A National Job Analysis Study of the Wound Specialist Physician

Executive Summary

Conducted for the

American Board of Wound Management

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Introduction

The purpose of conducting this job analysis was to identify the knowledge requirements (topics) and responsibilities (tasks) of wound specialist physicians in sufficient detail to provide a basis for the American Board of Wound Management (ABWM) Certified Wound Specialist Physician (CWSP®) certification examination. The ABWM requested the services of AMP, a PSI business (PSI/AMP) to design and conduct a study that would provide the support necessary to develop specifications upon which examinations with substantial evidence of content validity could be developed.

A Job Analysis Study Advisory Committee (AC) was appointed by ABWM to conduct the activities necessary to identify the responsibilities of a professional in wound management and develop examination specifications. The diversity of this 11-member AC was reflective of the wound management professionals. All AC members demonstrated expertise in the knowledge and responsibilities associated with this profession.

Methodology

Six major tasks were initiated during the AC meeting held in January 2016. These steps included:

1. Developing a sampling plan

The AC considered various methods of identifying individuals who consider themselves to be practitioners in wound management, or who would be knowledgeable about the duties of practitioners in wound management. In selecting individuals to be sampled, an effort was made to ensure an appropriate sampling of all three groups of wound care associates, wound specialists, and wound specialist physicians. E-mail invitations were sent to a combined list of ABWM credential holders and prospectives for potential respondents.

2. Identifying topics and tasks for the survey instrument

The draft list was thoroughly discussed during the meeting held in January 2016. Topics of knowledge required in the wound management profession and tasks representing individual job responsibilities of each job covered in the survey were modified, added, and removed. All topics and tasks were verified as being appropriately linked to the associated content category (e.g., Wound Healing Environment). At the conclusion of this meeting, a draft list that included 54 topics of knowledge, 59 tasks of wound care associates, 46 tasks of wound specialists, and 45 tasks of wound specialist physicians were developed for review by the AC. After review of the draft list, the AC authorized development of the final survey.

3. Identifying content categories

The committee identified five content categories, under which the 54 topics were categorized into subcategories. The AC unanimously agreed on the linkage of each topic to the respective content category. The categories were as follows:

1. Wound Healing Environment
2. Assessment and Diagnosis
3. Patient Management
4. Etiological Considerations
5. Professional Issues

Forty-five (45) wound care specialist physician tasks were also categorized into the following subcategories:

1. Patient Preparation
2. Patient Assessment
3. Treatment
4. Education
5. Administration

4. Determining the rating scales

The committee discussed the advantages and disadvantages of various rating scales that could be used in responding to the topics and tasks. PSI/AMP suggested the use of a single importance scale. This single scale is intended to solicit judgments on the importance of topics or tasks after first considering the extent to which it is necessary to the performance in practice. The importance scale adopted by the AC is shown below; the instructions for respondents for use of the scale are included in the directions section of the survey instrument.

How important is this topic/task to your practice as a wound care specialist physician?

0 = Not applicable
1 = Not very important
2 = Important
3 = Very important
4 = Essential

5. Determining the relevant demographic variables of interest

The AC identified 15 relevant and important demographic survey variables. Since this was a national study, it was important to identify the respondents' geographic regions of employment. Other demographic questions were written to assess characteristics of the representativeness of the respondents, including level of education, primary professional designation, specialty area, board certifications, years of experience, percentage of work that involves wound management, primary place of practice/employment, other practice settings, certifications, gender, age, and ethnicity.

6. Integrating demographics, rating scales, topics and tasks into a survey instrument

After the first meeting, all components of the survey (demographics, rating scales, 54 topics, 59 wound care associate tasks, 46 wound specialist tasks, and 45 wound specialist physician tasks) were combined into a draft survey instrument. The survey was designed to direct respondents to complete the topic portion and only the relevant task portion. As a pilot test, this draft was distributed to the AC and other individual content experts via an e-mail message, which included a link to the survey. Following a review of the comments, the final survey with minor edits was prepared and distributed via an e-mail invitation.

Results

Of the 8,352 e-mail survey invitations distributed, 976 were returned as undeliverable and 4 opted out of the survey, leaving 7,372 potential respondents. There were 1,276 responses included in data analysis, resulting in a 17.3% response rate (1,276/7,372).

