Factors that Influence Medical Reserve Corps Recruitment

Kristine Qureshi, RN, CEN, DNSc;[1] Robyn M. Gershon, MS, DrPH;[2]
Francisco Conde, RN, PhD[1]

1. School of Nursing and Dental Hygiene, University of Hawaii at Manoa, Honolulu, Hawaii USA
2. Columbia University, Mailman School of Public Health, New York, New York USA

Correspondence:
Kristine Qureshi, RN, CEN, DNSc
Associate Professor
School of Nursing and Dental Hygiene
University of Hawaii at Manoa
Webster Hall, Room 444
2528 McCarthy Mall
Honolulu, HI 96822 USA
E-mail: kqureshi@hawaii.edu

Keywords: disaster; disaster volunteer; Medical Reserve Corps; emergency volunteer; disaster preparedness; surge capacity

Abbreviations:
MD/DDS = physician/dentist
MRC = Medical Reserve Corps

Web publication: 20 June 2008

Abstract
The Medical Reserve Corps (MRC) is a key strategy used in the United States to assure an adequate surge capacity healthcare workforce for response to disasters. A survey of Hawaiian healthcare providers (n = 1,057) was conducted to identify factors that influence interest, ability, and willingness to join the MRC; 468 (44.3%) healthcare providers responded. Overall, females were more likely to demonstrate an interest in joining the MRC, while physicians and dentists reported lower levels of ability and willingness, in addition to a lower level of interest in joining the MRC than the other professional groups. The most important motivating factor in joining the MRC was altruism and the ability to help one's own community. Respondents reported a number of factors that would influence their decision to join or remain a MRC member. These included: (1) time commitment required; (2) MRC organization and management; (3) provision of MRC-sponsored training or education sessions and continuing education credits; (4) concerns regarding the safety of family members during a disaster; (5) professional liability protection for work performed during MRC operations; and (6) competing personal obligations. Strategies targeting these factors probably will be most effective in recruitment and retention of MRC volunteers as well as members of other public health surge capacity volunteer groups.

Qureshi K: Factors that influence Medical Reserve Corps recruitment. ***Prehospital Disast Med*** **2008;23(3):s27–s34.**

Introduction

During the past seven years, the United States, and many other nations of the world have experienced a series of catastrophic events. In addition to significant loss of life and property, these events resulted in large numbers of displaced persons, marked disruption of societal functions and services, and threats to public health. Some of these disasters were human-caused (e.g., the 11 September 2001 attacks on the US World Trade Center and the Pentagon, as well as the anthrax bioterrorism events in 2001), while others were caused by natural hazards, including the multiple outbreaks of severe acute respiratory syndrome (SARS) in 2003, the tsunami in South East Asia in 2004 (with more than 250,000 fatalities), and the avian influenza outbreaks in Southeast Asia in 2005 and 2006.[1] The destruction of parts of New Orleans in 2005 is cited as a combination of natural and technological hazards; although Category-4 Hurricane Katrina was an event due to a natural hazard, the city actually was severely damaged as a result of the failure of the levy system.[2] Although each of these disasters can be attributed to a different cause, they all had in common the immediate need for a significant increase in community and public healthcare services for the affected communities and populations. This sudden increase in needs frequently is referred to as "healthcare surge capacity needs."[3]

In general, communities initially will be able to manage the response to catastrophic events through their local governments. In the US, this means that each local community is expected to have self-sustaining abilities, and be able to address its own surge capacity needs for a minimum of 72 hours, as it generally takes at least that long for federal assets from the US Federal Emergency

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press

Management Agency (FEMA) to be requested, mobilized, and delivered to the needy communities.[4,5]

The series of events that occurred in the US in 2001 underscored the danger in relying on resources that are external to the community for rapid public health response. At that time, the US Federal government recognized that the nation lacked the ability to mobilize public health services quickly during times of surge capacity needs. Consequently, considerable resources were provided to state and local governments, with the goal of improving public health disaster preparedness and enhancing overall public health surge capacity capabilities. One strategy to achieve this goal was the formation, in 2002, of the US Medical Reserve Corps (MRC). The MRC is a local, community-based, voluntary organization composed of healthcare professionals and other citizens who donate their time to: (1) prepare for and respond to local emergencies that have an impact on public health; and (2) assist with promoting healthy lifestyles and public health throughout the year. The stated mission of the MRC is to assure adequate numbers of healthcare workers and other types of responders who are competent to work in an organized effort to respond to any type of local catastrophe that impacts the health of the public.[6,7]

