A National Job Analysis Study of the Hospice Medical Director Executive Summary

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Introduction

The purpose of this study was to identify the responsibilities of hospice medical directors as a first step in the development of a job-related certification examination. The Hospice Medical Director Certification Board (HMDCB) requested the services of Applied Measurement Professionals, Inc. (AMP) to design and conduct a study that would provide the support necessary to develop specifications upon which a content valid certification examination could be built. The HMDCB appointed a Job Analysis Study Advisory Committee (AC) to conduct the activities necessary for this project. The AC was reflective of the hospice medical director role in all relevant respects, for example: primary specialty, years in hospice, size of hospice, work setting, geographic, and gender. All AC members had demonstrated expertise in their respective areas of specialization. The composition of the AC is shown in Table 1. This AC was responsible for guiding the job analysis for the Hospice Medical Director (HMD) examination. AMP is grateful to these committee members for their guidance and expertise, as well as the time committed to this project. Without the AC's effort and expertise across the various specialty areas, this project would not have been accomplished.

Table 1. Advisory Committee Members

Name and Credentials	Location
Brian Murphy, MD MBA *chairperson*	Las Vegas, Nevada
Ritchell Dignam, MD	Mount Laurel, New Jersey
Tommie Farrell, MD	Lubbock, Texas
Juliette Kalweit, MD FAAFP	Oregon, Illinois
John Massone, MDCM	Lafayette, Colorado
David McGrew, MD FAAHPM	Spring Hill, Florida
Stephanie Patel, MD FAAHPM	Danvers, Massachusetts
Glen Patrizio, MD	Hood River, Oregon
Patricia Schmidt, DO FACOI FAAHPM	Farmington, MI
Sally Weir, HMDCB Executive Director	Glenview, IL

In the next section of this executive summary, the methodology of the study is discussed. In particular, the design of the survey instrument is described, including the method of defining tasks, rating scales, and demographic questions. The results section of this report discusses the respondents and their demographics, the adequacy of the instrument, and a summary of the responses. The final section discusses the development of the Examination Specifications based on these data.

Methodology

The AC considered various resource materials that could be useful in understanding the tasks of hospice medical directors. The primary resource was the hospice medical director core competencies developed by the American Academy of Hospice and Palliative Medicine's (AAHPM's) Medical Director Education Committee. Other materials assembled prior to the first meeting of the AC included orientation materials, a draft of rating scales for the survey, and a timeline for conducting the study. Background information was provided regarding both the job analysis process (and its relationship to the examination development process) and HMDCB's role in the continuing development of the HMD certification examination. Six major tasks were initiated during the AC meeting held in October 2012. These steps included:

1. Developing a sampling plan
2. Identifying tasks for the survey instrument
3. Identifying content categories
4. Determining the rating scales
5. Determining the relevant demographic variables of interest
6. Integrating demographics, rating scales, and tasks into a survey instrument

A summary of each activity follows.

1. *Developing a sampling plan*

   As a new certification board with a limited database, partner organizations assisted in sending a crafted message including the survey link to their membership. These organizations included state associations and academies related to hospice and palliative care, as well as national organizations. More detail about these organizations will be provided in the results section of this report.

2. *Identifying tasks for the survey instrument*

   The draft list was thoroughly discussed during the meeting held in October 2012. The core competencies required in the hospice medical director profession and tasks representing individual job responsibilities were modified, added, and removed. All tasks were verified as being appropriately linked to the associated content category (e.g., Patient and Family Care). At the conclusion of this meeting, a draft list that included 126 tasks of hospice medical directors 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 126 tasks were categorized into subcategories. The AC unanimously agreed on the linkage of each task to the respective content category. The categories were as follows:

   1. Patient and Family Care
   2. Medical Knowledge
   3. Medical Leadership and Communication
   4. Professionalism
   5. Systems-Based Practice

4. *Determining the rating scale*

   The committee discussed the advantages and disadvantages of various rating scales that could be used in responding to the tasks. AMP suggested the use of a single significance scale. This single scale is intended to solicit judgments on the significance of tasks after first considering the extent to which it is necessary to the performance in practice. The significance scale adopted by the AC is shown below.

Considering both frequency and importance, how significant is this task to your job as a hospice medical director?