Demographic Information

Out of 1,138 respondents who responded to the certification qualification question, 243 respondents (21.4%) identified themselves as those who would qualify for the CWSP certification examination. Responses to some of the demographic variables are depicted in the following graphs.

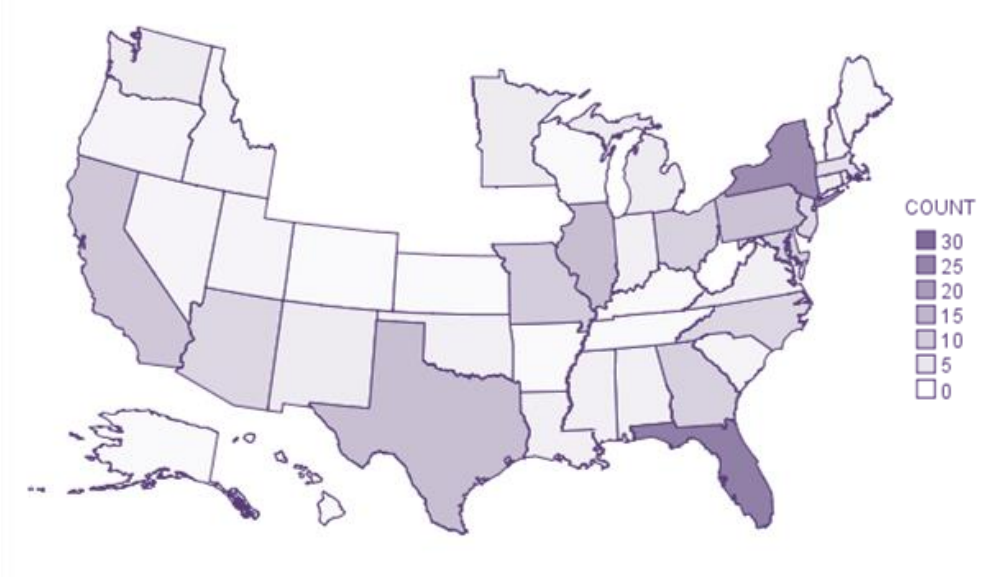

Figure 1. In which state do you primarily practice?

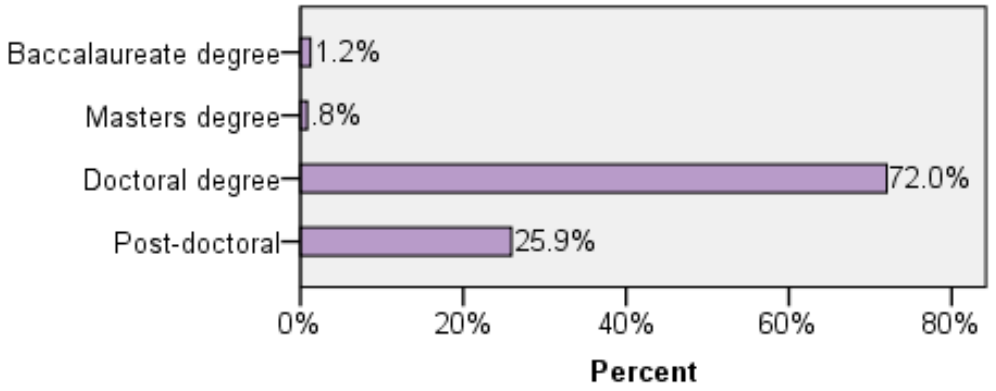

Figure 2. Which of the following best describes your highest level of education (or equivalent)?

