

UC Irvine

UC Irvine Previously Published Works

Title

Increasing suicide rates among middle-age persons and interventions to manage patients with psychiatric complaints.

Permalink

<https://escholarship.org/uc/item/57m761xd>

Journal

Western Journal of Emergency Medicine, 15(1)

ISSN

1936-900X

Authors

Frumin, Erica

Chakravarthy, Bharath

Lotfipour, Shahram

Publication Date

2014-02-01

DOI

10.5811/westjem.2013.12.19513

Peer reviewed

Increasing Suicide Rates Among Middle-age Persons and Interventions to Manage Patients with Psychiatric Complaints

In conjunction with the Morbidity and Mortality Weekly Report published by the Centers for Disease Control and Prevention

Bharath Chakravarthy, MD, MPH University of California Irvine, Department of Emergency Medicine, Orange, California
Erica Frumin, MD
Shahram Lotfipour, MD, MPH

Supervising Section Editor: Mark I. Langdorf, MD, MHPE

Submission history: Submitted September 10, 2013; Revision received December 26, 2013; Accepted December 27, 2013

Electronically published January 22, 2014

Full text available through open access at http://escholarship.org/uc/uciem_westjem

DOI: 10.5811/westjem.2013.12.19513

The Centers for Disease Control and Prevention (CDC) has published significant data and trends related to suicide rates in the United States (U.S.). Suicide is the 10th leading cause of death in U.S. adults, and rates are increasing across all geographic regions. There is a significant increase in the suicide rate among adults in the 35-64 age range. We present findings from the CDC's Morbidity and Mortality Weekly Report (MMWR) with commentary on current resources and barriers to psychiatric care. [West J Emerg Med. 2014;15(1):11-13.]

CDC MMWR FINDINGS

In the May 3, 2013, issue of Morbidity and Mortality Weekly Report (MMWR), the Centers for Disease Control and Prevention (CDC) published data and trends related to suicide rates in the United States (U.S.). The MMWR article examined rates by sex, age group, race/ethnicity, state and region of residence and mechanism of suicide. The report concluded that there is an age-adjusted increase in the suicide rate among middle-aged adults. Traditionally, suicide prevention efforts have been focused on young persons and older adults. This report underscores the need for suicide prevention measures directed toward middle-aged adults.

To gather data related to suicide rates, the CDC used the National Vital Statistics System (NVSS) and queried all reported suicides in U.S. residents who were 10 or more years old from 1999 to 2010. Age-group specific suicide rates, as well as age-adjusted annual rates, were calculated using the U.S. standard 2000 population from the U.S. Census Bureau. Percentage changes in observed suicide rates from 1999 to 2010 were calculated with corresponding 95% confidence intervals.

From 1999 to 2010, the age-adjusted suicide rate for adults aged 35-64 years increased significantly by 28.4% from 13.7 per 100,000 to 17.6 ($p < 0.001$). Age-adjusted suicide rates in other age groups (10-34 and >65 years) were comparatively small and not statistically significant. The report further stratifies the 35-64 years age group into subsets with the greatest increases among men aged 50-59 years, and in women aged 60-64 years.

When examining the population as a whole, suicide rates

increased significantly across all age demographics and in all geographic regions (Table 1). By mechanism, the greatest increase was observed for the use of suffocation (81.3%, from 2.3 to 4.1), followed by poisoning (24.4%, from 3.0 to 3.8) and firearms (14.4%, from 7.2 to 8.3). By racial/ethnic population, the greatest increases were among American Indian/Alaska Natives (65.2%, from 11.2 to 18.5) and whites (40.4% from 15.9 to 22.3).

The report offers that possible contributing factors in the rise in suicide rates among middle-aged adults include the recent economic downturn, a cohort effect of the "baby boomer" generation, which had unusually high suicide rates as adolescents, and the rise in intentional overdoses related to the availability of prescription opioids.

The CDC states that there were significant limitations to this evaluation. Suicide rates are likely an underestimate of the actual prevalence because these may be undercounted in NVSS. The findings are subject to variation in how coroners and medical examiners record manner of death and errors in classification of race and ethnicity. The NVSS lacks information about physical and mental health history limiting the context of this information.

COMMENTARY

It's 7PM on a Friday evening and a 45-year-old woman presents to the emergency department (ED) with worsening depressive symptoms and passive suicidal ideation. She was formerly treated by an outpatient psychiatrist but has not seen them for several months due to "insurance issues." She has

one prior suicide attempt but was able to contract for safety and was cleared by her psychiatrist for outpatient therapy at that time. Your patient appears to have capacity and has good insight into her illness. You are relieved for a moment that she is not agitated or aggressive. You consider your options. Is it possible to contact this patient's former psychiatrist? Do you have access to a psychiatrist in the ED to assist in the appropriate disposition of the patient? What you are convinced of is that your patient will most likely wait hours until a clear treatment plan and disposition is achieved. This clinical scenario is not unfamiliar to most EDs, and we are intimately aware of the impact that lengthy stays or aggressive patients have on the ED work environment.

