

Special Article

Development of Curricular Milestones for Hospice and Palliative Medicine Fellowship Training in the U.S.



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Abstract

Context. A physician workgroup of the American Academy of Hospice and Palliative Medicine sought to define curricular milestones (CMs) for hospice and palliative medicine (HPM) Fellowship Programs. The developed list of CMs would serve as components upon which to organize curriculum and standardize what to teach during training. These would complement entrustable professional activities previously developed by this group and new specialty-specific reporting milestones (RMs) for HPM developed through the Accreditation Council for Graduate Medical Education.

Objectives. The objective of this study was to develop and vet CMs for HPM fellowships in the U.S.

Methods. A draft of CMs was developed through an iterative consensus group process with repeated cycles of drafting, analyzing, and revising by a broadly representative expert workgroup who then gained input from HPM educators at a national meeting workshop. The CM draft was subsequently revised and then vetted through a national survey to 203 fellowship educators. Respondents were asked to “keep,” “revise,” or “exclude” each proposed CM with space for comments. An agreement of 75% among respondents was set as the criteria a priori for keeping a CM. Eighty-four of the 203 potential respondents participated in the survey. All items met the minimum agreement level of 75% or greater recommending keeping the CM. Greater than 85% of the respondents agreed to keep 19 of the 22 CMs with no revisions. Comments for revisions on other CMs were primarily related to changes in language and formatting, not conceptual underpinnings.

Conclusion. A group consensus method strengthened by inclusion of a national survey to HPM fellowship educators resulted in a CM document that is both carefully developed and broadly vetted. Along with entrustable professional activities and new specialty-specific RMs, these CMs offer educators and trainees tools to create more comprehensive curricula and behaviorally based assessment tools for HPM fellowships and their stakeholders. *J Pain Symptom Manage* 2019;57:1009–1017. © 2019 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words

Curricular milestones, hospice, palliative care, fellowship, graduate medical education

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Introduction

Change is afoot in medical education as it continues to transform at all levels to establish competency-based medical education for physicians in training. At the graduate level, the Next Accreditation System (NAS) of the Accreditation Council for Graduate Medical Education (ACGME) has advocated for educators to move beyond a time-based approach to training to that of a competency-based approach. Within the NAS, the ACGME adopted newer concepts and terminology to require “measurement and reporting of outcomes through the educational milestones¹” for graduate physician trainees. Eventually, these milestones included two types: curricular milestones (CMs) and reporting milestones (RMs).² In addition, entrustable professional activities (EPAs)³ received increased attention with NAS changes. EPAs are the key activities of the specialty that are “entrusted” to a trainee to perform without supervision once they have demonstrated competence. RMs are measurable behaviors that chart the progress of a trainee through progressive levels of competence in the six ACGME-defined core competencies (medical knowledge, patient care, professionalism, interpersonal and communication skills, practice-based learning and improvement, and systems-based practice). Training programs are required to report RMs on every trainee to the ACGME every six months in a standard format. CMs are detailed curricular elements of a training program.^{2,4} Specifically, they are the granular components upon which to organize curriculum and standardize what to teach during training. In this way, CMs may be useful as a repository of shared knowledge and as a guide for educators starting fellowship programs or those reassessing fellowship curricula. Unlike RMs, CMs are encouraged but not required by the ACGME and have no recommended format.

The American Academy of Hospice and Palliative Medicine (AAHPM) has a history of promoting and supporting educational innovation. Hospice and palliative medicine (HPM) benefited from AAHPM support in the development of HPM-specific competencies for both adult and pediatric programs shortly after the field gained official recognition in 2006 from the American Board of Medical Specialties and the ACGME.^{5–8} Given the new NAS framework provided by the ACGME, AAHPM convened a workgroup to address competency-based medical education for EPAs and CMs. EPAs have been developed and were disseminated in 2015.^{8,9} The HPM subspecialty-specific RMs are under development by a subset of the CM and EPA workgroup along with trainee and community representation in collaboration with the ACGME leadership. This article focuses

on the development of CMs for HPM Fellowship Programs.

Other specialties and subspecialties have developed CMs that vary in approach, quantity, and granularity. As examples, geriatrics, also a one-year fellowship, defined 76 CMs in 20 categories with three domains and described CMs as “what every graduating fellow should be able to demonstrate to ensure that they will be able to practice effectively and safely in all care settings and with different older adult populations.¹⁰” Pulmonary and Critical Care,¹¹ a three-year fellowship, defined 109 CMs and listed them as “the specific components of the curriculum of a training program. Operationally, they can be considered as the learning objectives for fellowship.” Internal medicine defined 143 CMs in 39 categories for the three-year residency and expects educators to “use them to track the progress of trainees and guide curriculum development.¹²” This article describes the development of a comprehensive list of 22 CMs through a robust consensus building group process vetted at a national HPM conference of educators and using a national survey. In addition, this article considers the practical application of using CMs in conjunction with EPAs and RMs for HPM Fellowship Programs.

