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Suicide Prevention

A Healer Education and Referral Program for Nurses

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OBJECTIVE: The aim of this study was to describe the pilot expansion of a proactive suicide risk–screening program, initially designed for physicians, to nurses.
BACKGROUND: The Healer Education, Assessment and Referral (HEAR) program detects at-risk physicians and facilitates referral to mental healthcare. Nothing similar has been available for at-risk nurses. Local nurse suicides served as the catalyst to extend the HEAR program to nurses.
METHODS: Education, outreach, and an encrypted, online, anonymous, proactive risk screening were conducted to identify and refer nurses with depression and suicide risk.
RESULTS: During the 1st 6 months of the program, 172 of 2475 (7%) nurses completed questionnaires; 74 (43%) were rated as high risk, and another 98 (55%) as moderate risk; 12 (7%) reported current active thoughts or actions of self-harm, and 19 (11%) reported previous suicide attempts. Forty-four (26%) received in-person or verbal counseling, and 17 accepted referral for continued treatment.
CONCLUSIONS: An encrypted, anonymous, proactive risk screening is effective at identifying nurses at risk and referring them to mental healthcare.

The World Health Organization reports that 1 person dies every 40 seconds by suicide.[1] Suicide is the cause of death in approximately 38 000 citizens a year in the United States.[2] Suicide is the 10th leading cause of death in the United States, occurring at a rate of 13 per 100,000 person-years.[3] While overall mortality rates are decreasing in the United States, suicides are on the rise.[3] Healthcare providers may be at especially high risk.[4,5] The purpose of this article is to describe a suicide prevention program developed for nurses.

Whereas physician suicide is increasingly recognized as an important problem requiring serious preventive measures,[6] less attention has been accorded to suicide among nurses. Rates of suicide among US physicians are much higher than those of the general population.[7] The relative suicide risk among US physicians was 1.41 for males and 2.27 for females.[8] Approximately 400 US physicians take their lives each year, equivalent to 2 average medical school classes.[9] In a dated US report using 1990 data on occupational risks, when adjusted for gender, the odds ratio for a nurse dying of suicide was 1.58 greater than the working-age population.[4] No recent data are available for nurse suicide in the United States. Internationally, nurse suicide is reported as greater than in other occupations.[10–15] In a more recent review from Australia, nurse suicide rates were found to be higher than for individuals in other occupations (incident rate ratio 2.65 for women and 1.50 for men).[16]

Suicide occurs when stressors exceed coping abilities of someone suffering from a mental health condition. Key risk factors for nurse suicide overlap with risks for the general population: past attempts and past or current mental illness, especially when mood disorders are incompletely treated.[17] The elevated suicide risks for doctors and nurses may be

explained, in part, by factors related to characteristics of those entering caring professions, access to means, knowledge of how to enact lethal means, and exposure to work-related stresses and demands.[18] Individuals who choose nursing as a career may be compulsive (attention to detail) and perfectionistic. This is a double-edged sword: on the 1 hand, these are desirable traits in those to whom we entrust our lives; on the other hand, these same traits may make someone especially vulnerable to workplace stress. Entering into the suffering of people with adverse outcomes related to severe, chronic, and deadly illnesses takes a toll on mental health. Iatrogenic factors such as witnessing or being involved in medical errors compound the issue.[19] Like physicians, nurses have knowledge of pharmacology and drug toxicity coupled with access to drugs, maximizing the lethality of overdose attempts, a common method of suicide in the healthcare professions.[20] Nurses also encounter work-related stress that has been implicated in burnout[21] but also likely plays a role in suicide risk. These include workload, long hours, work compression, lack of autonomy and flexibility, isolation, compassion fatigue, lateral violence, bullying, staffing, lack of resources, disconnect between professional values and responsibilities, loss of meaning in work, challenging institutional cultures, perceived lack of support, disengaged leadership, limited time with patients/families, dissatisfied patients, lack of recognition and positive feedback, challenges of new technology, and problems with life-work balance.[19–24] Individual and institutional attention to these occupational stressors not only may enhance engagement and well-being of nurses working in this uniquely challenging calling[25–27] but also may contribute to reducing suicide risk.[28] To our knowledge, there has been no previous research or clinical programs focused on nurse suicide prevention. This article reports initial results of this 1st known nurse suicide prevention program.

