling prophecy [11–14]. Either way, responsible research on suicide patterns is crucial to minimize the total number of lives lost due to the pandemic.

Studies on pandemic-era suicidality thus far have focused on suicide rates, and findings have been mixed and dynamic, paralleling COVID-19's varied impact across communities based on viral patterns as well as public-sector response(s) and resources [15,16]. Several studies in high-income countries have consistently found that there was either no change or a decrease in suicide rates during the beginning of the pandemic [17–19]. It remains unknown, however, whether data from these early months will reflect long-term trends in suicidality, particularly as emergency economic aid programs and a sense of social “togetherness” wanes [20,21]. There is reason to fear a lag effect in suicide rates, as a delayed uptick has been observed after wartime and other disasters [22].

While rates of suicide as extrapolated from official death data are an

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important metric, they do not fully reflect patterns of psychological distress, including suicidal ideation and attempts. Several cross-sectional studies have shown an increase in suicidal thoughts since the start of the pandemic [23–26]. Several studies in the U.S. have also revealed that suicidal ideation and behavior have been experienced unequally since the pandemic, thought to be due to baseline vulnerabilities and COVID-19’s inequitable impact [27–29]. Even if absolute rates of suicide have remained unchanged or decreased, it is vital to understand whether certain groups reflect a disproportionate percentage of these rates compared to prior. Better characterizing suicidality remains critical for identifying groups at particular risk and developing effective interventions.

Emergency department (ED) data may reflect a meaningful clinical interface between population-based surveys and suicide death statistics. Recent studies have described trends in psychiatric emergency care since the start of the pandemic, with some common themes being decreased visits overall but increased severity of psychopathology in those individuals who did present for care [30–33]. While some studies further characterized patients seeking psychiatric treatment, few to our knowledge have explored the features of patients with suicidal thoughts and behaviors [34]. Based on our own anecdotal experience, we hypothesized that ED visits for suicidality during the pandemic would involve more marginalized populations presenting with greater severity of suicidality.

Accordingly, we examined the electronic health record (EHR) data of all adult patients who presented to our ED with suicidality (suicidal ideation and/or suicide attempt) and underwent psychiatric consultation during the study period. We used a difference-in-differences (DID) design and collected information on demographics, characteristics of suicidality, reasons for suicidality, and disposition for comparison during the COVID-19 pre- and post-periods. Our aim was to better characterize the individuals presenting with suicidality to identify significant risk factors with meaningful implication for policy and treatment.

2. Data and study design

Using retrospective, repeated cross-sectional data obtained from EHRs and a quasi-experimental design (DID), this study estimates changes in the kinds of patients presenting to the ED with suicidality and the characteristics of suicidality before and after the initial appearance of COVID-19.

2.1. Data and study period

Retrospective, cross-sectional data were obtained by chart abstraction from patients who presented with suicidality to the ED of a large, academic medical center in Boston, Massachusetts during our study

period. All patients in the study group received emergency psychiatric consultation at the request of Emergency Medicine providers and were seen by a psychiatrist. Charts were abstracted by six psychiatrists for each Monday, Wednesday, and Friday for two cohorts – the comparison cohort (December 24, 2018 – May 13, 2019) and the COVID-19 cohort (December 23, 2019 – May 17, 2020). These days were chosen to reduce chart burden and capture the dynamics of psychiatric presentations over the course of any given week. Additionally, the analysis was adequately powered to detect an effect with only three days per week. To capture the full effects of the initial rise in cases and full implementation of non-pharmaceutical interventions, the study period needed to extend into mid-May, when the announcement of the reprieve from the stay-at-home-order was made by the Governor of Massachusetts. Additionally, an adequate number of time points before the intervention were included to ensure that the outcome’s trend could be assessed prior to the interventions’ implementation (Fig. 1). An equal number of days pre- and post-interventions were included in our study period. The unit of analysis is the patient-visit-day. Multiple visits by the same patient were allowed, and the regression model included a variable that indicated if a visit was by a patient who had previously recorded a visit during the study period. For patients with multiple ED visits during the study period, each visit that met inclusion criteria was coded separately.

