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Ready or Not? UConn Extension Disaster and Emergency Preparedness

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Ready or Not? UConn Extension Disaster and Emergency Preparedness

Abstract

We conducted an attitude and opinion survey of UConn Extension personnel regarding workplace and home emergency preparedness. Our primary focus was on cardiopulmonary resuscitation (CPR) and automated external defibrillators (AEDs). Respondents were aware of the benefits of knowing CPR, with a majority having taken a CPR course. Respondents were generally aware of the benefits of knowing how to use AEDs, but only a minority had had AED training. They indicated a preference for home over workplace preparedness training, although they recognized workplace preparedness as important. These findings suggest that emergency and disaster education be focused on home preparedness, which will result in workplace preparedness too.

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Introduction

Everyone faces the potential of emergencies and disasters every day whether they are prepared or not (Kreps & Bosworth, 2007). Accordingly, the federal government developed a National Preparedness Goal and has defined National Preparedness Goal success as "a secure and resilient Nation with the capabilities required across the community to prevent, protect against, mitigate, respond to, and recover from threats and hazards that pose the greatest threats" (U.S. Department of Homeland Security, 2011, p. 1). Formal governmental emergency and disaster response and management education and planning has existed in the United States for about 110 years (Rubin, 2012). Yet as Haddow, Bullock, and Coppola (2014) stated, "Perhaps the most difficult component of emergency management preparedness training is the one that focuses on the general public" (p. 118).

Institutions of higher education are emerging as important actors in disaster preparedness and disaster relief assessment and education (Buschlen & Goffnett, 2013). The Cooperative Extension System has played a role in educating and motivating the public in emergency and disaster preparedness education for several decades

(Black 2012; Cathey, Coreil, Schexnayder, & White, 2007; Wiens, Evans, Tsao, & Liss, 2004), including related to aspects of homeland security (Washburn, 2006). Cooperative Extension has focused on a wide range of disaster and emergency preparedness programmatic areas. These include emergency first aid (Riddick, Gertsch, & Heasley, 1980); families, communities, and business (Warner & Galindo-Gonzalez, 2014); 4-H teen and community preparedness (Black & Powell, 2012); economic assessments in response to disasters (Fannin & Guidry, 2010); business contingency planning (Jepsen, Reshan, & Mann, 2013); farm preparedness and recovery (Marrison, 2009); disasters and communication (Kolich, 2014); and emergency exercise participation (Smith, Black, & Williams, 2012).

Notable is that the Cooperative Extension System institutionalized engagement in disaster education nationwide in 1979, as explained by Koch (1999):

The Extension Disaster Education Network (EDEN) helps CES faculty and staff share information related to emergencies. The informal organization is a model for Extension to develop other interdisciplinary collaborations across state lines and within states to meet needs with minimal investment of time and money. States are invited to join EDEN, and staff and the public are welcome to use the information offered through the cooperative Web site. (Abstract)

Research Purpose

While Extension educators train and prepare their stakeholders for disasters and emergencies, it is important that Extension personnel prepare as well (Teig et al., 2008). Donahue and Tuohy (2006) pointed out that virtually all institutions, including academic ones, are susceptible to "lessons we Don't learn" (p. 1). We suggest that workplace disaster preparedness is regarded as important but that institutions commonly fail to prepare accordingly (Donahue & Fitzpatrick, 2010, 2012).

The University of Connecticut (UConn), including UConn Extension, is no different. Increasing the preparedness of faculty and staff will make more people safe and secure. In January 2015, UConn EDEN reconvened, with one of the four purposes being to improve workplace disaster and emergency preparedness. Included in this preparedness planning was a primary focus on basic life support (BLS) (Smawfield, 2013).

