ORIGINAL RESEARCH

Obstetrician-Gynecologists' Role Conflict in a Natural Disaster: Professional Versus Family Responsibilities

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ABSTRACT

Objective: The purpose of this study was to evaluate role conflict between professional and familial responsibilities among obstetric health care providers during a natural disaster between those required to stay in the hospital versus those who were at home during a catastrophic weather event.

Methods: A survey was used of obstetric attending and resident physicians in the Baylor College of Medicine, Department of Obstetrics and Gynecology following Hurricane Harvey on August 26, 2017.

Results: Ninety one of 103 physicians (88%) completed the survey. Survey responses were compared between physicians who worked in the hospital (n = 47) versus those who were at home (n = 44) during the storm and its immediate aftermath. Physicians in the hospital and at home agreed (47% and 48%, respectively, $P = 0.94$) that professional duties conflicted with family obligations and felt torn (49% and 55%, respectively, $P = 0.48$) regarding family obligations. A majority of homebound health care providers disagreed with the statement that professional duties override family responsibilities, whereas less than half of in-hospital providers felt the same (68% at-home versus 47% of the hospital-team, $P = 0.10$).

Conclusion: As organizations prepare for possible catastrophic situations, institutions must realize that obstetric health care providers will experience role conflict between professional and family responsibilities. (*Disaster Med Public Health Preparedness*. 2019;13:33-37)

Key Words: disasters, emergencies, hurricanes, obstetrician-gynecologists, physician role-conflict

In the event of disaster, health care providers are essential front-line responders. The ability of departments of obstetrics and gynecology to provide adequate services is dependent upon critical personnel working and functioning effectively in the hospital setting. Customarily, it is expected that health care providers respond to emergencies regardless of the magnitude of the crisis faced. However, the behavior of health care providers may be subject to many factors, including feelings associated with role conflict. Such concerns could potentially affect provider focus, teamwork, and care delivery. Role conflict occurs when role expectations are not in line with a person's ability to fulfill role requirements. Moreover, when incompatibility exists among 2 or more roles held by 1 individual (eg, professional versus familial obligations), conflict occurs when the inconsistencies between the conflicting positions cannot be reconciled.[1]

Research has demonstrated that the primary concerns of police officers, emergency room nurses, and physicians working as first responders during disasters, such as hurricanes, are for family safety.[2–5] Yet, no information is available assessing obstetrician-gynecologists' perceptions of role conflict during a disaster. On August 26, 2017, Hurricane Harvey made landfall on the Southeast Texas coast. Over the next 5 days, 51 inches of rain inundated the greater Houston area resulting in catastrophic flooding previously not witnessed.[6] Obstetricians frequently provide continuous in-hospital patient care for a specified period of time. Similar to hurricanes that have stricken other major urban centers,[7] during and after Hurricane Harvey, Houston roadways were impassable. Physicians assigned to oncoming shifts were unable to safely travel to the hospital to provide relief, thus requiring individual physicians to maintain in-hospital coverage for prolonged durations of time.

During this weather event, separate teams of physicians staffed the Labor and Delivery units at Ben Taub and Texas Children's Pavilion for Women Hospitals. These hospitals are the tertiary care teaching facilities affiliated with the Baylor College of Medicine and combined performed 8,796 deliveries in 2017. Teams of health care providers were confirmed and mobilized based on the departmental disaster coverage plan specifying members of the ride out, relief, and recovery teams. These physicians were assigned these roles based on being scheduled on-call from the preexisting departmental-call schedule. The ride out team (A)

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consisted of obstetric care attending and resident physicians preassigned to the established call schedule for the day of the event. Ride out team (*B*) included obstetric care providers preassigned to call coverage on the second day of the anticipated event. Members of both teams *A* and *B* presented to the hospital on the day of the anticipated weather event and rotated 12-hour coverage shifts until the event was over. A third recovery team (*C*) presented to the hospital to aid with relief and planning. Teams *A* and *B* were brought into the hospital on August 26, 2017, 24 hours prior to the predicted onset of the severe weather event in Houston. Due to catastrophic flooding, physician teams *A* and *B* remained in the hospital for 48 hours, while opting to work for 24-hour shifts and rest for 24 hours. A second pair of ride out teams (*C* and *D*) presented on Day 3 of the event once access to the hospital was safe; the initial ride out teams (*A* and *B*) were sent home, and teams *C* and *D* stayed in the hospital for 48 hours due to continued rainfall and the inability to predict ongoing safe passage to and from the hospitals. The physician leadership team suspended the ride out on August 30, 4 days after it was initiated. Ambulatory clinics and elective surgeries were canceled from August 28 through September 1.