The US National Response Plan calls for mobilization of local MRC units to augment other local disaster response assets to address immediate needs during a disaster.[8] In the US, MRC units may be called upon to assist with activities such as providing health services in disaster shelters for medically fragile or vulnerable groups, staffing mass-distribution clinics where vaccinations or prophylactic medications are distributed to large populations, assisting with surveillance or case investigation activities, collecting specimens, and providing home care visits during quarantine initiatives. Today, there are more than 700 MRC units across all 50 of the United States and reliance on these units to provide adequate public health surge capacity is increasing.[6]

To assure adequate numbers of volunteers, some MRC units devote considerable resources toward recruitment and retention of members. Because of the public health focus of the MRC, healthcare professionals often are the key target groups of this recruitment. Therefore, it is important to understand the factors that influence a healthcare provider's decision to volunteer for the MRC and remain an active member of the organization.

Surprisingly few studies have evaluated specifically the motivation of healthcare providers to volunteer and remain engaged in a voluntary disaster response or relief organization. The few studies that have been conducted focused on physicians, nurses, and Red Cross workers. Consistently, these studies found that volunteers were motivated by their desire to help others and the community, their need to be useful and feel needed, and the potential for them to become self-fulfilled.[9–12] Factors that have been shown to serve as barriers for recruitment or retention include concerns for personal safety and economic solvency.[9,11,12]

Other studies have examined paid healthcare workers and their motivations and concerns regarding reporting to work during a disaster. Most of these studies found that fear and concern for safety of self and family, as well as personal obligations, were likely to serve as barriers to reporting to work during these events.[13–19]

The aim of this study was to identify the factors that influence the decision of healthcare workers to join and remain active as a member of a MRC. This study was conducted in Hawaii, which has a long history of experience in disaster preparedness and response due to its geographical isolation, geological activity, and severe weather patterns. Hawaii has experienced volcanic eruptions, flooding, wild fires, dam ruptures, tsunamis, earthquakes, and other catastrophic events. More recently, public health preparedness efforts have focused on pandemic influenza and other potential disasters that would affect the health of the public.

Methods

Utilizing *Herzberg's Theory of Motivation* and *Maslow's Hierarchy of Needs* to develop an interview guide, a series of key informant interviews and focus groups were conducted among the different categories of healthcare professionals for informing the development of the survey tool.[20–22] Input also was solicited from two state of Hawaii District Health Officers and their staff. A survey was developed and self-administered to a random sample of healthcare professionals representing 11 professional groups (Table 1) across the state of Hawaii. The sample was drawn from the Hawaii Department of Commerce and Consumer Affairs master database of licensed healthcare professionals in the state.

To facilitate detailed analysis and reporting, professional groups were further categorized as follows: physician and dentist (MD/DDS); registered nurse, licensed practical nurse, and advanced practice nurse (nurse); and physician assistant, emergency medical technician, podiatrist, dental hygienist, optometrist, and pharmacist (allied health).

The 2-page, 15-item survey instrument began with questions related to demographics and prior awareness of the MRC program. Because it was assumed that many of the respondents would not be aware of the MRC, all respondents were provided a brief summary of the MRC program (Appendix) and asked a series of questions related to joining and remaining in the program. Items addressed topics such as level of interest as well as ability and willingness to join the MRC; each response was rated on a scale of 0–4, with 0 = none, 1 = low, 2 = moderate, 3 = high, and 4 = very high. Open-ended questions addressed perceived personal benefits and drawbacks to joining, and best days and times for attending MRC meetings. Another survey section asked respondents to rate the level of importance of seven key MRC organizational operations items and eight training topics; responses were rated using a five-point Likert-type scale ranging from 0 = not important at all, to 4 = extremely important. Finally, respondents were asked to describe the single most important issue in deciding to join the Hawaii MRC, to indicate whether or not they thought their professional colleagues would join, and to provide the reasons for both.

The University of Hawaii at Manoa Institutional Review Board reviewed and approved the study and its procedures. (Copies of the survey instrument may be obtained by contacting the corresponding author.)