We conducted an attitude and opinion survey of UConn Extension personnel regarding workplace and home preparedness. We did this to assess BLS needs in the Extension workplace, with our primary focus being cardiopulmonary resuscitation (CPR) and automated external defibrillators (AEDs). Our secondary focus was on other forms of preparedness. We first hypothesized that UConn Extension personnel would be receptive to BLS training. We further hypothesized that UConn Extension personnel would be more receptive to learning BLS for family and home than for the workplace. The hypothesized outcome was that Extension personnel would be willing to learn and implement BLS at home, leading to workplace preparedness as an added value (Rontanz, 2007). Our findings will inform UConn Extension and UConn EDEN workplace and home preparedness education, especially concerning BLS, CPR, and AEDs.

Research Methods

We based our survey research methods on current disaster and emergency research science. Too often, preparedness education programs are developed in the absence of a needs assessment and do not incorporate program evaluation outcomes (Few, McAvoy, Tarazona, & Walden, 2014). We developed an online survey using Qualtrics, a commercially available statistical analysis software suite (Qualtrics Research Suite, 2015).

Our overall survey research design followed Dillman's (2000) tailored design for Internet surveys. Our university's institutional review board cleared our human subject research methods following development of a research participant rights protocol.

Survey research questions were developed with guidance from Bradburn, Sudman, and Wansink (2004). We constructed five hypotheses to guide our research:

1. Extension personnel are informed and prepared for other emergencies in the workplace following natural/human-made disasters.
2. Extension personnel are trained in BLS (including CPR and use of AEDs) for emergency situations in the workplace.
3. Extension personnel are informed and prepared for emergencies at home and during travel following natural/human-made disasters.
4. Extension personnel are trained in BLS for emergencies at home and during travel.
5. Extension personnel's BLS training and preparedness for emergencies at home and during travel informs their workplace preparedness.

The survey contained 35 Likert scale questions with five response options that ranged from 1 (*strongly agree*) to 5 (*strongly disagree*), with "Don't care" and "not applicable" as other options. The survey contained three additional (non-Likert scale) questions with the response options "yes," "no," "maybe," "don't know," "don't care," and "not applicable."

UConn Extension administration provided the list of eligible personnel for the survey. We sent the first email survey to all personnel with UConn Extension appointments. Once a participant had returned the survey, we removed that participant from the email list so that he or she would not receive the survey again. There were three mailings total. The appointments included personnel at the eight county offices, the University of Connecticut main campus, and the Avery Point campus. The target audience included Extension administrators and staff, as well as faculty in academic departments (seven) with Extension appointment percentages ranging from 10% to 100%. We started with 137 online surveys and obtained a 45% response rate.

Results

We found that respondents were aware of the benefits of CPR (Table 1), with a majority also having taken a CPR course in the past (Table 2). Only a minority of respondents stated that they thought of themselves as skilled in CPR (Table 1). An interesting finding was that a majority said they had taken a CPR course whereas 34% said they had not. Although respondents were aware of the benefits of an AED (Table 1), only 13% had taken a course on using one (Table 3). Respondents clearly believed that they should know how to perform CPR and use an AED (Table 1).

Most importantly, we found that participants would be willing to take courses in the level of BLS that involves the use of CPR and AEDs and that they would use CPR or an AED if needed (Table 1). They also believed that it is important that an AED be placed strategically at each county Extension center, with only 2% strongly disagreeing that this should occur (Table 1).

Table 1.

Participant Responses to Questions About Cardiopulmonary Resuscitation and Automated External Defibrillators in the Workplace