0 = Not necessary for my job
1 = Minimally significant
2 = Somewhat significant
3 = Quite significant
4 = Extremely significant

5. *Determining the relevant demographic variables of interest*

   The committee identified 16 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 role, specialty area, board certifications, years of experience, hours worked per week, practice setting, hospice size, gender, age, and ethnicity.

6. *Integrating demographics, rating scale, and tasks into a survey instrument*

   After the first meeting, all components of the survey (demographics, rating scale, 126 tasks) were combined into a draft survey instrument. 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

The survey was accessible via the Internet through the response deadline of January 10th, 2013 but was extended to January 17th, 2013 to increase the response rate. Of the 5,268 e-mail invitations distributed to eight different hospice and palliative organizations, 467 e-mails were returned due to undeliverable addresses. A total of 653 respondents accessed the survey, providing a raw response rate of approximately 14%. After reducing the sample size for participants who completed less than 10% of the survey (i.e., rated less than 10% of the task statements), a total of 618 responses were considered to be valid responses, for a corrected response rate of 13%. The reader should be aware that there was some overlap between the membership organizations so it was possible that many hospice medical directors received the same message from more than one organization. The extent of the overlap is unknown so response rates stated here are approximate. A summary of the e-mail distribution and the response rate calculation is shown below in the Tables 2 and 3.

Table 2. Summary of Survey Distribution

Organization	Sent	Undeliverable	Adj. Total
Texas Academy of Palliative Medicine	370	35	335
Florida Hospice & Palliative Association	121	6	115
Oregon Hospice Association	52	0	52
California Hospice and Palliative Care Association	1,044	179	865
Hospice Organization & Palliative Experts Of Wisconsin	79	0	79
National Hospice and Palliative Care Organization	1,590	178	1,412
American Academy of Hospice and Palliative Medicine	1,487	69	1,418
Gentiva Home Health and Hospice	525	0	525
Totals	**5,268**	**467**	**4,801**

Table 3. Response Rate

Valid Sent	Responses	Cases Removed	Adj Total Responses	Response Rate
4,801	653	35*	618	12.9%

** Data for participants who did not provide ratings for less than 10% of the tasks were removed from the dataset.*

Demographic Information

Several demographic questions were asked so that a description of the sample could be provided to the AC. In summary, the demographic results were generally as expected and the AC concluded that this information is consistent with the population of hospice medical directors. In addition, they concluded that a sufficient number of responses in relevant subgroups was received to facilitate subsequent analysis. Full results of the demographic information can be found <here>.

Adequacy of the Instrument

Among 584 respondents who responded to the question shown in *Figure 14*, which appeared at the end of the survey, 99% felt that the job analysis study at least adequately addressed the tasks of hospice medical directors.

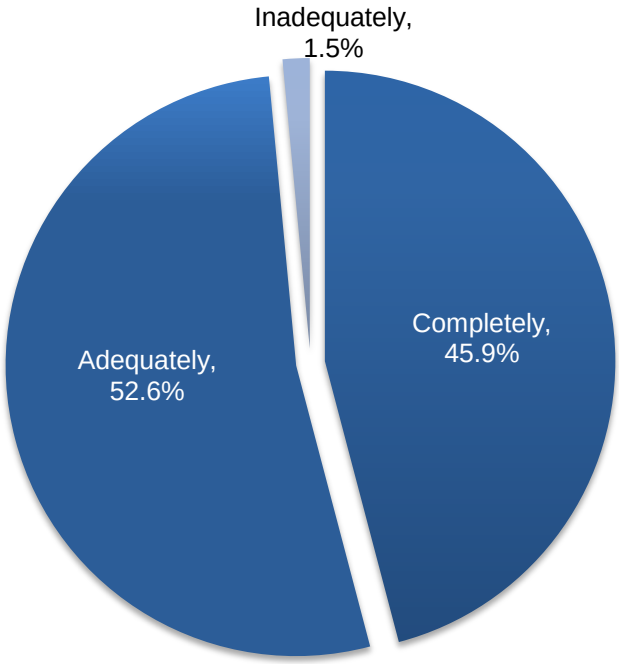

Figure 14. How well did this survey cover the job of the Hospice Medical Director?