The Hawaii Department of Health assisted with procurement of the master database of health professionals,

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press

1. Advanced Practice Registered Nurse
2. Dentist
3. Dental Hygienist
4. Emergency Medical Technician
5. Licensed Practical nurse
6. Optometrist
7. Pharmacist
8. Physician
9. Physician Assistant
10. Podiatrist
11. Registered Nurse

Qureshi © 2008 Prehospital and Disaster Medicine

Table 1—Professional healthcare provider sub-groups of respondents

which contains each individual's name, address, and professional discipline. The database then was stratified by the 11 sub-groups, and within each group, each individual was assigned a number in successive order; using a random table of numbers, a proportionate random sample was selected from each sub-group. For professional groups that had few members, over-sampling was done. Each file was assigned a code number; this number was placed on the return envelope. The survey was mailed to each recipient in a packet containing an informational cover letter, the survey, a return envelope with return postage, and a pen. Each survey returned was separated from its envelope; the code number on the envelope was used to delete the file from the active survey list. After three weeks, a second survey was sent to individuals who remained in the active file.

All data were processed using SPSS 16.0 (SPSS, Inc., Chicago, IL). Chi-square and one-way analysis of variance (ANOVA) were used to describe the sample and reported interest, ability, and willingness to join the MRC. A between-subjects design was used to examine interest, ability, and willingness by gender and ethnicity as well as among the three professional groups (MD/DDS, nurse, and allied health).

All open-ended question qualitative data were reviewed and an initial round of inductive, latent, thematic analysis was conducted by the first investigator. The data again were reviewed and re-grouped into major themes and indigenous concepts were identified. A 10% sample from each of the 11 professional categories randomly was selected and independently coded by a second investigator using the same procedures. The coding between the two investigators was compared and a kappa (k) statistic was computed to assess the level of agreement. The k-statistic for each question ranged from 0.76 to 0.96, indicating a high level of internal reliability.

Results

A total of 1,123 surveys were mailed; 66 were returned as undeliverable (postmarked address unknown), leaving a total of 1,057 surveys delivered to the intended individuals. Four hundred sixty-eight (468) healthcare professionals completed and returned the survey, for an overall response rate of 44.3%.

Responder Profile

The majority (n = 297, 64.4%) of the respondents were female (Table 2). The response rate varied by professional group with the highest response rate from the allied health and nurse group (45%), and the lowest response rate from the MD/DDS group (41%). The majority of respondents (53.5%) self-identified as whole or part Asian, while the remainder identified themselves as whole or part: Caucasian (38.7%); Hawaiian (5.3%); Hispanic (1.9%); or African-American (0.6%). The average age of the male responders was 49.8 ±11.6 years (±1 standard deviation) while the average age of the females was 47.6 ±12.2 years. (Table 2) For the entire sample, the mean value of the ages was 48.3 ±12.0 years with a range of 24 to 80 years of age.

Prior Knowledge of the MRC, Level of Interest, Ability, and Willingness to Join

Only 8% (n = 37) of the respondents reported having any *prior knowledge* of the MRC. The overall average level of interest in joining the MRC was moderate to high (2.6 ±1.2). The average overall *willingness* to join the MRC also was moderate to high (2.3 ±1.2), while the average *ability to join* was low to moderate (1.9 ±1.2).

Interest, Ability and Willingness to Join by Gender, Race, Ethnicity, and Professional Group

The mean scores and analysis of variance results for interest, ability, and willingness to join the MRC among the MD/DDS, nurse and allied health groups are listed in Table 3. Because the F-statistic was significant for differences between professional groups, post-hoc analysis was conducted using Scheffe tests.

Interest—On average, females in all groups reported a higher level of interest compared to males. The MD/DDS group reported a lower mean level of interest (p = 0.000) compared to the nurse and allied health groups 2.1 ±1.2 vs. 2.7 ±1.3 and 2.8 ±1.2, respectively. There were no statistically significant differences in interest between the racial/ethnic groups studied.

Ability—The MD/DDS group reported a lower mean level (p = 0.002) of ability to join the MRC compared to the nurse and allied health groups 1.5 ±1.0 vs. 2.0 ±1.2, and 2.0 ±1.1, respectively. There were no statistically significant differences in the ability to join the MRC between the different genders and racial/ethnic groups.

Willingness—On average, the allied health group was more willing (p = 0.01) to volunteer in the MRC than the MD/DDS and nurse groups, (2.5 ±1.1 vs. 2.0 ±1.1 and 2.3 ±1.2, respectively), while females in all groups indicated a higher level of interest for joining compared to males (2.7 ±1.1 vs. 2.4 ±1.0) (p = 0.01; Table 3). There were no statistically significant differences in reported willingness to join the MRC between any of the racial/ethnic groups.