Disaster plans for resource and work sharing among hospitals address patient care and basic needs of health care providers. However, personal concerns of health care providers about the safety of family and property are rarely considered. This combined with the uncertainty about the timing of relief could potentially exacerbate feelings of role conflict. For these reasons, an understanding of role conflict among health care personnel may foster development of meaningful strategies to address such concerns during disaster planning. The objective of this study is to assess the magnitude and differences of role conflict among obstetrician gynecologists during a catastrophic weather event.

METHODS

We performed a survey-based study of obstetric health care providers (physicians and resident physicians) in the Baylor College of Medicine Department of Obstetrics and Gynecology who were in Houston during Hurricane Harvey on August 26, 2017, to assess perceived role conflict between professional versus familial duties. The study was conducted from November 13, 2017, to January 5, 2018. This study was approved by the institutional review board at The Baylor College of Medicine.

An online questionnaire was developed by the research team based on a review of the literature regarding the impact of professional versus familial responsibilities during natural disasters.[2,3,8,9] The survey consisted of 2 parts; the first addressed demographic characteristics, including age, gender, and role of physician (ie, specialist, subspecialist, resident). The second part of the questionnaire assessed perceptions of the influence of role conflict on professional and family obligations during the time of this weather event. For each question, respondents were asked to rate their perceptions on a 5-point Likert scale, from "Strongly disagree" (1) to "Strongly agree" (5) or the option of "Not applicable." Study data were collected and managed using Research Electronic Data Capture (REDCap) tools hosted at the Texas Children's Hospital Pavilion for Women.[10] REDCap is a secure, web-based application designed to support data capture for research studies. Review of departmental schedule and time off request identified 103 providers who were in Houston and available between August 26 to September 1. All 103 individuals were invited to participate. Individuals received an e-mail message from the survey platform that oriented them to the study, provided information for informed participation, and contained a personalized link to the survey. Each survey and e-mail is linked by a unique identification number ensuring a single survey per study participant. Informed consent was implied by clicking on the link to the electronic survey. After the original e-mail, 6 weekly e-mail reminders were sent to nonresponders. Data collection ended 7 weeks after the initial e-mail. No personal identifying information was collected with the survey. The questionnaire was self-administered and available in English, and subjects were not compensated or rewarded for participation in the survey. Data were entered into Microsoft Excel 2013©.

Analysis was conducted using Microsoft Excel 2013© or the Mann–Whitney Test calculator assessed at vassarstats.net/utest.html. The student *t* test was used to analyze continuous variables, and the Mann–Whitney *U* test was used to analyze ordinal variables as appropriate. Only questions that contained a response were included for analysis. For descriptive purposes, responses are combined as "Agree" (for both *Strongly agree* and *Agree*) and "Disagree" (for both *Strongly disagree* and *Disagree*). *P*-values less than 0.05 were considered statistically significant.

RESULTS

Ninety-one individuals completed the survey for a response rate of 88%. Forty-seven (52%) of the respondents were part of the in-hospital teams from August 26 through August 30, 2017. Survey responses were compared between physicians that were part of the hospital-team (n = 47) versus those who were at-home (n = 44). Physicians who were at-home never presented to the hospital during the storm. No differences were noted between groups of respondents for age, gender, role of physician, relationship status, and number with children (Table 1). While three-quarters of survey respondents had family living in the greater Houston metropolitan area, more physicians that made up the hospital-team had family members living inside the Houston area impacted by catastrophic flooding, $P = 0.02$.

When individuals were asked to rank, "How great of a risk did this event pose to you?" ("0" for *no risk* to "10" for