Another aspect of the adequacy of the instrument relates to its reliability. Reliability estimates of were calculated in two ways, to address both the task reliability and the rater (or respondent) reliability. Task reliability estimates show to what extent each scale "hangs together" (coefficient alpha). A high task reliability value may indicate that the scale represents a consistent collection. Rater reliability estimates (intraclass correlation) 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.

Task Ratings

Descriptive data for each of the 126 tasks were calculated and reviewed by the AC. While relative comparisons of the data are appropriate (e.g., when comparing tasks, the task with the higher mean rating could be said to be more important to practice), it is important to consider the absolute meaning of the ratings. The reader should bear in mind that the response options (also known as anchors) for the significance scale were: 0) Not necessary for my job, 1) Minimally significant, 2) Somewhat significant, 3) Quite significant, and 4) Extremely significant.

The mean of the ratings is based on all ratings of significance and does not include the zero (i.e., not necessary for my job) ratings. Therefore, the mean significance ratings represent the level of significance judged by the respondents who believed that the task was necessary to practice.

The mean significance ratings for tasks ranged from 1.97 (for task 11: Communicate directly with families or bereavement counselors after the death) to 3.81 (for task 42: Formulate and certify prognosis for hospice patients by reviewing available clinical data). The mean rating of significance, calculated across all 126 tasks, was 3.03, with a standard deviation of 0.46. A grouped frequency distribution of the overall mean ratings for the 126 tasks is shown in Table 4.

Table 4. Distribution of Mean Task Ratings

Mean Rating	*N*	%
3.50 - 4.00	24	19.0%
3.00 - 3.49	48	38.1%
2.50 - 2.99	32	25.4%
2.00 - 2.49	21	16.7%
Less than 2.00	1	0.8%
Total	126	100.0%

Ratings of Various Demographic Groups

The demographic questions were included in the survey to provide descriptive information about the respondents. For some demographic questions, however, it is important to ensure that individuals from different subgroups view the tasks required for hospice medical directors similarly, and that the ratings exceed a level of significance sufficient to warrant inclusion on a national examination. Means, standard errors, and number of respondents providing ratings from each subgroup for the 126 tasks were also reviewed by the AC.

Examination Specifications

In developing Examination Specifications (or a Detailed Content Outline), committee judgment must be used in interpreting the data gathered through the job analysis study. For purposes of this report, the Examination Specifications will be defined as the confidential document that is used to guide the examination development process, and includes sufficient detail to ensure the development of comparable examination forms. The Detailed Content Outline can be defined as a subset of the Examination Specifications; it is a document that includes a detailed listing of content available in outline form for candidates and item writers. Every examination item must be linked to a task on the Detailed Content Outline as a first step in meeting the Examination Specifications during the examination development process.

Of particular importance to a national certification examination program is that the Examination Specifications must appropriately reflect the knowledge requirements and responsibilities of all groups who will participate in the certification program. Therefore, it is important to ensure that neither the Examination Specifications nor the resulting examinations include tasks that are not considered to be important for whom the examination is intended.

Several decision rules were proposed for consideration by the AC in determining criteria by which tasks should be considered *ineligible* for assessment, and therefore excluded from the Detailed Content Outline. The general areas for consideration were discussed by the AC during a meeting held in February 2013.

The decision rules adopted by the AC, the order in which they were applied, and their impact on exclusion of tasks are identified in Tables 5. Applying the decision rules ensures that the resulting examination reflects the tasks of hospice medical directors, as judged by a demographically representative group of hospice medical directors.

Table 5. Decision Rules and Criteria to Remove Tasks

Decision Rule *The task must be:*	**Criteria**
• part of practice	At least 69% of the respondents reporting a non-zero rating
• significant to practice	Overall mean rating at least 2.40
• Significant across these subgroups: - Regions - Roles - Board certification - Years of experience - Locations - Hours employed per week - Hospice sizes - Organization types	Mean ratings of at least 2.30

After all decision rules were applied, the committee was asked again if each of the tasks identified for elimination should be deleted. The committee agreed unanimously on the application of all decision rules. As a result of implementing the decision rules, 16 tasks were removed from the task list.

In addition, the AC reviewed the comments offered by the survey respondents, in particular, those comments that suggested that additional tasks would be appropriate to practice. Following discussion, no additional changes were made. In summary, application of the decision rules and review of the task list resulted in a total of 110 tasks remaining from the original 126 tasks.