From the initial set of records, we excluded those that did not report suicidal ideation or attempt, as well as patients for whom full demographic data was not available. Patients included in the study therefore presented to the ED during the study period, reported suicidality during that visit, and received emergency psychiatric consultation. From this more limited set of records, we extracted demographic data on the patient, as well as detail about the presentation and disposition of the patient. Demographic data on race, gender, and ethnicity were obtained from the statistical information recorded in the EHR by the ED triage team. Data on suicidality characteristics were pulled from notes in the record, and questions about coding were adjudicated by other members of the coding team.

2.2. Outcome measures

Of particular interest were changes in the kinds of people who presented to the ED with suicidality and the specifics of these presentations. Given the disproportionate impact of COVID-19 on people from marginalized groups, outcomes of interest included the age, sex, race, ethnicity, gender minority status, and housing status of patients presenting with suicidality [35]. Additionally, we examined the specifics of a patient’s suicidality– the severity of suicidal ideation or attempt, the details of presentation to the ED, the reasons for suicidal ideation, the presence of psychiatric co-occurring conditions, and disposition.

The severity of suicidality was characterized by the presence of a

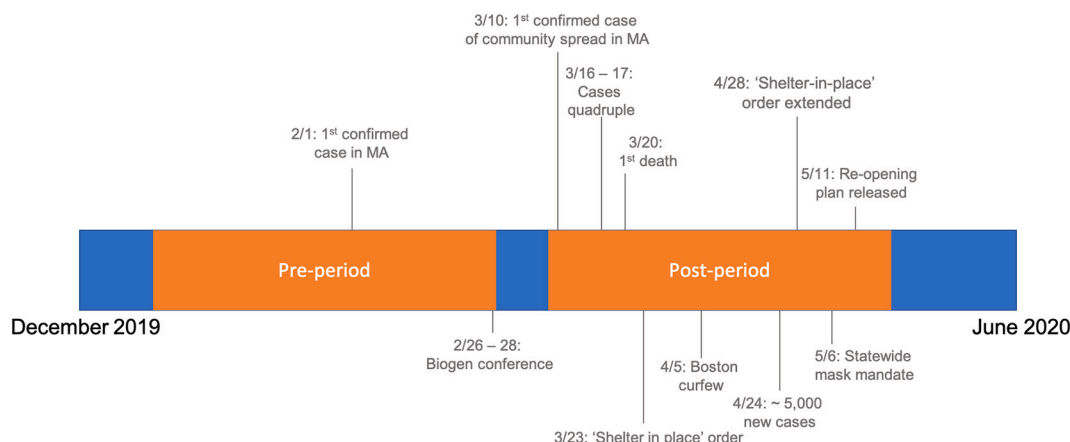


Fig. 1. Timeline of Initial COVID-19 Spread and Non-Pharmaceutical Interventions in Massachusetts.

plan, an attempt immediately preceding the presentation, and/or multiple previous attempts by the patient. Patient presentation (e.g., whether the ED visit was voluntary or involuntary) and the patient's disposition (whether the patient was admitted psychiatrically, admitted medically, referred to psychiatric services, or discharged without follow-up) were recorded. The reasons for suicidal ideation or attempt were categorized according to the patient's self-report: social (e.g., grief, isolation), structural (e.g., unemployment, homelessness), psychiatric (e.g., intractable psychiatric symptoms, psychosis), substance use, or COVID-19 (e.g., fears of getting or transmitting the virus).

2.3. Study design

A two-group, two-time period DID design was used to compare changes in outcomes prior to COVID-19 with those after the initial surge of COVID-19 in Massachusetts. DID assumes that the change seen in the comparison group from the pre-period to the post-period serve as an appropriate counterfactual for the changes that would have occurred in the treatment group without treatment [36]. Additionally, DID assumes that any change in the evolution of the outcome in the treatment group is attributable to the exposure and that all other 'shocks' would have affected the treatment and comparison group the same way. The plausibility of these assumptions was assessed by conducting an event study for each outcome and evaluating the event study plot for differential trends in the pre-period [37].

