

Characteristics of Workplace Violence Prevention Training and Violent Events Among Home Health and Hospice Care Providers

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Background *In the rapidly growing home health and hospice industry, little is known about workplace violence prevention (WVP) training and violent events.*

Methods *We examined the characteristics of WVP training and estimated violent event rates among 191 home health and hospice care providers from six agencies in California. Training characteristics were identified from the Occupational Safety and Health Administration guidelines. Rates were estimated as the number of violent events divided by the total number of home visit hours.*

Results *Between 2008 and 2009, 66.5% (n = 127) of providers reported receiving WVP training when newly hired or as recurrent training. On average, providers rated the quality of their training as 5.7 (1 = poor to 10 = excellent). Among all providers, there was an overall rate of 17.1 violent events per 1,000 visit-hours.*

Conclusion *Efforts to increase the number of home health care workers who receive WVP training and to improve training quality are needed. Am. J. Ind. Med.*

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KEY WORDS: *workplace violence prevention; training; home health; hospice; violence; health care provider*

INTRODUCTION

Workplace violence occurs frequently in home health care settings, and workers identify violence as one of their primary safety concerns (Markkanen et al., 2007; Gershon

et al., 2008; Sherman et al., 2008). While workers in these settings are not at high risk of work-related homicide (Bureau of Labor Statistics, 2014), the incidence of nonfatal assaults and threats of assault is high. Surveys of home health care workers indicate that between 3% and 45% of workers report being assaulted or threatened with physical assault by patients, family members, and neighbors (Gershon et al., 2008; Sherman et al., 2008; Galinsky et al., 2010; Nakaishi et al., 2013). Home health care is the fastest growing industry in the United States, projected to add 715,700 jobs at an annual growth rate of 4.8% by 2022 (Bureau of Labor Statistics, 2013). With these projections, the number of workers experiencing violence is expected to increase if prevention and control measures are not adequately implemented.

Factors that contribute to the increased risk of workplace violence for home health care providers include working in unsupervised or uncontrolled settings; the potential for substance use, violence, or weapons in patients' homes; working in high crime neighborhoods; and patients with

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dementia (Gershon et al., 2008; Galinsky et al., 2010; National Institute for Occupational Safety and Health (NIOSH), 2010; Markkanen et al., 2014). However, our understanding of these factors is based on cross-sectional surveys and qualitative reports. Prospective study designs based on home visit experiences of home health care workers are needed to better understand risk factors for violent events in this population.

Despite the relatively high rate of nonfatal assaults that occur among home health care workers and the many different types of violent hazards they face in their work, potential mechanisms to reduce violence in these settings have not been well studied. One strategy that home health care workers have identified as increasing their risk for violence is the lack of training (Nakaishi et al., 2013). In 2004, the Occupational Safety and Health Administration (OSHA) published guidelines for the security and safety of health care and community service workers, including general recommendations for training programs (OSHA, 2004). However, there are no required measures to reduce violent events in home health care settings. In addition, little is known about the prevalence of workplace violence prevention (WVP) training among home health care providers, the content of existing training programs, and the frequency in which WVP training is offered.

To overcome the gaps in the literature and to inform the development of strategies for reducing workplace violence in home health care settings, our objectives were to describe the frequency and characteristics of WVP training and to estimate the rates of violent events by home visit and patient characteristics among home health and hospice care providers in Northern California. Violent events were defined broadly and could include physical, verbal, or sexual violence as well as robbery or mugging, property theft, vandalism, animal attack, and intentional exposure to bodily fluids.

METHODS

Study Design and Population

Agencies and branches

This prospective study enrolled six home health and hospice care agencies from Northern California between 2008 and 2009. These agencies oversaw 40 branches, including 20 home health branches, 11 hospice branches, and nine combined home health and hospice branches (Fig. 1). Agencies were identified from a list of all licensed facilities in Northern California as maintained by the California Office of Statewide Health Planning and Development. The list was stratified by size (number of branches) and by the type of organization (for-profit, nonprofit-private, nonprofit-public). Agencies were selected to maximize the number of branches in order to increase the number of workers for inclusion in the study population and to represent each type of organization.

