

Medical Student Involvement in the Response to 9/11

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Objectives

- To review the involvement of Mount Sinai medical students in the response to 9/11
- To discuss the impact of this involvement on them
- To provide context for the remainder of this presentation about student involvement in the more recent response to 3/11 and “Superstorm” Sandy

Medical Students and 9/11

1. Staffing family hotlines
2. Fundraising
3. Helped at area hospitals
4. Assisted psychiatrists working at the Family Assistance Center

Survey

- Mailed out to 425 Mount Sinai medical students 3.5 months after 9/11
- Surveyed four domains:
 1. Their personal and professional involvement in 9/11
 2. Their levels of psychiatric distress in the week after 9/11 and in the week prior to the survey
 3. ***Impact on their confidence in themselves and on their commitment to a medical career***
 4. Avoidance symptoms

Responses

- N=157 respondents (out of total sample n=425)
- Men= 59
- Women= 98
 - vs. medical student body of ~ 50:50
- Approximately similar response rates across all four years
- Mean age= 25.2 years old
 - vs. medical student body mean=24.9

9/11 Involvement

- 13.4 % directly witnessed the attacks
- 6.4% lost a friend or family member
- 70% (n=111) involved in disaster response

Involvement in Disaster Response

- Helped at hospitals-- 35% (n=39)
- Fundraising-- 39% (n=43)
- Family Assistance Center– 25% (n=28)
- Crisis hotline– 43% (n=48)

*** Some respondents were involved in more than one activity

Gender

- *Overall involvement- no differences*
- Men > Women
 - Helped at hospitals
- Women > Men
 - Fundraising
 - Family Assistance Center
 - Crisis hotline

Gender

- Overall, women were MORE vulnerable to depressive or anxiety symptoms than men at both time points
- In uninvolved students, women with distress symptoms were LESS likely to feel able to help in the disaster

Year in Medical School & Activities

- 1st and 2nd year students were MORE likely to have done fundraising
- 2nd years were MORE likely to work at the Family Assistance Center
- 3rd years were LEAST likely to be involved
- 3rd and 4th years were MORE likely to have done hospital work

Year in Medical School & Distress

- NO DIFFERENCES in TOTAL SYMPTOMS across all four years at both time points
- But, first years had MORE sleep and appetite disturbances in the last week

Involvement and Distress

- Involvement had NO effect on total distress
- Duration of involvement and rapidity of involvement had NO effect on total distress
- But, involvement was associated with more sadness in the prior week

Involvement and Distress

- Fundraisers had greater total symptoms in week after 9/11 but not in last week
- Crisis hotline volunteers had greater total symptoms at BOTH time points.

Professional Confidence

- Involvement in disaster response was associated with a reinforced desire to become a physician
- This occurred even in the crisis hotline volunteers who experienced significant distress

Implications

1. Students at all levels of medical school can find a way to help post-disaster

2. Medical students involved in disaster response do not necessarily experience greater overall distress

3. More junior medical students may be more vulnerable to distress related to disaster involvement

4. Female medical students may be more vulnerable to experiencing significant psychiatric distress

5. Less supervised medical students may be more vulnerable to distress (i.e., hotline and fundraising)

6. Medical student involvement in disaster response can be enhance their confidence in their career choice

Overall

- Medical students can provide a ready and abundant source of medical and general volunteers in the period following disasters, whether radiological or otherwise
- Their involvement is generally psychologically “safe” and potentially protective for them and may be confidence enhancing
- Deployment should be done according to their abilities and under close faculty supervision
- Consider requiring their involvement

Medical Student Involvement in the Response to 3/11 and “Superstorm” Sandy

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Objectives

- To review the involvement of FMU medical students in the response to 3/11 and Mount Sinai students in the response to “Superstorm” Sandy
- To provide examples of student perspectives and explain our current study of posttraumatic stress in these medical student populations
- To outline the role of Psychological First Aid

The 3/11 “Triple Disaster”

- The Great East Japan Earthquake on 3/11/11 caused a tsunami and nuclear accident at Fukushima Daiichi
- 15,887 deaths, 2,615 missing, 6,150 injured (as of 6/10/14)
- Tremendous destruction and property damage
- 140,000 people still displaced



Sources: National Police Agency of Japan, Japan Times
Image: NTV

FMU Medical Students and 3/11

- No FMU students were seriously hurt
- 5th- and 6th-year medical students organized a volunteer team to help with patient transfer and other tasks (as many as 60 students per day)
- The team was temporarily disbanded on 3/15 because of unknown radiation risk



Personal Reactions

- “We didn’t have the clinical skills to help in the hospital”
- Students didn’t know whether to evacuate or remain on campus
 - Conflicting information from email lists, media, and Facebook
- “We were more victims than medical professionals”

Student Reactions

“There was a time when I just wanted to be a student and enjoy my college days; now that has changed.”