Learning From Physician Suicide Prevention: Development of the Healer Evaluation Assessment and Referral Program

At our organization, prior to 2009, approximately 1 medical student, resident, or faculty member was taking his/her own life annually. A confidential survey demonstrated a self-reported rate of 29% for depression, a greater than 3% rate of current suicidal ideation and a 6% rate of serious drinking among residents and faculty.[29] The Physician Well-being Committee (PWBC) began to investigate options for creating a suicide prevention program. In 2008, medical faculty in collaboration with the American Foundation for Suicide Prevention (AFSP) founded the Suicide Prevention and Depression Awareness Program,[30] which has become better known today as the Healer Education, Assessment and Referral (HEAR) program.

A description of the program, which is now provided in more than 60 medical teaching campuses in 8 medical schools, is provided elsewhere[30,31]; a brief summary follows. HEAR provides service to all physicians, residents, and medical students of the organization's hospitals, clinics, and affiliations. The membership of HEAR represents major constituencies including faculty representatives from several departments in the school of medicine, pharmacy, the PWBC, medical students, residents, and program counselors. HEAR is designed with a 2-pronged approach. The 1st is a series of didactic presentations providing education on burnout, depression, and suicide; destigmatizing depression; and acquainting attendees with the membership and function of HEAR. The 2nd is an encrypted, confidential, and anonymous Web-based screening and assessment, the Interactive Survey Program (ISP), which was developed to proactively identify and refer individuals at risk of depression or suicide.[30–33] An actively suicidal physician could potentially access the Web site, and we would not know his/her identity. This risk was presented to a joint council of the medical and pharmacy schools, the chief executive officer of the medical center, the Medical Ethics Committee, members of HEAR, and select faculty, residents, and medical students. The response was unanimous that the greater good would be served through prioritizing absolute privacy. To date, this has proven effective without adverse events.

Between 2009 and 2016, a total of 1558 medical students (n = 519), pharmacy students (n = 90), resident physicians and fellows (n = 341), and medical school faculty (n = 502) completed the anonymous online Stress and Depression Screening Questionnaire.[33] Of these, 112 individuals dialogued with the program counselor online, by telephone (n = 9), and/or in person (n = 63). These comprise the majority of the 180 individuals who accepted referrals for formal mental health evaluation/treatment. The majority of referred participants reported that they would not have sought treatment if not for this program. Instead of the expected 1 suicide per year, there has been only 1 suicide in the 6 years since the program has been operational. In addition, 4 original research articles have been published describing HEAR program outcomes.[30,31,33,34] The American Medical Association has recognized the HEAR program as an exemplar in suicide prevention.[35] It is unclear why HEAR was built initially for only physicians, rather than all healthcare professionals of our medical system, but this is now being rectified.

Catalyst: Nurse Suicides Within the Workforce

Nurse suicides in our workforce served as the catalyst for expanding the HEAR program. After a literature review revealed a paucity of research related to prevention of nurse suicide, and then learning about the successful program initiated to abate physician suicide in our organization,[30] an action plan was set to extend the physician program to nurses instead of replicating it.

Ethical Oversight

The HEAR program expansion was excused from investigational review board (IRB) oversight as a quality improvement initiative (IRB excusal no. 161812). Oversight for the extension of the HEAR program to nurses was provided by risk management and the HEAR Committee. Interim reports were provided to nursing leadership.

Methods

Setting and Sample

This project was conducted in an urban medical-teaching multisite health system in the southwestern United States serving a heterogeneous population of diverse ethnicities and socioeconomic status. All nurses working at the medical center were invited to participate in the screening. The authors collaborated with human resources (HR) to identify job codes for nurses in both clinical and nonclinical positions. The HR personnel used the same strategy to identify the nurses as is used to invite nurses to complete mandatory annual training. The e-mail list of these nurses was sent by the HR representative to the chief nursing officer (CNO) who sent the survey participation invitation.