The exposure in this study is the ten-day period in early March 2020 where Massachusetts experienced a significant growth in new COVID-19 cases, which may have been associated with Biogen conference held in Boston from February 26–28, 2020. Our exposure period also contains the date of presentation at the study site for the first documented case of COVID-19 (March 1, 2020). The exposure period occurred between February 25–March 5, 2019 for the comparator time series and between February 26–March 6, 2020 for the COVID-19 time series. There were a total of 26 new documented cases in Massachusetts during the exposure period of February 26–March 6, 2020. Following the exposure period, several non-pharmaceutical interventions were implemented to address the rise in cases, including a State of Emergency declaration on March 10, 2020, a mass gathering restriction on March 13, school closures on March 17 and a Shelter in Place order on March 23, 2020.

2.4. Statistical approach

First, we produced descriptive statistics (mean, standard error) for each cohort and study period and compared the means for the cohorts in each study period using two-tailed *t*-tests.

Then, for each outcome, we estimated linear probability models where the coefficient of interest was the interaction between a binary variable for whether the patient's ED visit was in the comparator cohort (December 2018 – May 2019) or COVID-19 cohort (December 2019 – May 2020; i.e., the "treat" variable), and a binary variable for whether the patient's ED visit occurred between December and February (i.e., the pre-period) or between March and May (i.e., the post-period) [38].

Regression models for changes in demographic characteristics because of COVID-19 and subsequent NPIs were adjusted using the other demographic characteristics, as well as the presence of co-occurring substance use disorder, psychosis, or affective disorders. Regression models estimating the changes in characteristics of suicidality were adjusted using all demographic characteristics, as well as the presence of co-occurring psychiatric conditions. The study was reviewed and approved by the Partners Health Care Institutional Review Board and the Vanderbilt University Institutional Review Board. All analyses were conducted using R.

3. Results

To assess overall volume of ED visits for suicidality, we compared

unadjusted trends in psychiatric ED consultations for suicidality during the comparator (March – May 2019) post-period with consultations during the COVID-19 (March – May 2020) post-period. This comparison showed a 36.3% decrease in ED presentations for suicidality during the COVID-19 period (*N* = 339 in comparison series and *N* = 216 in COVID-19 series). There was a 37.0% decrease in overall psychiatric consultations during the COVID-19 post-period relative to the comparator post-period. Both trends mirror the 40.7% decline in all presentations to the ED during the same period.

A comparison of pre-period demographic differences of patients presenting to the ED with suicidality showed no statistically significant differences in median age, sex, or housing status between the COVID-19 pre-period and the comparator pre-period (Table 1). Similarly, we found that rates of consultation for suicidality were similar between the two study groups in the pre-period. Pre-period differences did show a lower proportion of presentations for suicidality among Black and gender minority populations in the COVID-19 pre-period cohort relative to the comparator cohort.

Table 1

Comparison of demographic characteristics of patients presenting with suicidal ideation to a consult liaison service during December 2018 – February 2019 (comparison pre-period series) vs. December 2019 – February 2020 (COVID-19 pre-period series).