-5th-year male student

“I began to think [after 3/11] that I wanted to do my internship in a hospital where I could **study disaster medicine**. I want to learn how to **perform calmly even in a huge disaster**. I lived in a temporary shelter at the time and knew the situation, so I want to become a doctor who visits a disaster site immediately and can **address the victims’ mental health**.”

-5th-year female student

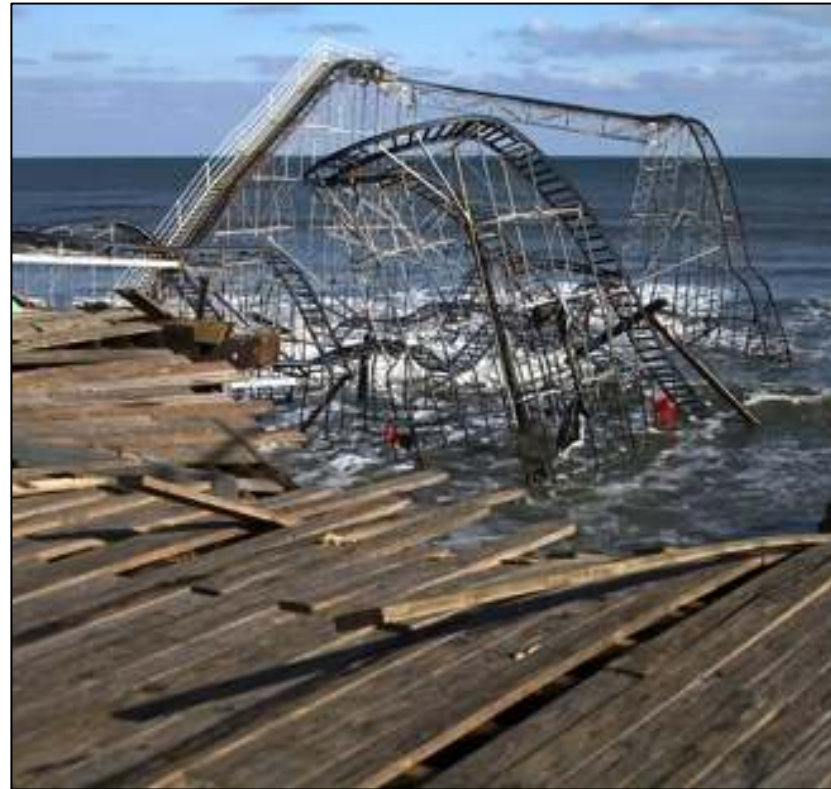
Student Reactions

“After the quake jolted Fukushima, **my thoughts on my career changed quite a bit**. What initially inspired me to become a doctor was to help patients who were sick. But the experience of 3/11 taught me that it's **not enough to think just about disease**. We need to place more of an emphasis on **patients' feelings**. Then, we should think of the concrete actions we can take **to treat their mental health.**”

-5th-year female student

“Superstorm” Sandy

- Affected over a dozen states and hit New York City on 10/29/12
- Flooded streets, tunnels, and subway lines
- Responsible for 117 deaths in the United States



Images: Bloomberg News Sources: NY Times, CNN

“Superstorm” Sandy

- Caused major damage to infrastructure, including hospitals
- 322 patients evacuated from New York University Hospital due to power failure
- Over 725 patients evacuated from Bellevue Hospital due to structural damage



Image: Google Sources: NY Times, CNN

After Sandy

- Millions without heat and electricity
- Houses destroyed or severely damaged by floodwaters
- Elderly people trapped in high-rise buildings
- Communities disrupted



Image: Bloomberg News Source: FEMA

Medical Students and Sandy

- “Superstorm” Sandy presented unique challenges as a local disaster
 - Large influx of patients from affected hospitals
- Medical students assisted in the hospital on the night of the storm
 - Spontaneously formed volunteer teams in the following weeks
 - Mainly 1st- and 2nd-year students based on scheduling and availability

Student Participation

- Student organizers recruited more than 200 Mount Sinai doctors and students
 - Canvassing buildings
 - Providing home visits to stranded residents
 - Staffing clinics in community centers



Image: Tami Awosogba

Student Participation

- Coordinated with organizations in Coney Island and Rockaway Beach
- Sustained involvement in the Sandy relief effort
 - Volunteering from October through December



Image: Tami Awosogba

Student Reactions

“It became **difficult to recharge** at the end of a day, as my mind would **focus on people’s suffering and the disparities** exposed by the storm.”