Seven agencies were contacted, of which six agreed to participate. Two of the agencies were for-profit, two were nonprofit-private, and two were nonprofit-public.

Frontline providers

Home health and hospice care providers represent the front-line delivery of health care to patients/clients and were eligible for study participation if they provided care in patients' homes. Eligible providers were identified from staff rosters across all branches ($n = 1451$) and included mostly nurses (57%), therapists (20%), social workers (9%), and aides (9%). Hospice care workers who cared for patients in an institutional setting (e.g., residential facilities licensed as board and care facilities) were ineligible. For this study, there were 818 eligible providers who attended a staff meeting where recruitment efforts were conducted, thus representing 56% of all eligible employees. Of the eligible staff who attended the meeting, 304 (37%) agreed to complete a telephone interview and 287 (35%) agreed to complete field checklists. There were 191 (23%) providers who completed both the interview and at least one field checklist (Fig. 1).

Home visits

There were a total of 3,634 home visits to patients aged 18 years and older that were completed by the 191 home health and hospice care workers during the study period. We excluded 196 records that were missing data for visit length. The final sample included 3,438 home visits.

Data Collection Instruments

Branch managers were asked to identify current policies and procedures regarding WVP at their branch, examine management attitudes toward violence prevention practices, and document the organizational infrastructure of the branch. Information was collected through a self-administered questionnaire and an in-person semi-structured interview. In the event that a manager covered more than one branch, then s/he completed interviews separately for each branch. Branch managers were also asked to provide written agency policies, training materials, and incident reporting forms.

Home health and hospice care providers were asked to complete semi-structured telephone interviews to collect information on their perceived safety climate, to identify which of the OSHA-recommended WVP training components were instituted by the agency and which they implemented, and to rate the quality of their agency's program. Those who enrolled in the study were also asked to complete field checklists for up to 25 consecutive home visits, including repeat visits to the same patient. These checklists included information about patient