Perceived Benefits and Drawbacks of Joining

Based upon qualitative analysis of the open-ended questions, the most commonly cited benefit for joining the MRC was *personal satisfaction from being able to give back or help one's community*; this was followed by *having an opportunity for additional disaster training*. Finally, the *chance for*

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press

	n (%)	Mean Age ±SD (years)	Gender n (%)	
			Male	Female
MD/DDS	82 (17.5)	50.3 (±11.8)	57 (69.5)	25 (30.5)
MD	39 (8.3)	49.0 (±11.7)	23 (28.0)	16 (19.5)
DDS	43 (9.2)	51.5 (±11.9)	34 (20.7)	9 (3.0)
Nurse	175 (37.4)	49.4 (±12.2)	21 (12.0)	152 (87.4)
RN	89 (19.0)	49.5 (±13.1)	12 (6.9)	77 (44.0)
APRN	48 (10.3)	50.0 (±10.2)	3 (1.7)	45 (25.7)
LPN	38 (8.1)	48.6 (±12.6)	6 (3.4)	30 (17.7)
Allied Health	211 (45.1)	46.7 (±11.8)	86 (40.8)	120 (57.3)
Physician Assistant	49 (10.5)	47.2 (±11.1)	22 (10.4)	24 (11.4)
EMT	33 (7.1)	43.6 (±7.6)	22 (10.4)	10 (4.7)
Podiatrist	18 (3.8)	48.1 (±11.2)	12 (5.7)	6 (2.8)
Dental Hygienist	49 (10.5)	45.5 (±11.7)	2 (0.9)	46 (22.3)
Optometrist	19 (3.8)	50.3 (±12.8)	11 (5.2)	7 (3.3)
Pharmacist	44 (9.4)	47.9 (±14.6)	17 (8.1)	44 (12.8)

Qureshi © 2008 Prehospital and Disaster Medicine

Table 2—Number, age, and gender of respondents by professional group

Item	Profession	Mean Score* ±SD	df	*F*	*p*
Interest	MD-DDS	2.1 ±1.2	2	10.086	0.000
	Nurse	2.7 ±1.3			
	Allied Health	2.8 ±1.2			
Ability	MD-DDS	1.5 ±1.0	2	6.158	0.002
	Nurse	2.0 ±1.2			
	Allied Health	2.0 ±1.1			
Willingness	MD-DDS	2.0 ±1.1	2	4.286	0.014
	Nurse	2.3 ±1.2			
	Allied Health	2.5 ±1.1			

Qureshi © 2008 Prehospital and Disaster Medicine

Table 3—Analysis of variance between professions for interest, ability, and willingness to join the MRC
*Scale: 0 = none, 1 = low, 2 = moderate, 3 = high, and 4 = very high

networking opportunities and ability to enhance one's curriculum vitae were other themes that emerged.

The most frequently reported drawback to joining the MRC was related to the *general availability of time*, as well as time away from family. Other reported drawbacks were *conflicts with job responsibilities; concern for the safety and health of family, potential for lost wages, and the potential for a dysfunctional MRC that would waste their time.*

Most Important Issues Regarding Making a Decision to Join the Hawaii MRC

In other open-ended questions, responders most frequently reported that the single most important issue in making the decision to join the MRC was *the time commitment involved.* The next most frequently cited issues were: *how the MRC was operated* (efficiency and equal opportunities to participate); *the availability of continuing education credits, safety during disaster response, competing personal obligations, meeting locations, and recognition for contributions to the organization.*

Opinions Regarding their Professional Colleagues Joining the MRC

Slightly more than half of the respondents (n = 256, 54.7%) thought that their colleagues would join the MRC.

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press

Activity/Policy	Mean Score* ±SD
Liability protection	3.5 ±0.96
Educational session	3.1 ±1.01
Families receive services first, i.e., vaccines	2.4 ±1.45
Continuing education credit	2.4 ±1.38
Social activities	1.3 ±1.14
Networking opportunities at meetings	1.9 ±1.23
Food served at meetings	1.0 ±1.13

Qureshi © 2008 Prehospital and Disaster Medicine

Table 4—Rated importance of Medical Reserve Corps activities and policies
*Scale: 0 = none, 1 = low, 2 = moderate, 3 = high, 4 = very high

Common reasons for thinking their colleagues would join the MRC included: (1) they thought their colleagues knew it was the right thing to do; (2) the community needed their help; and (3) most would enjoy helping others. Common reasons cited for thinking their colleagues would not join the MRC included: (1) a general lack of time; (2) competing obligations; and (3) their colleagues' skills would not be useful for the MRC program.

