A Digital Health Program to Assess and Address Healthcare Worker Wellness

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Changing What’s Possible | MUSChealth.org
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No relevant conflicts of interest to disclose

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Impact of COVID-19 on HCW

- Mental Health
- Physical Health
- Workplace Hardships
- Social Disparity
Psychologic Impact of COVID-19 on HCW

Denning et al PLOS ONE (2021)
## Mental Health of ICU staff at the UPenn Health System

### Sample Size

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Females</th>
<th>Doctors</th>
<th>APPs</th>
<th>RTs</th>
<th>Pharmacists</th>
</tr>
</thead>
<tbody>
<tr>
<td>296</td>
<td>58%</td>
<td>25%</td>
<td>35%</td>
<td>34%</td>
<td>6%</td>
</tr>
</tbody>
</table>

### Depression and Burnout

<table>
<thead>
<tr>
<th></th>
<th>Depression</th>
<th>Burnout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td>30%</td>
<td>56%</td>
</tr>
<tr>
<td>APPs</td>
<td>47%</td>
<td>68%</td>
</tr>
<tr>
<td>RTs</td>
<td>57%</td>
<td>74%</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>56%</td>
<td>67%</td>
</tr>
<tr>
<td>Total</td>
<td>46%</td>
<td>67%</td>
</tr>
</tbody>
</table>

### Kerlin, et al., Ann ATS (2021)

<table>
<thead>
<tr>
<th>Survey</th>
<th>Burnout</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>56 %</td>
</tr>
<tr>
<td>#2</td>
<td>60 %</td>
</tr>
<tr>
<td>#3</td>
<td>71 %</td>
</tr>
</tbody>
</table>
## Personal Account

**COVID Cohort ICU**

**Tier 1 Staffing Model:** Goal is to approximate normal care operations, to be used as long as provider bandwidth will allow it. As volume increases, additional teams using the Tier 1 team structure (see below) will be created.

**General Principles:**
1. 7 day blocks of coverage for patient continuity and to limit the number of providers exposed
2. Daytime attending staffing model
3. Up to 14-16:1 patient:attending ratio

### Tier 1 Team Structure

#### Day Coverage

1. **Attending Physician**
   a. Team leadership
   b. Cognitive input/beside management
   c. Intubations
   d. Bronchoscopy
   e. Family communication

2. **Fellow** (will not have bandwidth to support each team with a CC fellow)
   a. Team leadership
   b. Cognitive input/beside management
   c. Procedures
   d. Med surg consultation/frage
   e. Family relations

3. **Senior provider**
   a. Pre-rounds data gathering via EPIC and Virtual Check-ins with nurse patients
   b. Present patients during multidisciplinary rounds
   c. Place orders/consults/write progress notes while attending exam
   d. Procedures
   e. Support second provider
   f. Admissions
   g. Enlist medicine and/or anesthesia residents

4. **Second provider** (to be added to the team, once census is too high for above) (max 6-8 patient range)
   a. Pre-rounds data gathering via EPIC and Virtual Check-ins with nurse patients
   b. Present patients during multidisciplinary rounds
   c. Place orders/consults/write progress notes while attending exam
   d. Procedures
   e. Support second provider
   f. Admissions
   g. Enlist medicine and/or anesthesia residents

5. **Procedure (procedure)**
   a. Attend procedures
   b. Enroll in MUSC telehealth

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## MUSC Telehealth Pandemic Response Plan

<table>
<thead>
<tr>
<th>Project</th>
<th>Overall Mission</th>
<th>Goal</th>
<th>Owners</th>
<th>Brief Description</th>
<th>Metrics of Success</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ambulatory Care Conversion to Telehealth</strong></td>
<td>Maximize ambulatory clinic volume while ensuring patient safety</td>
<td>1. &gt;80% pre-pandemic ambulatory visit volume (telehealth-patient vs in-person)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. &lt;10% pre-pandemic ambulatory visit volume (online vs in-person)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. 80% of telehealth visits vs in-person Milestone 1,440 tele-visit increase/day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physician Lead(s):</strong></td>
<td>Dr. Jeremy Messick, Dr. Peter Swerner</td>
<td><strong>Operational Lead:</strong></td>
<td>Eben Debenham</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Ambulatory office visits transitioning to in-home video visits so our patients can continue to receive the care they need while minimizing the risk of exposure by coming into an office setting.

