If Schools Are Closed, Who Will Watch Our Kids? Family Caregiving and Other Sources of Role Conflict among Nurses during Large Scale Outbreaks

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POS = perceived organizational support
SARS = severe acute respiratory syndrome
SIM = Structured Interview Matrix

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Abstract

Objectives: The global impact of severe acute respiratory syndrome (SARS) brought attention to the role of healthcare professionals as "first receivers" during infectious disease outbreaks, a collateral aspect to their role as responders. This article records and reports concerns expressed by Canadian emergency and critical care nurses in terms of organizational and social supports required during infectious disease outbreaks. The nature of work-family and family-work conflict perceived and experienced by nurses during infectious disease outbreaks, as well as the supports needed to enable them to balance their social roles during this type of heightened stress, are explored.

Methods: Five focus groups consisting of 100 nurses were conducted using a Structured Interview Matrix facilitation technique.

Results: Four emergent themes included: (1) substantial personal/professional dilemmas; (2) assistance with child, elder, and/or pet care; (3) adequate resources and vaccinations to protect families; and (4) appropriate mechanisms to enable two-way communication between employees and their families under conditions of quarantine or long work hours.

Conclusions: Social and organizational supports are critical to help buffer the effects of stress for nurses and assist them in managing difficult role conflicts during infectious disease outbreaks. These supports are necessary to improve response capacity for bio-disasters.

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Introduction

The 2003 global outbreak of severe acute respiratory syndrome (SARS) brought attention to the important role of healthcare professionals as first receivers during infectious disease outbreaks, a collateral aspect to their role as responders.[1] Healthcare professionals showed extreme dedication to public health as they combated fatigue, emotional distress, and burnout over several months while responding to each wave of the SARS outbreak in Toronto and Vancouver.[2,3] Human resources were stretched to the limit, equipment and supplies were not always available, and role conflict resulting from tensions between professional obligations and familial duty mounted as the crisis continued.[4]

Work-family conflict has been defined as a form of inter-role conflict where demands from work and family are, in some way, incompatible.[5] Consequently, fulfilling one role is perceived as more difficult because of participation in the other.[6–8] Incompatibility between organizational structure and family life is a significant source of chronic psychological distress for many health professionals,[8–10] and this role conflict can have negative health implications in terms of

psychological burnout, increased cortisol levels, and development of cardiovascular disease.[11–13] Given the important roles health professionals assume, protection of human health resources is of critical importance.

Human resource shortages and high workload demands in nursing have been at a critical level for many years,[14] creating tremendous psychological distress among employees.[15–17] This shortage could be exacerbated during disaster scenarios when an unforeseen health crisis in the workplace environment significantly impacts family relations, work, and health, simultaneously.[18]

The current study contributes to the growing body of literature on multiple role conflict by presenting findings from five focus groups with emergency and critical care nurses in four Canadian cities. The specific focus of this paper is to explore the nature of work-family and family-work conflict experienced by nurses during infectious disease outbreaks, as well as their concerns for future outbreaks. The necessary types of organizational and social supports identified by these nurses that would enable them to cope more effectively during a large-scale outbreak also are presented.

Methods

Five focus groups, each 4.5 hours in duration that were facilitated using the Structured Interview Matrix (SIM) technique,[19] were conducted. The SIM technique for facilitating group discussions can accommodate up to 40 participants and involves three steps: (1) one-on-one discussions between participants; (2) small group synthesis of the data collected during the one-on-one discussions; and (3) plenary, facilitated discussion of each question.

Participants were recruited through the nursing unions, nursing associations and professional colleges, advertisements in local newspapers, e-mail listservs, and referrals from colleagues. The participants included registered nurses, registered practical nurses, and nursing managers working in emergency or critical care, including infection control workers, nurse educators, and representatives of nursing unions. No limitations were placed on participants relative to their work status (full or part time), nor any other personal characteristics (gender, age, language, etc.). Since the focus group discussions were conducted in English, participants were required to have a functional ability to understand spoken English, but they were encouraged to contribute to the discussion in French if this was more comfortable for them. All participants signed a consent form approved by the University of Ottawa Research Ethics Board.

Focus groups were held in Ottawa (two groups), Vancouver, Toronto, and Halifax. These cities were selected because of their experience with the SARS outbreak in 2003, their geographical representation of urban Canada, and their experiences with other types of disasters (e.g., Hurricane Juan and the White Juan blizzard in Halifax).

