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Pressure Injury Education in the Department of Veterans Affairs

Results of a National Wound Provider Cross-sectional Survey

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ABSTRACT

PURPOSE: The aim of this study was to describe experience, training, educational needs and preferences, and perceptions of pressure injury (PI) prevention education of wound care providers in the Veterans Health Administration (VHA) of the Department of Veterans Affairs (VA) as an indicator of effectiveness of the mandated VHA PI Prevention Program.

SUBJECTS AND SETTING: A convenience sample of national VHA wound care providers practicing in VHA facilities was compiled from members of special interest groups and committees and by referrals from known wound care specialists and clinicians (N = 1726). The response rate was 24% (n = 410).

DESIGN: Cross-sectional, descriptive study.

METHODS: A 42-item online cross-sectional survey was administered via a blast-email of the survey link to the sample. The survey link was active for 1 month (March 3-31, 2014). The survey queried demographic data, PI experience and education, and their perceptions and preferences for PI education. Quantitative responses underwent descriptive analyses, and responses to open-ended questions were analyzed by content analysis.

RESULTS: The majority of the 415 respondents completed most of the questionnaire (n = 310, 74%). Half were board-certified providers with a mean wound care experience of 14.2 years (standard deviation = 9.8 years). Preference for type of wound training ranged from 17% for online gaming to 82% for face-to-face training. Training provided by facilities was perceived to be inadequate for wound care by 60% (n = 175) and inadequate for PI care by 49% (n = 142).

CONCLUSIONS: The 2 greatest areas of need in PI care identified by wound care providers were education and documentation. These same issues were identified as problematic by an audit of PI prevention and management at 47 VHA facilities that was conducted by the VA Office of Inspector General.

KEY WORDS: Educational needs assessment, Health care survey, Pressure injury, Pressure ulcer, prevention and control, Veterans Health Administration, Wound providers, education.

INTRODUCTION

Pressure injury (PI) prevention is a health care priority in the United States, and prevention of PI is an indicator of quality of care.[1-3] Accurate data on PI occurrences are critical to monitoring progress in quality of care. However, experts agree that improving staff recognition and accurate staging of PI are needed to improve quality of the data.[1] Therefore, all health care providers require education to assure both accurate data and effective care.

Evidence-based interdisciplinary wound care programs, which generally include an education component, can decrease cost and duration of hospitalization and increase continuity of

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care and quality of life.[4,5] Studies on PI education are often limited to a single intensive care unit or a geographic region.[6,7] While such studies report improved staff knowledge as well as short-term reduction in PI prevalence, more robust data are needed to determine the best types of education necessary to help sustain PI prevention.[8]

A National Hospital-Acquired Pressure Ulcer Prevention Workgroup

A national task force was formed to improve PI prevention in August 2011. The Hospital-Acquired Pressure Ulcer (HAPU) Workgroup was charged with promoting and evaluating implementation of Veterans Health Administration (VHA) Pressure Ulcer Prevention Handbook 1180.2, which had been revised and disseminated in July 2011.[9] The handbook advocates 3 primary goals: (1) implement a systemwide program enabling interdisciplinary PI prevention teams to identify risk factors resulting in a high risk for PI development among Veterans, (2) create a standardized approach to skin assessment including visual inspection and use of a validated PI injury risk scale such as the Braden Scale to target prevention measures, and (3) provide procedures for documenting results of a complete skin assessment and subsequent individualized care plan.

The handbook also mandates an educational plan that includes policies and procedures for ongoing education for staff, Veterans, and/or the Veteran's designated family members, surrogates, or authorized decision-makers. Staff education must include "information on how to administer the Pressure Ulcer Risk Scale, how to conduct the complete skin assessment, and how to accurately document findings."[9(p9)] For Veterans and their caretakers, education must include principles of PI development and their prevention, including instruction on how to perform daily skin inspection.

While it was known that wound care specialists are the usual staff on interdisciplinary teams tasked with implementing the VHA Pressure Ulcer Prevention Program, it was not clear what PI care interventions were most commonly used, what the wound care education experience was for wound care specialists, or how wound care specialists perceived PI education at their facilities. In 2013, 2 years after release of the revised PI prevention handbook, data on PI prevention practices, knowledge, and education of VHA wound care providers were obtained through a national survey. These data represent information on PI prevention education in the largest national health care system in the United States. The purpose of this study was to describe education on PI prevention for use in planning research and educational programs on PI prevention within the VHA.