How the HEAR Program Works

The HEAR program includes education, outreach, and referrals (Figure 1). Education was delivered in 3 iterative grand-rounds formats: 1-hour offerings describing the risks of burnout, depression, and suicide. A nursing staff member who had suffered from suicidal ideation offered an emotional testimony about how treatment saved her. A nursing leadership presentation was delivered explaining the aims of the program and implementation plan. Lastly, a huddle topic fact sheet was developed (Supplement Digital Content 1, http://links.lww.com/JONA/A596). Huddle topics are deployed when information needs to be disseminated in a rapid fashion to large numbers. The huddle topic fact sheet is a 1- to 2-page information sheet. Managers and/or charge nurses then deliver the information at every shift for approximately 2 weeks until all staff have been informed. Following the huddle efforts, the CNO sent the invitation for screening (Supplemental Digital Content 2, http://links.lww.com/JONA/A597).

Proactive Versus Passive

Note that this project proactively reached out to employees to consider self-screening instead of waiting for them to seek help, different from the employee assistance program (EAP), which is a 3rd-party contracted service where employees may seek out the help of counselors. The HEAR program complemented but did not alter or replace EAP.

Staffing

The HEAR program was originally staffed with two 0.5-full-time equivalent (FTE) counselors (masters of social work, marital family therapist, and/or doctorate of psychology prepared) to deploy the screening to physicians and house staff. A psychiatrist provided counselors support. To extend the pilot, staffing was increased to 2.0-FTE counselors plus 0.35-FTE psychiatry hours. Partial financial support ($168 660) was received through a 1-year University of California Office of the President Safety Grant.
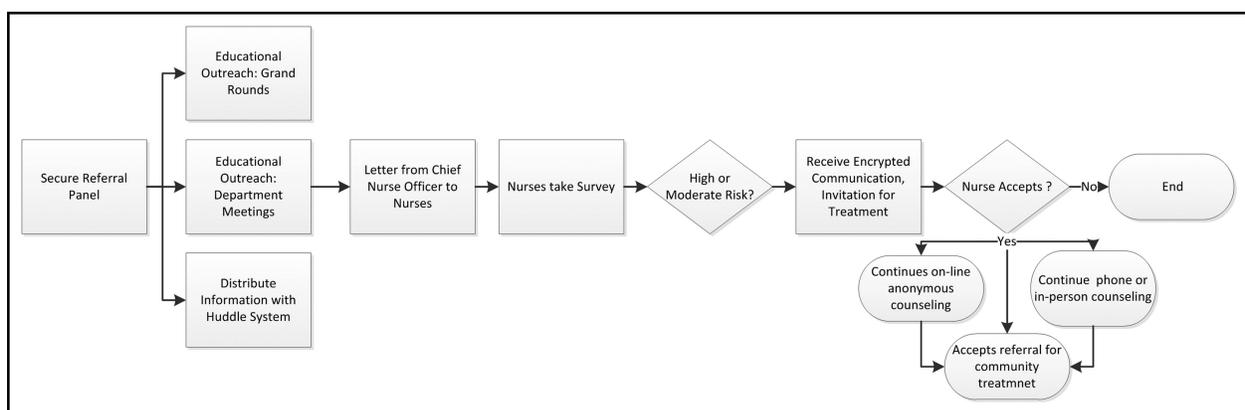

Figure 1. Process Map: Healer Education Assessment and Referral (HEAR) Program.

Survey

Details of the ISP can be found elsewhere.[30,32] In brief, the ISP contains the 9-item Patient Health Questionnaire (PHQ-9), a validated depression assessment in its original form.[36] Scores range from 0 to 27; a higher score indicates a greater likelihood of depression. The screening tool includes items on past suicide attempts, affective states (ie, anxiety, panic, rage, hopelessness, helplessness, loneliness, desperation, and loss of control) previously linked to suicidal depression, alcohol and drug use, eating behaviors, and current psychiatric treatment. Additional questions derived from the literature were added to the ISP following the PHQ-9 (Table 1). The ISP is widely used across the United States by physicians and effectively identifies physicians in need of treatment but does not have published psychometric data. The ISP asks respondents to provide 3 demographic questions: gender, profession, and age. The social and demographic information requested is limited in favor of reducing burden and maximizing anonymity. The ISP provides respondents an opportunity to describe stressful factors that may be contributing to their current emotional state or pose questions to the counselor. The participant may provide an e-mail address, which is encrypted to preserve anonymity. Once a respondent completes screening, the software program generates a depression score and uses this

