

Executive Summary, Background and Recommendations

Strategic Planning Summit *for the Advancement of Pain and Palliative Care Pharmacy*

October 1st and 2nd, 2009



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Executive Summary

Introduction

Pain and symptoms related to terminal illness continue to be undertreated today. A recent *Health, United States* report suggests that approximately half of those surveyed over the age of 45 with pain had experienced that pain for more than one year. Other data additionally supports the need for improved pain care in the cancer treatment and post-operative care settings. Even within hospice care settings, undertreated pain appears to still be of concern. Despite numerous advances in our understanding of the diagnosis and treatment of pain and terminal symptoms, we continue to see evidence of resource underuse, disparities in care, and unnecessary barriers created by health professionals. These barriers often times stem from a lack of understanding, negative stigmatization, and inappropriate patient stereotyping.

In recent years we have seen valiant efforts to improve the education and understanding of pain and palliative care (PPC) by physicians (Education on Palliative and End of Life Care), nurses (End of Life Nursing Education Consortium), and social workers (Advocating for Clinical Excellence Project) in an effort to improving overall quality of care for these patients. In 2003, the National Pain and Palliative Care Summit hosted by the Ohio State University, convened health professionals from all stakeholder disciplines to attempt to identify opportunities and barriers to quality pain and symptom care as related to each of the professions. A group of pharmacists at this particular meeting identified a pharmacy-specific summit as the key objective in moving this charge forward and reaching consensus on recommendations for advancing the profession of pharmacy in its care for patients with pain and symptom management needs.

The Summit

Sponsored by a generous grant from the Mayday Fund and in-kind support from Southern Illinois University Edwardsville (SIUE), the Strategic Planning Summit for the Advancement of Pain and Palliative Care Pharmacy (Summit) was held in October 2009. The Summit was developed by a multidisciplinary advisory board including pharmacists, physicians and nurses, and was constructed to examine the education and development of pharmacists on pain and palliative care (PPC) across the entire professional continuum. Individual working groups were created with specific assigned objectives as they related to PPC education or assessment of pharmacists or pharmacy students. Each working group developed recommendations and presented them to the advisory board for adoption and dissemination. Summit participants included individual invitees as well as professional organization representatives. Eighty persons attended the Summit with 25 professional stakeholder organizations represented.

Objectives

- Develop curricular recommendations for schools of pharmacy on the delivery of PPC education
- Identify collaborative opportunities with accrediting bodies and licensing boards to assure the assessment of PPC knowledge
- Recommend general competencies for pharmacists pursuing formal post-graduate education
- Develop a model certificate program for provision of high quality continuing education to pharmacists in practice, regardless of practice setting (i.e. community, hospital, etc.)
- Reach consensus on best methods for demonstrating expertise in PPC for pharmacists

Summary of Recommendations

1. Curricular PPC competencies for professional degree programs in pharmacy should consider all coursework, including required didactic, elective didactic, required experiential, and elective or selective experiential education. Consensus recommendations on PPC competencies, model syllabi for dedicated courses, and recommended curricular content are provided.
2. In order to effect change in pharmacy professional degree programs, collaboration must be sought from degree program accreditation bodies, state and national licensing boards, as well as professional organizations representing pharmacy educators. Consensus recommendations for pursuing these opportunities are outlined.
3. Pharmacists seeking formal post-graduate clinical training outside of a PPC specialty require a core understanding of this practice area. Consensus recommendations on general competencies for these programs are presented.
4. Pharmacists providing patient care in all practice settings require a core understanding of PPC. Consensus recommendations on basic minimum competencies for practicing pharmacists on PPC are presented as a framework for a continuing education certificate program.
5. Unique practice settings often require specialized skills as it relates to PPC. Consensus recommendations outlining the individual practice areas and subsequent skill sets are provided.
6. Recognition of expertise for pharmacists with advanced understanding of PPC is paramount from the perspective of the patient, the payer, the employer, and the health care team. Consensus recommendations are provided on the development and provision of such recognition.

Conclusion

Pharmacy is an integral part of the pain and palliative care team. By addressing educational barriers and opportunities at every part of a pharmacist's professional continuum (pre-graduate, post-graduate, licensed, and specialized practice), the attitudes, skills, and knowledge of PPC will be improved. The consensus recommendations provided within these proceedings provide a framework with which to strengthen the profession's ability to assist in the provision of PPC care to patients.