“Though I was able to complete required work for school, it was in many ways a struggle to do so, as I **felt my schoolwork to be relatively insignificant** when I could be devoting my energies to **work of more immediate impact.**”

-2nd-year male student

Student Reactions

“People think about a disaster and they think about fractured femurs and bleeding. We **saw the more chronic, insidious medical problems** that happen when infrastructure is wiped out for people who usually have reasonable access to care.”

“We saw how **frustrating and slow an emergency response can be** even in a big city like New York. The government can only bite off very small amounts in the face of overwhelming disaster.”

“I think about [Sandy] a lot. It’s **one of the watershed moments of my time at Sinai**. It was basically **all we did for almost 6 weeks**.”

-2nd-year male student

Study of Medical Student Responses to Natural Disasters

- Based on 9/11 study conducted by Dr. Katz and students in 2002
- Population: current medical students at Mount Sinai and Fukushima Medical University
- Survey modeled on 9/11 material and includes:
 - Background on personal involvement in the disaster and role in recovery
 - Davidson Trauma Scale to measure posttraumatic stress symptoms
 - Posttraumatic Growth Inventory

Current Study Progress

- 494 responses collected from FMU students
 - Overall participation rate: 69.9%
 - 322 males (65.2%), 169 females (34.2%)
 - Median age: 21 (mean: 21.3, SD: 2.6)
 - 81.2% (n=401) experienced 3/11 in person
- Will survey Mount Sinai students in September and analyze data
- Other studies have looked at the response of workers and volunteers to 3/11 and Sandy, but none have focused on medical students

Psychological First Aid (PFA)

- Medical students can provide PFA
- Does not resemble typical mental health treatment
 - Consists of a broad range of basic interventions to improve quality of life
 - Treatment has been shown to be safe and effective
- Emerged as a way of helping people after large-scale disasters
 - A response to the lack of systematic mental health interventions post-9/11

Objectives of PFA

- Goal is to help people feel better in the immediate aftermath of a disaster by providing them with basic necessities
- Emphasis on empathetic listening and non-judgmental responses
 - Avoids “psychological de-briefing”: people don’t talk too soon, openly, or unwillingly about recent events
 - Prevents re-traumatizing and maintains focus on comfort
- Disaster responders don’t need to be mental health professionals
 - Medical students are good liaisons between community members and providers

Summary

- Medical students became involved in the responses to 3/11 and “Superstorm” Sandy, and were affected by those experiences
- We aim to study the psychological impact of disaster relief efforts in this population
- Psychological First Aid provides a theoretical basis for how medical students can provide effective assistance after a disaster

Post Disaster Growth Application to Medical Students in Fukushima, New York, and Beyond

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Objectives

- To apply concept of Posttraumatic Growth to disaster aid
- To consider Medical school's role in community response for disasters
- To provide Pre disaster planning for students
- To enhance the impact of students involvement

Posttraumatic growth (PTG)

- PTG is **positive** psychological changes as the result of the struggle with traumatic events (Calhoun & Tedeschi, 1999)
- Posttraumatic Growth Inventory is an instrument used to assess PTG
- **Successful coping** behaviors may contribute to PTG months or years after event exposure (K. Taku et al., 2007)

Medical school as an effective leader in community response for disasters

- Liaison with local emergency professionals
- Serve as a beacon for community and government involvement
- Individual champions for specific projects
- Match the program with available resources

Pre-disaster preparation

- List of medical expertise as resources
- Partnership among local and state government
- Collaboration with other schools

SWOT Analysis

- What are the Community's
- **S**TRENGTHS?
- **W**EAKNESSES?
- **O**PPORTUNITIES as a result of the disaster?
- **T**HREATS?

US Federal Emergency Management Agency's Assessment Tool

Where do our students fit in?

- Highly motivated individuals
- Organized structure
- Can provide a ready and abundant source of medical and general volunteers
- Appropriate involvement can enhance their commitment to a medical career

Enhancing the PTG impact on students involvement

- Their involvement is “safe” and potentially protective for them and may be confidence enhancing
- Deployment according to their abilities and under close faculty supervision
- Consider an organized involvement

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