Online Supplemental Content

Supplemental Table 1. Key Items from National Summit Breakout Group on “Factors Influencing Burnout in ICU Professionals”

**Influential Factors**

|  |
| --- |
| Stress is inevitable in the ICU environment. Clinicians must build awareness of how they are reacting to it. |
| Burnout is a continuum. With reframing and interventions, it can be managed. |
| Burnout is not a diagnostic code but rather a syndrome. |
| Posttraumatic stress disorder (PTSD) and major depressive disorder (MDD) are different from burnout, but burnout puts clinicians at risk for PTSD and MDD. |
| Resiliency and burnout are not necessarily dichotomous. Resiliency can exist within burnout. |
| Factors influencing the development of burnout include moral distress, the life-threatening nature of critical illness, and the management of pain, suffering, and dying. |

Supplemental Table 2. Key Items from National Summit Breakout Group on “*Identifying burnout in ICU professionals”*

**Identification of Burnout Considerations**

|  |
| --- |
| Teaching clinicians to look for warning signs to prevent burnout is key. There is a need to empower providers to recognize burnout across the continuum starting with trainees |
| Raising the level of awareness of clinicians, administrators, and critical care trainees can help to promote recognition |
| The cost of turnover is significant and should be used to bring increasing awareness of the importance of addressing burnout as a priority in critical care |
| An overriding goal should be to provide a message of hope to clinicians as burnout is modifiable. The conversation needs to be changed to focus on wellness rather than on burnout |

Supplemental Table 3*.* Key Items from National Summit Breakout Group on “*Addressing burnout – the value of organizational interventions”*

**Organizational Intervention Considerations**

|  |
| --- |
| Organizational accountability is needed to effectively mitigate burnout |
| The climate and culture of the unit play a role – good leadership makes a difference. Unit morale is a key component in managing stress |
| There is a need for a comprehensive, nationally standardized tool (e.g., survey) that will include a focus on special ICU issues  Organizations need key assessment tools |
| Identifying the return on investment in focusing on burnout identification, prevention, and treatment (eg. retention, vacancies, turnover, healthcare acquired infections, healthcare associated adverse events, bed flow, mortality) would help to promote awareness and action |
| Career counseling may play a role in helping clinicians to manage their exposure to stress |
| Having flexibility in roles may be beneficial – ie. staffing in the ICU on one day, being on the rapid response team another day, serving on an ICU outreach team on another day might be useful. We need to look at creative roles, and new models of care for ICU clinicians |

Supplemental Table 4.Key Items from National Summit Breakout Group on “*Addressing burnout – the value of individual interventions”*

**Individual Intervention Considerations**

|  |
| --- |
| It would be optimal to identify risk factors in individuals and to tailor interventions |
| More attention is needed on “foundational measures” to address stress such as sleep, nutrition, managing fatigue, the role of exercise, and stress reduction measures |
| There is a need to help individuals identify interventions that work for them as many options exist: exercise, meditation, yoga, tai chi, mindfulness-based stress reduction, time management, stress reduction training, relaxation techniques, assertiveness training, work-life balance measures such as hobbies, family and social activities |
| A “personalized plan” is optimal to tailor resiliency and stress mitigation techniques |
| Clinicians will need to have an open mind to explore what options fit best with their template, lifestyle, etc. in order to most benefit from building resiliency as skills may need to be built over time over the duration of their career |
| Incentivizing prevention measures – i.e. provide “CEUs” might be a useful way to promote clinician involvement due to the fact that in-person sessions are difficult due to shift and work hours |
| Additional information is needed as to the best format for helping to build resiliency – ie. formal training, courses, workshops, toolkits, etc. Developing skills in gratitude, self-appraisal, mindfulness take time and communicating to clinicians that there is no “quick fix” is important |

Supplemental Table 5.Key Items from National Summit Breakout Group on “*Advancing the research agenda”*

**Research Focus Areas**

|  |
| --- |
| Factors that need further exploration might benefit from latent class analysis to determine what specific demographics are most likely to respond to specific interventions – i.e. Are there phenotypes related to i.e. age, years of experience, type of ICU setting, gender, etc. Interventions could be different based on these characteristics |
| Research is needed to explore if there are triggers, neuroscience markers, or phenotypes, if they can be defined, and if they can be linked to outcome measures |
| Consider the control group when testing interventions – what is the right comparison group? |
| A number of strategies could be tested including the impact of implementing healthy work environments, appreciative recognition, gratitude, mindfulness, and others |
| Teaching cognitive reframing may be useful. “Just in time interventions”, testing and tailoring multiple interventions to assess what work best, “SMART” trials might also be beneficial |
| Considering that some clinicians do not “burn out”, more information is needed on how they are successful in managing the stress of the ICU environment |
| Research which considers individual clinician careers is needed as different interventions may work better with clinicians younger in their careers compared to mid or late career stages |
| Research is needed to better delineate the benefit of addressing burnout prevention compared to the management of burnout |
| The CCSC can play a role in advocating for funding from NIH, PCORI, AHRQ and other funding agencies |