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Introduction

The Strategic Planning Summit for the Advancement of Pain and Palliative Care Pharmacy was convened on October 1st and 2nd, 2009 at the Southern Illinois University Edwardsville. Made possible by a generous grant from The Mayday Fund, the Summit Advisory Board sought to examine current practices as they relate to the education and assessment of pharmacists and pharmacy students on pain and palliative

care (PPC). The Summit was a direct culmination of the recommendations presented by the pharmacy profession working group at the 2003 Inter-professional Pain and Palliative Care Summit held at The Ohio State University. An advisory board was convened consisting of PPC thought leaders both within and external to the profession of pharmacy. In order to effect change within the profession of pharmacy and ultimately improve interdisciplinary and multidisciplinary care of patients in pain and at the end of life, the Advisory Board identified six distinct but related areas in which to assess, and when necessary make recommendations regarding the continuum of education within the profession of pharmacy.

When determining key stakeholders in this process, the advisory board identified professional organizations and individuals with either a vested interest or expertise in the area of pharmacy practice or specifically PPC. Invitations were sent to the Executive Directors or equivalent of 10 pharmacy organizations, 3 physician organizations, 4 nursing organizations, and 12 pain or palliative care interdisciplinary organizations. Individuals were identified based either on previous or current efforts in education, policy, committee work, or practice. Additionally, invitations were sent to international organizations representing PPC professionals.

Background

Untreated and undertreated pain and its related symptoms present a problem to populations worldwide. Despite the advances made in the understanding and treatment of pain syndromes, and widely accepted evidence-based practice guidelines, we continue to see unacceptable outcomes, such as for patients with pain as well as those with symptoms associated with terminal disease.[1-4] While an exhaustive review of the actual and perceived contributing factors is beyond the scope of this summary, much of the shortcomings in the treatment of pain and appropriate symptom management stems from a relative paucity in education. This may be a result of poor education of the patient by the healthcare provider, misperceptions by the patient as influenced by the media, family, and friends, or simply the attitudes towards pain management possessed by patients as a result of regulatory hurdles encountered while seeking this care.[5] Certainly the ability to communicate pain and symptoms may be problematic for older and noncommunicative patients as well as certain cultures and ethnicities.[6-8] While strong data is lacking, health literacy likely also plays a functional role as a direct patient associated barrier to effective pain management and symptom control. With these considerations in mind, perhaps no other health profession possesses the ease of access and potential to effect change as that of pharmacy.

Pain and symptom management through interdisciplinary and multidisciplinary care has been unequivocally proven to achieve better outcomes compared to that of standard medical practice.[9-13] Because drugs are critically important tools in helping manage pain and symptoms, and as experts in pharmacotherapy, pharmacists, regardless of training, specialty, and practice setting, are key components to the provision of pain and palliative care treatment. Because of the diversity of pharmacy with respect to education and practice, it becomes necessary to consider the influence a pharmacist's attitudes, knowledge and skills may have on a patient. Prior to effective PPC being provided for a patient, barriers to care must be identified. Barriers specific to the profession of pharmacy may be considered as *positive barriers* and *negative barriers*. *Positive pharmacy barriers* represent those barriers created by pharmacists as a result of direct interference with PPC patient care. Examples may include refusal to fill a prescription due to lack of understanding of the medication, extensive follow-up and scrutiny of prescriptions based on ethnicity, and the application of stigmatization and stereotyping associated with opioid prescriptions. *Negative pharmacy barriers* are those that are also due to a lack of appropriate pharmacist education, but are a result of avoidance or lack of action by the pharmacist or pharmacy. These types of barriers may be the most detrimental to patient care because the pharmacist may be imposing these barriers unwittingly. Examples may include not seeking continuing education / better understanding of pain and symptom management, failure to stock adequate supplies of essential medications for PPC patients, failure to appropriately review medication regimen and past history and failure to provide adequate patient counseling / education.[14, 15]

While these aforementioned barriers represent but a few of those that exist within the profession, all may be addressed by changing attitudes, skills, and knowledge through education. Given the complexity of the educational continuum of any health care profession, it is paramount to first understand the educational process of today's contemporary pharmacist, as well as legislation and licensing statutes affecting those pharmacists already in practice.