Best Days of the Week and Time of the Day for Meetings

Respondents were asked to select the two best days and times for attending MRC meetings. The responses were somewhat evenly divided among Monday through Saturday, while Sunday was the least preferred (Monday, 14.4%, Tuesday, 15.9%, Wednesday, 17.1%, Thursday, 20.2%, Friday, 14.7%, Saturday, 16.4%, and Sunday, 1.4%). The most frequently cited best times for meetings were the morning hours (30.3%), followed by evening hours (24.1%).

Important Strategies for MRC Operations

Respondents rated the importance of a variety of key MRC operational issues and activities using a 5-point Likert Scale, (with 0 = not important, 1 = somewhat important, 2 = important, 3 = very important, and 4 = extremely important). Of seven key activities listed, liability protection and education sessions were rated highest (mean = 3.5 ±0.96 and 3.1 ±1.01, respectively). The rated MRC activities in their order of reported importance are listed in Table 4.

Preferred Training Topics

Respondents rated the importance of a variety of MRC training topics using the same 0–4 Likert scale (Table 5). There was very little variation among the topics with regard to importance with scores ranging from 3.1 ±0.96 to 3.5 ±0.78; all of the training topics were considered to be relatively important.

Discussion

The MRC is a US strategy for assuring an adequate workforce during public health surge capacity needs. In this study, prior knowledge of the MRC among healthcare professionals was quite low. At the time of the survey, no marketing had been conducted in the state of Hawaii to inform or recruit volunteers. These findings illustrate the importance of and necessity for MRC marketing programs.

Females reported a higher level of interest in joining, compared to males. This finding is reflected in the composition of the existing Hawaii MRC, in which 75.5% of its 350 volunteers are female. (Personal Communication, T Nash, February 2008). Overall, the allied health personnel and nurses groups reported more interest, willingness, and ability to participate in the MRC than did the MD/DDS respondents. Perhaps this is related to the fact that physicians and dentists frequently work more than 40 hours per week, in addition to being on call.[23] Such work time requirements likely preclude available time for MRC volunteer work.

The findings regarding perceived benefits and perceived drawbacks are useful for planning MRC recruitment and operational strategies. Marketing messages should stress the personal satisfaction to be gained and the training and networking opportunities available to members (most MRC units offer some type of a training program at each meeting). The time commitment required, the time away from family, conflict with work obligations and operation of the organization were recurrent drawbacks expressed by the respondents in this survey. These findings suggest that MRC meetings should be focused, be of short duration, and be well organized with a clear sense of purpose. Considering the importance of time for potential volunteers, the MRC may want to specifically target retirees, as they may not have the time conflicts that occur with employed individuals, and retirees often do not have some of the family obligations (i.e. young child care) that are associated with younger adults. Another recruitment strategy to consider is the use of innovative training methods, such as web-based programs. This may be beneficial in minimizing the number of meetings or time away from family or work, and thus, may appeal to the younger volunteer.

Furthermore, it is important that all MRC members feel that their contributions are valuable, that leadership in the organization is balanced and that all members have an opportunity to participate in a meaningful way. Slightly more than half of the respondents in this study reported that they thought that their colleagues would join the MRC out of a sense of obligation or because it is the right thing to do. This response is consistent with what respondents reported for themselves. Therefore, the opportunity to fulfill an obligation to one's community should be reinforced during recruitment, as well as during MRC activities. Strategies such as public recognition for MRC services provided are likely to reinforce pride in belonging to the group and foster a sense of fulfillment.