| | 12/2018–2/2019 (comparison series) Mean (Std. Error) | 12/2019–2/2020 (COVID-19 series) Mean (Std. Error) | <i>p</i> -value |
|------------------------------------|--|--|------------------|
| Demographic characteristics | | | |
| Median age | 36 | 38 | – |
| % over 65 years of age | 4.1 (1.2) | 4.0 (1.2) | 0.95 |
| % Female | 42.2 (2.9) | 37.2 (2.9) | 0.22 |
| Racial classification | | | |
| % white | 72.1 (2.6) | 76.5 (2.6) | 0.23 |
| % Black | 16.0 (2.1) | 10.5 (1.8) | 0.05 |
| % Asian | 1.7 (0.76) | 2.5 (0.94) | 0.49 |
| % Hispanic/Latino/a/x | 0.0 (0.0) | 0.4 (0.06) | 0.32 |
| % Gender minority | 5.8 (1.4) | 2.2 (0.88) | 0.03 |
| U domiciled | 43.9 (2.9) | 45.1 (2.9) | 0.76 |
| Clinical characteristics | | | |
| % with plan | 63.3 (2.8) | 53.4 (3.0) | 0.02 |
| % who made an attempt | 10.9 (1.8) | 9.0 (1.7) | 0.46 |
| % with multiple previous attempts | 37.8 (2.8) | 27.1 (2.7) | 0.006 |
| % who present to ED voluntarily | 51.0 (2.9) | 45.8 (3.0) | 0.21 |
| Disposition | | | |
| % medically admitted | 4.1 (1.2) | 4.0 (1.2) | 0.95 |
| % psychiatrically admitted | 64.3 (2.8) | 51.6 (3.1) | 0.002 |
| % referred to psychiatric services | 14.6 (2.1) | 17.0 (2.3) | 0.44 |
| % discharged with no referral | 9.9 (1.7) | 6.9 (1.5) | 0.19 |
| Reason for suicidality | | | |
| % due to social reasons | 38.8 (2.8) | 20.2 (2.4) | <0.001 |
| % due to structural reasons | 26.2 (2.6) | 20.2 (2.1) | <0.001 |
| % due to psychiatric conditions | 58.8 (2.9) | 56.3 (3.0) | 0.54 |
| % due to substance use | 41.2 (2.9) | 31.0 (2.8) | 0.01 |
| % due to COVID-19 | 0 (0.0) | 0 (0.0) | >0.99 |
| Co-occurring conditions | | | |
| % with any psychotic disorder | 7.1 (1.5) | 3.2 (1.5) | 0.04 |
| % with any affective disorder | 39.1 (2.9) | 45.5 (3.0) | 0.12 |
| % with substance use disorder | 50.0 (2.9) | 48.4 (3.0) | 0.70 |
| N | 294 | 277 | |

SOURCES/NOTES: Sources Authors' analyses of EHR data from ED visits of patients who received a psychiatric consultation during given study period. **Notes** Values are unadjusted percentage of patient visits with demographic or clinical characteristic.

Regarding pre-period differences in clinical characteristics, we found that the patients in the COVID-19 pre-period were less likely to present with a suicide plan or have a history of prior suicide attempts (Table 1). Additionally, patients in the COVID-19 pre-period cohort were less likely to cite social or structural reasons for their suicidality than those in the comparator pre-period.

A comparison of post-period demographic differences showed a statistically significant increase in the proportion of visits attributed to undomiciled patients (40.7% vs. 57.4%; *p*-value <0.001) (Table 2). No statistically significant post-period differences were found when comparing age, sex, race, or gender minority status.

Regarding changes in clinical characteristics, the reasons for suicidality and disposition during the COVID-19 post-period (Table 2) were statistically different from reasons given during the post-period comparator cohort. Patient visits in the COVID-19 post-period were more likely to be attributed to social and structural reasons for suicidality relative to visits in the comparator post-period (18.0% vs. 29.2%; *p*-value 0.003 and 14.2% vs. 26.4%; *p* value <0.001, respectively). Conversely, patient visits in the COVID-19 post-period were less likely to

Table 2
Comparison of demographic characteristics of patients presenting with suicidal ideation to a consult liaison service during March – May 2019 (comparison post-period series) vs. March – May 2020 (COVID-19 post-period series).