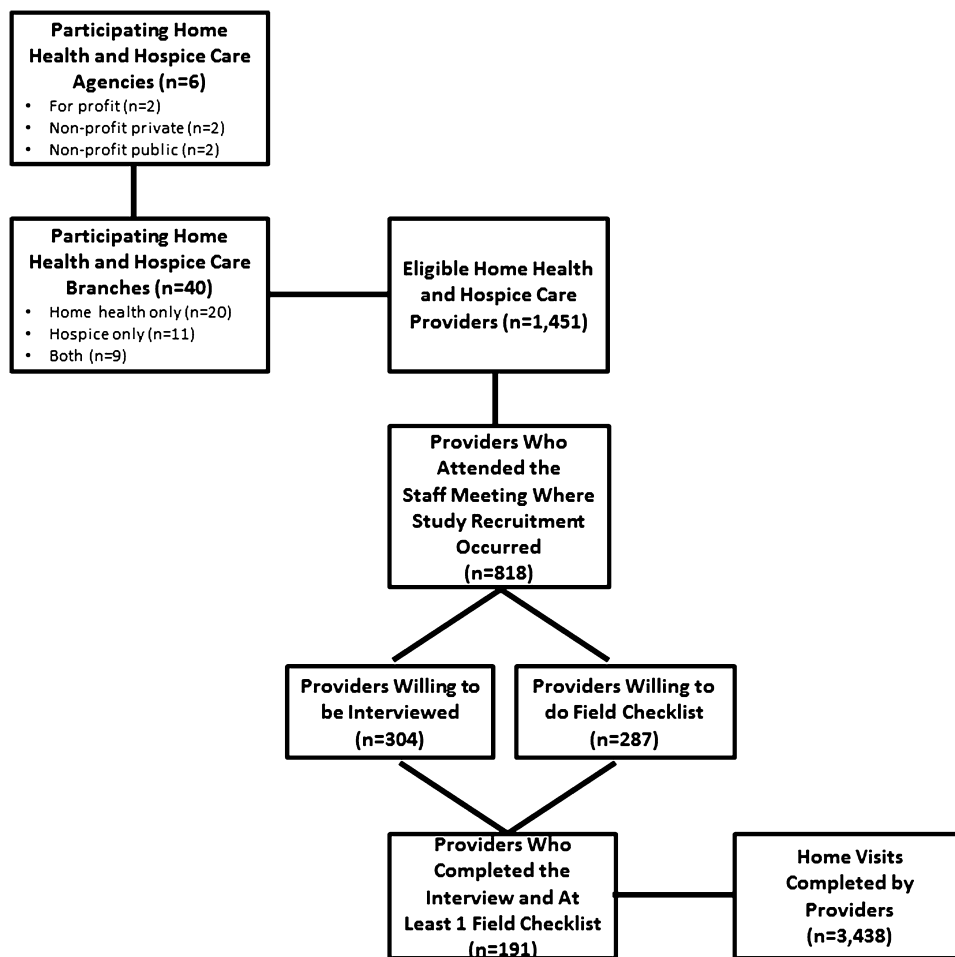


FIGURE 1. Flow chart for the study population of home health and hospice care agencies, branches, providers, and home visits.

demographics and behaviors, home and neighborhood conditions, and experiences with violence. All study instruments were pilot tested in a sample of the respective population and revised prior to use. Participants received \$10 for completing an interview and \$10 for completing at least one field checklist.

Measures

Branch-level WVP training characteristics

Training characteristics were identified according to the framework of the OSHA guidelines (OSHA, 2004). Branch managers were asked if WVP training was offered to their employees. Those who responded “Yes” were subsequently asked to identify methods used to train employees, specific training programs that were used, and who conducted the training.

Provider-level WVP training characteristics

Home health and hospice care providers were asked if they received WVP training when they were newly hired. Those who responded “Yes” were subsequently asked how long after their hire they received training and the duration of the training session. Providers were also asked if they received ongoing WVP training. Those who responded “Yes” were subsequently asked how often they received training and the duration of the training.

All providers who reported that they received training, either when newly hired or as recurrent training, were asked about the training content, including: factors predicting violence and aggression; characteristics of aggressive and violent patients and families; characteristics of hazardous households; characteristics of hazardous neighborhoods; verbal methods to diffuse aggressive behavior; physical maneuvers to diffuse or avoid

aggressive behavior; self-defense if preventive action does not work; policies and methods for reporting a violent event; and resources available for victims of workplace violence. Perceived quality of the overall training was measured using a 10-point rating scale (ranging from 1 = poor to 10 = excellent).

Home visits and reported violent events

Residential and neighborhood characteristics considered as potential risk and protective factors for workplace violence included time of visit (i.e., first visit or not), and suspicious or dangerous activity observed in the home or neighborhood (e.g., drug dealing, physical violence, guns or weapons, gang activity). Patient-level characteristics included age, sex, race, and ethnicity (black, Asian, American Indian, Pacific Islander, and Hispanic categorized as “minority”; non-Hispanic white categorized as ‘not minority’), psychiatric disorder, substance use disorder, and history of violence.

Workers reported their involvement in violent events that occurred in the patient’s home or neighborhood. Types of violent events included physical assault (i.e., attack with or without a weapon), sexual assault (i.e., attack of unwanted sexual contact), verbal assault (i.e., being yelled or shouted at), verbal threat (i.e., threat of physical harm with or without a weapon), sexual harassment (i.e., unwanted sexual behavior or comments), robbery or mugging (i.e., taking personal or workplace property by force), property theft (i.e., taking personal or workplace property), vandalism (i.e., damage or destruction to personal or workplace property), animal attack, and intentional exposure to bodily fluids (e.g., saliva, urine, blood).