Methods

CM Development by Expert Workgroup

To develop CMs, a workgroup of content experts employed guided consensus building through a rigorous iterative group process between March 2016 and March 2018 described in the following (see [Table 1](#): HPM CM Workgroup’s stepwise development process). The workgroup included 10 physician educators who represented diversity in practice settings, geographic locations, program sizes, years of practice, and patient populations (i.e., adult and pediatric). All members had served or are currently serving as HPM fellowship directors, led multiple HPM educational initiatives at their institution, and participated in the development of the HPM EPAs.

At an in-person inaugural meeting in March 2016, the workgroup and a representative from the ACGME Milestone Development leadership benchmarked CMs with other specialties^{12–16} and subspecialties^{10,11,17} to define the aims and processes for HPM CM development. The workgroup recognized and summarized a variety of approaches with no one best or most commonly used tactic emerging. The workgroup identified and agreed upon the following vetted foundational documents for HPM Fellowship Programs as the basis for CM development: HPM EPAs,⁸ HPM Core Competencies Version 2.3⁵, Pediatric HPM

Table 1
HPM CM Workgroup's Stepwise Development Process

Date	Process	Details
Mar 2016	Face-to-face meeting at AAHPM Annual Assembly	<ul style="list-style-type: none"> a) Reviewed literature for CM development in other specialties and subspecialties b) Identified foundational documents for HPM Fellowship Programs as basis for CM development: <ul style="list-style-type: none"> i) 2009 Adult Competencies document ii) 2014 Pediatric Competencies document iii) ABIM certifying examination blueprint iv) 2016 EPA document
Mar to Sept 2016	Individual and dyad work and five phone conferences	<ul style="list-style-type: none"> a) Compare, combine, and distill foundational documents b) Identify curricular themes
Oct 2016	In-person two-day meeting	<ul style="list-style-type: none"> a) After reconciliation of foundational documents, individual EPAs were placed in one of five working categories to facilitate analysis: <ul style="list-style-type: none"> i) Symptoms (EPAs 1–3) ii) Communication (EPAs 4–7) iii) End of life (EPAs 8–10) iv) Holistic care (EPAs 11–13) v) HPM practice (EPAs 14–17) b) Workgroup established a shared working definition of CMs as teachable units within HPM Fellowship Programs c) Dyads reviewed each of the five categories to identify critical units for teaching within each area again using foundational documents as sources d) Workgroup reached consensus on the number of CMs for a one-year program, the need for subthemes to elucidate the meaning of each CM, and the use of examples within a subtheme as suggestions for more detailed curricular content e) Workgroup identified 22 draft CMs and associated subthemes
Nov 2016 to Feb 2017	Dyad work and 12 phone conferences	<ul style="list-style-type: none"> a) Alternate groups reviewed CMs in rotation suggesting revisions and refinements which were further vetted during conference calls b) Workgroup edited the list for consistency of style and formatting once all 22 CMs were reconciled c) Identified four broad educational categories of CMs: <ul style="list-style-type: none"> i) Patient care ii) Communication iii) HPM processes iv) Professional development
Feb 2017	Solicited input at the AAHPM Annual Assembly	<ul style="list-style-type: none"> a) Vetting in sessions for Program Directors and general conference attendees via: <ul style="list-style-type: none"> i) General discussion ii) Guided questions in focus groups iii) Individual worksheets to engage all participants
Mar to Sept 2017	Dyad work and five phone conferences	<ul style="list-style-type: none"> a) Refined CMs based on the qualitative data from annual meeting sessions b) Revised CMs for consistency in preparation for final vetting via a national survey c) Established survey threshold for consensus agreement at 75%
Oct 2017	National survey to Program Directors and other identified educators in HPM Fellowship Programs	
Nov 2017 to Feb 2018	Dyad work and four phone conferences after national survey	<ul style="list-style-type: none"> a) Reviewed comments on survey b) Edited endorsed CMs focusing exclusively on grammar and syntax c) Drafted introduction, FAQs, and matrix of CMs to EPAs
Mar 2018	Online release of the HPM CM document followed by a faculty development session providing guidance on potential use at AAHPM Annual Assembly.	

HPM = hospice and palliative medicine; CM = curricular milestone; AAHPM = American Academy of Hospice and Palliative Medicine; EPAs = entrustable professional activities.

Core Competencies Version 2.0,¹⁸ and the ABIM HPM Blueprint.¹⁹ The Core Competencies documents had been used by hundreds of educators in the field over

the preceding 10 years and provided the basis for the EPAs which were then vetted with the HPM field through a national survey. The workgroup questioned

whether any singular foundational document adequately defined the curricular elements of an HPM one-year curriculum. Over five subsequent conference calls, the workgroup developed a matrix to compare and combine the foundational documents. From that matrix, the workgroup agreed that the EPA document sufficiently included all curricular themes represented in the other foundational documents and would serve as the scaffolding for the development of CMs.