Continuum of Education

The education of health care professionals is complex with multiple points of entry. Pharmacy, like medicine, nursing, and social work, utilizes a step-wise didactic strategy, in which students take increasingly difficult and clinically applicable courses, and immersion into various practice settings during the entry-level degree program. Within pharmacy, the last year of the degree program typically consists almost solely of clinical experience clerkships. Following receipt of the professional pharmacy degree, these professionals may choose to enter the practice of pharmacy, continue through post-graduate residency or fellowship training, or seek advanced degrees. While post-graduate residency training has been standard place in medicine, other professions such as pharmacy, nursing and social work are increasingly offering these opportunities to further the clinical competency of its practitioners prior to entering into the workforce. Specific to the pharmacy profession, graduates may choose to complete a general practice post-graduate residency as well as more specialized, targeted training experience (post-graduate year 1 and post-graduate year 2 specialty, respectively) with the former typically preceding the latter.

Although specific to the United States and its territories, pharmacy schools are accredited by the Accreditation Council for Pharmacy Education (ACPE). ACPE does not directly dictate course offerings or content within schools of pharmacy; however, it does provide guidance on the general competencies a pharmacy student must possess at graduation. ACPE provides standards for schools of pharmacy it accredits as a guideline for creation and ongoing improvement to these programs. To view the ACPE standards and appendices, click acpe-accredit.org/standards/default.asp.

Once a pharmacy student graduates he or she must pass three licensing examinations. The first exam is state-specific and pertains to the laws and regulations of the practice of pharmacy and the controlled substances act of that particular state. The second exam is an examination of the federal laws pertaining to the practice of pharmacy and controlled substances (Multistate Pharmacy Jurisprudence Examination, or MPJE). The third is a minimum competency practice related examination covering the clinical and core aspects of the profession is required (North American Pharmacist Licensure Examination, or NAPLEX). The law exams are offered by the respective state board of pharmacy, and the minimum competency examination (NAPLEX) and the federal jurisprudence examination (MPJE) is offered by the National Association of Boards of Pharmacy. Click nabp.net for information regarding these examinations.

For graduates who plan to seek additional formal training, several opportunities exist. The first is an advanced degree (Masters of Science or Doctor of Philosophy) in various areas of pharmacy, usually focused on research or administration. The second may be a post-graduate research fellowship which are usually highly specialized and provide minimal clinical training and robust clinical or basic science research practice. Fellowships are highly individualized and largely unaccredited, although the American College of Clinical Pharmacy (ACCP) does provide guidelines and invited reviews on these programs. To view the guidelines for a post-graduate research fellowship in pharmacy, click accp.com/docs/positions/guidelines/pos15.pdf.

The most commonly sought post-graduate training in the profession of pharmacy is that of a residency. Residencies are also highly individualized although recently the profession has attempted to provide more direction and consistency among these programs. To ensure high quality learning experiences, residency programs may seek accreditation through the American Society for Health System Pharmacy (ASHP),

which is a prerequisite for pass-through funding from the Centers for Medicare and Medicaid Services. ASHP accredits both general practice residencies (also known as PGY-1 residencies) as well as specialty residencies (frequently referred to as PGY-2 residencies). To view the accreditation standards from ASHP for these programs, click ashp.org/Import/ACCREDITATION/ResidencyAccreditation.aspx. As previously stated, a pharmacist will usually complete a PGY-1 residency prior to seeking advanced training through a PGY-2 residency program. PGY-1 training is usually highly diverse with a broad range of experiences within hospital, managed care, and community pharmacy. PGY-2 programs may still be of general experiences in nature, but usually represents a more focused, specialized area of practice (i.e. pain and palliative care, psychiatry, infectious disease, etc.) While still in training, these persons are still licensed pharmacists in one or more states.

Once a graduate has successfully passed all licensure examinations, the pharmacist then may practice pharmacy within the states that he or she is licensed until the license expires. Pharmacist license renewal through the respective state board of pharmacy usually requires the completion of ACPE accredited continuing education. While variable, usually a requirement of approximately 15 contact hours of continuing education is required per calendar year in order to pursue license renewal. This is a valuable source of ongoing education for practicing pharmacists, and some states have additionally provided direction and legislation on which types of educational venues and topics the renewing pharmacist must seek this ongoing education. Some states dictate that pain and palliative care related continuing education must be obtained on an annual or biannual basis. These educational requirements dictate the bare minimum required by each respective licensing state. Other avenues for ongoing, specialized training outside of post-graduate programs additionally exist.