A structured interview guide was used for all the focus groups. Among these questions, nurses were asked to respond to: (1) their belief regarding the willingness of healthcare workers to work during a widespread infectious outbreak and what supports should be in place to ensure this willingness; and (2) specific recommendations they felt would assist in creating a more "family friendly" work environment, particularly during incidents involving quarantine. Additional probes were used to facilitate the plenary discussions. A team of four researchers conducted a qualitative theme analysis of the focus group data. The notes from each session were double coded using Nvivo7™ software (QSR International Cambridge, MA) based on a coding grid that included different types of supports and categories that overlapped with elements of perceived organizational support (POS) theory.[20] Additional nodes were added to the coding grid as needed, and emergent themes were discussed at length by three researchers, until there was consensus that the themes were representative of the data. There was unanimous agreement that saturation for this data set was reached after the fourth focus group. However, to ensure geographic variety and given the vast size of this country, a fifth focus group was conducted.

Results

The number of participants in each focus group were: Ottawa (n = 10, n = 25); Toronto (n = 15); Vancouver (n = 27); and Halifax (n = 23). There were 100 participants (n = 95 women; and n = 5 men). All of the participants spoke English during the focus group sessions.

The analyses conducted for this study revealed numerous concerns for nurses, in the context of their roles as responders in infectious disease outbreaks. Organizational and social supports were identified as necessary to ensure nurses are able to manage the various types of role conflict that they face as a result of their professional and personal obligations. Four themes relating to role conflict for front-line nurses in infectious disease outbreaks emerged from the focus group data.

Theme 1—Nurses Experience Substantial Personal and Professional Dilemmas Relating to Obligations in the Workplace and Concerns for Family during Infectious Disease Outbreaks

Large-scale outbreaks pose unique challenges because of the occupational risk of becoming infected or potentially exposing family and friends to infection. During the focus groups in the current study, participants became emotional about their fears of infecting their children, spouses, dependent elderly parents, or other family members as a result of their own occupational exposure to virulent diseases. One nurse in Toronto said, "There is lots of guilt. Should I have chosen a profession that would have protected me better? The guilt stays—if I bring it home and they get sick—it's because of me". The nurses described this type of guilt as a source of significant stress, knowing that their choices could have long-term, devastating consequences.

Feelings of guilt were not limited toward family members. The nurses described having feelings of guilt toward their jobs and co-workers, recognizing that their decision not to work would negatively impact their co-workers. As stated by one nurse in Ottawa "A lot of us, who are part-time or even full-time, are expected to chip in and help out, even if you're already juggling a lot. You might get five or six phone calls a day to come in [on a day off], but if you don't get your proper rest…you're going be at higher risk."

A nurse from Vancouver called for recognition of role conflict by organizations, "We aren't just healthcare workers—we can come to work as nurses, but how are we going to cope

when the crisis affects our families?" Other nurses had similar concerns about the dilemma of whether to work during a future large-scale outbreak: "I don't have the right to make these decisions on behalf of my children and my husband".

Theme 2—There is a Need for Child/Elder/Pet Care if Nurses are Required to Stay at Work, or be Quarantined During an Outbreak
Quarantine and long work hours during disasters intensify role conflict for nurses, particularly because of increased staffing requirements and needs for dependent care. The impact of staffing shortages was mentioned in all the groups, and some nurses drew on their recent experiences with an extreme winter blizzard that ground urban activity to a halt. As road conditions deteriorated during the blizzard, a significant number of hospital staff were unable to get to work or return home. Several staff described working 29 hours without a break or food because there was no one to relieve them after their shift, and no food delivery. A nurse in Halifax said, "It is an absolute necessity to provide 24-7 child care in these situations, as most nurses are female, and many are single parents."

In relation to challenges with child/elder/pet care during prolonged shifts and quarantine, the nurses expressed concern about organizational and social supports when institutions, such as schools, are closed during a pandemic or other type of disaster; "If schools are closed, who will watch our kids?" This situation was experienced during Hurricane Mitch in 1998, when many communities were destroyed. To address barriers such as child care (which affected hospital staffing), administrators brought in trained educational specialists to provide temporary daycares for the children of hospital staff.[21] For an outbreak situation in which the children would be at risk in a hospital, child care and other dependent care supports will require creativity and careful planning.