| | 3/2019–5/2019 (comparison series) Mean (Std. Error) | 3/2020–5/2020 (COVID-19 series) Mean (Std. Error) | <i>p</i> -value |
|------------------------------------|---|---|-----------------|
| Demographic characteristics | | | |
| Median age | 37 | 38 | – |
| % over 65 years of age | 4.7 (1.2) | 4.2 (1.4) | 0.76 |
| % Female | 40.7 (2.7) | 34.7 (3.2) | 0.16 |
| Racial classification | | | |
| % white | 74.0 (2.4) | 72.2 (3.1) | 0.64 |
| % Black | 12.1 (1.8) | 15.7 (2.5) | 0.23 |
| % Asian | 4.7 (1.2) | 3.2 (1.2) | 0.38 |
| % Hispanic/Latino/a/x | 0.0 (0.0) | 1.4 (0.8) | 0.59 |
| % Gender minority | 5.0 (1.2) | 4.6 (1.4) | 0.84 |
| Undomiciled | 40.7 (2.7) | 57.4 (3.4) | <0.001 |
| Clinical | | | |
| Clinical characteristics | | | |
| % with plan | 59.9 (2.7) | 63.4 (3.3) | 0.40 |
| % who made an attempt | 10.0 (1.6) | 12.0 (2.2) | 0.47 |
| % with multiple previous attempts | 35.1 (2.6) | 39.8 (3.3) | 0.27 |
| % who present to ED voluntarily | 51.0 (2.7) | 53.2 (3.4) | 0.76 |
| Disposition | | | |
| % medically admitted | 2.1 (0.8) | 8.3 (1.9) | 0.002 |
| % psychiatrically admitted | 68.4 (2.5) | 48.6 (3.4) | <0.001 |
| % referred to psychiatric services | 18.5 (2.1) | 21.8 (2.8) | 0.37 |
| % discharged with no referral | 4.7 (1.2) | 10.2 (2.1) | 0.02 |
| Reason for suicidality | | | |
| % due to social reasons | 18.0 (2.1) | 29.2 (3.1) | 0.003 |
| % due to structural reasons | 14.2 (1.9) | 26.4 (3.0) | <0.001 |
| % due to psychiatric conditions | 70.5 (2.5) | 50.0 (3.4) | <0.001 |
| % due to substance use | 35.1 (2.6) | 40.7 (3.4) | 0.18 |
| Co-occurring conditions | | | |
| % with any psychotic disorder | 8.8 (1.5) | 13.5 (2.7) | 0.68 |
| % with any affective disorder | 37.5 (2.6) | 36.6 (3.3) | 0.83 |
| % with substance use disorder | 46.6 (2.7) | 50.9 (3.4) | 0.32 |
| N | 339 | 216 | |

SOURCES/NOTES: Sources Authors’ analyses of EHR data from ED visits of patients who received a psychiatric consultation during given study period. Notes Values are unadjusted percentage of patient visits with demographic or clinical characteristic.

be attributed to psychiatric symptoms as a reason for suicidality compared to visits in the comparator post-period (70.5% vs. 50.0%; *p*-value <0.001). In the COVID-19 post-period, patient visits were more likely to result in a medical admission (2.1% vs. 8.3%; *p*-value 0.002) and less likely to result in a psychiatric admission (68.4% vs. 48.6%; *p*-value <0.001). In addition, visits during the COVID-19 post-period were more likely to result in a discharge from the ED without a referral for aftercare (4.7% vs. 10.2%; *p*-value 0.02) when compared to visits in the non-COVID-19 post-period.

An analysis of differential changes in demographic characteristics between visits during the COVID-19 series and the comparison series found an 11.9 percentage point differential increase in the proportion of visits attributed to undomiciled patients in the COVID-19 period relative to the comparison period (Table 3). There were also differential increases in the proportion of patient visits to the ED with a suicide plan and a history of prior suicide attempts in the COVID-19 period relative to the comparison period (13.2 percentage points and 13.0 percentage points, respectively). Among reasons for suicidality, we observed the following differential changes in the COVID-19 period relative to the comparison period: 30.7 percentage point increase in patient visits citing social reasons for suicidality, 23.2 percentage point increase in structural reasons for suicidality, 18.3 percentage point decrease in psychiatric reasons for suicidality, and a 12.62 percentage point increase in substance-related reasons for suicidality. Finally, differential changes regarding disposition were notable – we found a 6.8 percentage point increase in the probability of a patient visit to the ED resulting in a medical admission and an 8.2 percentage point increase in a patient visit resulting in discharge without a referral to psychiatric services during the COVID-19 period.