For pharmacists who seek additional training or education in a specific disease state or area of practice, certificate programs and mini-fellowships exist. Either of these advanced training programs may be found in numerous settings and offered by numerous providers. Certificate programs generally consist of focused areas of study and are usually accredited by ACPE for the provision of continuing education credits upon completion. Certificate programs should not be confused with certification, which implies the demonstration of a set of skills or knowledge by a professional. Certificate programs are frequently 16 contact hours or greater for the participant. In contrast, mini-fellowships are available in a broad range of areas. These experiences may last from days to weeks and should not be confused for formalized post-graduate education. Typically these experiences do not have associated continuing education units associated with them.

In specialized areas of practice, knowledge, or skills, pharmacists may seek certification. Frequently certification represents the successful passing of an examination above and beyond minimum competency in a distinct area of practice or care. Currently numerous certification examinations exist for pharmacists specifically and health care professionals of which pharmacists are included. Credentialing examinations in which only pharmacists may seek certification include those offered by the Board of Pharmaceutical Specialties (BPS) which include Pharmacotherapy, Nutrition, Oncology, Psychiatry, and Ambulatory Care. Additionally, the American Society for Consultant Pharmacists offers a pharmacist-only board certification examination in geriatrics. While numerous other examples of multidisciplinary examinations exist, specific examinations for pain and palliative care in which pharmacists may sit include that offered by the American Academy of Pain Management and the American Society of Pain Educators.

By understanding the educational continuum of a pharmacist, as well as the diverse fields in which to practice, the Summit sought to identify strategies in which to effect improvement in the attitudes, knowledge, and skills of the profession as a whole during each of the above mentioned vehicles for instruction.

The Summit

The Strategic Planning Summit for the Advancement of Pain and Palliative Care Pharmacy examined the educational process for preparing pharmacy students as well following graduation from pharmacy programs. In order to reach as many professionals and professionals-in-training as possible, goals and objectives were developed for six separate areas with anticipated consensus recommendations for these goals and objectives.

The six separate areas were examined by breakout or workgroups charged with assessing current policies and practices when available, providing recommendations on change for these policies and practices, or creating the framework for such in their absence. Goals and objectives for the Summit were classified as: a) professional degree program training, b) post-graduate formal training, c) professional continuing education, and d) certification and credentialing. Goals and objectives for the Summit, and their respective classification, are presented in Table 1.

Table 1. Goals and objectives for the Strategic Planning Summit

Training Continuum	Goal	Objective
	<ol style="list-style-type: none"> Increase / standardize didactic exposure to pain and palliative care during the professional degree program Increase / standardize experiential rotation / clerkship exposure during to pain and palliative care during introductory and advanced patient care experiences during the professional degree program 	<ol style="list-style-type: none"> Identify opportunities and recommend strategies to strengthen current processes within key organizations as they relate to pain and palliative care education to pharmacy students, trainees, and practitioners Review and potentially revise IASP curricular recommendations for schools of pharmacy
Post-graduate Training	<ol style="list-style-type: none"> Improve / increase exposure to pain and palliative care during post-graduate year one (PGY-1) general pharmacy residencies. Review ASHP accreditation standards for post-graduate year two (PGY-2) specialty residencies in pain and palliative care Improve consistency among PGY2 specialty residencies in areas of practice outside of pain and palliative care (Geriatrics, Hematology-oncology, Internal Medicine, Pediatrics) 	<ol style="list-style-type: none"> Develop recommendations for elective objectives to be submitted to ASHP for inclusion into PGY-1 residency training standards as they relate to pain and palliative care Review current ASHP PGY-2 Pain and Palliative Care Residency Standards and provide recommendations Review current ASHP PGY-2 residency standards for Geriatrics, Hematology-oncology, Internal Medicine, and Pediatrics and provide recommendations for elective objectives for each of these experiences as they pertain to pain and palliative care
Professional Training	Improve the skills, attitudes , and knowledge base of practicing licensed pharmacists regarding pain and palliative care in all practice settings	Identify core content for pain and palliative care certificate program across practice settings. Develop content for “train the trainer” educational programming.
Credentialing	Reach consensus on pain and palliative care credentialing for pharmacists with therapeutic expertise or focused practice settings	<ol style="list-style-type: none"> Review current credentialing opportunities Recommend future credentialing opportunities