Statistical Analysis

Descriptive analyses were conducted to examine branch-level and provider-reported WVP training characteristics. Fisher’s exact test (categorical variables) and ANOVA (continuous variables) were used to assess differences in these characteristics by type of organization. Rates of violent events were estimated for selected home visit and patient characteristics. Person-time at risk was defined as the length of the visit (measured in hours) and rates were defined as the number of violent events divided by the total number of home visit hours. Generalized estimating equations were used to account for correlated observations between workers within the same home health and/or hospice branch. This study was approved by the Institutional Review Boards at the University of North Carolina at Chapel Hill, University of Iowa, and the University of California, San Francisco. Written informed consent was obtained for all study participants.

RESULTS

Branch-Level WVP Training Characteristics

Managers representing 36 branches (90% of 40 eligible branches) completed a self-administered interview about branch-specific WVP training; 22 (61.1%) branches were reported as offering WVP training (Table I). A variety of training methods were used, primarily computer-based

TABLE I. Characteristics of Workplace Violence Prevention Training Among Home Health and Hospice Care Branches That Offered Training, n = 22 Branches, 2008–2009

	Total (n = 22) n (%)
Methods used to train employees	
Computer-based program	9 (40.9)
Small group discussion	7 (31.8)
Reading materials	6 (27.3)
Lecture	5 (22.7)
Train-the-trainer	4 (18.2)
Group work	4 (18.2)
Video	5 (22.7)
Other	1 (4.6)
Training package used to train employees	
None	10 (45.5)
MAB ^a	1 (4.6)
P.A.R.T. ^b	0 (0.0)
CPI ^c	0 (0.0)
Other	4 (18.2)
Unknown	7 (31.8)
Who conducts the training for employees ^{d,e}	
Risk manager	6 (35.3)
Security	5 (29.4)
Law enforcement	4 (23.5)
Contracting agency	1 (5.9)
Other, external	1 (5.9)
Other, internal	9 (52.9)
Unknown	1 (5.9)

^a“Other, external” includes escort services; “Other, internal” includes at hire orientation, clinical supervisor, manager, director, computer, employee assistance program, human resources, workplace safety committee.

^bMAB[®] Management of Assaultive Behavior Aggression and Workplace Violence Prevention Program www.mabpro.com.

^cP.A.R.T.[™] Professional Assault Response Training Fox, L. Johnson, M. Nihart, M. Schindler, P. Smith, and N. Smiar. *Professional Assault Response Training 2000* (2000) California.

^dCPI Crisis Prevention Institute Nonviolent Crisis Intervention Training[®] www.crisisprevention.com.

^eRespondents could select more than one option.

^fn = 5 were missing data on who conducts training.

programs (40.9%), small group discussion (31.8%), and/or reading materials (27.3%). Overall, 54.6% used at least two different training methods. In addition, only one branch (4.6%) reported using a proprietary training package and four branches (18.2%) reported using other non-proprietary curricula. Training sessions were most often conducted by internal staff (i.e., supervisor, director) (52.9%), and risk managers (35.3%), or security personnel (29.4%) from the participating agency.

Provider-Level WVP Training Characteristics

Among the 191 home health and hospice care providers who completed the telephone interview and field checklists, 66.5% ($n = 127$) reported that they received training, either when newly hired or as recurrent training (Table II). Of those who received training, almost three-quarters (71.7%) reported that they received new hire training, and 66.1% reported that they received ongoing training. Thirty-eight percent reported receiving both new hire and ongoing training. Among those who received training, nurses were the most frequent occupation (46.0%), followed by therapists (26.2%), social workers (15.9%), aides (6.4%), and chaplains or bereavement counselors (4.8%). Only about 10% of those who received training were contract or registry workers. Most training sessions included information on policies and methods for reporting a violent event and on factors predicting violence and aggression, but lacked information on self-defense. On a scale from 1 to 10, providers reported an average rating of 5.7 for the quality of the WVP training they received. Overall, no statistically significant differences were observed for occupation, contract/registry employment status, training content, or worker's reported training quality by type of organization.