**Utilization:**
- Ambulatory volume maintained daily and weekly increase in tele visits
- Proportion of volume that is video visits

**Satisfaction:**
- Non-promoter score (Quality/efficiency: complained visits/final scheduled visits)

**Cost Effectiveness:**
- Restored revenues

**STAGE:** 1:2

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## WS Today

- COVID TRIALS IN SOUTH CAROLINA COMBATING CORONAVIRUS for vines against SARS, governor for not letting all South Carolinians
MUSC Resiliency Program

- Individual Support Sessions
- Leadership Consultation
- Tailored Integrated Group/Unit Action Plans
- Webinars/Workshops

HRSA funded Telehealth Center of Excellence

Dr. Alyssa Rheingold, Ph.D. Professor, Psychiatry and Behavioral Sciences
Summary of Tailored Integrated Group/Unit

Twelve hospital-based units, seven ambulatory units, three other clinical teams

• 282 HCWs participated in individual brief interviews/focus groups
• 288 HCWs participated in brief self-report surveys

Demographics
Profession: 73% nurses
Years Experience:
  24% <2 years
  34% 2-5 years
  22% 6-10 years
  20% >10 years
Summary of Tailored Integrated Group/Unit

Themes from individual interviews and focus groups note factors associated with stress and burnout included:

- staffing issues
- feeling unappreciated
- changing protocols related to COVID-19
- team communication issues.

- Few HCWs practice self-care at work.

- HCWs noted limited ability to take breaks or discomfort in taking breaks due to lack of trust or increase team member’s workloads.
MUSC Telehealth Resilience and Recovery Program

Step 1
- Educate and Enroll patients in TRRP

Step 2
- Track Emotional Recovery

Step 3
- 30-Day Mental Health Phone Screen

Step 4
- Comprehensive Mental Health Assessment

Step 5
- Delivery of Best Practice Treatment

HRSA funded Telehealth Center of Excellence

Dr. Kenneth Ruggiero, Ph.D.
Professor of Nursing
Director of TRRP
A Telehealth Approach to Mitigating ICU HCW distress.

- Literature review
- Construction of screening questionnaire
  - Cognitive pretesting
- Identifying technology for automated feedback
- Designing intervention for high-risk participants
- Distributing screening questionnaire
- Automated feedback with recommendations
- Longitudinal check-ins
  - Data collection
<table>
<thead>
<tr>
<th>Domain</th>
<th>Tool</th>
<th>Number of Questions</th>
<th>Duration of Administration</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep disturbance</td>
<td>PROMIS</td>
<td>8</td>
<td>Last 7 days</td>
<td>8-40</td>
</tr>
<tr>
<td>Depression</td>
<td>PHQ-9</td>
<td>9</td>
<td>Last 2 weeks</td>
<td>0-27</td>
</tr>
<tr>
<td>Anxiety</td>
<td>GAD-7</td>
<td>7</td>
<td>Last 2 weeks</td>
<td>0-21</td>
</tr>
<tr>
<td>PTSD</td>
<td>PCL5</td>
<td>8</td>
<td>Last 30 days</td>
<td>0-80</td>
</tr>
<tr>
<td>Resiliency</td>
<td>CD-RISC-10</td>
<td>10</td>
<td>Last 30 days</td>
<td>0-40</td>
</tr>
<tr>
<td>Alcohol Use</td>
<td>AUDIT-C</td>
<td>3</td>
<td>Last 1 year</td>
<td>0-12</td>
</tr>
<tr>
<td>Burnout</td>
<td>OBI¹⁷</td>
<td>16</td>
<td>N/A</td>
<td>16-64</td>
</tr>
<tr>
<td><strong>Total Question Number</strong></td>
<td></td>
<td><strong>61</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technology Considerations (KISS)

- REDCap
- Institutional email listservs
- Twilio
- Video conferencing
Overall Timeline

• Initial Screen
  • Contact information
  • 61 screening questions
  • 6 demographic questions

• Real-time response scoring (back-end analytics in REDCap)
  • Pre-specified thresholds → response
  • Option to request meeting with resiliency counselor 1:1

• Weekly Check-ins with
  • 6 screening questions
  • Self help tips and video
MUSC Healthcare Worker Wellness Screener

**Scoring summary**

<table>
<thead>
<tr>
<th>Risk calculation1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk calculation2</td>
<td>2</td>
</tr>
</tbody>
</table>

Your struggles are real and valid for a healthcare provider. Results from your scores indicate that it may be challenging to manage these struggles on your own. We strongly recommend that you set up a time to meet with our MUSC Resiliency Clinician.