Question	Strongly agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly disagree f (%)	No. of responses	M^a	SD
1. I am aware of the benefits of my office colleagues and/or me knowing <i>Cardiopulmonary Resuscitation</i> (CPR).	26 (46%)	23 (40%)	5 (9%)	2 (4%)	1 (1%)	57	1.75	.89
2. I am aware of the benefits of my office colleagues and/or me knowing <i>Automated External Defibrillators</i> (AED).	20 (36%)	28 (50%)	5 (9%)	2 (4%)	1 (1%)	56	1.86	.86
3. I am skilled in CPR.	5 (9%)	7 (12%)	14 (24%)	20 (34%)	13 (21%)	59	3.57	1.33
4. I am skilled in the use of an AED.	4 (7%)	2 (4%)	5 (10%)	24 (44%)	19 (35%)	54	4.11	1.34
5. I should know CPR.	27 (45%)	26 (43%)	5 (8%)	0	2 (3%)	60	1.94	1.41
6. I should know how to use an AED.	18 (31%)	29 (50%)	9 (16%)	0	2 (3%)	58	2.05	1.18
7. I am willing to learn CPR if training is provided at my workplace.	27 (45%)	23 (38%)	8 (14%)	0	2 (3%)	60	1.98	1.43
8. If I knew CPR, I would act if needed.	25 (42%)	27 (45%)	6 (10%)	0	2 (3%)	60	1.89	1.18
9. If I knew how to use an AED, I would act if needed.	26 (46%)	21 (37%)	7 (12%)	1 (2%)	2 (3%)	57	1.91	1.26
10. There should be	21 (38%)	20 (36%)	14 (24%)	0	1 (2%)	56	2.24	1.11

an AED strategically placed in my Extension Center.

aLikert scale is 1 = *strongly agree* to 5 = *strongly disagree*.

Table 2.

Participant Responses to the Question "Have You Taken a Course in Cardiopulmonary Resuscitation?"

Response	f	%
Yes	41	66
No	21	34
Maybe	0	0
Don't know/remember	0	0
Total	62	100

Table 3.

Participant Responses to the Question "Have You Taken a Course in the Use of Automated External Defibrillators?"

Response	f	%
Yes	8	13
No	52	84
Maybe	2	3
Don't know/remember	0	0
Total	62	100

The majority of respondents indicated being aware that workplace preparedness for emergencies and disasters could help save their own or someone else's life (Table 4). They were generally uncertain whether their Extension center had emergency preparedness plans, with a majority also unsure whether there were preparedness training courses available to them (Table 4). However, respondents stated a preference for Extension centers having preparedness plans in place and indicated a willingness to participate in emergency and disaster preparedness training for Extension personnel at their Extension centers (Table 4). A minority of respondents had taken a preparedness course or preparedness courses, and a majority (83%) had not (Table 5).

Table 4.

Participant Responses to Questions About Emergency and Disaster Workplace Preparedness

Question	Strongly agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly disagree f (%)	No. of responses	M^a	SD
1. I am aware that workplace preparedness for emergencies/disasters could help save my, or someone else's, life.	32 (54%)	24 (41%)	3 (5%)	0	0	59	1.51	.60
2. I am aware that workplace preparedness for emergencies/disasters could help ease my, or someone else's, life.	31 (54%)	20 (35%)	6 (11%)	0	0	57	1.56	.68
3. I believe that our Extension Center has emergency/disaster preparedness plans.	2 (5%)	3 (8%)	11 (28%)	17 (44%)	6 (15%)	39	3.56	1.02
4. I believe we have emergency/disaster training available for Extension personnel.	3 (8%)	3 (8%)	14 (35%)	14 (35%)	6 (14%)	40	3.43	1.08
5. I believe we should have emergency/disaster preparedness plans for our Extension Center.	17 (29%)	34 (59%)	6 (10%)	1 (2%)	0	58	1.54	.98
6. I believe we should have emergency/disaster preparedness training for Extension personnel in my Extension Center.	19 (33%)	32 (55%)	6 (10%)	1 (2%)	0	58	1.61	.89

7. I would welcome participating in emergency/disaster preparedness training for Extension personnel in my Extension Center.	20 (34%)	28 (48%)	11 (18%)	0	0	59	1.55	.81
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aLikert scale is 1 = *strongly agree* to 5 = *strongly disagree*.

Table 5.
Participant Responses to the
Question "Have You Taken a Course
or Courses in Emergency/Disaster
Preparedness?"