Theme 3—There is a Need for Adequate Resources and Vaccination to Protect the Families of Healthcare Workers
The role conflict that impacts nurses' decisions during a large-scale outbreak is influenced by the allocation of resources. A particularly sensitive issue relates to allocation of available vaccines. One nurse in Halifax anticipated her role in future outbreaks by saying, "You're probably going to get me coming to work if I know my kids are vaccinated". Another nurse in Ottawa stated, "We need preventive medication and vaccines for the whole family, not just the healthcare workers." Nurses in SARS-affected hospitals discussed how, "Supplies should be sent home to protect the family—[during SARS] some staff took supplies home to protect their families." Given the limited resources in hospitals, this issue must be addressed, with stress from role conflict at its core.

Theme 4—Appropriate Mechanisms to Enable Communication between Nurses and their Families during Long Shifts or Quarantine
An additional emergent theme related to organizational and social supports to address role conflict during large-scale outbreaks pertained to maintaining communication with family while quarantined or working long shifts. A nurse in Ottawa anticipated the impact of quarantine and said, "If you are infected and told you can go home, but you can't because you have an immuno-compromised child, how are you going to stay in touch with your family? This is why webcams were invented". Participants in Vancouver expressed a need for, "real-time communication for nurses and their families—have telephone and Internet—to facilitate communication to help workers keep in touch with family and not feel emotionally cut-off".

Discussion
In preparation for any disaster, jurisdictional planners, organizations, and healthcare professionals must anticipate high levels of stress and fatigue among healthcare staff. Employees must arrange caregiving not only for children, but also dependent adults. They may feel anxious about needing care for their pets if they become quarantined at work, or they are required to remain there for an extended period of time.[22] This is a realistic scenario given current human resource shortages, which will be exacerbated in times of crisis, particularly as an outbreak expands. Projections for pandemic influenza include 20–25% of the work force being absent due to personal illness at any given point in time.[23] However, these are modest projections, as they do not take into account absenteeism due to illnesses of other family members. The fact that nurses tend to be the principal family caregivers increases the likelihood of absenteeism and conflict.[9,24] This shortage would have a negative impact on response capacity for emergency departments and hospital wards overflowing with patients during a pandemic.

In addition to the issue of family caregiving, another important aspect of emergency planning relates to the provision of priority vaccinations for the families of healthcare professionals during a pandemic, as highlighted in the Canadian Pandemic Influenza Plan.[25] This is a contentious issue that requires much debate among public health officials and emergency planners. The definition of "family" is part of the ethical debate. Based on the findings from the current study, this issue requires further consideration, as it may impact the well being of the healthcare workforce, as well as their willingness to accept high-risk assignments during an outbreak.

During an outbreak, when staff are required to work long hours, or possibly undergo quarantine, emotional stress for both the nurses and their families can be lessened with the ability to communicate with one another when they are unable to be together in person.[26,27] During the SARS outbreak, feelings of uncertainty due to quarantine restrictions were exacerbated by the isolation from family, friends, and co-workers.[26] Nurses identified trustworthy information, financial compensation, institutional and personal support mechanisms for obtaining food, and necessities, such as masks and gloves to protect family members at home, as effective means to facilitate coping.[29]

During a large-scale outbreak, there is the potential for negative stress to spillover from work to home and vice versa.[24] This chronic stress could be ongoing for months or years depending on the duration and number of waves of the outbreak. Chronic strain over this long time period is likely to impact the health of the nursing workforce. Of

paramount concern is the current level of strain already experienced by nurses in the pre-disaster phase.[28,29] This creates a situation in which the nursing workforce is preparing for the next outbreak in an already weakened state. The nurses in these focus groups made frequent references to the need for long-term health and human resource support. They expressed concern about the current state of the healthcare workforce, and worry about how a large-scale outbreak would strain the system, when so many staff already face a chronic, excessive workload that puts them at risk for burnout.[23]

Infectious disease outbreaks present the public healthcare system with opportunities to examine specific limitations and strengths for disaster response and management. Although the Canadian SARS outbreaks were limited to Toronto and Vancouver hospitals in terms of actual confirmed cases, they heralded a "call to action" and generalized mobilization of the workforce. This resulted in the formation of the Public Health Agency of Canada (PHAC) to centralize research, investigations, monitoring, and management of endemic and emerging public health issues. It is anticipated that other infectious disease agents have the potential to significantly impact communities, producing both active disease and a range of psychosocial impacts, such as stress, fatigue, depression, and caregiver burnout. A prolonged infectious disease outbreak in urban and rural communities would severely test the response capacity of local and national jurisdictions and require action from the community itself.[30]