METHODS

A national email list of VHA wound care providers (N = 1726) was compiled from special interest groups and committees and by referrals from known wound care specialists and clinicians. A list of 42 questions was created with input from an Office of Nursing Services (ONS) PI prevention task force, and a respondent-friendly, web-based questionnaire was created.[10,11] The questionnaire was sent to an internal VHA resource that uses Vovici survey software (Verint Systems, 2011).[12] The anonymous online survey was administered via a blast-email of the survey link to VHA wound care providers nationwide. The survey link was active for 1 month (March 3-31, 2014), and during that time, weekly email reminders were sent to all potential respondents. Survey software produced frequency data, a spreadsheet of anonymous responses, and graphic summaries of data.

Study procedures were reviewed and approved by the University of Florida Institutional Review Board (IRB#201200275) and North Florida/South Georgia Veterans Health System Research and Development Committee. Completion of the survey comprised consent to study participation.

Questionnaire

The 44-item Department of Veterans Affairs (VA) Wound Provider Survey was designed for the purpose of this study (IRB201200275) by 2 authors of this article, with input from other coauthors, wound, and survey experts, including the VA National Center for Organization Development (NCOD). The survey took approximately 20 to 30 minutes to complete. The survey was not subject to psychometric validation. See the Appendix (Supplemental Digital Content 1, http://links.lww.com/JWOCN/A47).

The demographic section of the survey contained 1 open-ended and 4 closed questions. To determine respondents' main VA role, a list of 11 possible roles and 1 "other, please specify" option was provided. Respondents were queried whether they usually cared for patients with wounds and the setting where they provided such care. They selected from the following options: inpatient, outpatient, acute care, rehabilitation, or other. Respondents were also given an option to indicate, "I rarely care for wounds." They were asked how many years of experience they had in wound care and whether they had any of the following board certifications: certified wound and ostomy (CWON), wound care certified (WCC), certified wound specialist (CWS), certified wound care (CWCN), and "other, please specify."

Respondents were also queried about their typical practice and PI education within their facility. Specifically, they were asked whether their facilities have an interdisciplinary skin or PI prevention task force, whether they believe wound management education and PI education at their facilities or care setting was adequate. Participants were asked to select preferences for topics of wound management and PI educational programs, and preferences about how they preferred these programs to be delivered (online, in-person, on their own time, or during working hours, etc).

Respondents were also asked who was primarily responsible for PI prevention in their care setting, about perceptions of barriers related to PI documentation and patient education. Finally, the questionnaire contained 2 open-ended items that queried perceptions of the largest barriers to PI documentation and patient education about PI.

DATA ANALYSIS

Answers to survey questions were compiled in a spreadsheet by the NCOD and data were checked for integrity, by NCOD analysts, looking for missing or miscoded data. This was done for all responses. The final spreadsheet was sent to the investigative team along with data definitions for each question. The principal investigator and biostatistician ran the analysis of all data in the spreadsheet through statistical software SAS (version 9.4), to summarize and interpret the findings. Only data from respondents who answered at least 50% of questions were included in the final analysis. Open-ended responses were coded for thematic analysis by the principal investigator with direction from an independent qualitative researcher. Multiple

codes may have been applied to a single open-ended response to capture all key issues within it. For instance, text answers for the survey question asking, "What are the biggest barriers for patient/caregiver education related to wound care and/or pressure ulcers?" One respondent wrote, "Caregivers not always with patients at appointments & hard to get the information to them; lack of handouts for patients; lack of consistency between staff …" This one question had at least 3 main issues identified. Summary statistics (frequencies, means, etc) were then computed. Responses were compared among provider types and level of experience. SAS software version 9.4 was used for all closed-ended survey question analyses. Qualitative analysis of open-ended text response questions was completed using content analysis.[13]

RESULTS

The survey response rate was 24% (n = 434 out of 1726), and the final sample size was 298 due to exclusion of respondents who did not answer 50% or more of the survey questions and respondents who indicated they did not currently perform hands-on wound care or that it was not their primary role or primary clinical setting. The roles of the nursing and wound team member or consultant together accounted for 67% of respondents, while the roles of medicine and therapy together accounted for 18.5% (Table 1). The number of respondents working in outpatient and inpatient settings (27.5%) was similar (approximately 30%); other settings accounting for less than 20% of respondents were spinal cord injury, long-term care, and "other" clinical settings. The mean (standard deviation) experience in the wound care field was 14.3 (9.8) years (Figure). Half of the respondents were board certified in wound care, and most (66.4%) had some formal education in wound management (Table 1). Only 1.3% reported no wound management training/education, but 32.2% of respondents indicated they had only informal wound care education.

