

Fact Sheet: The Impact of Pandemic Disease on Mental Health

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“Pandemic Psychiatry”

- Psychiatrists responding to epidemics have drawn from a variety of approaches. It is likely that a nascent discipline of “Pandemic Psychiatry” is emerging from these efforts.

Collective Risk

The single most productive toolkit probably derives from disaster psychiatry, with its emphasis on group trauma.

- Because disasters affect entire communities (and often overwhelm their social and political fabric), disaster psychiatrists are compelled to think beyond the level of individual suffering.
- This broadened lens recognizes both the negative and the positive impacts of catastrophic events. While confronting grief, it interrogates the positive emotions derived from togetherness; it seeks to understand human strengths and resilience.¹
- This focus on **collective trauma** provides an orientation to understanding suffering that is at once personal, communal, and political.
 - In the context of tsunamis and war, for instance, it is more appropriate to speak of family trauma, rather than on the context of individual personalities.²
 - This broadened lens also provides space for study and understanding of collective resilience.³
 - The process of relying on and rebuilding social networks, for instance, can promote resilience.
 - One study in Hong Kong after the SARS epidemic reported over 60% of the respondents caring more about the family members’ feelings, and about 30–40% finding their friends and their family members more supportive.⁴

¹ Raphael, B., & Ma, H. (2011). Mass catastrophe and disaster psychiatry. *Molecular psychiatry*, 16(3), 247-251.

² Somasundaram, D. (2014). Addressing collective trauma: Conceptualisations and Interventions. *Intervention*, 12(1), 43-60.

³ Raphael, B, & Ma, H. (2011).

⁴ Lau, J. T., Yang, X., Tsui, H. Y., Pang, E., & Wing, Y. K. (2006). Positive mental health-related impacts of the SARS epidemic on the general public in Hong Kong and their associations with other negative impacts. *Journal of Infection*, 53(2), 114-124.

- The positive emotions derived from togetherness are further bolstered in the context of faith communities. It has been repeatedly observed that one of the key predictors for resilience in both individuals and populations is spirituality.⁵
- Disaster psychiatrists note that on a population level, the effects of increased stress may be transient.
 - Suicide is a rare phenomenon after disasters⁶; people ask existential questions about the meaning of life and its purpose, but they do not necessarily express suicidality.
 - Most survivors and caretakers return to their pre-outbreak mental health baseline at the 1-year mark, provided their overall functioning has returned to baseline.⁷
 - Aspects of this resilience may be understood through the **Yerkes-Dodson Law** of arousal and performance, which states that stressors can have a beneficial effect on functioning up to a point (differently situated across individuals), beyond which they reduce performance.⁸

Individual Risk

Though a collective experience, the impact of disasters is of course felt keenly on the individual level. Disasters significantly exacerbate and color personal suffering,⁹ and “pandemic psychiatry” must attend to the needs of distressed individuals.

- Epidemics stir anxiety, fear, grief, sadness, and unease across a great number of individuals. Outbreaks of Zika, SARS, H1N1 “swine” influenza, Ebola, and others in recent years have made this abundantly clear.

⁵ Peres J. F., Moreira-Almeida A., Nasello, A. G., & Koenig, H. G. (2007). Spirituality and resilience in trauma victims. *Journal of religion and health*, 46(3), 343-350; Doucet, M., & Rovers, M. (2010). Generational trauma, attachment, and spiritual/religious interventions. *Journal of Loss and Trauma*, 15(2), 93-105; O'Grady, K. A., Rollison, D. G., Hanna, T. S., Schreiber-Pan, H., & Ruiz, M. A. (2012). Earthquake in Haiti: Relationship with the sacred in times of trauma. *Journal of Psychology and theology*, 40(4), 289-301.

⁶ Mezuk, B., Larkin, G. L., Prescott, M. R., Tracy, M., Vlahov, D., Tardiff, K., & Galea, S. (2009). The influence of a major disaster on suicide risk in the population. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 22(6), 481-488; Nishio, A., Akazawa, K., Shibuya, F., Abe, R., Nushida, H., Ueno, Y., ... & Shioiri, T. (2009). Influence on the suicide rate two years after a devastating disaster: A report from the 1995 Great Hanshin-Awaji Earthquake. *Psychiatry and Clinical Neurosciences*, 63(2), 247-250; Rodrigo, A., McQuillin, A., & Pimm, J. (2009). Effect of the 2004 tsunami on suicide rates in Sri Lanka. *Psychiatric Bulletin*, 33(5), 179-180.

⁷ Humerovic, D., 69.

⁸ Teigen, K. H. (1994). Yerkes-Dodson: A law for all seasons. *Theory & Psychology*, 4(4), 525-547.