Response	f	%
Yes	6	10
No	50	83
Maybe	4	7
Don't know/remember	0	0
Total	60	100

Participants indicated being aware of the benefits of knowing how to perform CPR and how to use an AED at home (Table 6). Respondents strongly agreed or agreed (combined percentage was always $\geq 90\%$ for each specific question) that they should be trained in CPR and the use of AEDs; no one disagreed (Table 6). We found that participants knew of the importance of CPR/AED preparedness, they welcomed taking the needed courses, and they would implement CPR/AED as needed in their homes, for family, and during travel.

Table 6.
Participant Responses to Questions About Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) Preparedness in the Home

Question	Strongly agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly disagree f (%)	No. of responses	M^a	SD
1. I am aware that CPR can help save a life at my home.	37 (62%)	23 (38%)	0	0	0	60	1.38	.49
2. I am aware that an AED at home can help save a life.	28 (50%)	23 (41%)	5 (9%)	0	0	56	1.92	1.41

3. I would learn CPR knowing it could save a life at home.	31 (53%)	26 (44%)	2 (3%)	0	0	59	1.62	1.01
4. I would learn effective use of an AED knowing it could save a life at home.	29 (52%)	23 (41%)	4 (7%)	0	0	56	1.92	1.52
5. If I were trained and skilled in CPR, I would perform CPR at home if needed.	39 (67%)	19 (33%)	0	0	0	58	1.52	1.14
7. If I were trained and skilled in the use of an AED, I would use it at home if needed.	31 (57%)	20 (37%)	3 (6%)	0	0	54	2.03	1.79

aLikert scale is 1 = *strongly agree* to 5 = *strongly disagree*.

The findings suggest that participants were generally aware that personal, home, family, and travel preparedness for emergencies and disasters could help save their or someone else's life, and they further indicated that they should have relevant preparedness plans (Table 7). However, few indicated that they actually had preparedness plans at home, for family, or for travel (Table 7). The majority would implement emergency and disaster preparedness for themselves, at home, for their family, and during travel if they were trained to do so (Table 7). Respondents indicated a willingness to take preparedness courses that focus on themselves, their homes, their families, travel, and/or Extension centers if the training were provided (Table 7).

Table 7.

Participant Responses to Questions About Emergency and Disaster Preparedness Personally, at Home, for Family, and for Travel

Question	Strongly agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly disagree f (%)	No. of responses	M ^a	SD
1. I am aware that personal, home, family, and travel preparedness for emergencies/disasters could help save my, or someone else's,	29 (52%)	26 (46%)	1 (2%)	0	0	56	1.58	.80

life.

2. I am aware that personal, home, family, and travel preparedness for emergencies/disasters could help ease my, or someone else's, life.	29 (53%)	22 (40%)	4 (7%)	0	0	55	1.63	.86
3. I have emergency/disaster preparedness plans for me, my home, my family, and/or for travel.	3 (5%)	10 (18%)	19 (35%)	19 (35%)	4 (7%)	55	3.20	1.01
4. I believe I should have emergency/disaster preparedness plans for me, at home, for my family, and/or for travel.	21 (38%)	33 (59%)	2 (3%)	0	0	56	1.77	.98
5. I believe we should have emergency/disaster preparedness training for me personally, for home, for the family, and/or for my Extension Center and Extension personnel.	22 (39%)	24 (43%)	9 (16%)	0	0	56	1.55	.89
6. I would welcome taking personal, home, family, and travel emergency/disaster preparedness training for Extension personnel.	25 (45%)	20 (36%)	9 (16%)	1 (2%)	0	55	1.43	.83
7. If trained to do so, I would implement personal, home,	26 (46%)	25 (45%)	5 (9%)	0	0	56	1.45	.84

family, and travel
emergency/disaster
preparedness plans.

aLikert scale is 1 = *strongly agree* to 5 = *strongly disagree*.