The workgroup met for a two-day face-to-face in-person meeting for further development of CMs. During that meeting, the workgroup referenced the summary of other benchmarked subspecialty CMs and agreed to the following guiding principles for our CM development framework: 1) CMs would be considered “teachable curricular units,” more extensive than a solitary teachable moment or single lecture and likely covered over multiple points in time during the fellowship year and 2) CMs would be limited in number, yet inclusive enough to represent the essential topics that could and should be covered in a one-year fellowship. Through review of the matrix and EPAs, the workgroup delineated five working categories to facilitate CM development: Symptoms, Communication, End of life, Holistic care, and HPM practice. Workgroup dyads independently reviewed each of the five categories to identify critical units for teaching within each area using all the foundational documents as references. Then, as a large group, the suggested teaching units were examined for commonalities and differences and revised as potential CMs. After analyses of all categories were completed, all potential CMs were assessed as a whole and modified to eliminate unnecessary redundancy. The workgroup agreed that some redundancy was acceptable if the content could be taught thematically in more than one CM. Each remaining CM was further clarified by the inclusion of subthemes as suggestions for more detailed curricular content. This rigorous iterative consensus-building process yielded a draft of 22 CMs with associated subthemes.

The CMs were further refined through dyad work and 12 phone conferences after the in-person meeting. When the workgroup identified the need for more applicable educationally based organizational themes instead of the original five working categories, four broad educational categories of CMs emerged: Patient Care, Communication, HPM Processes, and Professional Development. Each category of CMs was reviewed by a dyad and presented to the workgroup during phone conferences for further editing. Once all 22 CMs and their subthemes were reconciled, the workgroup edited the list for consistency of

style and formatting in preparation for national vetting.

National Conference Vetting

The workgroup next solicited input on the drafted CMs from attendees of a live workshop at the 2017 Annual Assembly of Hospice and Palliative Medicine consisting of primarily HPM Fellowship Program Directors (PDs) and associate PDs. Participants were provided with the draft CMs for independent review followed by small group table discussion. Each table was assigned one of the four categories listed previously with five to six of the proposed CMs included in each category. Individuals at that table were asked to complete a questionnaire on the selected CMs (see [Appendix A](#) as an example of the questionnaire). A table leader volunteer then tallied the answers and recorded group reflections on a worksheet. The workgroup reviewed these worksheets and incorporated feedback into a revised draft for further vetting in a national survey.

National Survey Vetting

An electronic survey was distributed to all HPM Fellowship PDs and Associate PDs nationally to solicit feedback on the newly revised draft of HPM CMs. This study was IRB-exempted by both the Ohio State University Wexner Medical Center and the University of Kansas Medical Center.

Sample

The target population for the survey was PDs and Associate PDs from HPM Fellowship Programs in the U.S. These respondents were chosen for two primary reasons. First, they were felt to be the educators most likely to provide robust feedback on the CM draft due to their direct experience in curricular development and implementation given their role within Fellowship Programs. Second, fellowship leaders would have investment in the development of CMs as potential future curricular components for their own fellowship programs.

We began with the AAHPM database of all HPM PDs in the U.S. To improve feedback by including all essential educators in HPM Fellowship Programs, AAHPM sent out an e-mail request to all PDs to identify and provide contact information for Associate PDs or individuals who serve a similar role even without an official designation and updated the database accordingly. Only those listed in this updated AAHPM database were asked to participate in this study. Survey requests were sent to 203 potential respondents with 122 designated as PDs, 72 designated as Associate

PDs, and nine identified as other designated educators by their PDs.

Measurement

The instrument was a qualitative survey that elicited feedback on the proposed draft of 22 CMs. Respondents were asked to indicate whether they would “keep,” “exclude,” or “revise” each proposed CM with space for additional comments. Respondents could skip questions. Comments were encouraged but not required. In addition, demographic information was requested from the respondents. The survey was developed and administered through Qualtrics, a secured electronic platform. The survey was pilot-tested for clarity and survey response time with the workgroup before dissemination.

Procedure

Recruitment included a notification of the upcoming survey through AAHPM Connect (an online community for HPM Fellowship PDs and educators administered by AAHPM). The official survey e-mail was then distributed by the AAHPM staff to all potential respondents from the database with an electronic link to the survey that included instructions and a consent form.

Completed surveys were set with anonymous collection (no attached e-mail or IP addresses). A reminder e-mail with the survey link was sent weekly for three weeks at which time the survey closed. Data were downloaded into Qualtrics for analysis and interpretation. All data were systematically reviewed and considered for incorporation into the document through four workgroup phone conferences before dissemination of the final HPM CMs.

Statistical Analysis

Basic descriptive statistics were run to describe population demographics including gender and age. Other characteristics of interest were also examined, such as clinical practice setting, size of the HPM Fellowship Program, years of experience as a fellowship PD (or Associate Program Director), and primary specialty board. Response frequency was calculated for all 22 CM items to assess agreement rates. An agreement of 75% among respondents was set as the criteria a priori for keeping a CM²⁰ and its associated sub-themes on the final CM list with only minimal grammar and syntax changes.