⁹ Katz, C. L., Pellegrino, L., Pandya, A., Ng, A., & DeLisi, L. E. (2002). Research on psychiatric outcomes and interventions subsequent to disasters: a review of the literature. *Psychiatry research*, 110(3), 201-217.

- During the 2003 SARS outbreak in Hong Kong, nearly 40% of the community population experienced increased stress in family and work settings.¹⁰
- Distress reactions such as insomnia, anger, extreme fear of illness even in those not exposed, and increased risk behaviors including alcohol and tobacco use can be expected.¹¹
 - Common reactions may include sleep problems, appetite disturbance, general anxiety, and confusion. Children may briefly regress to earlier developmental stages.¹²
 - These reactions are not necessarily disordered. Many represent common pathways toward sorting out layers of personal meaning.¹³
- This is no less true in the context of Covid-19.
 - By the end of April 2020, markers of emotional distress such as alcohol sales were surging in the United States, approximately two months into the virus' spread. Mental health hotlines were reporting record increase in use.¹⁴
 - A federal emergency hotline for people in emotional distress registered a more than 1,000% increase in April compared with the same period a year before.¹⁵
 - The CEO of one online therapy company reporting a 65% jump in usage noted that the increasing demand for service closely followed the geographic spread of the virus across the nation.¹⁶
 - Widespread and consuming as this distress may be, most who are personally spared by the illness will resume equilibrium over time.
 - Author and physician Danielle Ofri has coined the term “emotional epidemiology” to describe the pattern of emotional reaction associated with new illness.

¹⁰ Morganstein, J. C., Fullerton, C. S., Ursano, R. J., Donato, D., & Holloway, H. C. (2017). Pandemics: Health care emergencies. *Textbook of disaster psychiatry*, 2, 270-284.

¹¹ Shigemura, J., Ursano, R. J., Morganstein, J. C., Kurosawa, M., & Benedek, D. M. (2020). Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. *Psychiatry and clinical neurosciences*.

¹² Garakani, A., Hirschowitz, J., & Katz, C. L. (2004). General disaster psychiatry. *Psychiatric Clinics*, 27(3), 391-406.

¹³ Norwood, A. E., Ursano, R. J., & Fullerton, C. S. (2000). Disaster psychiatry: principles and practice. *Psychiatric Quarterly*, 71(3), 207-226.

¹⁴ Wan, W. (April 4, 2020). [“The Coronavirus pandemic is pushing America into a mental health crisis,”](#) *Washington Post*.

¹⁵ Paige Winfield Cunningham, [“The Health 202: Texts to federal government mental health hotline up roughly 1000%,”](#) *Washington Post*, May 4, 2020.

¹⁶ Wan, W. (April 4, 2020).

- “As the novel disease establishes itself within society,” she notes, “a certain amount of emotional tolerance is created.”¹⁷
- It is important to note that in the case of Covid-19, the ongoing economic hardship accompanying the epidemic may create its own lasting psychological traumas. Research has established a strong link between economic upheaval and suicide and substance use.¹⁸

Risk Groups

Among individuals likely to suffer psychiatric harm due to the impact of a pandemic, it is possible to delineate distinct risk groups.

- Those with **pre-existing psychiatric conditions** are of particular concern.¹⁹
 - The stress presented by the epidemic may exacerbate the symptoms of those at risk for developing anxiety, and increase the risk of relapse in those with serious mental illnesses such as schizophrenia, schizoaffective disorder, or bipolar disorder.²⁰
 - Access to mental health care in the community during an epidemic may become impossible, at the same time that impairment of judgment may threaten treatment compliance or prompt reckless behaviors.
 - For patients with substance abuse problems, particularly those on maintenance therapies, interrupted delivery of medications can create a significant problem.²¹
- **Infected patients and their families** present a second category at greater psychological risk.²²

¹⁷ Ofri, D. (2009). The emotional epidemiology of H1N1 influenza vaccination. *New England Journal of Medicine*, 361(27), 2594-2595.

¹⁸ Fiksenbaum, L., Marjanovic, Z., Greenglass, E., & Garcia-Santos, F. (2017). Impact of economic hardship and financial threat on suicide ideation and confusion. *The Journal of psychology*, 151(5), 477-495; Kerr, W. C., Kaplan, M. S., Huguet, N., Caetano, R., Giesbrecht, N., & McFarland, B. H. (2017). Economic recession, alcohol, and suicide rates: comparative effects of poverty, foreclosure, and job loss. *American journal of preventive medicine*, 52(4), 469-475; Preti, A. (2003). Unemployment and suicide. *Journal of Epidemiology & Community Health*, 57(8), 557-558.