Table 3
Differential percentage point changes in demographic and clinical characteristics between December 2018 – May 2019 (comparison time series) and December 2019–May 2020 (COVID-19 time series).

| | Estimate | Std. Error | <i>p</i> -value |
|------------------------------------|----------|------------|-----------------|
| Demographic Characteristics | | | |
| Age | –2.2 | 1.6 | 0.19 |
| Sex – female | 3.4 | 5.6 | 0.54 |
| Racial classification | | | |
| white | –4.4 | 5.1 | 0.40 |
| Black | 6.1 | 4.0 | 0.12 |
| Asian | –1.9 | 2.1 | 0.37 |
| Hispanic ethnicity | 0.1 | 0.9 | 0.89 |
| Gender minority | 2.6 | 2.5 | 0.30 |
| Undomiciled | 11.7 | 5.5 | 0.03 |
| Clinical Characteristics | | | |
| Plan | 13.5 | 5.9 | 0.02 |
| Attempt | 3.9 | 3.7 | 0.29 |
| Previous attempts | 12.8 | 5.7 | 0.02 |
| Voluntary presentation to ED | 4.1 | 5.9 | 0.49 |
| Disposition | | | |
| Medical admission | 6.9 | 2.4 | 0.005 |
| Psychiatric admission | –5.9 | 5.7 | 0.30 |
| Discharged with referral | –0.1 | 4.6 | 0.97 |
| Discharged without referral | 8.1 | 3.2 | 0.01 |
| Reason for suicidality | | | |
| Social reasons | 30.9 | 5.2 | <0.001 |
| Structural reasons | 23.2 | 4.7 | <0.001 |
| Psychiatric reasons | –18.2 | 5.6 | 0.001 |
| Substance use | 12.9 | 4.4 | 0.004 |
| Co-occurring conditions | | | |
| Affective disorders | –6.4 | 5.8 | 0.27 |
| Psychotic disorders | 1.8 | 2.9 | 0.55 |
| Substance use | 6.6 | 5.7 | 0.25 |

SOURCES/NOTES: Sources Authors’ analyses of EHR data from ED visits of patients who received a psychiatric consultation during given study period. Notes Values are estimates from difference-in-differences analysis. Regression models were linear probability models adjusted for other demographic or clinical characteristics.

4. Discussion

Our analysis showed that the first wave of the COVID-19 pandemic had significant impacts on ED presentations for suicidality. While the overall number of presentations for suicidality was lower during the COVID-19 study period, patients' demographic and clinical characteristics differed greatly from the comparator series. Notably, the proportion of all ED presentations that involved suicidality decreased proportionately with the decline in all ED presentations.

Patients presenting to the ED with suicidality during the COVID-19 study period were more likely to be undomiciled relative to the comparator series. The higher rates of homelessness were likely driven by a variety of factors. At the beginning of the pandemic, the Centers for Disease Control and Prevention (CDC) issued guidelines to homeless shelters [39]. In an effort to reduce transmission of COVID-19, the CDC recommended strict social distancing measures, which in turn limited the capacities of many shelters. In addition, many patients opted to avoid shelters due to fear of contracting COVID-19 [40]. A study of an adult homeless shelter population in Boston showed a 36% positivity rate of COVID-19, illustrating that homeless shelters are significant vectors for viral transmission [41]. Furthermore, many patients experiencing homelessness likely experienced decreased access to psychiatric care and other supports, due to the sudden closure of drop-in services and community centers and their inability to access virtual mental health services [42]. Taken together, higher rates of street homelessness, increased social isolation, and decreased access to community-based care likely exacerbated psychological distress and led to deterioration in mental health among undomiciled patients; a group that is already more likely to carry psychiatric diagnoses.