Table 1. *Frequencies of Mental Health Dimensions*

	n (% Yes) or Mean (SD)
Depression (PHQ-9) (past 2 wk) (n = 149)	
Mean total PHQ-9 score (items 1-8)	8.56 (5.64)
None to minimal depression (0-4)	44 (29.5)
Mild depression (5-9)	45 (30.2)
Moderate depression (10-14)	36 (24.2)
Moderately severe to severe depression (15-27)	24 (16.1)
Suicidal thoughts and behaviors	
(PHQ-9 item) Having thoughts that you would be better off dead or thoughts of physically harming yourself (past 2 wk) (n = 148)	15 (10.1%)
Thoughts about taking own life (past 2 wk) (n = 149)	11 (7.4%)
Done things to hurt self or put life in imminent in danger (past 2 wk) (n = 148)	7 (4.7%)
Planned ways of taking own life (past 2 wk) (n = 149)	3 (2.0%)
Ever made suicide attempt (lifetime) (n = 148)	18 (12.1%)
Total considered currently "suicidal"[a]	17 (11.4%)
Intense feeling states (past 4 wk)	
Feeling nervous or worrying a lot (n = 149)	127 (85.2%)
Becoming easily annoyed or irritable (n = 149)	140 (94.0%)
Feeling your life is too stressful (n = 149)	129 (86.6%)
Having arguments or fights (n = 147)	85 (57.8%)
Feeling intensely anxious or having anxiety attacks (n = 149)	90 (60.4%)
Feeling intensely lonely (n = 149)	78 (52.3%)
Feeling intensely angry (n = 149)	71 (47.7%)
Feeling hopeless (n = 147)	54 (36.7%)
Feeling desperate (n = 148)	43 (29.1%)
Feeling out of control (n = 144)	69 (47.9%)
Alcohol and drugs (past 2 wk)	
Drinking alcohol (including beer or wine) more than usual[a] (n = 149)	57 (38.3%)
Feeling like you were drinking too much (n = 149)	42 (28.2%)
Feeling that your work or school attendance or performance was affected by your drinking (n = 148)	141 (95.3%)
Using drugs (such as marijuana, cocaine, etc) or taking prescription medications without medical supervision (n = 148)	8 (5.4%)
Eating (past 4 wk)	
Feeling that you can't control what or how much you eat (n = 148)	83 (56.1%)
Feeling overly concerned about staying thin or losing weight (n = 146)	85 (58.2%)
Making yourself vomit after eating (n = 149)	3 (2.0%)
Current treatment	
Medication for anxiety (n = 149)	28 (18.8%)
Medication for depression (n = 149)	28 (18.8%)
Medication for stress (n = 148)	10 (6.8%)
Medication for sleep (n = 148)	39 (26.4%)
Medication for pain (n = 148)	22 (14.9%)
Counseling or therapy (n = 148)	69 (47.9%)

[a]"Suicidal": score of 1, 2, or 3 on recent thoughts of taking one's own life; doing things to harm oneself; planning ways to take own life, or the suicidal ideation item of the PHQ-9.

score, along with other responses, to classify respondents into 1 of 3 tiers, developed by AFSP.[32] The categories of risk are based on combinations of distress, symptom severity, and life functioning. Tier 1 (high risk) includes PHQ-9 score of 15 or higher or a score of 10 to 14 plus previous suicide attempt, or current suicidal ideation, inability to function, or scoring "most or all of the time" for anxiety, rage, panic, loss of control, or desperation. Tier 2 (moderate risk) includes PHQ-9 score of 10 to 14, no prior suicide attempt or current suicidal ideation, but problems with alcohol or drug use, disordered eating, or daily functioning. Others are tier 3, low risk.

After screening completion, the system generates an e-mail to the counselor, indicating results and providing a link to the questionnaire. After review, the counselor provides a personalized assessment, following a standardized prototype for each tier. In the assessment, the counselor introduces herself by name and provides contact information including office location, e-mail address, and phone number. The counselor addresses all questions and comments and invites them to communicate online, using a Web site dialogue page requiring no identification (ID).

The counselor uploads responses to the password-protected, secure project Web site. Respondents who provide an e-mail address receive a message regarding the counselor's assessment, which includes a link to the site; respondents can return independently to the Web site. Respondents can view the counselor's assessment by logging in with their user ID and password. With tiers 1 and 2 participants, the counselor's assessment addresses the issues of concern and includes a message urging the respondents to schedule an in-person evaluation. Tier 1 respondents are provided crisis numbers and encouraged to use them or go to the nearest emergency room, if in crisis. For tier 3, the counselor writes that the questionnaire indicated no significant issues at this time; however, the counselor is available to answer questions or provide support and/or referrals.