A recent analysis of emergency plans across several jurisdictions in Canada detailed the increased focus on emergency preparedness, recognizing the need for extra human resources and equipment/supplies during a large-scale outbreak.[31] These findings are consistent with the announcement from the Canadian federal government to dedicate more than $5 million to pandemic preparedness initiatives such as vaccine development, epidemic control, and the mental health of healthcare practitioners during a pandemic situation.[32]

Despite this proactive approach to emergency planning, many gaps in the psychosocial needs of healthcare professionals must be addressed, particularly for nurses, who represent the majority of health professionals. Emergency preparedness must address whether nurses are willing to respond during an outbreak, as well as their rights to refuse work. The role conflict experienced by the nurses in the current study also was evident in a study by Hsu and Kernohan, in which family duty was reported as an important reason given by nurses who were intent on leaving their jobs. Particular challenges include finding child care when a child is sick.[22] Since caregiving still is carried out primarily by women, despite the "loosening of traditional gender expectations", it follows that, "for women in caring occupations, the emotional labor of attending to others at home and on the job may contribute to an overwhelming sense of caregiving around the clock".[24]

Social support from within the workplace (supervisors, co-workers, organization) as well as non-work social networks (in particular, spouses and family), is critical to helping buffer the effects of stress to assist in managing difficult role conflicts. This point cannot be overlooked if hospital administrators want nurses to be healthy and willing to perform their roles as first receivers during large-scale outbreaks. The integration of work and family responsibilities should be an important objective within the healthcare system that requires specific attention.[33]

Limitations

Several limitations must be considered when interpreting the results of this study. This study was limited to four cities across Canada. Vancouver and Toronto were included because of the documented SARS cases. Ottawa had heightened infection control protocols during the SARS outbreak because of its proximity to Toronto and, as the capital of Canada, Ottawa would be expected to have unique problems during a large-scale outbreak due to the concentration of government. Halifax was included as a maritime city representing the eastern region of Canada. This city had unique experiences with Hurricane Juan and White Juan (an extreme winter blizzard the same year). Therefore, Halifax nurses were positioned to provide insight into preparedness needs during all types of disasters. While this selection of cities facilitated geographic diversity of the experiences of Canadian nurses, this does limit the ability to compare the findings by province.

For the sessions included in this study, there was agreement among the research team that saturation of the data was achieved, and the themes were similar across the provinces. Specific demographic information about participants was not collected, thus it is not possible to determine whether opinions varied across age groups and years of experience. Using the structured interview matrix technique to conduct the focus groups involves merging the data from the groups as the session progresses. Free expression is encouraged by facilitating anonymity, so the data do not link back to a specific individual and their demographics, but instead to the group as a whole.

Conclusions

Front line nurses experience role conflict as part of their profession, which is further exacerbated during periods of personal stress, work-overload, or crisis. Large-scale outbreaks, such as SARS and pandemic influenza, can be expected to produce combinations of all three of these triggers, creating significant role conflict for these important members of the response community. The research findings are consistent with the literature that nurses anticipate and have experienced work-family and family-work conflict, affected by the levels of available resources and social support mechanisms in place within their healthcare organizations. Nurses who had experienced healthcare crises (SARS, hurricanes, blizzards) were able to identify the social supports they felt were essential for their continued effective service as front-line members of the response community during a large-scale outbreak. Furthermore, the nurses in this study were able to anticipate which needs for social supports would become magnified during a future large-scale bio-disaster.

This study points to the urgent need and the social imperative for decision-makers and policy planners at the micro-, meso-, and macro-policy levels, to consult with front-line nurses and other healthcare workers about planning and emergency preparedness for infectious disease

outbreaks. These findings highlight serious issues with respect to planning and gender sensitive supports during disasters to assist nurses with family caregiving roles and responsibilities. Regardless of whether future outbreaks are a result of natural or man-made events, such as bioterrorist threats, it is critical to acknowledge the gaps in policy and practice, and to help put in place comprehensive strategies and investments for managing and mitigating infectious disease outbreaks.

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