Results

There were 113 responses out of a total possible population of 203 yielding a response rate of 57%. Eighty-four of these respondents (74%) consented to have their responses reported in research findings.

One respondent contacted the team indicating they had replied twice. However, owing to the anonymous data collection, we were unable to identify this respondent to remove the duplicate entry. See [Table 2](#) for demographics of the sample. Not all respondents replied to every item. All items met the minimum agreement level of 75% or greater recommending to keep the CM as detailed in [Table 3](#). The minimum agreement to keep an item was 83.1% (CM 22: Career Preparation). Greater than 85% of the respondents agreed to keep 19 of the 22 CMs. The three CMs that had agreement to keep within the 80%–85% range were Documentation, Palliative Care Emergencies and Refractory Symptoms, and Career Preparation. Two CMs (Prognostication and Scholarship/QI/Research) had less than 5% responses requesting revisions. The remaining CMs had responses between 5% and 15% requesting revisions. Comments for revisions were primarily related to changes in language and formatting as opposed to conceptual underpinnings. The revised list of CMs⁸ as seen in [Table 4](#) and their subthemes (see [Appendix B](#)) was posted online on the AAHPM web site in March 2018.

Discussion

This article reports the development of 22 HPM CMs to be used by HPM Fellowship Programs. It outlines our rigorous iterative consensus group process of multiple rounds of drafting, analyzing, and revising which was aided by feedback garnered at a national meeting of fellowship educators. Our methodology was strengthened by inclusion of a national anonymous survey of HPM fellowship educators with a strong response rate as well as a priori criteria for consensus that were achieved for all milestones. The result of this process is a CM document that is both carefully developed and broadly vetted.

The quality and standardization of consensus group methods vary greatly across medical education literature. Humphrey-Murto et al.²¹ outline in their review article areas that are often poorly described or omitted including “conducting literature review to inform the consensus method, providing background information to participants, reporting the number of participants after each round, describing the level of anonymity used in the study, providing participants with feedback of group ratings, and articulating the definition of consensus used in the study.” (pg1496).

We attempted to address many of the concerns outlined in Humphrey-Murto²¹ by clearly describing our consensus group process in both the [Methods](#) section and [Table 1](#). For example, we conducted a thorough literature review on the CM development from other specialties and subspecialties to inform our idea

Table 2
National Survey Participant Demographics

Demographics (N = 84)	Percent	Frequency
Years in current position in fellowship program		
<1	3.7	3
1–5	72.8	59
6–10	21.0	17
>10	2.5	2
Current professional role		
Fellowship Program Director	63.0	51
Associate Program Director	29.6	24
Other (attending physician, site director, teaching faculty, key faculty)	7.4	6
Practice setting ^a		
Inpatient consultation service	88.1	74
Inpatient palliative care unit	23.8	20
Outpatient clinic	63.1	53
Home hospice	21.4	18
Inpatient hospice	22.6	19
Protected research	6.0	5
Medical education	69.0	58
Other (e.g., SNF, outpatient community, administration)	3.6	3
Number of fellows in program		
0	1.4	1
1	20.5	15
2	23.3	17
3	24.7	18
4	16.4	12
>5	13.7	10
Primary specialty board ^a		
Internal Medicine	58.3	49
Family Medicine	20.2	17
Pediatrics	10.7	9
Other (e.g., Emergency Medicine, PM&R, Anesthesiology, Psychiatry, Geriatric Medicine, Medical Oncology)	7.2	6
Age, yrs		
30–39	37.3	25
40–49	29.9	20
50–59	17.9	12
60–69	13.4	9
70–79	1.5	1
Gender		
Female	55.6	40
Male	43.1	31
Prefer not to disclose and other	1.4	1

^aIndicates respondents could choose more than one option.

generation and we provided that background to the workgroup members. We described our selection of participants for the workgroup and survey. We described our iterative process including multiple rounds of communication via face-to-face meetings, phone conferences, and e-mail. We clearly stated that our survey maintained anonymity. Workgroup members abstained from completing the survey to avoid inflating agreement. Moreover, we established the definition of consensus a priori with a predetermined percentage criterion for agreement on the survey.

We understand the limitations of our CM development process. We were not able to address all the quality concerns in our consensus group process. The initial draft of the CMs was developed by the dedicated expert workgroup, not the larger community of

educators. Moreover, we could not undertake direct observation of trainees and practitioners to define essential educational content. With these choices, we excluded a larger number of participants from adding to idea generation and prevented the empiric but often impractical derivation of educational content from direct observation. We attempted to address these potential weaknesses by working from the foundational documents which reflected the efforts of hundreds of educators, trainees, and practitioners over the preceding decade. We were also not able to fully control for the possibility of undue influence by one or more dominant participants, a risk for small group consensus building. However, all workgroup members were expected to and did participate proactively. During the workgroup process, we did not have a predefined number of rounds for consensus building nor did we attempt to achieve anonymity in the iterative process during face-to-face meetings, phone conferences, or e-mails. Although we had an adequate response rate on our survey, our results may be affected by variable response rates per question and by respondent. For example, as stated in the results, one participant reported taking the survey twice by mistake. Owing to our anonymous collection, we were unable to identify the two surveys from the same respondent, if other respondents took the survey more than once, or why some respondents did not answer all the questions. Finally, we did not allow for feedback from the greater community after survey as our group had previously done during EPA development. Although our survey results reached our a priori consensus criteria, another round of feedback from the larger group based on the survey results including the qualitative comments may have strengthened our outcome.