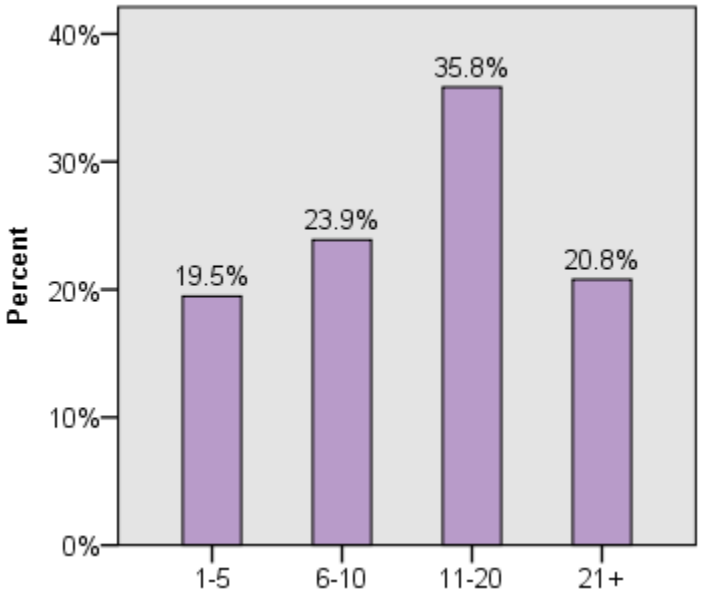

Figure 3. How many years of experience do you have in the field of Wound Management? (Recoded)

Adequacy of the Instrument

Among 242 respondents who would qualify for the CWSP certification and responded to the question, which appeared at the end of the survey, 96.3% felt that the job analysis study at least adequately addressed the knowledge required to perform critical tasks as a wound specialist physician. Another aspect of the adequacy of the instrument relates to its reliability.

Topic/task reliability estimates show to what extent each scale "hangs together." A high topic/task reliability value may indicate that the scale represents a consistent collection. Rater reliability estimates are more important and indicate the degree to which raters agree on the importance of an item. Overall, the calculated reliability estimates are quite acceptable. Overall, the calculated reliability estimates were around 0.9 or higher. Since 1.00 represents a maximum reliability coefficient, the survey results can be considered reliable.

Examination Specifications

In developing Examination Specifications (or a DCO), AC judgment was used in interpreting the data gathered through the job analysis study. Of particular significance to a certification examination program is that the test specifications appropriately reflect the responsibilities of all groups who will participate in that program. Therefore, it is important to ensure that the test specifications and the resulting examination forms sample topics and tasks that are considered to be significant responsibilities of the individuals for whom the examination is intended.

Several decision rules were proposed for consideration and adopted by the AC in determining which topics and tasks should be considered ineligible for assessment, and therefore, excluded from the test content outline. Applying these decision rules provides objectivity in ensuring that the resulting examination reflects the profession of wound care specialist physician, as judged by a demographically representative group of professionals in wound management. The first decision rule helped ensure the content outline would only reflect both topics and tasks that were a part of practice; any that received a high percentage of respondents providing a "0" rating (Not applicable) were eliminated. The second decision rule, which was applied to both topics and tasks as well, established a threshold for the mean significance rating for the overall respondent group, ensuring that what remained on the content outline was clearly significant to practice. Finally, five different decision rules were adopted based on subgroup analyses, to ensure that the remaining topics were significant to practice throughout the United States, for different levels of education preparation, years of experience, percentage of work involved in wound management, and CWSP® certification status. As a result, application of these decision rules eliminated 2 topics and 3 tasks from the test content outline.

In addition to applying decision rules, the AC examined the respondents' comments and any additional topics or tasks that respondents had listed. Based on this review, the AC decided that no additional topics or tasks were needed to appropriately reflect the profession. In summary, a total of 52 topics and 42 tasks were eligible for assessment on CWSP® certification examination.

Development of Final Detailed Content Outline and Examination Specifications

The AC reviewed the final task list after application of the decision rules. They considered the mean significance ratings for each of the content categories, the number of remaining tasks in each category, and the number of items suggested by survey respondents for each area to guide their final decisions regarding the number of items for each of the five content areas of practice. The goal was to distribute items in accordance with known working patterns across the content areas.

After the number of items was determined, the next step involved defining the cognitive complexity of the content. A complexity scale was used to determine at what cognitive level individual topics were involved. The information provided a basis for matching test item complexity to job complexity. The AC discussed each topic in each section and considered the typical complexity of each topic. They then determined a distribution for each major content category by the cognitive categories of recall, application, and analysis.