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TABLE 1

Demographics of In-Hospital Versus At-Home Team

	In-Hospital (n = 47)	At-Home (n = 44)	*P*
Age in years (mean ± SD)	39 ± 3.1	40 ± 3.5	0.87
Gender			
Female	39 (83%)	36 (82%)	0.55
Male	8 (17%)	8 (18%)	
Role			
Obstetrician/gynecologist	11 (23%)	15 (34%)	0.49
Hospitalists	8 (17%)	1 (2%)	
Maternal fetal medicine	6 (13%)	11 (25%)	
Resident	22 (47%)	17 (39%)	
Relationship status			
Married	28 (60%)	27 (61%)	0.87
Not married, living with partner	6 (13%)	1 (2%)	
In relationship, not living with partner	4 (9%)	5 (11%)	
Single	9 (19%)	11 (25%)	
Children			
Yes	24 (51%)	23 (52%)	0.84
Proportion ≤ 18 years old	22 (92%)	18 (78%)	
Family living in greater Houston metropolitan area			
Yes	35 (74%)	33 (75%)	0.57
Family members living inside the impacted area of Hurricane Harvey			
Yes	32 (68%)	19 (43%)	0.02

Data are n (%) unless otherwise specified.

extremely risky), the overall median score was 5 with an interquartile range of 2 to 6. There was no difference noted in the median scores between groups in the hospital-team versus at-home for perceptions of the level of risk this event posed (4 versus 5, respectively, $P = 0.16$). A greater rate of individuals at-home compared to the hospital-team agreed with the statement that they felt their personal safety was at risk as a result of the predicted severity of the storm, although not statistically different (Table 2). More individuals at-home compared to the hospital-team indicated that the storm impacted their ability to go to work, $P < 0.01$. A higher portion of physicians who were a part of the hospital-team had a personal disaster or evacuation plan in place and had a plan for family members, although this difference was not statistically different from those at-home.

Regardless of whether physicians were in the hospital or at home, they felt that professional obligations conflicted with family obligations and felt torn between these responsibilities. A greater number of individuals in the hospital-team had an uncertainty about the safety of their loved ones, although not statistically different from those at-home. Statistically, more physicians in the hospital-team had concerns about the safety of their property, $P = 0.03$, as compared with their at-home colleagues. Although most of survey respondents reported that their families understood the needs of their professional duties during this weather event, this was statistically greater for the hospital-team, $P = 0.02$. A majority of individuals disagreed with the statement that their professional duties override their family responsibilities (47% for the in-hospital compared with 68% at-home group, $P = 0.10$). Yet when asked whether their commitment to their family duties overrides their professional responsibilities, responses were mixed. Individuals who were on the hospital-team were split almost evenly between *disagree*, *neutral*, and *agree*, whereas most of those at-home agreed that their family duties override professional duties; however, the responses were not different between the 2 groups.

Most individuals agreed they fulfilled their professional obligations for this weather event, but this was statistically greater for the hospital-team, $P < 0.01$. A majority of respondents agreed with the statement that there should be criteria that exempt staff from disaster work requirements, and that the individual should have a choice to attend work during a disaster based on personal issues. However, most physicians, in both the hospital-team and at-home team agreed that the implemented disaster plan was equitable. Finally, 72% of the individuals at-home agreed with the statement that they felt guilty for not being able to be with the hospital-team during the weather event.

DISCUSSION

The bulk of participants in the current study described feeling conflicted or torn between their professional obligations and familial responsibilities. This held true regardless of whether the individual was on the hospital team or at home with family. Conflicts between family concerns and obligations to

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TABLE 2

Physician Perceptions Regarding Role Conflict

	In-Hospital Team (n = 47)			At-Home (n = 44)			P[a]
	Disagree[b]	Neutral	Agree[c]	Disagree[b]	Neutral	Agree[c]	
I felt my personal safety was at risk as a result of the predicted severity of the storm.	27%	24%	49%	26%	13%	62%	0.24
The storm impacted my ability to go to work.	27%	7%	66%	5%	2%	93%	< 0.01
I had a personal disaster and/or evacuation plan in place.	39%	9%	52%	43%	23%	35%	0.41
I had a plan for my family members' care (spouse and/or children) during this event.	20%	15%	63%	24%	24%	52%	0.54
I felt professional obligations conflicted with family obligations.	38%	13%	47%	42%	10%	48%	0.94
I felt torn between my professional and family responsibilities.	42%	7%	49%	33%	12%	55%	0.48
While performing my professional duties, I had uncertainties about the safety of my loved ones.	42%	7%	49%	55%	25%	20%	0.12
While performing my professional duties, I had uncertainties about the safety of my property.	22%	9%	67%	45%	23%	32%	0.03
My family understood the needs of my professional duties during this event.	5%	7%	88%	13%	23%	64%	0.02
My commitment to my professional duties overrides my family responsibilities.	47%	29%	24%	68%	16%	16%	0.10
My commitment to my family duties overrides my professional responsibilities.	30%	35%	33%	32%	16%	51%	0.29
I fulfilled my professional obligations during this event.	5%	0%	95%	11%	14%	75%	< 0.01
There should be criteria that exempt staff from being required to be in the hospital during a disaster.	22%	22%	54%	28%	26%	46%	0.67
I should have a choice on whether to attend work, without reprisals, based on personal issues.	24%	26%	49%	16%	26%	58%	0.40
The implemented hospital disaster plan was equitable.	18%	18%	61%	28%	13%	59%	0.53