Potential Applications of CMs for HPM Fellowship Programs

For HPM fellowship education, the CMs offer a template for program development and/or improvement. They are inherently flexible in that they are not required by the ACGME, nor is there a standard format across specialties. Educators may decide how best to use and adapt them to their specific needs. They are meant to be used as a repository of shared knowledge and as a guide for educators starting fellowship programs or those reassessing fellowship curricula. Their strength is in their organizational structure; they are intentionally grouped into broad topics such that educators may consider them to be thematically based “teachable units.” A CM is intended to be more extensive than a solitary teachable moment or lecture, and elements may be taught over multiple points in time during the fellowship year. The possible adaptations of CMs to aid in program

Table 3
Vetting Survey to AAHPM Fellowship Program Directors and Associate Program Directors

Curricular Milestone	Keep		Revise		Exclude	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
1. Knowledge of Serious and Complex Illness	93.6	73	6.4	5	0.0	0
2. Comprehensive Whole-Patient Assessment	87.5	70	12.5	10	0.0	0
3. Addressing Suffering/Distress	85.0	68	13.8	11	1.3	1
4. Palliative Care Emergencies and Refractory Symptoms	83.8	67	15.0	12	1.3	1
5. Withholding/Withdrawal of Life-Sustaining Therapies	89.9	71	8.9	7	1.3	1
6. Care of the Imminently Dying	94.9	74	5.1	4	0.0	0
7. Fundamental Communication Skills for Attending to Emotion	89.6	69	7.8	6	2.6	2
8. Communication to Facilitate Complex Decision-Making	87.0	67	13.0	10	0.0	0
9. Prognostication	94.8	73	2.6	2	2.6	2
10. Documentation	84.6	66	12.8	10	2.6	2
11. Grief, Loss, and Bereavement	92.3	72	7.7	6	0.0	0
12. Interdisciplinary Teamwork	89.6	69	10.4	8	0.0	0
13. Consultation	88.3	68	9.1	7	2.6	2
14. Transitions of Care	93.5	72	6.5	5	0.0	0
15. Safety and Risk Mitigation	85.5	65	14.5	11	0.0	0
16. Hospice Regulations and Administration	92.2	71	7.8	6	0.0	0
17. Ethics of Serious Illness	88.3	68	10.4	8	1.3	1
18. Self-Awareness Within the Training Experience	88.3	68	10.4	8	1.3	1
19. Self-care and Resilience	90.9	70	7.8	6	1.3	1
20. Teaching	88.5	69	10.3	8	1.3	1
21. Scholarship, Quality Improvement, and Research	94.9	74	2.6	2	2.6	2
22. Career Preparation	83.1	64	10.4	8	6.5	5

AAHPM = American Academy of Hospice and Palliative Medicine.

development or improvement are countless. As a catalyst for future use, we present a few initial suggestions, clearly not exhaustive, of how CMs may be adapted to new programs, established programs, and/or educational innovation.

New HPM Fellowship Programs: For a new program, the CMs are intended to be sufficiently comprehensive to include all major content areas. PDs may consider using the 22 CMs to map out the educational sessions for the year and identify needed resources for those sessions. Specifically, PDs may ask faculty to identify

which CMs they feel competent to teach and suggest that the subthemes act as a guide for learning objectives. Examination of the subthemes may also help delineate the teaching strategies (e.g., didactics, workshops, simulations, clinical bedside teaching) best suited to a specific CM for their institution. By using the CMs as a framework for their curriculum, the PD and engaged faculty may ascertain specific thematic areas that will require outside resources for teaching (e.g., online modules, national workshops, lecturers from other departments and/or divisions).

Table 4
Hospice and Palliative Medicine Curricular Milestones, Version 1.1

Number	Curricular Milestones	Category
1	Knowledge of Serious and Complex Illness	Patient care
2	Comprehensive Whole-Patient Assessment	Patient care
3	Addressing Suffering/Distress	Patient care
4	Palliative Care Emergencies and Refractory Symptoms	Patient care
5	Withholding/Withdrawal of Life-Sustaining Therapies	Patient care
6	Care of the Imminently Dying	Patient care
7	Fundamental Communication Skills for Attending to Emotion	Communication
8	Communication to Facilitate Complex Decision-Making	Communication
9	Prognostication	Communication
10	Documentation	Communication
11	Grief, Loss, and Bereavement	Communication
12	Interdisciplinary Teamwork	HPM processes
13	Consultation	HPM processes
14	Transitions of Care	HPM processes
15	Safety and Risk Mitigation	HPM processes
16	Hospice Regulations and Administration	HPM processes
17	Ethics of Serious Illness	Professional development
18	Self-Awareness Within the Training Experience	Professional development
19	Self-Care and Resilience	Professional development
20	Teaching	Professional development
21	Scholarship, Quality Improvement, and Research	Professional development
22	Career Preparation	Professional development