Would you like to set up a time to meet with MUSC Resiliency Clinician?

Yes

No

PROMIS: It appears that you are experiencing severe problems with sleep. Sleep difficulties can impact our lives in a variety of ways, including our physical health, psychological wellbeing, job performance, and patient care.

PHQ-9: Your scores suggest you may be experiencing moderate to severe depression, which may be interfering with your ability to function.

GAD-7: Based on your scores, you may be experiencing moderate to severe anxiety, which may be interfering in your ability to function.

PCL-5: Your scores indicate that you may be experiencing a clinically significant level of posttraumatic stress disorder, or PTSD. You are not alone. Higher scores on from this screener are associated with the presence of PTSD but are not a substitute for diagnosis by a trained clinician.

OBQ: Your scores suggest you may be feeling burnout in your current position at work. Sometimes when people experience burnout, they disengage in work-related activities or feel exhausted from responsibilities. Burnout is associated with adverse patient outcomes, increased risk of anxiety, depression, and PTSD.

**What is your discipline?**

| Yes | No |

Do you work in shifts?

| Yes | No |

What is your age group?

What is your Gender?

Are you of Hispanic or Latino ethnicity?

What is your race? Please check all that apply.

- American Indian or Alaskan Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
Weekly Check-Ins (Text to Cell via Twilio)

It is time for your weekly MUSC Resiliency Program check-in.

During the past week, about how much of the time did you feel nervous?
- All of the Time
- Most of the Time
- Some of the Time
- A little of the Time
- None of the Time

During the past week, about how much of the time did you feel worthless?
- All of the Time
- Most of the Time
- Some of the Time
- A little of the Time
- None of the Time

During the past week, about how much of the time did you feel restless or fidgety?
- All of the Time
- Most of the Time
- Some of the Time

It appears that you are experiencing significant levels of distress this week. Our MUSC Resiliency Clinician can support you during this difficult time. Contact Tenelle Jones at 843-354-7798 or jonesten@musc.edu for services.

Please find this weekly tip as you manage daily work stressors.

Self-awareness of your emotional and behavioral health is very important and can help you make timely decisions about what needs to be changed and when. Your reaction to stressful situations is called your stress response. This reaction typically occurs when you feel that the demands you are facing exceed your perceived ability to manage them. One of the first steps to managing stress is to pay attention to it and how it affects you. Make a list of all the stressful things you are experiencing right now and how each one impacts your body, mind, mood, and behavior. Once you have completed the list, write out things you have done that you know have been helpful and have not been helpful, as well as things you have considered, but not tried.

Click here for video demonstration: ADD YOU TUBE VIDEO

https://vimeo.com/arc131view

Thank you for participating in this program.
Screener Distribution

- Initial Units: MICU, AICU, MSICU

- ICU RNs, RTs, PCTs, PCCM Faculty and Fellows, Anesthesia CCM Faculty and Fellows, Internal Medicine Residents.

- Estimated Sample Size of ~300
Initial Program Uptake

- Initial distribution (MICU), n=178
  - Completed screener, n=52 (29%)
    - Requested telehealth apt, n=19 (37%)
Acknowledgements

Andrew Goodwin MD., MSCR
Professor of Medicine, MICU
Director

Tenelle Jones, LMFT, LAC
Resiliency Program Counselor

Nihar Shah, MBBS
Pulmonary & Critical Care Fellow
For many health care providers, the past two years have been a series of COVID-19 surges, usually heralded by a staff email.

The "surge" periods involve long hours, extra shifts and heightened anxiety.

He took ivermectin... I'm not sure whether to feel angry or sad.

Thank you for your time
Questions?

Test our Screener!!