We found significant differences in reasons for suicidality between the COVID-19 and comparator cohorts. During the first wave of the pandemic, patients were more likely to cite social and structural reasons for suicidality. Social factors included social isolation, grief, loss of a relationship or other supports, shame, or not wanting to be a burden; structural factors included loss of a job, loss of housing, or loss of access to providers. Conversely, patients were significantly less likely to cite psychiatric symptoms as a reason for suicidality. The pandemic exacerbated disparities in access to care, housing instability, and unemployment and led to higher rates of social isolation among at-risk populations.

Our analysis showed significant changes in disposition among patients who presented to the ED with suicidality during the COVID-19 study period. Patients were more likely to be admitted to inpatient medical services and less likely to be admitted to inpatient psychiatric units. The higher rates of medical admission were likely multifactorial. Early in the pandemic, there were significant delays in COVID-19 polymerase chain reaction testing, and rapid tests were largely unavailable. In addition, many local freestanding psychiatric hospitals required two negative tests prior to admission. Furthermore, psychiatric beds grew scarcer as inpatient units adjusted their censuses to accommodate for social distancing and isolation rooms [43,44]. As a result, patients were more likely to board on medical services, while awaiting COVID-19 testing results and transfer to an inpatient psychiatric facility. Disposition options were particularly limited for patients who tested positive for COVID-19 and required inpatient psychiatric care, as few inpatient units were able to accommodate COVID-19 positive patients. These patients were often managed on medical services with involvement of consult-liaison psychiatry. Our results also indicate that patients were less likely to be discharged from the ED with a referral for outpatient psychiatric care. Initially, access to outpatient services decreased significantly. Outpatient psychiatric services quickly moved to telehealth platforms; however, these services were inaccessible for many patients seen in the ED who were experiencing homelessness or lacked access to the appropriate technology [45,46].

The trends we observed can help us to identify patients who are more vulnerable to developing suicidality when faced with stressors such as

COVID-19. Although actual suicide rates may not have been significantly affected, our findings illustrate that marginalized communities were particularly impacted by the mental toll of the pandemic, leading to increased psychological suffering and higher ED utilization. Unfortunately, access to appropriate interventions including outpatient care, day programs, residential facilities, and inpatient psychiatric care were often least available to these vulnerable groups [9]. Moving forward, it will be critical to maintain access to outpatient mental health care, homeless shelters, and other community-based supports in the face of public health crises. We recommend focusing on the development of targeted interventions for those with reduced accessibility to appropriate resources.

4.1. Limitations

Our study has several limitations. First, our study was a single-center study, and circumstances unique to the Boston-area may have contributed to our findings. Second, we stopped collecting data in May 2020. This was consistent with the initial COVID-19 surge in Massachusetts; however, the impact of the pandemic has persisted, and trends related to suicidality have likely been dynamic throughout the subsequent months. Third, we collected data via chart review, and coder variability may have impacted outcomes; however, we tried to control for potential inconsistencies through discussions between coders and consensus guides. Fourth, the trends we observed reflect a group of individuals who sought care in an ED and may not reflect all individuals experiencing suicidality during the pandemic. Finally, evaluating psychiatrists may have been more likely to inquire about and document social and structural reasons for suicidality during the pandemic.

5. Conclusion

While prior studies have examined suicide completion rates during the first wave of the pandemic, data is limited regarding specific features of patients with suicidality during this period. Our findings demonstrate that COVID-19 was associated with significant changes in ED presentations for suicidality, likely secondary to the psychological distress surrounding the pandemic and its immense social and structural consequences. Specifically, we observed that an increased proportion of ED visits for suicidality involved undomiciled patients, that patients were more likely to report social and structural reasons for suicidality, and that visits for suicidality were less likely to result in psychiatric admission.

Declaration of Competing Interest

No disclosures to report.

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