Certified Wound Specialist Physician (CWSP) Detailed Content Outline*	Total
1. Wound Healing Environment	**25**
A. Anatomy and Physiology 1. Integumentary 2. Musculoskeletal 3. Vascular 4. Neurological 5. Lymphatic 6. Other systems (e.g., endocrine, renal, respiratory, immunologic) B. Wound Healing 1. Phases 2. Cell function (e.g., signaling proteins, cellular mediators) 3. Acute vs. chronic	
2. Assessment and Diagnosis	**40**
A. History B. Physical examination C. Wound and skin assessment D. Pain assessment E. Risk assessment F. Functional assessment G. Laboratory/Imaging H. Nutrition	
3. Patient Management	**40**
A. Wound bed preparation/debridement B. Dressings C. Cellular and/or tissue products for wounds D. Topical agents E. Complications in healing (including local and systemic factors) F. Nutrition G. Biophysical technologies 1. Electrical stimulation 2. Ultrasound H. Compression therapy I. Negative pressure wound therapy J. Hyperbaric oxygen therapy K. Pressure redistribution (i.e., offloading) L. Surgical closure or tissue transfer	

American Board of Wound Management **Certified Wound Specialist Physician (CWSP)** **Detailed Content Outline***	**Total**
4. Etiological Considerations	**30**
A. Neuropathy B. Diabetes C. Venous insufficiency D. Ischemia E. Pressure ulcers F. Lymphedema G. Trauma H. Surgical I. Atypical wounds (e.g., malignancy) J. Dermatological K. Infectious L. Burns M. Edema (i.e., systemic vs. local) N. Pediatric issues	
5. Professional Issues	**15**
A. Documentation B. Patient adherence C. Legal concepts D. Reimbursement and medical economics E. Medical ethics (e.g., palliative care, reasonable expectation of outcomes) F. Multidisciplinary teams G. Epidemiology H. Evidence-based practice and research	
Total Scored Items	**150**

*Each test form will include 30 unscored pretest items in addition to the 150 scored items.

In addition to classifying by topic (above) items will be classified by task. Tasks that are eligible for assessment include:

Assessment and Diagnosis

P1 Obtain patient history
P2 Perform physical examination
P3 Order and interpret laboratory tests and imaging studies
Assess:
P4 wound healing status
P5 factors related to delayed wound healing
P6 wound characteristics
Evaluate wounds using the following standardized grading systems:
P7 Wagner scale
P8 NPUAP (e.g., stages, unstageable, suspected deep tissue injuries)
P9 Rule of Nines
P10 CEAP classification
P11 Determine etiology of the wound

Treatment of Wounds

Manage treatment of wounds using:
P12 debridement
P13 hyperbaric oxygen therapy
P14 electrical stimulation
P15 ultrasound (contact and non-contact)
P16 negative pressure wound therapy
P17 compression therapy
P18 dressings and topical agents
P19 surgical procedures (e.g., tissue grafts and flaps, cellular and/or tissue products)
P20 offloading measures (e.g., beds, special shoes)
Prescribe or manage:
P21 analgesic medications
P22 antimicrobial therapy
P23 systemic therapies (e.g., glucose control, transfusions)
Manage the following complications:
P24 bleeding
P25 allergic reactions
P26 adverse events
P27 scarring
P28 infection
P29 Address and manage nutritional deficits
P30 Address psychosocial aspects of patient care
P31 Identify the need for consultations and make referrals

Wound Prevention

P32 Identify and manage patient risk factors (e.g., obesity, diabetes, vascular disease)
P33 Educate patients, families, and caregivers
P34 Recommend and prescribe preventive measures

Professional Issues

P35	Comply with documentation requirements (e.g., legal, reimbursement)
P36	Identify and respond to issues related to medical ethics (e.g., off label use, patient competency)
P37	Identify and respond to issues related to medical economics (e.g., costs, accountable care)
P38	Determine appropriate levels of care (e.g., inpatient vs. outpatient)
P39	Incorporate a critical evaluation of literature to practice
P40	Apply principles of evidence-based medicine
P41	Adhere to guidelines and regulations (e.g., professional, governmental, credentials)
P42	Follow confidentiality and security regulations

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