Put your own mask on first:
Protecting nurses from deaths by suicide

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**Note:** Today’s presentation is being recorded and will be available on the Sigma Repository in 48 hours.
Learning Outcomes

At the end of this educational opportunity, learners should be able to:

1. Review the latest data on deaths by suicide among US nurses
2. Discuss knowledge gaps based on literature related to deaths by suicide
3. Describe various strategies that can be taken to address the US crisis of death by suicide in the nursing profession
Preface

• Current Funding: National Cancer Institute, Merck Foundation, National Comprehensive Cancer Network/Pfizer. No COI with current presentation.

• Sensitive content: You aren’t alone. If you/a loved one need help:
  • United States: 1-800-273-8255 or suicidepreventionlifeline.org
  • Outside US: https://www.iasp.info/crisis-centres-helplines/

• Lens of presentation is health services/policy, not intended to inform clinical management. Please consult a professional.
Outline

• Review latest data from on deaths by suicide among US nurses
• Discuss knowledge gaps and correlative literature
• Outline multi-level strategies to address the crisis
Research Questions¹

• Characterize deaths by suicide, over time, among:
  • Registered nurses
  • Physicians
  • General population

• Compare methods and co-occurring factors

Suicide risk for female nurses higher than general female population, female physicians

Nurses are the largest component of the U.S. health care workforce, approximately 3 million nurses in the U.S., yet few studies examine their risk of suicide.

Among women, suicide incidence in 2017-2018 among nurses was 17.1 per 100,000 versus 8.6 per 100,000 in the general female population.

Additionally, the suicide risk for female nurses was 70% higher than that of female physicians (a group known to be at higher risk for suicide).

DOI: 10.1001/jamapsychiatry.2021.0154

Methods¹

- CDC National Violent Death Reporting System, 2007-2018
- Retrospective Cohort Study
- Generated annual state-specific denominators of nurses, physicians, and general population; manual occupational codes
- Deaths by suicide by year and job category
- Methods of suicide; among substance use, types therein
- Logit models adjusted for age, sex, race/ethnicity, marital status

Figure 1. Unadjusted Trends in Suicide Incidence Among Nurses, Physicians, and the General Adult Population for Women and Men

A Women

<table>
<thead>
<tr>
<th>Year</th>
<th>Nurses</th>
<th>Physicians</th>
<th>General population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2008</td>
<td>174</td>
<td>178</td>
<td>3341</td>
</tr>
<tr>
<td>2009-2010</td>
<td>178</td>
<td>20</td>
<td>3477</td>
</tr>
<tr>
<td>2011-2012</td>
<td>257</td>
<td>20</td>
<td>4274</td>
</tr>
<tr>
<td>2013-2014</td>
<td>290</td>
<td>21</td>
<td>4841</td>
</tr>
<tr>
<td>2015-2016</td>
<td>399</td>
<td>22</td>
<td>7508</td>
</tr>
<tr>
<td>2017-2018</td>
<td>506</td>
<td>39</td>
<td>8879</td>
</tr>
</tbody>
</table>

B Men

<table>
<thead>
<tr>
<th>Year</th>
<th>Nurses</th>
<th>Physicians</th>
<th>General population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2008</td>
<td>33</td>
<td>66</td>
<td>11926</td>
</tr>
<tr>
<td>2009-2010</td>
<td>42</td>
<td>77</td>
<td>12730</td>
</tr>
<tr>
<td>2011-2012</td>
<td>46</td>
<td>85</td>
<td>15131</td>
</tr>
<tr>
<td>2013-2014</td>
<td>68</td>
<td>95</td>
<td>16670</td>
</tr>
<tr>
<td>2015-2016</td>
<td>120</td>
<td>163</td>
<td>25290</td>
</tr>
<tr>
<td>2017-2018</td>
<td>123</td>
<td>182</td>
<td>31721</td>
</tr>
</tbody>
</table>

The numbers of suicides do not sum to total for each group in Table 1 because analyses are restricted to states with 2 years of data for each time point. Suicide incidence estimates can be found in eTable 4 in the Supplement. General population refers to adults (age, ≥30 years) who are not nurses or physicians.

Table 2. Relative Risk Comparing Suicide Incidence Among Nurses and Physicians With the General Adult Population¹

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Relative risk (95% CI)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse vs general populationᵃ</td>
<td>1.18 (1.03-1.36)</td>
<td>1.01 (0.79-1.30)</td>
</tr>
<tr>
<td>Physician vs general populationᵃ</td>
<td>1.99 (1.82-2.18)</td>
<td>1.18 (0.86-1.60)</td>
</tr>
</tbody>
</table>

¹ General population refers to adults (age, ≥30 years) who are not nurses or physicians. Incidence rates are based on 2017-2018 data (most recent data available). Absolute values for comparative measures by sex can be found in Figure 1 (eTable 4 in the Supplement).

² Overall relative risk standardized for difference in sex distribution among nurses and physicians (2018 US age, ≥30 years population used as reference).
Figure 2. Adjusted Method of Suicide Among Nurses, Physicians, and the General Adult Population (n = 155 919)

Method of suicide

- Firearm
- Hanging or suffocation
- Poisoning
- All other causes

Percentages are adjusted for age, sex, race/ethnicity, and marital status. Error bars indicate 95% CIs. General population refers to adults (age, ≥30 years) who are not nurses or physicians.