[a] *P* values are from Mann–Whitney *U* test.
[b] Responses for both *strongly disagree* and *disagree*.
[c] Responses for both *strongly agree* and *agree*.

duty have been expressed by emergency room physicians when surveyed on their willingness to respond to various disaster scenarios.[5] Similar feelings of role conflict have been described by police officers and perinatal nurses responding after hurricane Katrina in 2005.[3,11]

Greater than 90% of individuals at-home indicated the storm affected their ability to go to work. While health care workers may report a willingness to report to work during various catastrophic events, the most frequent reported barrier to their ability to arrive at work has been transportation logistics.[12] Whether health care facilities could arrange with local emergency management officials to provide transportation for essential personnel would need to be determined. A greater rate of individuals at-home felt their personal safety was at risk because of the predicted severity of the storm, although not statistically different from those in the hospital. Vulnerability may be influenced by the proximity to the event. Once personal and family safety is established, health care personnel in other types of natural disasters have expressed guilt for not coming to work.[13] In the current study, more than 70% of individuals at-home felt guilty for not being able to be with the hospital-team during this weather event.

Some hospitals with specific hurricane team assignments consider the provision of health care during a disaster to be a community commitment, and failure to fulfill this expectation may result in a reprimand.[2] Yet nurses surveyed from 4 emergency departments in Australia believed that people should be able to choose to attend work or stay home without reprisal during a disaster. [8] Although the majority of those surveyed in the current study thought the implemented disaster plan was equitable, most physicians agreed that exclusion criteria for disaster team assignment and an option to opt out of disaster team work should be created for individuals who cannot or do not want to work during a disaster. Despite the finding that most health care providers in the current study experienced role conflict, they still met behavioral expectations.

Asking for voluntary physician participation during a disaster, implementing exemption agreements for employees with extenuating circumstances, and the development of volunteer hotline numbers are suggested potential alternatives to the common disaster plans.[2] The implications this may have on the willingness of physicians to respond during a disaster will be impacted by the perceived risk associated with the public health event. As perceived risks increase, the intention to respond decreases.[4] With the ever increasing complexity of natural (eg, hurricanes), human-made (such as terrorist attacks involving nuclear or biological agents), and pandemic outbreak events occurring, allowing physicians to choose between the obligations of professional expectations, employment, and family, could become more complex. The ability of health care facilities

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to rapidly expand operations to safely treat an abnormally large influx of patients in response to an incident could be compromised by a lack of availability of key personnel to provide patient care. Whether training designated obstetric teams through educational offerings (such as simulations) that increase empirical and practical knowledge with pragmatic patient management during disasters will better prepare physicians for the uncertainties of these events will have to be determined.[4,14]

The current study is unique because we assessed role conflict among a group of obstetricians within 11 weeks of a rare catastrophic weather event. Strengths of our study include the short interval between the event and the survey, and the high rate of survey completion. The sample size for several of the variables measured are not sufficient to rule out a type II error for the small differences determined, and may be considered a potential weakness of the study. In addition, the perceptions of individuals willing to participate in surveys may differ from the perceptions of those who are not willing to respond. As with all surveys, there is the potential for recall bias; however, the short time period between disaster and survey may minimize this risk. Finally, our results are from 1 major metropolitan city in the United States during a specific type of weather catastrophe, thus the external validity (ie, generalizability) to other institutions or disasters may be restricted.

CONCLUSION

Health care providers feel conflict between professional obligations and familial responsibilities whether they are taking part in the hospital team or at home with family during a natural disaster. As institutions prepare for potential catastrophic events, organizations should consider the impact of role conflict that obstetric health care providers who work during these events experience between professional and family responsibilities. As part of disaster preparedness measures, these role conflicts need to be recognized in advance and measures implemented to reduce these discords.

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Conflict of Interest

The authors report no conflicts of interest.

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