Providers reported, on average, that new hire training was received within three weeks of being hired and that training sessions were 67.5 min (Table II). The average length of new hire training sessions varied by type of organization such that training sessions were the longest in nonprofit-public agencies and the shortest in nonprofit-private agencies ($P = 0.03$). For ongoing training, the majority of providers reported that training was received annually (76.2%), with fewer providers reporting that they received ongoing training more or less than once a year (8.3% and 8.3%, respectively). The average length of ongoing training sessions was 51.8 min with no statistically significant variations observed by type of organization.

Home Visits and Reported Violent Events

There were 3,438 home health and hospice care visits that occurred among workers in our study population with an

average visit length of 1.02 hours ($SD = 0.44$). High proportions were repeat visits, and workers did not observe suspicious or dangerous activity in the home or neighborhood during the majority of these visits (Table III). In addition, a high proportion of the visits involved patients who were aged 80 and older, female, non-Hispanic white, did not have a psychiatric or substance abuse disorder, were not intoxicated or under the influence of drugs at the time of the visit, and did not have a history of violence.

Between 2008 and 2009, there were 50 providers (26%) who reported experiencing at least one violent event during a home visit (range: 1–7 violent events). There were a total of 66 reported violent events resulting in an overall rate of 17.1 violent events per 1,000 visit-hours (Table III). Visits with the highest rate of violent events included those with suspicious or dangerous activity observed in the home or neighborhood, and those where patients were aged 80 or older, male, and had psychiatric disorders, substance abuse disorders, or a history of violence. First visits to the home had a low rate of violent events.

DISCUSSION

To date, no prior studies have described the characteristics of WVP training and violent events in home health and hospice care settings. We found that 38.9% of branches reportedly did not offer any WVP training to their providers and 33.5% of home health and hospice care providers reported that they did not receive any WVP training. Among those who did receive training, most new hire training occurred within 3 weeks of hire and ongoing training occurred annually. The OSHA Guidelines for Preventing WVP for Health Care and Social Services recommend that all employees, including managers and supervisors, receive training and that they receive it annually with refresher trainings offered more frequently (OSHA, 2004). It is further recommended that new hires receive training and orientation before beginning their job duties. While these guidelines are not specific to home health and hospice care settings, they can be applied to these settings to educate workers about home visiting safety. Updated guidelines were published in 2015 and further emphasize the importance of education and training as part of a WVP program for all healthcare and social services workers, including home health care workers (OSHA, 2015). Based on the findings from this study, there is room for improvement to ensure that all home health and hospice care providers receive WVP training.

OSHA provides a framework for developing a comprehensive training program that contains nine components to improve the safety and security of workers in the health care and community service industries (OSHA, 2004). In our study, most providers who received training reported that the programs included policies and methods for reporting a

TABLE II. Characteristics of Any Workplace Violence Prevention Training Received by Home Health and Hospice Care Providers, by Type of Organization, n = 127 Providers, 2008–2009