¹⁹ Huremović, D. 66.

²⁰ Huremović, D., 65-66. One study from the 2009 H1N1 outbreak revealed that individuals with neurotic and somatoform disorders may be particularly vulnerable to psychological effects of infectious disease epidemics. Page, L. A., Seetharaman, S., Suhail, I., Wessely, S., Pereira, J., & Rubin, G. J. (2011). Using electronic patient records to assess the impact of swine flu (influenza H1N1) on mental health patients. *Journal of Mental Health*, 20(1), 60-69.

²¹ Huremović, D., 65-66.

²² Shigemura, J., et al. (2020).

- Proximity to and survival from life-threatening events are known risk factors for the development of trauma-based disorders, such as acute stress disorder, major depression (depressed mood, sleep and appetite disorders) relapse of substance use disorders, and PTSD.²³
 - Among patients who survived the Hong Kong SARS outbreak of 2003, one in four were found to suffer from PTSD and about one in six from depressive disorders three years later.²⁴
 - In the aftermath of the 2014-2016 Ebola outbreak in Sierra Leone, one study found that 6% of the survivors, family members, and caretakers met the clinical cut-off for anxiety–depression a year later, while 16% met levels of probable PTSD.²⁵
- Stigma can exacerbate these risks. Patients and families may find themselves to be the targets of pronounced stigma and rejection by their communities, whose fear manifests as discrimination and scapegoating.
 - West African patients and families affected by Ebola after 2014 suffered isolation and ostracism, physical violence, and diminished quality of life.²⁶
 - A 2016 study in the aftermath of MERS noted the experience of recovered individuals who found that the general public avoided them, and who became socially isolated even after being treated and declared free of the disease.²⁷
- **Healthcare providers** constitute the group most exposed to psychosocial and traumatic stress associated with pandemic disease. This is especially true of nurses and physicians working directly with ill or quarantined persons.
 - Sources of traumatic stress for this population include:²⁸
 - High and persistent risk for exposure and death
 - Separation from loved ones due to prolonged work shifts or workforce quarantine
 - Traumatic images of disfigured and dying patients

²³ Levin, J. (2019). Mental Health Care for Survivors and Healthcare Workers in the Aftermath of an Outbreak. In *Psychiatry of Pandemics* (pp. 127-141). Springer, Cham.

²⁴ Mak, I. W. C., Chu, C. M., Pan, P. C., Yiu, M. G. C., & Chan, V. L. (2009). Long-term psychiatric morbidities among SARS survivors. *General hospital psychiatry*, 31(4), 318-326.

²⁵ Jalloh, M. F., Li, W., Bunnell, R. E., Ethier, K. A., O’Leary, A., Hageman, K. M., ... & Marston, B. J. (2018). Impact of Ebola experiences and risk perceptions on mental health in Sierra Leone, July 2015. *BMJ global health*, 3(2), e000471.

²⁶ Yadav, S., & Rawal, G. (2015). The current mental health status of Ebola survivors in Western Africa. *Journal of clinical and diagnostic research: JCDR*, 9(10), LA01.

²⁷ Sim, M. (2016). Psychological trauma of Middle East Respiratory Syndrome victims and bereaved families. *Epidemiology and health*, 38.

²⁸ Levin, J. (2019). Mental Health Care for Survivors and Healthcare Workers in the Aftermath of an Outbreak. In *Psychiatry of Pandemics* (pp. 127-141). Springer, Cham.

- Hopelessness due to massive human losses
- The death of colleagues
- A lack of reinforcement and replacements
- Personal fatigue and burnout
- Clinicians may also suffer from the effects of **moral injury**, a particular type of trauma characterized by guilt, existential crisis, and loss of trust that may develop after being compelled to do things out of keeping with strongly held values.²⁹ Situations liable to cause moral injury to healthcare providers include:
 - The need to ration lifesaving equipment such as ventilators
 - The barring of loved ones from the bedside of patients who are dying
 - The knowledge that available treatment is ineffective
- Historically, **post-traumatic stress disorder (PTSD)** has been shown to be more prevalent in health care providers (about 15%) than in the general population (3% to 4%).³⁰
 - The heightened risk of psychological damage has been dramatized through the experiences of medical personnel battling previous outbreaks in the 20th century.
 - Studies examining the mental health of providers during the 2003 SARS epidemic demonstrated higher rates of PTSD and major depression in health care workers.
 - A study of nurses indicated an 11% rate of traumatic stress reactions, including depression, anxiety, hostility, and somatization symptoms.³¹
 - Even 1 year after the SARS outbreak, those who had provided healthcare still had persistently higher levels of stress and psychological distress than controls.³²

²⁹ Jinkerson, J. D. (2016). Defining and assessing moral injury: A syndrome perspective. *Traumatology*, 22(2), 122.