The counselor evaluates the respondents who meet in person more fully and discuss treatment options. The counselor provides personalized referrals to faculty or community mental health professionals who have committed to providing prompt care and have been recruited to care for those seeking help through our program. Thoughtful creation of a referral panel was necessary to ensure timely treatment because of the high-risk nature of depression and suicide risk. Because nurses may be covered by their spouse's insurance and have a selection of insurance coverage to choose from, the mental health insurance coverage of nurses was unknown. Therefore, the psychiatrist was prepared to support nurses who were underinsured for mental health issues in cases where referrals were impeded because of insurance.

The anticipated response rate to the invitation for screening was unknown. Our goal was to reach those at highest risk, not to obtain a representative sample as is common in research. It was anticipated that responders would self-sort based on presumed need, but there was no preestablished evidence with which to predict response volume. The invitation e-mail was sent to nurses following completion of the response to the yearly physician survey. Staggering the e-mail distribution was intentionally planned to optimize counselor response time.

Results

Quantitative

During the 1st 6 months of the program, 172 of 2475 nurses (7%) completed questionnaires; 74 (43%) were rated high risk (tier 1), and another 94 (55%) moderate risk (tier 2). Twelve (7%) reported current active thoughts or actions of self-harm, and 19 (11%) reported previous suicide attempts. One hundred fifty-one (89%) were female nurses, and the mean age was 43 years. As Table 1 demonstrates, more than 40% of respondents had moderate or high depressive symptoms, 7% had recent thoughts of taking their own lives, and 11% reported suicide attempts. The majority endorsed a number of intense, disturbing, and distressing feeling states, and 28% endorsed "drinking too much." Only 28 (16%) were currently in therapy. Forty-four nurses (26%) received in-person or verbal counseling. Of these, 6 were phone sessions, 5 were in person, and 37 were online anonymous. Seventeen nurses accepted referral for further treatment. Of those who accepted treatment referral, 8 were high risk, 8 were moderate risk, and 3 were unknown risk.

Qualitative

Stressors were listed in open-ended comments. These were categorized into work, home, or mixed. Of the 172 nurses, there were 140 comments disclosing stressors: 32 work related, 59 home related, and 49 mixed. Work stressors included management issues, work volume, staffing, resources, changing departments, new hospital opening, shift work health and sleep issues, feeling unappreciated at work, stress related to learning new skills or teaching others, lateral violence, fear of harming patients, feelings of incompetence, and emotional burden of patient care. Home stressors included wedding stress, marital strain, financial issues, personal, family/pet health issues, grief, current events, lack of purpose in life, childcare, infertility, academic stress, feeling alone after moving to the area, and personal/family drug or alcohol use.

No negative comments about the program were received. Positive comments about the program are included (Supplemental Digital Content 3, http://links.lww.com/JONA/A598).

Feasibility

No nurses who accepted treatment reported an issue with underinsured mental health coverage. No nurses required immediate crisis intervention. Nurse e-mail invitations were sent out all at once and then again in 2 weeks, yet responses to the screening staggered over several months, with most coming in the 1st 2 months. The 2.0-FTE counselors were able to manage the responses without delay given the response volume and staggered response times. The 3 grand-rounds presentations were modestly attended (10-20 participants each) and could not be relied upon as the only method of communication for this subgroup of hospital personnel. However, those who attended did help to spread the word about the program to others. Although offered to all departments, only 1 department requested an on-site explanation at a staff meeting, generating increased responses to the survey. We suspect that the huddle process was the most comprehensive approach to communicating with nurses, but are unable to formally evaluate this. After the 1st round of screening, through word of mouth and request, the team provided group departmental emotional debriefings following significant clinical events. These just-in-time emotional debriefings were better attended than planned educational forums. Emotional incident debriefings were effective in marketing the program, gaining trust with the nurses, and stimulating use of the risk screening while providing a needed service at the point of care.