	Total	For-profit	Nonprofit-private	Nonprofit-public
	N (%)	n (%)	n (%)	n (%)
Any training, either new hire or ongoing	N = 127	n = 5	n = 105	n = 17
Occupations receiving training				
Registered and licensed vocational nurses	58 (46.0)	2 (40.0)	48 (46.2)	8 (47.1)
Therapists (occupational, physical, speech)	33 (26.2)	2 (40.0)	26 (25.0)	5 (29.4)
Social workers	20 (15.9)	0 (0.0)	17 (16.4)	3 (17.7)
Aides	8 (6.4)	1 (20.0)	7 (6.7)	0 (0.0)
Chaplains or bereavement counselors	6 (4.8)	0 (0.0)	5 (4.8)	1 (5.9)
Other	1 (0.8)	0 (0.0)	1 (1.0)	0 (0.0)
Missing	1	0	1	0
Registry or contract workers ^a receive any training				
Yes	12 (10.4)	1 (20.0)	10 (10.5)	1 (6.7)
No	103 (89.6)	4 (80.0)	85 (89.5)	14 (93.3)
Missing	12	0	10	2
Training content ^b				
Policies and methods for reporting a violent event	106 (91.4)	4 (80.0)	88 (91.7)	14 (93.3)
Factors predicting violence and aggression	92 (81.4)	4 (80.0)	75 (81.5)	13 (81.3)
Verbal methods to diffuse aggressive behavior	81 (73.6)	4 (80.0)	67 (73.6)	10 (71.4)
Characteristics of hazardous neighborhoods	82 (70.1)	5 (100.0)	64 (66.7)	13 (81.3)
Characteristics of hazardous households	77 (69.4)	4 (80.0)	64 (70.3)	9 (60.0)
Characteristics of aggressive and violent patients and families	78 (69.0)	5 (100.0)	64 (69.6)	9 (56.3)
Resources available for victims of workplace violence	68 (64.8)	3 (75.0)	56 (65.9)	9 (56.3)
Physical maneuvers to diffuse or avoid aggressive behavior	62 (57.4)	1 (25.0)	53 (60.2)	8 (50.0)
Self-defense if preventive action does not work	32 (28.1)	1 (25.0)	25 (26.6)	6 (37.5)
Average worker rating of training quality (range)	5.7 (1–10)	7.4 (5–10)	5.7 (1–10)	4.8 (1–8)
New hire training	N = 91	n = 5	n = 72	n = 14
Average number of days training received after hire (range) ^c	19.1 (1–365)	1.5 (1–2)	19.2 (1–365)	24.0 (1–210)
Average training length in minutes (range) ^d	67.5 (10–360)	82.5 (30–120)	58.3 (10–240)	101.8 (30–360)
Ongoing training	N = 84	n = 2	n = 74	n = 8
Frequency of training				
<One time per year	7 (8.3)	0 (0.0)	5 (6.8)	2 (25.0)
Annually	64 (76.2)	0 (0.0)	58 (78.4)	6 (75.0)
>One time per year	7 (8.3)	1 (50.0)	6 (8.1)	0 (0.0)
Unknown	6 (7.1)	1 (50.0)	5 (6.8)	0 (0.0)
Average training length in minutes (range) ^e	51.8 (5–360)	60.0 (60–60)	51.8 (5–360)	51.3 (20–90)

^aContractor or registry workers included providers from external temp agencies who contracted with participating home health and hospice care agencies to conduct home visits when agencies were short-staffed.

^bTraining content were missing for the following: Policies and methods for reporting a violent event (n = 11), factors predicting violence and aggression (n = 14), verbal methods to diffuse aggressive behavior (n = 17), characteristics of hazardous neighborhoods (n = 10), characteristics of hazardous households (N = 16), characteristics of aggressive and violent patients and families (n = 14), resources available for victims of workplace violence (n = 22), physical maneuvers to diffuse or avoid aggressive behavior (n = 19), self-defense if preventive action does not work (n = 13).

^cMissing for n = 12.

^dMissing for n = 14.

^eMissing for n = 8.

violent event, factors for predicting violence, and verbal methods for diffusing aggressive behavior. Few providers reported that they were trained about methods of self-defense. Future research should examine which training

components are most effective at preventing violent events in home health care settings, and whether or not an individualized component is necessary for a comprehensive training experience.

TABLE III. Number and Rate of Violent Events Among Home Health and Hospice Home Visits, by Home Visit and Patient Characteristics, n = 3,438 Visits, 2008–2009

	Total no. of visits	%	No. of violent events	Rate ^a
Overall	3,438		66	17.1
First visit to the home				
Yes	1,030	30	11	9.0
No	2,371	70	55	21.8
Missing	37		0	
Witness something in the home or neighborhood				
Yes	358	10	18	38.0
No	3,061	90	46	14.3
Missing	19		2	
Patient's age				
<65	908	27	16	12.9
65–79	996	29	16	14.7
80+	1,473	44	33	22.8
Missing	61		1	
Patient's sex				
Male	1,403	41	41	26.2
Female	2,023	59	25	11.3
Missing	12		0	
Patient's race				
Minority race	1,035	30	25	18.9
Not minority race	2,359	70	39	16.2
Missing	44		2	
Psychiatric disorder				
Yes	590	18	33	54.3
No	2,601	82	21	7.5
Missing	247		12	
Substance abuse disorder				
Yes	158	5	7	32.8
No	3,064	95	50	14.3
Missing	216		9	
History of violence				
Yes	116	4	19	145.4
No	3,019	96	32	10.2
Missing	303		15	

^aRates per 1,000 visit hours.