See [Appendix A](#): List of Associated Subthemes for Each Curricular Milestone

Established HPM Fellowship Programs: For an established program, the CMs may work as a benchmark to assess the comprehensiveness of a program. PDs may identify certain content areas that are not currently addressed in their curriculum through direct comparison to the CM list. In addition, PDs may solicit input on the curriculum from faculty, fellows, and graduates by using the CMs as a basis for annual program evaluations or graduate surveys. PDs may then use the CM and subthemes associated with missing thematic content as a template to expand their curriculum as needed. Alternatively, the CMs may act as a resource guide by providing a structure for a library of key references to ensure fellows are receiving the most up-to-date information on thematic content areas.

Educational innovation in HPM fellowship programs: All programs may consider the use of CMs independently and/or in conjunction with the EPAs and RMs to innovate in fellowship education. An area for innovation may be CM-based assessment tools to delineate competence in a fellow. As an example, for content areas that may have been covered in residency training (e.g., CM#17—Ethics of Serious Illness), a written assessment based on the subthemes may be given to incoming fellows to determine those that need more formal training in that area. In addition, CMs may be used as a platform for fellows who need remediation. By mapping the CMs to the RMs, a PD may use a set of specific mapped CMs as the content for an improvement plan for a fellow who has not met their required RM.

Conclusion

The AAHPM workgroup developed a consensus set of 22 CMs with their subthemes that represent groupings of teachable units to be taught over multiple points in time during a fellowship year. This was achieved through a robust consensus group methodology that included rigorous small group work, an in-person meeting with a broader sample of HPM educators and providers, and a national survey. As the field of HPM changes with the evolving climate of health care and medical education, the CM document will require future iterations. The practical application of the documents across individual fellowship programs will inform future research and revisions and hopefully contribute to improved education and patient care in the still growing field of hospice and palliative medicine.

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Appendix A. Example of Questionnaire Used in Small Group Discussion at the Annual Program Directors Workshop

Vetting the Curricular Milestones: Patient Care

Please appoint a leader for your table and answer all questions as a group. The leader will be responsible for compiling the answers on a single colored sheet as tallies. Other participants may fill out their own white sheets, but the leader's sheet should represent the consensus of the table. Each table leader will have ONE MINUTE to report one thing that really stood out from your table discussion.

Number	Curricular Milestones: Patient Care	Do You Teach This?		Should You Teach This?	
		Yes	No	Yes	No
1	Knowledge of serious and complex illness				
1A	Knowledge of disease trajectories (e.g., pathophysiology, differential diagnosis, complications)				
1B	Prognostication				
1C	Palliative treatments and their impact on the whole patient				
1D	Provision of advanced care planning specific to unique illness(es) and potential advanced therapies				
2	Comprehensive patient assessment (whole person assessment)				
2A	Assess physical symptoms				
2B	Assess developmental stage (cognitive, behavioral, emotional, decisional capacity)				
2C	Identify cultural values as they relate to care				
2D	Identify supports and stressors (e.g., psychological, psychiatric, spiritual, social, financial)				
3	Addressing suffering/distress				
3A	Manage physical symptoms				
3B	Manage basic psychosocial/spiritual distress				
3C	Manage refractory symptoms (e.g., proportional sedation)				
4	Palliative care emergencies and refractory symptoms				
4A	Understand common palliative care emergencies				
4B	Anticipate, triage, assess, and manage palliative care emergencies				
4C	Consider proportional sedation for refractory symptoms				
5	Withhold and withdrawal of life-sustaining therapies				
5A	Counsel patient, family, providers about process of withdrawal (e.g., prognosticate, attend to psychosocial, spiritual, cultural needs of patient/families, promote shared decision making for goals of care, utilize interdisciplinary team)				
5B	Manage physical symptoms before, during, and after withdrawal				
5C	Orchestrate the technical withdrawal				
5D	Consider issues related to withhold/withdrawal of artificial nutrition and hydration that may differ from advanced LST				
5E	Attend to personal, team, and other provider reactions (e.g., values, emotions)				
5F	Apply ethical, legal, institutional cultures, and policies related to withdrawal of LST				
6	Care of the imminently dying				
6A	Manage physical symptoms during dying process				
6B	Attend to psychosocial, spiritual, cultural needs of patient/family				
6C	Collaborate with interdisciplinary team				
6D	Communicate around time of death (e.g., empathic presence, preparing family)				
6E	Attend to self-awareness and self-care				
6F	Attend to appropriate postdeath care (e.g., death pronouncement, note, death certificate, communication with others)				

Appendix B. List of Associated Subthemes for Each Curricular Milestone Patient Care

