Lessons learned from adverse outcomes on clinician resilience

Understand what to expect in the wake of COVID-19

The ongoing pandemic of the novel coronavirus is unprecedented in many ways. While the circumstances of COVID-19 continue to present unique challenges for health care workers, we can learn from, and set appropriate expectations for the impact that COVID-19 will have on clinician resilience based on key historical events. This table compiles data on the adverse outcomes that prior events have had on clinician resilience, details applicability, and lessons learned for each.

<table>
<thead>
<tr>
<th>Event</th>
<th>Impact on clinician resilience</th>
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<td>COVID-19 (2019 – present)</td>
<td>In a study of Health Care Workers (HCW’s) in China, participants experienced the following symptoms:</td>
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<td>• In the same study (of which 76.7% of participants were women) nurses, women, frontline HCW’s, clinicians working in Wuhan, China, reported more severe measurements of all mental health symptoms than other HCW’s²</td>
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| Ongoing COVID-19 (SARS-CoV-2) global pandemic. | • 50.4% reported depression  
• 44.6% reported anxiety  
• 34.0% reported insomnia  
• 71.5% reported distress¹ |                                                                                |                                                                                |
| SARS (Severe Acute Respiratory Syndrome) (2002 – 2004) | • 18% to 57% of HCW’s reported significant emotional distress (surveyed in Canada)³  
• 93.5% of emergency medical staff considered the SARS outbreak to be a traumatic experience (surveyed in Taiwan)⁴  
• 70% of nurses developed their own PPE (surveyed in Taiwan)⁵  
• 89% of HCW’s who were in high-risk situations reported symptoms of psychological distress (surveyed in Hong Kong)⁶ | • Personal risk to HCW’s and first responders*  
• Risk to general public  
• Shortage of personal protective equipment (PPE)  
• Increased exposure to trauma  
• Large-scale fatalities  
• Death of colleagues  
• Longevity of the event  
• Conflicting information on the virus  
• Widespread collective grief  
• Long lasting impact to HCW’s and first responders | • While high-risk staff were affected by SARS, the primary determinants of adverse outcomes were not exposure to high-risk and high-intensity work settings (or direct exposure to infected patients). Rather, the duration of perceived risk in HCW’s after SARS is correlated with the severity of adverse outcomes  
• Identifying and supporting HCW’s who are at a high risk for persistent psychological consequences is possible by identifying HCW’s whose perceived risk has not returned to normal a few months after the event⁸ |

*The bullets that are bolded in the “Applicability to COVID-19” column are the most relevant applicable aspects of the event.
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<td><strong>HIV/AIDS (Human immunodeficiency virus/acquired immune deficiency syndrome) Epidemic (1981 – present)</strong></td>
<td>In a study of HCW’s in Malawi, 63% met the criteria for burnout; of those: • 55% reported moderate-high emotional exhaustion • 31% reported moderate-high depersonalization • 46% reported low-moderate sense of professional accomplishment(^\text{10})</td>
<td>• Personal risk to HCW’s and first responders • Risk to general public • Shortage of PPE • <strong>Increased exposure to trauma</strong> • <strong>Large-scale fatalities</strong> • Death of colleagues • <strong>Longevity of the event</strong> • Conflicting information on the virus • Widespread collective grief • Long lasting impact to HCW’s and first responders</td>
<td>• HCW’s were subject to the social stigma of HIV/AIDS in working closely with infected patients • Many health care workers perceived a high occupational risk(^\text{11}) (e.g., accidental needle prick) but studies suggest the occupational risk of exposure to HIV/AIDS is low(^\text{12})</td>
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<td><strong>Between 1981 and 2018, HIV/AIDS infected 74.9 million people, and resulted in 32.0 million deaths.(^\text{9}) It is most widespread in sub-Saharan Africa.</strong></td>
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<td><strong>West-African Ebola Virus Epidemic (2013 – 2016)</strong></td>
<td>In a study of HCW’s in Sierra Leone, those who worked directly with Ebola patients (nurses, red zone cleaners, blood-team members) had the following significant psychological symptoms: • Obsession-compulsion • Interpersonal sensitivity • Paranoid ideation(^\text{14})</td>
<td>• Personal risk to HCW’s and first responders • Risk to general public • <strong>Shortage of PPE</strong> • <strong>Increased exposure to trauma</strong> • <strong>Large-scale fatalities</strong> • Death of colleagues • Longevity of the event • Long lasting impact to HCW’s and first responders</td>
<td>• HCW’s were subject to the social stigma of Ebola in working closely with infected patients. Some were even physically assaulted: eight HCW’s in Guinea were killed for raising awareness on Ebola(^\text{15}) • In a study of Ebola in Liberia, resilience in staff was identified as an important attribute of a strong health care system (which requires long-term investment, and attention)(^\text{16})</td>
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<td><strong>The most widespread outbreak of Ebola affected Guinea, Liberia, and Sierra Leone. In total (in countries with widespread transmission) Ebola resulted in 28,652 infections and 11,325 deaths.(^\text{13})</strong></td>
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<td><strong>Hurricane Maria</strong> (09/2017)</td>
<td>A year after Hurricane Maria (in Puerto Rico):</td>
<td>• Personal risk to HCW’s and first responders</td>
<td>• Mental health and health care providers have higher rates of PTSD symptoms as compared to the general public in post-disaster settings. These rates typically range from 13% to 32% (as compared with 7.8% in the general public)</td>
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<td>• 49% of HCW’s experienced post-traumatic stress disorder (PTSD)</td>
<td>• Risk to general public</td>
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<td>• 32% of HCW’s experienced anxiety</td>
<td>• Increased exposure to trauma</td>
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<td>• Large-scale fatalities</td>
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<td><strong>Maria was a deadly category five hurricane affecting Dominica, Puerto Rico, and St. Croix and resulted in an estimated 3000 deaths.</strong></td>
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<td><strong>(09/2017)</strong></td>
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<td><strong>September 11th Terror Attacks</strong> (09/11/2001)</td>
<td>• 12.9% of police officers who responded to the event still showed symptoms of PTSD 10 years later</td>
<td>• Personal risk to HCW’s and first responders</td>
<td>• 9/11 had long lasting impact on the mental and physical health of first responders, and those who were physically present at the event</td>
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<td>• 72.4% of police officers who had PTSD also reported depression and anxiety</td>
<td>• Risk to general public</td>
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<td>In a survey of those who were physically present during the world trade center towers attack:</td>
<td>• Increased exposure to trauma</td>
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<td>• 13% still experienced symptoms of PTSD 14 years later</td>
<td>• Large-scale fatalities</td>
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<td>• 68% of those with PTSD also reported symptoms of depression</td>
<td>• Widespread collective grief</td>
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<td><strong>Four coordinated attacks by terrorist group Al-Qaeda. Resulted in 2977 deaths, and thousands of injuries.</strong></td>
<td>• Long lasting impact to HCW’s and first responders</td>
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Advisory Board interviews and analysis
References

1“Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019,” JAMA Network, https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2763229
2Ibid
3“SARS Basic Fact Sheet,” CDC, https://www.cdc.gov/sars/about/fs-sars.html
5“The psychological effect of severe acute respiratory syndrome on emergency department staff,” NCBI, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2658141/
18“Many responders in emotional distress one year after hurricane in Puerto Rico, study finds,” Illinois New Bureau, https://news.illinois.edu/view/6367/807893
19Ibid
22First Responders to the attacks, comparable with health care workers.
23All of those who were physically present; includes civilians, first responders, etc.
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