Preferred MRC operational activities were identified clearly by the respondents. The high importance of liability protection underscores the value of providing this assur-

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press

Training Topics	Mean Score* (+SD)
Triage	3.5 ±0.78
Weather events	3.4 ±0.84
Geological events	3.4 ±0.86
Epidemics	3.4 ±0.82
How the MRC operates	3.4 ±0.87
Overview of public health role in disasters	3.3 ±0.88
Weapons of mass destruction	3.3 ±0.91
Introduction to the Incident Command System	3.1 ±0.96

Qureshi © 2008 Prehospital and Disaster Medicine

Table 5—MRC training topics in order of rated importance *Scale: 0 = none, 1 = low, 2 = moderate, 3 = high, 4 = very high

ance for the professional MRC volunteer. Education and/or training at each MRC meeting highlights the desire of volunteers to utilize their valuable personal time wisely. The desire for volunteers' families to receive services first, in the event that the member is activated for response, is consistent with the findings of others; overall willingness to report to duty during a disaster has been found to be influenced by fear and concern for the safety of oneself and their family.[13–19] The MRC should consider (to the extent possible) how they can assure the safety of the MRC volunteers' families when the member is activated for disaster duty. For example, the MRC member and their family may be offered priority vaccination during an epidemic for which a vaccine is available, or the MRC member may be encouraged to bring his or her family to the specific disaster shelter where they are assigned to work in the event their own family is displaced.

The fact that social activities and serving food at meetings were ranked lower than other activities illustrates the importance of having meaningful MRC activities and meetings that are focused on fulfilling the mission of the organization. The findings of this study indicate that a prerequisite for MRC member recruitment and retention is a well-run organization.

There are several limitations to this study. The entire sample was drawn from the state of Hawaii, which is geographically isolated, and in which the majority of the population is Asian, while the Caucasian population is a minority. As a community, there is a strong sense of geographical isolation, which creates a need for community-based self-sufficiency. Thus, Hawaii may not be representative of the nation as a whole. Prior to the survey, extremely limited MRC marketing and recruitment had been conducted in the state, as evidenced by the low level of knowledge of the organization. However, this is most likely not representative of other parts of the nation where the MRC has been widely marketed. Following the second round of surveys, Hawaii's Department of Health began a statewide MRC marketing and recruitment campaign. Because of this, the planned third round of surveys was cancelled, as respondents in that group would have had a different baseline level of knowledge, which could have influenced the responses. Thus, the inability to conduct a third round of mailings probably contributed to the overall low response rate. Finally, this survey provides information regarding people's intentions and feelings. There is the possibility that respondents provided what they considered to be socially desirable responses, rather than what they truly think or, importantly, how they actually will respond.

Conclusions

Since the most important issues identified for joining the MRC included: time commitment, manner in which the MRC was organized and operated, training sessions, liability protection, and safety of family, MRC organizers should consider the following: (1) keep meetings relatively short and focused; (2) ensure that the MRC is operated in an efficient, organized manner, with all qualified members eligible to serve in leadership roles; (3) consistently provide a focused training session at each MRC meeting; (4) provide liability protection for all volunteers; (5) assure that, when needed, disaster services are provided to the families of MRC members so that the volunteer is more able and willing to report for volunteer duty; and (6) consider specific marketing to retired persons, as they are likely to have more time and most certainly have valuable experience to offer. Finally, recruitment marketing strategies should appeal to the potential volunteer's sense of responsibility and the personal satisfaction to be gained from helping members of one's community.

Understanding what motivates healthcare workers to join and remain as an active member is essential for building an MRC organization that can support public health during surge capacity needs. This study should be replicated in other areas of the nation where there is an existing higher level of awareness about the organization and where the demographics more closely reflect the general population of the nation as well as in other countries that utilize volunteers for public health surge capacity response. In addition, the factors that motivate non-healthcare workers to volunteer for an organization such as the MRC would be useful to examine. In summary, these findings provide guidance for the recruitment and retention of MRC members and other disaster volunteer organizations.