³⁰ Hendin, H. (April 28, 2020). "[Preparing for Covid-19-induced PTSD Among Health Care Providers](#)," *Psychiatry Behavioral Health Learning Network*.

³¹ Chen, C. S., Wu, H. Y., Yang, P., & Yen, C. F. (2005). Psychological distress of nurses in Taiwan who worked during the outbreak of SARS. *Psychiatric Services*, 56(1), 76-79.

³² Lee, A. M., Wong, J. G., McAlonan, G. M., Cheung, V., Cheung, C., Sham, P. C., ... & Chua, S. E. (2007). Stress and psychological distress among SARS survivors 1 year after the outbreak. *The Canadian Journal of Psychiatry*, 52(4), 233-240.

- The psychological risks faced by caregivers have been apparent since the earliest experience with Covid-19 itself.
 - A study of 1,257 doctors and nurses in China in the first months of the coronavirus outbreak found that half reported depression, 45% anxiety, and 34% insomnia.³³
- As the virus spreads, indicators of anxiety, depression, and traumatic stress in caregivers have spread with it. Due to the emerging nature of the crisis, controlled studies have yet to be conducted, but anecdotal reports of significant immediate distress are abundant.³⁴
 - Psychiatrists and others report suffering insomnia and crying jags, in addition to a general feeling of impending tragedy.
 - Psychiatrist Jessica Gold notes, “The overall feeling in my friends, family, and co-workers is one of an impending doom and an existing gloom that is both physically and psychologically palpable.”³⁵
 - Psychotherapist Melissa Nesle reported to the *New York Times*, “Never have I ever gone through a trauma at the same time as my clients. All I am hearing all day, hour after hour, is what I am experiencing also.”³⁶
 - A medical resident in New York City, Dr. Shaoli Chaudhuri, pondered her own and colleagues’ profound stress burden, “I wonder what they’ll call it in the future. Post-Covid Stress Disorder? Scrub Shock?”³⁷
 - The suicide on April 26, 2020, of emergency room physician Dr. Lorna Breen, who had been treating Covid-19 patients at Columbia University Medical Center, drew widespread attention to the mental health challenges faced by health care workers.³⁸

³³ Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., ... & Tan, H. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA network open*, 3(3), e203976-e203976.

³⁴ Gold, J. (April 3, 2020). [“The Covid-19 crisis too few are talking about: health care workers’ mental health,”](#) *STAT News*.

³⁵ *Ibid.*

³⁶ Nir, SM. (May 3, 2020). [“Therapists and Patients Find Common Ground: Virus-Fueled Anxiety,”](#) *New York Times*.

³⁷ Chaudhuri, S. (May 1, 2020). [“Fear, fevers and reminders of love: 30 days as a medical resident in New York City,”](#) *The Lily*.

³⁸ Watkins, A., Rothfeld, M., Rashbaum, W.K., Rosenthal, B.M. (April 27, 2020). “Top E.R. Doctor Who Treated Virus Patients Dies by Suicide,” *New York Times*. [Breen was the second American health worker to](#)

- The threat of **moral injury** has been particularly elevated among personnel responding to Covid-19, a hazard brought home by the reports of frontline workers.³⁹
 - “I spend 12 hours a day on telemedicine consultations,” noted Shaoli Chaudhuri in early April, “where I either offer a covid-19 therapy that amounts to a placebo or one with unknown benefit. It’s the most demoralizing thing I’ve done in my three years of residency. We are treating ourselves, not the patients.”⁴⁰
 - The potential for moral injury has been highlighted by the death of Dr. Breen.⁴¹
 - “We tend to be perfectionists,” reflected Dr. John R. Matheson, former president of the Washington State chapter of the American College of Emergency Physicians, on her passing. “And disease processes aren’t always straightforward. When you’re a high achiever and you’re very driven and you can’t do what you want to do, it can be very disheartening.”⁴²

[die by suicide in this pandemic — the first was John Mondello, a 24-year-old Staten Island E.M.T.](#), on April 24.

³⁹ Williamson, V., Murphy, D., & Greenberg, N. (2020). COVID-19 and experiences of moral injury in front-line key workers. *Occupational Medicine*.

⁴⁰ Chaudhuri, S. (May 1, 2020).

⁴¹ Watkins, A., et al. (April 27, 2020).

⁴² Senior, J. (May 3, 2020). [“What One Doctor’s Suicide Taught Us,”](#) *New York Times*.