Participants indicated having awareness that knowledge and skills in CPR and the use of AEDs are applicable at work as well as at home (Table 8). In response to the statement "I am mostly interested in CPR and AED training for me, my home and family rather than for my workplace," participants tended to have weak opinions, mostly responding by agreeing (16%), expressing neutrality (31%), or disagreeing (42%) (Table 8). They did indicate that knowing how to perform CPR and use AEDs would benefit them and others in the home as well as at work (Table 8).

Table 8.

Participant Responses to Questions About Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) Training and Emergency and Disaster Preparedness for the Workplace and Personally, at Home, for Family, and for Travel

Question	Strongly	Agree	Neutral	Disagree	Strongly	No. of	<i>M^a</i>	<i>SD</i>
	agree				disagree			
	<i>f</i> (%)	responses						
1. I am aware CPR and AED training and skills are mostly the same for the workplace and for home.	19 (40%)	22 (47%)	6 (13%)	0	0	47	2.41	1.70
2. I am mostly interested in CPR and AED training for me, my home and family rather than for my workplace.	3 (5%)	10 (18%)	15 (27%)	23 (42%)	4 (8%)	55	3.32	1.08
3. I am mostly interested in emergency/disaster training for me, my home and family rather than my workplace.	2 (4%)	9 (16%)	17 (31%)	23 (42%)	4 (7%)	55	3.38	1.02
4. I believe learning CPR and use of	23 (43%)	25 (46%)	6 (11%)	0	0	54	1.84	1.04

AEDs will benefit my home, family, and workplace as a whole, that they can be mutually inclusive.

5. I believe learning emergency/disaster preparedness will benefit my home, my family and workplace as a whole, that they are mutually inclusive.	23 (43%)	24 (46%)	6 (11%)	0	0	53	1.84	1.05
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aLikert scale is 1 = *strongly agree* to 5 = *strongly disagree*.

Conclusions

We first hypothesized that Extension personnel would be informed and prepared for other emergencies in the workplace following natural/human-made disasters. We further hypothesized that Extension personnel are trained in BLS for emergencies in the workplace, including being trained to perform CPR and use AEDs. The hypothesized outcome was that UConn Extension personnel responding to the survey were informed and knew about workplace preparedness. In addition they were aware of the benefits of knowing about and being skilled in the use of CPR and AEDs in the workplace. In general, respondents indicated that they were unskilled in CPR and AED use but would be willing to take courses to learn and acquire the necessary knowledge and skills. They also indicated that they would act if needed. As one respondent stated, "They [AEDs] are a wonderful tool. My husband's company has an AED and it has been used twice in the past five years (that I know of). Both individuals' lives were saved as a result." As stated by another participant, "It's very important faculty/staff take this course, it could save a life. The more people know, the better." A few respondents expressed concern about medical preparedness, as they worried about liability and their ability to attend to a victim.

Third, we hypothesized that Extension personnel are informed and prepared for emergencies at home and during travel following natural/human-made disasters. Fourth, we hypothesized that Extension personnel are trained in BLS for emergencies at home and during travel. The hypothesized outcome was that UConn Extension personnel indicated that they were informed about emergencies at home and during travel. Another hypothesized outcome was that UConn Extension personnel are not BLS trained but would be willing to be. We found that participants were generally not BLS trained.

Lastly, we hypothesized that Extension personnel's BLS training and preparedness for emergencies at home and during travel informs their workplace preparedness. Survey participants generally preferred to be trained to be prepared for home emergencies rather than for workplace emergencies. However, they indicated that they welcome both workplace and home preparedness training.

Our research shows that UConn Extension personnel believe workplace preparedness should be an institutional priority. Extension administration can pursue this ideal through existing institutional education means, such as education provided by the UConn Office of Public Safety (e.g., active shooter training) and through UConn EDEN. Our findings further suggest that emergency and disaster preparedness training be focused on both home and workplace as a means of motivating participants to be prepared and because there is overlap in preparedness education for the two venues. As respondents recognized, training for home preparedness likely would result in workplace preparedness, including preparedness for performing CPR and using AEDs.

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