The NIOSH recently developed a training curriculum for homecare workers focused on health and safety in home health care settings (NIOSH, 2015). This curriculum includes information on types of threatening behaviors, risk factors for these behaviors, and strategies for responding to threatening situations. These training resources may be helpful for assisting home health and hospice care agencies in addressing the health and safety training needs of their providers.

The self-reported quality of training was not very high in this population of home health and hospice care providers. This may have implications for the adequacy or relevancy of the training as perceived by the providers. However, these individual perceptions may not be the best indicators for drawing meaningful conclusions about the quality of the training programs.

Overall, more than a quarter of home health and hospice care providers reported experiencing at least one violent event in patients' homes. In this study, rates of violence were highest in homes where patients had psychiatric disorders, substance abuse disorders, and a history of violence. Workers also reported higher rates of violence in homes and neighborhoods where they witnessed unsafe activity, such as drug dealing and gang activity. These findings are consistent with previous studies and reports, where patient conditions and environmental circumstances were ranked as significant threats to safety (Fitzwater and Gates, 2000; Sylvester and Reisener, 2002; Galinsky et al., 2010; McPhaul et al., 2010; Markkanen et al., 2014). This body of research suggests that providers and their managers are in need of tools to assess the risk for violence and how safety strategies may mitigate this risk (McPhaul et al., 2010). In healthcare settings, many prevention strategies focus on employee training, but do not implement them in conjunction with environmental and administrative approaches. While employee training is a necessary measure to prevent violent events and protect employees in violent situations, trained employees must not bear sole responsibility for controlling violence (OSHA, 2004).

The 2015 OSHA guidelines provide updated recommendations for preventing workplace violence, while taking into consideration the variations in hazards and prevention strategies that exist across different workplace settings, including home health care settings (OSHA, 2015). These guidelines highlight the importance of incorporating a written WVP program into organizational safety and health initiatives. It is further recommended that this program consist of five components, including management commitment and employee participation, worksite analysis, hazard prevention and control, safety and health training, and recordkeeping and program evaluation. Effective control options for minimizing workplace hazards in home health-care settings are provided in the guidelines and consist of engineering controls (e.g., paging system, working locks for medical equipment, adequate lighting) and administrative and work practice controls (e.g., worker tracking, violent incident reporting, daily work plans).

Strengths and Limitations

The strengths of this study include broad participation from several agencies that varied according to the type of

organization and services provided; prospective data collection on risks and experiences of violence during home visits; and inclusion of detailed information on several WVP training characteristics that were identified according to the framework of the OSHA guidelines. This study also has limitations. Training and home visit characteristics were self-reported and are subject to misclassification from errors in recall. Providers may have had difficulty remembering the details of up to 25 home visits if the field checklists were not completed at the end of each visit. Those experiencing a violent event may have been more likely to remember the home visit given the circumstances. The sample size was too low to adequately assess the association between receipt of WVP training and the rate of violent events. The generalizability of this study may be limited, as workers were recruited from six home health and hospice care agencies from Northern California and may not represent populations in similar settings. In addition, aides were under-represented in the study due to low attendance at the staff recruitment meetings, thus selection bias may affect our results. However, aides made up a very small percentage of all eligible workers in the participating agencies (8.7%).

CONCLUSION

Given the expected growth of the home health care industry in the United States, preventive action is needed to reduce providers' risk of violent events and to increase the receipt and quality of WVP training in these settings. The implementation of a comprehensive WVP program may help reduce violence and improve worker safety. More research is needed to better understand whether WVP training can lower the rate of work-related violence in patients' homes. Future research should also examine the effectiveness of comprehensive strategies (e.g., WVP training programs, environmental controls, surveillance, and administrative approaches in conjunction with each other) in preventing violent events among home health care workers.

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