CM #1: Knowledge of Serious and Complex Illness

- A. Knowledge of disease trajectories (e.g., pathophysiology, differential diagnosis, complications)
- B. Prognostication
- C. Scope of palliative treatments for different serious and complex illnesses (e.g., surgery, radiation therapy)
- D. Assessment of benefits and burdens of treatments on the seriously ill patient and family
- E. Pharmacology of essential palliative symptom management
- F. Advance care planning for specific illnesses and potential advanced therapies (e.g., mechanical ventilation, implantable defibrillator, ventricular assist device) across the age spectrum

CM #2: Comprehensive Whole-Patient Assessment

- A. Assess pain and nonpain symptoms
- B. Assess decisional capacity and/or developmental stage (e.g., cognitive, behavioral, emotional)
- C. Identify cultural values as they relate to care
- D. Identify supports and stressors (e.g., psychological, psychiatric, spiritual, social, financial)

CM #3: Addressing Suffering/Distress

- A. Manage pain and nonpain symptoms using pharmacologic strategies
- B. Manage pain and nonpain symptoms using nonpharmacologic strategies (e.g., integrative, interventional, surgical)
- C. Manage basic psychosocial/spiritual distress

CM #4: Palliative Care Emergencies and Refractory Symptoms

- A. Identify common palliative care emergencies
- B. Anticipate, triage, assess, and manage palliative care emergencies
- C. Manage proportional sedation for refractory symptoms

CM #5: Withholding/Withdrawal of Life-Sustaining Therapies

- A. Counsel patient, family, and providers about the process of withdrawal (e.g., prognosticate, attend to psychosocial, spiritual, cultural needs of patient/families, promote shared decision-making for goals of care, utilize interdisciplinary team)
- B. Manage physical symptoms before, during, and after withdrawal
- C. Orchestrate the technical withdrawal
- D. Consider issues related to withholding/withdrawal of artificial nutrition and hydration that may differ from advanced life-sustaining therapies
- E. Attend to personal, team, and other provider reactions (e.g., values, emotions)
- F. Apply ethical and legal standards and institutional culture and policies related to withdrawal of life-sustaining therapies

CM #6: Care of the Imminently Dying

- A. Manage physical symptoms during the dying process
- B. Attend to psychosocial, spiritual, cultural needs of patient/family
- C. Collaborate effectively within own and across other interdisciplinary teams
- D. Communicate around the time of death (e.g., empathic presence, preparing family)
- E. Attend to self-awareness and self-care
- F. Attend to postdeath care (e.g., death pronouncement, note, death certificate, communication with others)

Communication

CM #7: Fundamental Communication Skills for Attending to Emotion

- A. Build rapport
- B. Acknowledge and respond to emotion (e.g., listening vs. hearing, compassionate presence and strategic silence, intuition around cues and guiding discussion)
- C. Acknowledge one's own emotions and preconceptions (e.g., implicit bias)
- D. Address conflict (e.g., among patients, families, other care providers)

CM #8: Communication to Facilitate Complex Decision-Making

- A. Deliver medical information (e.g., serious news, prognosis)
- B. Elicit patient values and goals
- C. Promote shared decision-making
- D. Facilitate a family meeting
- E. Foster adaptive coping (e.g., reframe hope, promote resilience, legacy, humor, affiliation, anticipation)

CM #9: Prognostication

- A. Acknowledge uncertainty and support patients and families facing uncertainty
- B. Possess knowledge of individual illness trajectories and potential responses to therapies
- C. Formulate prognosis (e.g., clinical assessment, utilization of tools, input from other health care providers, consequences of failure to prognosticate)
- D. Communicate prognosis (e.g., function, time frame, quality of life, challenges of communication prognosis, promote prognostic awareness, acknowledge uncertainty)

CM #10: Documentation

- A. Communicate treatment recommendations professionally and diplomatically to others
- B. Understand the relationship between documentation and billing (e.g., CPT requirements and ICD coding, medical complexity, and time-based billing)
- C. Document comprehensive hospice and palliative medicine plans (e.g., medical decision-making and rationale behind realistic treatment recommendations, patient and treatment goals, ethical and legal implications)

CM #11: Grief, Loss, and Bereavement

- A. Understand risk factors for and types of grief based on age and developmental stage (e.g., anticipatory, normal, complicated grief)
- B. Identify and assess individuals for grief and/or bereavement
- C. Provide basic support for anticipatory grief and/or bereavement
- D. Refer for grief and/or bereavement support and therapeutic interventions

Hospice and Palliative Medicine Processes

CM #12: Interdisciplinary Teamwork

- A. Understand and respect role/function of team members
- B. Facilitate interdisciplinary team meetings (e.g., understand team dynamics, elicit varied and unexpressed opinions)
- C. Support team members (e.g., provide and receive feedback, address conflict, educate)
- D. Develop and demonstrate leadership skills