Emergency physicians (EPs) throughout the country, in all practice settings, share the challenge of finding an appropriate disposition for patients presenting with mental health complaints. The MMWR is useful in identifying middle-aged persons as an increasingly at-risk demographic with regards to suicide but provides little insight into etiology or clinical significance. Additionally, the report indicates that the rate of suicide has risen across broad demographics and geographic regions. Because of a lack of adequate outpatient services and access to care to these services, more mental health patients turn to EDs for care. EPs are under increasing pressure to identify patients at the highest risk and provide care that allocates limited resources to sub-segments of this population with the most emergent need.

Suicide is the 10th leading cause of death in the U.S. and resulted in the loss of 38,364 lives in 2010.² Alarming, studies conducted outside of the U.S. suggest that high rates (19%) of suicide attempters presenting to EDs will reattempt within 6 months and 39% of those who complete suicide presented to an ED in the year prior to their death.^{3,4} Although these ED visits may not be for primary mental health complaints, they do represent an opportunity for identification of at-risk individuals and early intervention. Several studies have examined the prevalence of suicidal ideation in the general medical population of EDs and have found rates varying from 3%-11.6%.^{5,6} The question remains, can we develop adequate assessments to identify those at risk for self-harm?

There have been several studies to develop and validate screening tools to identify patients at risk for future self-harm.⁷⁻⁹ Despite these efforts, these tools have failed external validation and we still lack a universally accepted risk-stratification tool or decision rule.^{8,10} It is possible that the regional variation in substance abuse and culturally specific stressors limits the generalizability of these tools. To maximize the sensitivity, EPs may have to "cast a wider net." Studies have examined the effect of universal screening for depression.^{5,6,11} But there is insufficient evidence to support universal screening in a general medical population.¹²

The Joint Commission National Patient Safety Goal (NPSG) 15 calls for risk assessment, appropriate treatment, and resource referral upon discharge for all patients

presenting with an emotional or behavioral disorder to a general hospital.¹³ In response to the NPSG the Emergency Department Safety Assessment and Follow-up Evaluation (ED-SAFE) study has been designed to evaluate the rate of usual practice screening and treatment in 8 representative EDs, as well as the effect of universal suicide-risk screening either alone or with a brief self-directed intervention.¹¹ The results from this study are pending but should provide useful information to answer these questions.

Unfortunately psychiatric services are almost always limited, especially after office hours, and in many hospitals they may not be accessible at all. Improvements in our ability to identify patients at risk are only helpful if we have effective services at all hours. Standard of care is face-to-face evaluation of a patient by a mental health professional. For most EDs, the practical logistics of achieving this type of evaluation can take hours or even days to complete, and patients may need to be transported off-site for evaluation. Emerging treatment modalities give promise of tools for time and cost-effective care. Some have suggested that system-wide approaches by implementing regionalized psychiatric care could be helpful.^{14,15}

The ED-SAFE study will evaluate the efficacy of a self-administered tool for preventing suicide by reinforcing coping strategies and developing a safety plan. This brief intervention will be followed by 7 telephone-based sessions to help promote outpatient treatment engagement. This trial is currently enrolling patients. Additionally, videoconferencing between the patient and provider is emerging as a modality for implementing psychotherapy and initial assessments in remote areas.^{16,17} This may prove useful in hospitals and regions with limited psychiatric resources. While studies have showed variable results for simple contact or limited interventions, more intensive care and case management can prevent future episodes of self-harm.¹⁸⁻²⁰ It is possible that quality care in a time of crisis may reduce the need for inpatient admission and the need to board in the ED. Although "tele-psychiatry" is a promising tool that may eventually extend delivery of care after office hours and in a broader geographic area, its efficacy has yet to be validated.²¹ It is unclear if linkage to outpatient care will reduce the need for emergency services.²²

There are several practical points the ED physician should remember when treating patients with self-harm. Corroborative information from the patient's family and friends is crucial. The patient's social ties and access to care are helpful in assisting ED physicians in patient dispositions. As with any patient, clear and precise documentation of the patient visit and encounter is always prudent. The phrase "contracting for safety" is debated among ED physicians, psychiatrists and in the legal world. Although having this conversation with the patient is germane, it may not afford legal protection in the event of a suicide attempt.²³

EDs are facing remarkable increases in patient volume and it is anticipated that with the implementation of the

Affordable Care Act the patient volume will grow. Patients coming to the ED with self-harm are particularly challenging in that there is no simple way to risk stratify them and in turn their lengths of stays are alarmingly high.²⁴ With the recent MMWR that identifies a sub-segment of the population with increased risk for self-harm, EPs should be aware of the special circumstances of these patients and push their hospital and regional systems to improve care for their patients. Lengthy stays impact EDs and contribute to sub-optimal psychiatric care and ED crowding, which restricts access to care for all patients. The increasing number of patients with psychiatric complaints places a significant onus on EPs to allocate limited psychiatric resources appropriately. Currently, our options are few and in many areas inadequate. We must seek tools and evoke changes in policy that will extend our limited resources and provide practical and effective interventions.