Development of Final Detailed Content Outline and Examination Specifications

For the HMD examination, a Detailed Content Outline can be defined as a detailed listing of content available in outline form for candidates and item writers. The final 110 tasks were organized into the Detailed Content Outline, which may be used by candidates for preparation for the examination. Examination Specifications incorporate the detailed content of the Detailed Content Outline, and also include other information needed to ensure the development of comparable examination forms.

The AC determined that the remaining 110 tasks could be appropriately assessed by way of multiple-choice examination items to ensure appropriate content coverage. Item writers will be advised that any knowledge area underlying a task may be appropriate for assessment, and that the item should be directly related to the task, at an appropriate level of cognitive performance.

After agreeing on the total number of items on the examination, the committee discussed how these items should be distributed across the content categories. One source of information was the survey respondents' recommendations regarding the distribution of the items on the five major domains. The committee was asked to consider the significance of the task ratings and the breadth of content within each major content area. The committee members then independently expressed judgments about their recommendations for the number of items to be specified, and the mean of those judgments was used as a starting point. Following discussion, the committee unanimously agreed on the number of items for each of the five major content categories.

The AC decided to specify that items as require recall, application, or analysis on the part of the candidate. For purposes of such classification, the AC adopted the definitions shown in Table 6.

Table 6. Cognitive Level Definitions

Level	Definition
Recall	Requires recall or recognition of specific facts or concepts which generally does not vary relative to the situation.
Application	Requires the comprehension, interpretation, or manipulation of concepts or information to a given situation.
Analysis	Requires integration or synthesis of a variety of concepts or information to problem solve, integrate or make judgments about a situation (i.e., evaluating and rendering judgments on complex problems with many situational variables).

The committee participated in an exercise that involved discussion of each task and determination of the likely level of cognitive complexity that a hospice medical director would use when performing that task. Using a three-point scale, the mean rating in each content category was calculated, and a standard formula was used to suggest a distribution of items by cognitive level. For example, categories with a high mean cognitive rating would have a greater emphasis on analysis, and those with low mean ratings would emphasize recall. The committee used this distribution as a starting point for discussion about what a reasonable distribution of

items should be, guided by the expectation that the majority of the examination should require application of knowledge. The draft Examination Specifications were prepared and presented to the HMDCB Board, along with a summary of the results of the job analysis project.

The HMDCB Board met in April 2013 and discussed the project and the draft specifications, under the guidance of the two Board members who had been a part of the AC. Following discussion, the Board unanimously agreed on the distribution of items shown in Table 7.

Table 74. Overview of Published Detailed Content Outline

Content Category	Percent of Examination
1. Patient and Family Care	17
2. Medical Knowledge	26
3. Medical Leadership and Communication	21
4. Professionalism	10
5. Systems-Based Practice	25

The Detailed Content Outline will be published and available to potential candidates and members of the public. However, the full Examination Specifications will remain confidential for use by those who have signed confidentiality agreements and are engaged in HMD examination development activities. The specifications stipulate that there will be 150 multiple-choice items used to compute candidate scores, plus 15 unscored pretest items.

Conclusion

The Job Analysis described in this summary was undertaken to provide evidence supporting content valid inferences from examination scores. The study was conducted to determine and comprehensively describe the Certified Hospice Medical Director's job, to evaluate this description through the ratings of job experts, and to define areas that should be assessed in this examination to begin early 2014.

The HMDCB formed the Advisory Committee, who prepared a comprehensive list of tasks describing the job. A representative sample of job experts completed the survey. The AC reviewed the survey results and used the survey ratings to develop draft Examination Specifications directly related to the important tasks that target hospice medical directors perform. These specifications were reviewed by the HMDCB Board, and minor changes were made. The specifications will be used to ensure the examination is current and job-related. Each future form of the examination will contain the specified number of items distributed across the content areas matching the confidential version of the specifications included in this report. Because each test form will be developed to match these job-related test specifications, valid content-related inferences can be drawn about candidates' abilities to perform the Certified Hospice Medical Director's job. To promote fairness to candidates and to inform the public about the meaning of the credential, this executive summary and a version of the full detailed content outline will be published.