TABLE 1.
Characteristics of Respondents and Their Facilities

Characteristics	n (%)
Main role (N = 298)	
Nursing	122 (40.9)
Wound team member/consultant	78 (26.2)
Medicine	42 (14.1)
Therapy	13 (4.4)
Other[a]	43 (14.4)
Main clinical setting (N = 298)	
Inpatient acute care—not intensive care	44 (15)
Inpatient acute care—intensive care	38 (13)
Outpatient care	94 (32)
Rehabilitation or polytrauma	8 (3)
Long-term care, hospice, palliative care	34 (11)
Spinal cord injury care	52 (17)
Other[a]	28 (9)
Board certification (N = 298)	
Currently board certified	158 (51)
Was board certified in the past	8 (3)
Never board certified	132 (46)
Facility has active interprofessional skin or pressure ulcer prevention task force (N = 288)	
Yes	229 (80)
No	31 (11)
Not sure	28 (8)

[a]Certified nurse anesthetist, occupational therapist, pharmacist, physician assistant, quality management staff, and researcher.

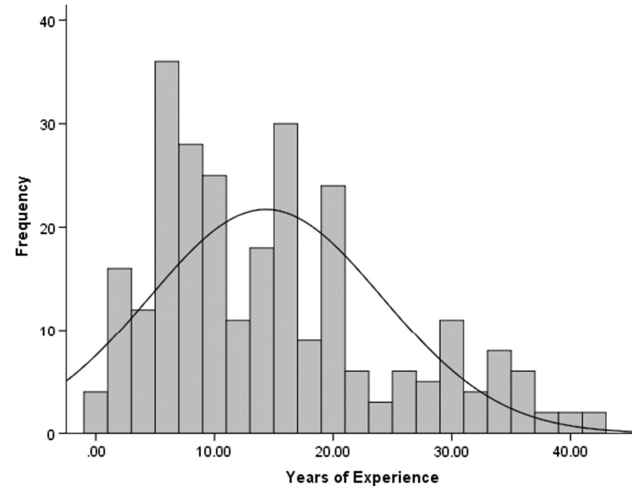

Figure. Histogram of years of wound care experience (mean = 14.3 years; standard deviation = 9.8 years) of respondents to a national survey of wound care providers in the Veterans Health Administration (N = 268).

Practice and Education

A majority indicated that their facility has an interprofessional skin or PI prevention task force, but 19% answered "no" or "I am not sure" (Table 1). Only 27.9% of respondents (n = 84) indicated they perceived wound care education for clinicians as adequate. A χ^2 analysis did not reveal an association between response and provider type, $\chi^2(8) = 8.84$, $P = .36$.

When asked whether they believed PI prevention education in their facility was adequate, 36.9% responded yes and 47.3% indicated it was not. Physicians and wound consultants were more likely to respond "no" (52.4% and 59.0%, respectively). Nurses and therapists were almost evenly split; 41.0% and 38.5% indicated "no," respectively. The χ^2 analysis did not reveal a statistically significant association between response and provider type, $\chi^2(8) = 12.47$, $P = .13$.

Perspectives on Education and PI Responsibility

Respondents were asked to indicate which of the 7 education methods were preferable. Face-to-face training/education or workshops were most preferred (82%), followed by professional conferences (76%), simulation learning in-person (52%), interactive computer modules with case scenarios (45%), online self-study (25%), written self-study written materials (22%), and online gaming modules (17%). In addition, only 14% of respondents preferred continuing education at home or on their own time. Most respondents (86%) preferred educational programs to be offered during work hours and that they have "protected time" to complete it.