Address for Correspondence: Bharath Chakravarthy, MD, MPH.
101 The City Drive, Rt 128-01, Orange, CA 92868.
Email: bchakrav@uci.edu.

Conflicts of Interest: By the WestJEM article submission agreement, all authors are required to disclose all affiliations, funding sources and financial or management relationships that could be perceived as potential sources of bias. The authors disclosed none.

REFERENCES

- Centers for Disease Control and Prevention (CDC). Vital Signs: Suicide among adults aged 35-64 years – United States, 1999-2010. *MMWR Morbidity Mortality Weekly Report*. 2013;62(17):321-325.
- Centers for Disease Control and Prevention National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). www.cdc.gov/ncipc/wisqars; accessed July 2013.
- Beautrias AL. Further suicidal behavior among medically serious suicide attempters. *Suicide Life Threat Behav*. 2004;34(1):1-11.
- Gairin I, House A, Owens D. Attendance at the accident and emergency department in the year before suicide: retrospective study. *Br J Psychiatry*. 2003;183:28-33.
- Allen MH, Abar BW, McCormick M, et al. Screening for suicidal ideation and attempts among emergency department medical patients: instrument and results from the Psychiatric Emergency Research Collaboration. *Suicide Life Threat Behav*. 2013;43:313-323.
- Kemball RS, Gasgarth R, Johnson B, et al. Unrecognized suicidal ideation in ED patients: are we missing an opportunity? *Am J Emerg Med*. 2008;26:701-705.
- Cooper J, Kapur N, Webb R, et al. Suicide after deliberate self-harm: a 4-year cohort study. *Am J Psychiatry*. 2005;162:297-303.
- Currier GW, Litts D, Walsh P, et al. Evaluation of an emergency department educational campaign for recognition of suicidal patients. *West J Emerg Med*. 2012;13:41-50.
- Ting SA, Sullivan AF, Emergency Department Safety and Follow-up Evaluation (ED-SAFE) Investigators et al. Multicenter study of predictors of suicide screening in emergency departments. *Acad Emerg Med*. 2012;19:239-243.
- Gaynes BN, West SL, Ford CA, et al. Screening for suicide risk in adults: a summary of the evidence for US Preventive Services Task Force. *Ann Intern Med*. 2004;140:822-835.
- Boudreax ED, Miller I, Goldstein AB, et al. The Emergency Department Safety Assessment and Follow-up Evaluation (ED-SAFE): Method and design considerations. *Contemp Clin Trials*. 2013;36:14-24.
- US Preventative Services Task Force. Screening for suicide risk; recommendation and rationale. *Ann Internal Med*. 2004;140:820-821.
- The Joint Commission. National Patient Safety Goals Effective January 1, 2013. http://www.jointcommission.org/assets/1/18/NPSG_Chapter_Jan2013_HAP.pdf; accessed July 2013.
- Zeller S, Calma N, Stone A. Effects of a Dedicated Regional Psychiatric Emergency Service on Boarding of Psychiatric Patients in Area Emergency Departments. *Western Journal of Emergency Medicine*. 2013. Retrieved from: <http://escholarship.org/uc/item/01s9h6wp>.
- Bruckner TA, Kim Y, Chakravarthy B, et al. Voluntary Psychiatric Emergencies in Los Angeles County After funding of California's Mental Health Services Act. *Psychiatric Services in Advance*. *Psychiatr Serv*. 2012;63:808-814.
- Godleski L, Nieves JE, Darkins A, et al. VA telemental health: Suicide assessment. *Behav Sci Law*. 2008;26:271-286.
- Hailey D, Roine R, Ohinmaa A. The effectiveness of telemental health applications: a review. *Can J Psychiatry*. 2008;53:769-778.
- Brown GK, Ten Have T, Henriques GR, et al. Cognitive therapy for the prevention of suicide attempts: a randomized controlled trial. *JAMA*. 2005;294:563-570.
- Fleischmann A, Bertolote JM, Wasserman D, et al. Effectiveness of brief intervention and contract for suicide attempters: a randomized controlled trial in five countries. *Bulletin of the World Health Organization* 2008;86:703-709.
- Kapur N, Gunnell D, Hawton K, et al. Messages from Manchester: pilot randomized controlled trial following self-harm. *Br J Psychiatry*. 2013;203:73.
- Shore JH. Telepsychiatry: Videoconferencing in the delivery of psychiatric care. *Am J Psychiatry*. 2013;170:256-262.
- Currier GW, Fisher SG, Caine ED. Mobile crisis team intervention to enhance linkage of discharged suicidal emergency department patients to outpatient psychiatric services: a randomized controlled trial. *Acad Emerg Med*. 2010;17:36-43.
- Garvey KA, Penn JV, Campbell AL, et al. Contracting for safety with patients: clinical practice and forensic implications. *J Am Acad Psychiatry Law*. 2009;37(3):363-370.
- Chakravarthy B, Tenny M, Anderson CL, et al. Analysis of mental health substance abuse-related emergency department visits from 2002-2010. *Substance Abuse*. 2013;34(3):292-297.