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press

References

1. World Health Organization (WHO): Health action in crisis. Available at http://www.who.int/hac/crises/en/index.html. Accessed 18 Feb 2008.
2. National Geographic Society: New Orleans levees not built for worst case events. Available at http://news.nationalgeographic.com/news/2005/09/0902_050902_katrina_levees.html. Accessed 18 Feb 2008.
3. Kaji A, Koenig KL, Bey T: Surge capacity for healthcare systems: A conceptual framework. *Acad Emerg Med* 2006;13(11):1157–1159.
4. United States Search and Rescue Task Force: Community Emergency Response Team Program. Available at http://www.ussartf.org/fema_cert_program.htm. Accessed 19 Feburary 2008.
5. Lister S: The public health and medical response to disasters: federal authority and funding. Congressional Research Service. Library of Congress, Washington DC. Available at www.fas.org/sgp/crs/misc/RL33579.pdf#search=%22The%20public%20health%20and%20medical%20response%20to%20disasters%3A%20federal%20authority%20and%20funding%22;2006. Accessed 10 Feb 2008.
6. Office of the US Surgeon General: Medical Reserve Corps: 2008. Available at http://www.medicalreservecorps.gov/HomePage. Accessed 15 February 2008.
7. Marna LT, Hoard L, Tosatto R: Medical Reserve Corps: Strengthening the public health and improving preparedness. *Disast Manag Response* 2005;3(2):48–52.
8. US Department of Homeland Security: National Response Plan. Available at www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml. Accessed 15 February 2008.
9. Anderson JC, Moore LF: The motivation to volunteer. *Journal of Voluntary Action Research* 1978;7:120–125.
10. Liao-Troth M, Dunn CP: Social constructs and human service: Managerial sense making of volunteer motivation. *Voluntas* 1999;10:345–361.
11. Bjerneld M, Lindmark G, McSpadden LA, Garrett MJ: Motivations, concerns and expectations of Scandinavian health professionals volunteering for humanitarian assignments. *Disaster Management and Response* 2006;4(2):49–58.
12. Hackl F, Pruckner GJ: Demand and supply of emergency help: An economic analysis of Red Cross Services. *Health Policy* 2006;77:326–338.
13. Qureshi K, Gershon RRM, Sherman MF, Straub T, Gebbie E, McCollum M, Erwin MJ, Morse SS: Health care workers' ability and willingness to report to duty during catastrophic disasters. *Journal of Urban Health* 2005;82(3):378–388.
14. Qureshi K, Gershon RRM, Hogan E, Giordano L, Soto J: EMS preparedness for response to chemical and biological terrorism. In: 46th Annual American Biological Safety Association National Conference. Philadelphia, PA;2003.
15. Gershon RRM, Qureshi K, Sepkowitz K, Gurtman A, Galea S, Sherman M: Clinicians' knowledge, attitudes and concerns regarding bioterrorism after a brief educational program. *Journal of Occupational and Environmental Medicine* 2004;46(1):77–83.
16. Qureshi K, Merrill JA, Gershon RRM, Calero-Breckheimer: Emergency preparedness training for public health nurses: A pilot study. *Journal of Urban Health* 2002;79(3):413–416.
17. Smith E, Morgans A, Qureshi K, Archer F, Burkle F: Paramedics' perceptions of risk and willingness to work during disasters. *Australian Journal of Emergency Management* 2008;23(2):13–19.
18. Smith E: Emergency health care workers willingness to work during major emergencies and disasters. *Australian Journal of Emergency Managment* 2008;23(2):13–19.
19. Lanziloti S, Galanais D, Leoni N: Hawaii medial professionals assessment. *Hawaii Medical Journal* 2002;61:162–173.
20. Gawel JE: Herzberg's theory of motivation and Maslow's hierarchy of needs. Online 1999. Available at http://pareonline.net/getvn.asp?v=5&n=11. Accessed 22 September 2007.
21. Stewart DW, Shamdasani PN: *Focus Groups: Theory and Practice*. Newbury Park, CA: Sage Productions;1990.
22. Scholtes PR, Joiner BL, Streibel BJ: *The Team Handbook*. 2d ed. Wisconsin: Oriel Inc;1996.
23. Dorsey ER: Influence of controllable lifestyle on recent trends in specialty choice by US medical graduates. *JAMA* 2003;290(9):1173–1178.

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press

Appendix—Summary description of the Medical Reserve Corps presented to each survey participant

The MRC is a national network of locally based citizens who volunteer to strengthen the public health system in their local community. While the focus of the MRC is to assure adequate public health response capacity during disasters (i.e., assist with large vaccination campaigns, staff telephone hotlines during an epidemic, or provide care in disaster shelters), the organization also assists with other large scale public health activities during non-disaster events. Most MRC units meet about four times each year and participate in 1–2 public health campaigns so that the members can train and practice working together. Each MRC meeting usually lasts two hours and includes time for socialization and training.

To assure adequate public health preparedness, the Hawaii Department of Health is establishing MRC units in each of the state counties. All types of health providers are needed, including physicians, nurses, dentists, veterinarians, social workers, podiatrists, optometrists, EMTs, etc.

https://doi.org/10.1017/S1049023X00024067 Published online by Cambridge University Press