Discussion

To our knowledge, this is the 1st report describing a program to help prevent nurse suicide. It does so by educating nurses on burnout, depression, and suicide; destigmatizing mental health treatment; and proactively reaching out, screening, assessing, and referring nurses at risk of suicide. These preliminary results strongly suggest that such a program is welcome, feasible, acceptable, and needed. Nurses who responded to the HEAR survey reported staggering rates of suicidal thoughts comparable to, if not even greater than, attending-level faculty physicians at the same institution taking the same survey.[34] Equally concerning, the vast majority at high risk were not receiving mental health treatment.

It was unanticipated that some nurses would prefer to contact the HEAR counselors by phone without doing the screening. However, the outreach process helped them to find the phone number to report their stress and need for treatment. We were gratified to learn that so many nurses took advantage of the opportunity to dialogue with the HEAR counselors (n = 41) and that 17 individuals accepted referrals for mental healthcare.

Although the percent response rate was low (7%), we did not aim to reach a large, representative segment of the population. Rather, we sought to identify and encourage into treatment nurses with significant depression and related problems, a group known to be a suicide risk. Considering that the primary targets were troubled nurses who were not currently in treatment, the 7% response rate was close to what we had expected. We also expect the response rate will grow as we send repeat invitations, provide more in-service presentations, provide more emotional debriefings following critical incidents, and are better known by nursing staff. The disproportionate percentage of respondents designated as tier 1 or 2 (98%) and the fact that the vast majority of the respondents (91%) were not currently receiving either counseling or therapy confirmed that the method reached the intended target group. For those currently in treatment identified as high risk, the results may suggest a need for change in treatment. It is important to emphasize that respondents were self-selected and are not representative of the nursing community as a whole. Yet, it is clear that the program has considerable promise for encouraging previously untreated, at-risk nurses to get help.

The open-ended comments shed light on the importance of programs such as HEAR for nurses and root causes of workplace stress to inform future action planning. Comments confirmed the need for more support services, attention to team building, efforts to improve relationships between hospital management and frontline staff, staffing considerations, positive feedback, and shows of appreciation. Perhaps most meaningful, nurses praised the organizational leadership for inviting them to engage in the survey, caring enough to reach out, and providing a resource for those who were suffering.

Limitations

Lack of validation of the complete ISP is a limitation of this project. Low turnout at grand rounds and the relatively low response rate (7%) are both limitations.[29] While we are not concerned with the ISP's low response rate, as we are reaching the intended target group, we do want to reach larger numbers of at-risk nurses.

Next Steps

Efforts at increased program marketing are planned to overcome response limitations. Clinical nurses do

not have time to attend hour-long midshift workshops, and those who are stressed are not likely to come to work on their days off. In the future, we plan to work with nursing leadership to provide more protected time for staff to attend presentations and develop briefer interactive presentations for small groups. We plan to provide continuing education programs that have been requested by staff for resiliency training advertised through the education calendar to optimize visibility. Shifting the educational focus from burnout and depression to resiliency is hoped to draw larger audiences. Staggered repeated invitations to take the screening will be deployed. The introduction of Schwartz Rounds is now budgeted as an additional strategy within the umbrella of the HEAR program to engage with staff and offer support following difficult emotional cases. Schwartz Rounds is an interdisciplinary forum aimed at enhancing team work, mutual sharing, and support and emphasizing the importance of staff emotions in clinical care.[37] These emotional grand rounds are expected to be welcomed in a manner similar to what we have experienced with departmental emotional debriefings, yet open to a house-wide audience. Information about the HEAR program with contact information and an active link to screening is included in the annual mandatory staff training. We will send repeat invitations to visit our Web site at each presentation or workshop.

Budgeted plans for this upcoming year include partnering with the risk management department to offer emotional critical incident debriefings following serious clinical events. Themes of staff stressors analyzed from screening comments will be reported back to hospital administration for action planning while protecting anonymity. In response to signals received from open-ended comments, the questionnaire will be updated with additional questions related to burnout. The HEAR leadership will be actively integrated with the EAP to optimize each of these parallel, yet complementary programs. A structured peer-support program will be implemented within the HEAR program.[38,39] Regular office hours by the HEAR program counselors and lead psychiatrist, modeled after the program initiated at the University of Oregon, will be initiated.[40] The program will now be available to all medical center staff, physicians, house staff, and faculty.