CM #13: Consultation

- A. Assess and acknowledge institutional/system rules and culture (e.g., ethics committee role, religious institution affiliations, medical staff requirements)
- B. Promote professional consultation etiquette (e.g., negotiation with other providers around goals, respect for primary team relationships, diplomacy in advocacy)
- C. Demonstrate empathy and respect toward other involved colleagues

CM #14: Transitions of Care

- A. Practice safe handoffs across settings of care
- B. Counsel patient, family, and teams about eligibility, capabilities, payer sources, expectations for next and alternative sites of care (e.g., hospital, nursing facility, inpatient hospice, home hospice, long-term acute care facility, home-based palliative care)
- C. Address medication management issues during transitions of care (e.g., medication reconciliation, formularies, safety especially with controlled substances, rational de-prescribing)

CM #15: Safety and Risk Mitigation

- A. Practice safe prescribing (e.g., polypharmacy, medication reconciliation and disposal, legal and regulatory issues, risk evaluation and mitigation strategies, prescription drug monitoring program)
- B. Understand issues around comorbid substance use disorders (e.g., diversion risk, addiction treatment)
- C. Understand processes to promote patient safety (e.g., screening for safety risk factors, error reporting, handoff procedures, learner supervision, fatigue mitigation)
- D. Identify safety events and participate in their investigation
- E. Promote situational awareness and provider safety in different health care settings

CM #16: Hospice Regulations and Administration

- A. Understand hospice regulations (e.g., hospice Medicare benefit, non-Medicare hospice coverage, eligibility, evolving business models, levels of care)
- B. Fulfill the role of a hospice team physician
- C. Perform hospice-specific documentation that meets regulatory requirements (e.g., physician visits, certification of terminal illness, face-to-face visits, interdisciplinary team input)
- D. Understand the hospice business environment (e.g., formularies, contracts, specific resources, and policies)

Professional Development**CM #17: Ethics of Serious Illness**

- A. Fundamentals of bioethics (e.g., historic and ethical-legal context, ethical paradigms)
- B. Ethics of responding to requests for hastened death
- C. Ethics of proportional sedation for refractory symptoms
- D. Ethical aspects of death definition and disorders of consciousness (e.g., coma, persistent vegetative state, minimally conscious state)
- E. Ethics of medically assisted nutrition and hydration
- F. Ethics of withholding and withdrawing life-sustaining therapies
- G. Ethics and legal theory of decision-making capacity and confidentiality (e.g., assent, consent, dissent, emancipated minors, surrogacy)

CM #18: Self-Awareness Within the Training Experience

- A. Demonstrate personal accountability in clinical duty tasks (e.g., timeliness of task completion and attendance, documentation, communication follow-up)
- B. Demonstrate personal accountability in administrative tasks (e.g., teaching organization and improvement, credentialing activities, assignment completion, committee work tasks and participation)
- C. Identify conflicts of interests (e.g., personal, professional, or corporate gains)
- D. Display awareness of one's role, identity, and boundaries in the private, professional, and public domains
- E. Integrate past clinical and personal life experience into a therapeutic patient-provider relationship (e.g., cultural, spiritual, emotional, cognitive, and implicit bias)

CM #19: Self-Care and Resilience

- A. Outline characteristics and types of distress (e.g., excessive stress, moral or spiritual distress, exhaustion, compassion fatigue, depersonalization)
- B. Identify risk factors for burnout in self, others, and system (e.g., high volume, high acuity, misaligned values and incentives, lack of transparency and recognition)
- C. Identify strategies for cultivating self-care and resilience for self and others (e.g., medical humanities, healthy boundaries and realistic expectations, physical health, recreation, engagement and receptivity with team and community)
- D. Exhibit evolving self-reflection and conscious personal/professional identity formation (e.g., loss and bereavement, insight around actions and consequences, mindfulness, compassion)

CM #20: Teaching

- A. Provide and receive feedback
- B. Teach basic palliative care to other health care providers (e.g., conducting learner needs assessment; defining learning goals and objectives; adjusting teaching content and methods to the setting and learners; recognizing teaching, coaching, and mentoring opportunities in every hospice and palliative medicine setting)
- C. Share evidence-based hospice and palliative medicine literature with others

CM #21: Scholarship, Quality Improvement, and Research

- A. Appraise and assimilate evidence from hospice and palliative medicine scholarship
- B. Recognize and participate in quality improvement methods and activities (e.g., interpret quality data, distinguish between quality improvement and research)
- C. Describe basic approaches and unique aspects of research in hospice and palliative medicine (e.g., funding, ethics, vulnerable populations)

CM #22: Career Preparation

- A. Discuss the context of hospice and palliative medicine (e.g., history, future trajectory, current regulatory and political issues with need for advocacy, reimbursement, model of interdisciplinary collaboration)
- B. Engage in leadership skill development and planning for career trajectory (e.g., lifelong learning, advocacy)
- C. Participate in elements of program development (e.g., Program Evaluation Committee participation, quality metric identification)
- D. Demonstrate billing fundamentals and delivery of cost-effective care in hospice and palliative medicine practice