When respondents were asked who they perceived had primary responsibility for PI prevention, half indicated "nurses," almost a quarter indicated "wound team," and only 5% or less indicated "whole team" or "everyone," "physician," or "patient or informal caregiver" (Table 2).

Barriers

Two hundred four participants responded to the open-ended items. The most frequently identified barriers to PI prevention

TABLE 2.
Role Considered Primarily Responsible for Pressure Ulcer Prevention

Role	n (%)
Nurse	159 (53.4)
Wound team	63 (21.1)
Patient or informal caregiver	16 (5.4)
"Whole team" or "everyone" (written in as text response under "other"[a])	13 (4.5)
Physician	6 (2.0)
Other	6 (2.0)
Local unit management (nurse manager)	4 (1.3)
Facility administration	2 (0.7)

[a]Nursing assistant, primary care provider, podiatrist, spinal cord injury team member.

TABLE 3.
Barriers to Documenting Pressure Ulcer Risk and/or Skin Assessments (N = 172)

Type of Barrier and Open-Ended Responses	n
Time Takes a long time Not enough time Too much time needed to properly document findings	40
Documentation template CPRS/VANOD template Confusion about template Poor skin templates Not used by all disciplines Documentation process is combobulated—too confusing	33
Nursing shortage	23
Inconsistency in staff documentation Staging wounds consistently Accurate documentation Poor interrater accuracy Nursing often misclassifies wound type and/or stage or documents during a floor-to-floor transfer after it has occurred	23
Lack of Resources Handouts Printed materials	21
None Not an issue in my setting None No perceived barriers I do not know	19
Clinical training or education Staff knowledge Educating the staff on pressure injury prevention Lack of knowledge in the nursing staff with documentation Knowledge of all providers in determining pressure injury risk vs skin tears, etc Providers (especially physicians) are not educated either in wound assessment or in risk assessment	<10

Abbreviations: CPRS, Computerized Patient Record System; VANOD, VA Nursing Outcome Database.

practice and education were lack of time (n = 84, 41%), inadequate staffing or "staff turnover" (n = 39, 19%), and provider knowledge deficit (n = 56, 27%). Respondents also indicated that the layout or the function of documentation templates created documentation barriers (n = 41, 20%). Barriers to documentation are summarized in Table 3. Several issues were identified by fewer than 10 respondents; they were patient compliance, lack of administrative support, staff compliance, and staff resistance to practice change.

Other barriers to patient education identified by respondents were level of knowledge and understanding, beliefs about the importance of skin and wound care, personal preferences for repositioning and wound care, and compliance with treatment plans (n = 45, 22%). Some respondents indicated lack of caregivers or caregiver buy-in hindered ability to educate patients and to ensure treatment plans were implemented at home (n = 25, 12%). Finally, respondents believed that lack of access to approved and standardized printed educational materials (n = 27, 13%) and inconsistent educational messaging (n = 17, 8%) were barriers to patient education.

DISCUSSION

Our key findings of Office of Inspector General (OIG) and VHA wound care providers that providers require education and improved documentation are consistent with prior studies.[14-17] Oseni and Adejumo[14] studied nursing care of a variety of wound types and found that Nigerian nurses needed increased knowledge of documentation and continuing professional development, to improve wound outcomes. In a United Kingdom retrospective chart review of documentation and quasi-experimental study, Harris and colleagues[15] found that documentation was inadequate and that education of the multidisciplinary team and addition of a risk assessment checklist increased awareness of risk factors for poor wound healing. Like our findings, Timmins and associates[16] found in a qualitative study that wound care practices could improve among Haitian nurses and medical residents with continuing education. Finally, by evaluating US Medicare claims data across interfacility transfers, Squitieri and coworkers[17] found that hospital-acquired PI identification in the United States depended on accurate staging and documentation. Our findings and these studies show that point of care providers must be adequately educated to recognize risk and to document robust data, integral components of PI prevention, management, and evaluation of wound care.