Conclusion

The expansion of the HEAR program to nurses in our institution has been feasible and effective. The HEAR program is a replicable strategy to address mental health risks associated with workplace stress. Thus far, 44 nurses have received counseling, and 17 have been referred to treatment who may not have otherwise sought treatment on their own. After presentation of the results to hospital executives, the pilot has been budgeted to maintain the program as a standard service with expanded services. The HEAR program is being considered by the other medical centers within the healthcare system. In conclusion, a coordinated approach to educational outreach, emotional incident debriefings, and proactive screening for depression and suicide risk is well received, effective at identifying at-risk nurses, and successful in referring nurses into mental healthcare.

Acknowledgments

References

1. World Health Organization. *Preventing Suicide: A Global Imperative*. 2014 [cited January 13, 2016]. http://www.who.int/mental_health/suicide-prevention/world_report_2014/en/. Accessed December 12, 2017.
2. Murphy SL, Xu J, Kochanek KD. Deaths: final data for 2010. *Natl Vital Stat Rep*. 2013;61(4):1-117.
3. *Increase in Suicide Rates, 1999-2014*. NCHS Data Brief No. 241, April 22, 2016 [cited May 23, 2016]. https://www.cdc.gov/nchs/data/databriefs/db241.pdf. Accessed July 13, 2017.
4. Stack S. Occupation and suicide. *Soc Sci Q*. 2001;82(2):384-396.
5. Milner A, Spittal MJ, Pirkis J, LaMontagne AD. Suicide by occupation: systematic review and meta-analysis. *Br J Psychiatry*. 2013;203(6):409-416.
6. Poças A, Almeida SP. Physician suicide prevention. *Eur Psychiatry*. 2016;33:S604.
7. Center C, Davis M, Detre T, et al. Confronting depression and suicide in physicians: a consensus statement. *JAMA*. 2003;289(23):3161-6.
8. Schernhammer ES, Colditz GA. Suicide rates among physicians: a quantitative and gender assessment (meta-analysis). *Am J Psychiatry*. 2004;161(12):2295-2302.
9. *Struggling in Silence: Physician Depression and Suicide*. 2016 [cited October 31, 2016]. https://store.afsp.org/afsp/product/AD199819-C1DA-4D87-8D2A-41DC746B80CD. Accessed July 13, 2017.
10. Hawton K, Agerbo E, Simkin S, Platt B, Mellanby RJ. Risk of suicide in medical and related occupational groups: a national study based on Danish case population-based registers. *J Affect Disord*. 2011;134(1-3):320-326.
11. Hawton K, Simkin S, Rue J, et al. Suicide in female nurses in England and Wales. *Psychol Med*. 2002;32(2):239-250.

12. King AS, Threlfall WJ, Band PR, Gallagher RP. Mortality among female registered nurses and school teachers in British Columbia. *Am J Ind Med*. 1994;26(1):125-132.

13. Kolves K, de Leo D. Suicide in medical doctors and nurses: an analysis of the Queensland Suicide Register. *J Nerv Ment Dis*. 2013;201(11):987-990.

14. Hem E, Haldorsen T, Aasland OG, Tyssen R, Vaglum P, Ekeberg O. Suicide rates according to education with a particular focus on physicians in Norway 1960-2000. *Psychol Med*. 2005;35(6):873-880.

15. Aasland OG, Hem E, Haldorsen T, Ekeberg Ø. Mortality among Norwegian doctors 1960-2000. *BMC Public Health*. 2011;11:173.

16. Andersen K, Hawgood J, Klieve H, Kõlves K, de Leo D. Suicide in selected occupations in Queensland: evidence from the State suicide register. *Aust N Z J Psychiatry*. 2010;44(3):243-249.

17. Franklin JC, Ribeiro JD, Fox KR, et al. Risk factors for suicidal thoughts and behaviors: a meta-analysis of 50 years of research. *Psychol Bull*. 2017;143(2):187–232.

18. Escribà-Agüir V, Martín-Baena D, Pérez-Hoyos S. Psychosocial work environment and burnout among emergency medical and nursing staff. *Int Arch Occup Environ Health*. 2006;80(2):127-133.

19. Moss M, Good VS, Gozal D, Kleinpell R, Sessler CN. A Critical Care Societies collaborative statement: burnout syndrome in critical care health-care professionals. A call for action. *Am J Respir Crit Care Med*. 2016;194(1):106-113.