Figure 3. Adjusted Substances Identified in Toxicology Examination at Time of Suicide Death Among Nurses, Physicians, and the General Adult Population

A decedent can use more than 1 substance; therefore, totals do not sum to 100%. Percentages are adjusted for age, sex, race/ethnicity, and marital status. Error bars indicate 95% CIs. General population refers to adults (age, ≥30 years) who are not nurses or physicians.

Limitations and Remaining Gaps

- Incomplete data on individuals < 30 years
- Data restricted to sex assigned at birth
- Contextual data largely missing
- Unclear temporal sequence of contributing factors
- Data are cross-sectional and restricted to deaths
- ~2-year data lag (2018); no data during COVID-19
Personal and Workplace Problems Pre-COVID

• Nurses’ Health Study II self-reported trauma (2001)\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>Childhood</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional*</td>
<td>60%</td>
<td>44%</td>
</tr>
<tr>
<td>Physical</td>
<td>45</td>
<td>23</td>
</tr>
<tr>
<td>Sexual</td>
<td>15</td>
<td>11</td>
</tr>
</tbody>
</table>

*sig associated w/ involuntary job loss

• Nurses’ deteriorating working conditions (Dec 2019-Feb 2020)\(^2\)

<table>
<thead>
<tr>
<th></th>
<th>New York City</th>
<th>IL, other NY</th>
</tr>
</thead>
<tbody>
<tr>
<td>High burnout</td>
<td>53%</td>
<td>53%</td>
</tr>
<tr>
<td>Intent to leave job</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>Unfavorable pt. safety</td>
<td>54</td>
<td>48</td>
</tr>
</tbody>
</table>


Potential impacts of COVID

• Case study of media reports: deaths potentially associated with suicide across the globe.¹,²

• Factors associated with nurse anxiety and depression during pandemic:³
  • High-quality nurse-physician relationships (+)
  • Hospital-provided supports (+)
  • Work-home and home-work conflicts (- Anxiety)
  • High volume and frequency caring for COVID patients (- Depression)

³ Kovner, et al., 2021, Nurs Outlook, https://doi.org/10.1016/j.outlook.2021.03.019
Data Synthesis

• Registered Nurses in US are in serious trouble
• Nurses were in trouble far before the pandemic
• Data point to personal and workplace factors (?interaction?)
• Prolonged pandemic impacts likely to exacerbate problems
• Nurses’ plight has consequences for patient care & service provision
• In general, solutions to date have failed to address the problem
Frameworks to Protect Nurses

Hierarchy of Controls

- **Elimination**: Physically remove the hazard
- **Substitution**: Replace the hazard
- **Engineering Controls**: Isolate people from the hazard
- **Administrative Controls**: Change the way people work
- **PPE**: Protect the worker with Personal Protective Equipment

Most effective

Least effective

https://www.cdc.gov/niosh/topics/hierarchy/default.html

https://commons.wikimedia.org/wiki/File:Diagram_of_the_social-ecological_model.png CCA 4.0

@ChrisFriese_RN
Important points

• *It is woefully inadequate to focus solutions on personal resilience or wellness.*

• *If we want to curb the crisis, we need to develop and test solutions at the community, system, and individual levels.*

• *NIOSH framework: Eliminate the hazard*

Policy Strategies

• **American Rescue Plan**: ~US$100 billion for workplace wellness, burnout, and substance use programs

• **Targeted NIH appropriations needed**. Inadequate attention to basic epidemiological research and intervention development.

• **Targeted intervention development**. Methods and factors differ from general population and other at-risk populations.

• **Staffing legislation** is an evidence-based intervention to improve patient and nurse outcomes.

• **Streamline regulatory processes** to ease nurses’ burden.

• **Loan repayment** to ease financial burdens.

System-Level Strategies

- **Staff safety and wellness** on even par with patient safety
- Reconsider the employer-employee relationship
  - Humanity first, assure safety and wellness
- **Fundamental work redesign**. Reduce busywork and streamline documentation
- **Humane staffing model** implementation & adherence
- Eliminate mandatory overtime
- Authentic shared decision making
- Flatten organizational hierarchy
- Explore sabbatical/planned leaves

Individual Strategies

• Reorder self protection to facilitate good care + service
• Peer support engagement
• Access resources offered by employer, professional orgs.
• Seek evidence-based prevention, assessment, and treatment
• Schedule time off
• Lifelong learning and professional development
• Socialize growth and learning over perfection

Promising Models to Implement

- HEAR Program, University of California San Diego (Davidson)
- Nurses Peer Support Program, Minnesota
Urgent need for action: Rapid Response

Given that nurses alone make up the largest number of health care workers in the United States and are the backbone of patient care and the health care industry, we cannot afford to ignore the mental health and workplace stressors health care professionals endure. The Davis et al findings serve as a call to action by health care systems and leaders to address the proximal risk factors for suicide and improve the mental health and lives of our health care workforce and, in turn, the patients they serve.

Retrofit, Reform, or Re-imagine?¹

- **Retrofit**: Break rooms, pizza parties, yoga/mindfulness apps

- **Reform**: Evidence-based staffing models, de-stigmatize mental health/SUD, inclusive cultures, State Nursing Board policy changes, nurses’ health registry

- **Re-imagine**: New practice and service delivery models, sabbaticals, zero-tolerance anti-violence legislation & policies

Thanks for Attending!
Questions and Discussion

If you or someone you love needs help:
United States: 1-800-273-8255 or suicidepreventionlifeline.org
Outside US: www.iasp.info
Thank you for attending!

- We will send you an email in approximately 1 week that will include a link to the webinar recording and the process for completing the evaluation to obtain your CPD certificate.
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