The VHA Pressure Ulcer Prevention Handbook 1180.02 mandates that every VA facility have an interdisciplinary pressure ulcer (injury) prevention (PIP) team. However, of the wound care providers who responded to the survey, 11% said their facility did not have such a team and 8% did not know whether their facility had a PIP team. Thus, 20% or more of VHA medical facilities may not have an interprofessional PIP work team or a certified wound specialist on-site. In addition, the OIG of the VA conducted an audit of PI prevention and management at 47 VHA facilities from 2013 to 2014 (internal VA facility quality reports). Results of our survey were compared with findings from the OIG audits. The survey results are consistent with OIG findings: there were 14 areas of concern, the most frequent being the need for consistency in staff documentation of PI location, stage, risk scale score, and date the PI was acquired. Documentation and education accounted for 37% of negative OIG findings. Furthermore, 56% of OIG recommendations pertained to documentation (92 of 163), while 25% of recommendations pertained to education (41

of 163). Thus, the recommendations of the OIG highlight the importance of improvement in wound and PI documentation and education within the VA.

The comparison of results between the VA Wound Provider Survey and the OIG findings revealed the areas of highest need for future educational interventions. These were reported to the ONS National HAPU Workgroup, which commissioned a program evaluation on the impact of the National HAPU Workgroup to be conducted by the VA Nursing Innovation Center of Evaluation in Tampa, Florida. The wound provider survey and OIG findings provided information useful for future educational programming within the VHA. For example, survey respondents believed that a lack of access to approved and standardized printed educational materials and that inconsistent educational messaging were barriers to patient education. Including national 508-compliant, standardized educational materials in the revised handbook would likely improve patient and caregiver education.

To effectively address future educational interventions, we surveyed wound care providers about their preferences for educational venues. The most frequent preference was "face to face," but attending professional conferences and simulation learning in-person were also in the top 3 choices. However, courses on wound care and PI prevention seem to be more often offered via self-study and online at many locations. In addition, a Web site learning poll conducted in March 2017 by the VA Employee Education System reported that 88 of the 240 VA employees said they "preferred an initial concentrated learning event followed by shorter reinforcing events." The second most popular choice in the educational poll (n = 79) was "I prefer learning with a number of learning events spread over time." The third most popular choice was "a number of shorter events reinforced by a concentrated capstone event" (n = 44). The least preferred method for education was "learning concentrated into one event" (n = 29). The findings from this online poll and our survey indicate that short initial courses with repeated introduction of material in follow-up courses may be well-received by wound care providers. Of the 31 topics related to PI, "Legal issues with chronic, non-healing wounds or pressure ulcers" (n = 136), "Pressure ulcer treatment or management" (n = 133), and "Pressure ulcer prevention" (n = 129) were included in the top 11 preferred educational topics.

Wound providers' survey responses shed light on another potential area for improvement: developing interdisciplinary skin and PI prevention teams in all VHA facilities and addressing responsibility or ownership by all clinicians in PI prevention. Respondents often linked the desire for an interdisciplinary focus on proper documentation to increased accountability. By expanding accountability for PI to include physicians and other professionals, each member of the care team may prioritize accurate and consistent wound assessment and documentation. However, we found evidence of excessive documentation cited by every discipline; respondents also cited duplicative documentation by multiple providers. Despite early studies reporting that nurses spend as little as 14% to 16% of their time on documentation, more typical findings are that nurses spend 25% of their time on documentation in the acute care setting and up to 50% of their time on documentation in home care environments.[18-20] In a 2007 nursing documentation survey, 81% of 919 respondents reported that documentation directly reduces time spent in providing direct patient care.[21] These findings highlight a need for easier means of documentation.

LIMITATIONS

The survey response rate was 24%. Although this is a good response rate for online surveys with a large sample, considering variables such as sample size, presence or absence of randomization, and salience,[22,23] responders may have different characteristics from those who did not respond.[24] This is a limitation of voluntary and anonymous surveys.[24-26] In addition, some respondents did not answer all items.[24,26,27] The questionnaire was developed specifically for this study; its validity and reliability have not been evaluated.

CONCLUSIONS

The VA Health Care System is the largest integrated health care provider in the United States (www.va.gov/health/aboutVHA.asp), serving more than 8.9 million Veterans annually. The system comprises 1233 health care facilities, including 168 VA Medical Centers and 1053 outpatient sites of care. Global and national efforts to reduce pressure injuries can positively impact the VA health care system as well as non-VA care facilities.[28] The 2 greatest areas of need in PI care identified by wound care providers in this study were education and documentation. These same issues were identified as problematic by an audit of PI prevention and management at 47 VHA facilities that was conducted by the VA OIG.

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