20. Milner AJ, Spittal MJ, Bismark MM. Suicide by health professionals: a retrospective mortality study in Australia, 2001-2012. *Med J Aust*. 2017;206(11):506.

21. Schaufeli WB, Maslach C, Marek T. *Professional Burnout: Recent Developments in Theory and Research*. Abingdon: Taylor & Francis; 2017.

22. Gómez-Urquiza JL, Aneas-López AB, Fuente-Solana EI, Albendín-García L, Díaz-Rodríguez L, Fuente GA. Prevalence, risk factors, and levels of burnout among oncology nurses: a systematic review. *Oncol Nurs Forum*. 2016;43(3):E104-E120.

23. Tavares da Fonsêca LdC, Silva Holmes E, Marinho Albuquerque T, Ribeiro dos Santos S. Vulnerability of the health of nursing professionals acting in the hospital setting: integrative review. *J Nurs* [UFPE online]. 2016;10(7):2687-2695.18p.

24. Sorenson C, Bolick B, Wright K, Hamilton R. Understanding compassion fatigue in healthcare providers: a review of current literature. *J Nurs Scholarsh*. 2016;48(5):456-465.

25. Silva-Junior JH. Preventing occupational stress in healthcare workers. *Sao Paulo Med J*. 2016;134(1):92-92.

26. Wei R, Ji H, Li J, Zhang L. Active intervention can decrease burnout in ED nurses. *J Emerg Nurs*. 2017;43(2):145-149.

27. Leiter MP, Bakker AB, Maslach C. *Burnout at Work: A Psychological Perspective*. Psychology Press; 2014.

28. Alderson M, Parent-Rocheleau X, Mishara B. Critical review on suicide among nurses. *Crisis*. 2015;36:1-11.

29. Reinhardt T, Chavez E, Jackson M, Mathews WC. Survey of physician well-being and health behaviors at an academic medical center. *Med Educ Online*. 2005;10(1):4373.

30. Moutier C, Norcross W, Jong P, et al. The suicide prevention and depression awareness program at the University of California, San Diego School of Medicine. *Acad Med*. 2012;87(3):320-326.

31. Downs N, Feng W, Kirby B, et al. Listening to depression and suicide risk in medical students: the Healer Education Assessment and Referral (HEAR) program. *Acad Psychiatry*. 2014;38(5):547-553.

32. Haas A, Koestner B, Rosenberg J, et al. An interactive Web-based method of outreach to college students at risk for suicide. *J Am Coll Health*. 2008;57(1):15-22.

33. Zisook S, Young I, Doran N, et al. Suicidal Ideation Among Students and Physicians at a U.S. Medical School: A Healer Education, Assessment and Referral (HEAR) Program Report. *OMEGA J Death Dying*. 2015. doi:10.1177/0030222815598045.

34. Martinez S, Tal I, Norcross W, et al. Alcohol use in an academic medical school environment: a UC San Diego Healer Education Assessment and Referral (HEAR) report. *Ann Clin Psychiatry*. 2016;28(2):85.

35. Brooks E. Recognize and respond to physician distress and suicidal behavior: preventing physician distress and suicide. 2016 [cited October 10, 2016]. https://www.stepsforward.org/modules/preventing-physician-suicide#section-steps. Accessed July 13, 2017.

36. Spitzer RL, Kroenke K, Williams JB. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. *JAMA*. 1999;282(18):1737-1744.

37. Thompson A. How Schwartz rounds can be used to combat compassion fatigue: Alison Thompson reflects on an initiative that helps to maintain staff wellbeing and quality of patient care. *Nurs Manage*. 2013;20(4):16-20.

38. Shapiro J, Galowitz P. Peer support for clinicians: a programmatic approach. *Acad Med*. 2016;91(9):1200-1204.

39. Scott SD, Hirschinger LE, Cox KR, et al. Caring for our own: deploying a systemwide second victim rapid response team. *Jt Comm J Qual Patient Saf*. 2010;36(5):233-240.

40. Ey S, Moffit M, Kinzie JM, Brunett PH. Feasibility of a comprehensive wellness and suicide prevention program: a decade of caring for physicians in training and practice. *J Grad Med Educ*. 2016;8(5):747-753.