Workgroup Recommendations

Assessment Workgroup

The Assessment Workgroup was charged with objectives primarily within the pre-graduate scope of pharmacist education; however, assessment strategies throughout the professional educational continuum were found to directly affect pre-graduation education (i.e. lack of expert preceptors or faculty). Specifically, this breakout sought to identify areas in which to effect change to ensure adequate education of pharmacists-in-training during professional degree programs outside of specific curricular recommendations. By targeting how student pharmacists, schools of pharmacy, and graduate pharmacists are assessed, the group identified organizations in which to partner with and specific recommendations on these partnerships as well as ensuring adequate expertise of the practitioners teaching these students.

Initially, potential stakeholder organizations were identified with which to partner. These groups included professional, regulatory, inter-professional, large employers, and patient advocacy groups. A complete list of stakeholder organizations identified by the Assessment Workgroup is presented in Table 2.

Table 2. Stakeholder organizations identified for partnership by the Assessment Workgroup

Individual Schools of Pharmacy
National Association of Boards of Pharmacy
Individual State Boards of Pharmacy
Accreditation Council for Pharmacy Education
American Association of Colleges of Pharmacy
Centers for Medicare and Medicaid Services
The Joint Commission (formerly Joint Commission on Accreditation of Healthcare Organizations)
American Pharmacists Association
American Society of Health-System Pharmacists
National Community Pharmacists Association
American Society of Consultant Pharmacists
Academy of Managed Care Pharmacy
American College of Clinical Pharmacy
Federation of State Medical Boards
American College of Apothecaries
Student Affairs Administrators in Higher Education
Joint Commission of Pharmacy Practitioners
Major interprofessional groups including nursing, medicine, social work
Major multiprofessional groups including pain management, palliative care and hospice
Council on Credentialing in Pharmacy
National Institute for Standards in Pharmacist Credentialing
Specific large employers (i.e. U.S. Department of Veteran's Affairs, Kaiser Permanente)
Patient advocacy groups (i.e. American Pain Foundation, American Chronic Pain Association)

Additionally, the Assessment Workgroup produced 16 consensus recommendations and associated strategies for implementation which are presented in Table 3.

Table 3. Recommendations and strategies for assessment in pharmacy for pain and palliative care

Recommendations	Strategies
<p>Develop and share educational assessment tools for pain and palliative care</p>	<p>Encourage faculty to post existing tools on PEAS (AACP) Encourage AACP to put out a call for examples of educational assessment tools for pain and palliative care and programming ideas Solicit allocation of grant funding and issuing RFPS for development and validation of educational assessment tools Identify existing educational assessment tools across disciplines, delineate number of practitioners and minimum competencies for entry-level graduates Identify and catalog programs on educational assessment in pain and palliative care, preceptor training, etc Request AACP to identify good models</p>
<p>Define minimum competencies for entry-level graduates</p>	<p>Quantitative and qualitative analysis of what is currently addressed in curricula? Survey views of current pharmacy practitioners, other health care professionals and patient advocacy groups (eg, APF, American Chronic Pain Association) Target new graduate and alumni surveys specifically regarding pain and palliative care (AACP) Objective Structured Clinical Examination – publications and training programs to train faculty to conduct (AACP or specialty organizations, eg APS for interdisciplinary training)</p>
<p>Advocate for research and innovation in teaching methodologies and curricular design</p>	<p>Incorporate use of real (volunteer) and simulated patients in the classroom as a method of teaching. Identify decision tools, algorithms, resources, and databases which pharmacy students should learn to use in practice Encourage the development of case studies in all areas of pain and palliative care that might be used interprofessionally (simulation) and encourage publication and foundation grants to develop and publish Ensure related topics are integrated across the curriculum (i.e. law, regulatory affairs, communications, ethics, etc) and highlight effective curricular models Encourage pedagogical models which include interprofessional learning for pain and palliative care (added specificity to ACPE accreditation standards) Request AACP to publish a special AJPE issue on innovative teaching methods in pain and palliative care</p>
<p>Develop models for preceptor training in pain and palliative care</p>	<p>Include broad training beyond pharmacotherapy (i.e. behavioral, ethics, communication, law/regulatory, abuse and diversion, risk management, assessment skill evaluation) Encourage professional organizations to include in meeting programming or develop online continuing education programs PGY1 residency preceptor education in pain and palliative care Advocate that students should work with patients with pain syndromes – including chronic, geriatric, pediatric, and cancer as part of their experiential education Recognize excellence in precepting in this area Request ACPE to identify good models and present</p>

<p>Identify and expand the pool of preceptors with expertise in pain and palliative care</p>	<p>Network through professional organizations (PRNs, special interest groups) Outreach to recognized specialists in pain and palliative care</p>
<p>Disseminate information regarding career paths in pain and palliative care</p>	<p>Identify career path models of successful practitioners Promote student organization activities APhA pathway program – specialty area Articles in Pharmacy Today highlighting pharmacists working in pain and palliative care Create shadowing and mentoring opportunities with specialty practitioners Professional organization website information Special grand rounds or lecture series Leadership skills in pain and palliative care</p>
<p>Enhance NAPLEX assessment regarding pain and palliative care</p>	<p>Evaluate innovative assessment models incorporating psychosocial, communications, ethics, etc. Encourage practitioners to complete blueprint role delineation / scope of practice surveys Ensure NAPLEX item writers include practitioners with expertise in pain and palliative care</p>
<p>Advocate the design and delivery of CE programs to enhance knowledge, skills and attitudes regarding pain and palliative care</p>	<p>Quantitative and qualitative analysis of CE which is currently devoted to the topic Advocate minimum requirements in this area to state boards of pharmacy Advocate for inter-professional CE programming (for the team, by the team) – solicit educational grants for development Ensure CE providers are aware of the dimensions of pain and palliative care education and include all in CE programming Develop competence assessment model for providers and self-assessment tools for practitioners Models to assess outcomes on practice – encourage portfolios and other systems to provide structured feedback of effectiveness to CE providers</p>
<p>Encourage employers to support continuing professional development in pain and palliative care</p>	<p>Educational modules which can be used in practice settings</p>
<p>Advocate that employers include competence assessment of pharmacists in caring for patients with pain or receiving palliative care as part of regular performance evaluations</p>	<p>Document participation in CE Use validated assessment tools to document</p>
<p>Presentation to JCPP regarding importance of pharmacist role in pain and palliative care</p>	<p>Formal request to JCPP with supporting information (pain most common reason for medical attention, etc)</p>

Advocate NABP to include appropriate expectations for pain and palliative care in community pharmacy accreditation	Write a letter and send the white paper Develop competence assessments
Enhance curricular requirements for pain and palliative care	Advocate inclusion of questions regarding competencies in pain and palliative care in AACP standardized (or school specific) surveys and Include preceptors, students, new grads, alumni, faculty Request ACPE to address emphasis on pain and palliative care in standards and curricular assessment
Develop and publish a White Paper summarizing the roles of pharmacists on inter-professional teams in pain and palliative care, including education and training of pharmacists in this area, competency assessment and credentialing	
Create and submit poster summarizing Summit findings to organizations represented	
Explore the desirability and feasibility of an inter-professional organization focusing on pharmacotherapy of pain and palliative care	

Curricular Workgroup

The Curricular Workgroup was tasked with reviewing the current International Association for the Study of Pain (IASP) Outline Curriculum on Pain for Schools of Pharmacy prepared by that group's ad hoc subcommittee on University Courses and Curricula published in 1992. To view the report, click iasp-pain.org/AM/Template.cfm?Section=Pharmacy&Template=/CM/HTMLDisplay.cfm&ContentID=1793. Following review of the recommended model curriculum, this workgroup sought to provide recommendations as well as an updated outline for courses on pain and palliative care as it relates to today's pharmacy programs. Pharmacy professional degree program curricula have changed dramatically over the past two decades with respect to length of program, experiential learning, and a shift in focus to integrated and case-based learning. While the degree program length has been extended, the curriculum of most schools of pharmacy is incredibly pressured, with little room for additional courses. With this in mind, the Curricular Workgroup sought to provide recommended outlines, competencies, and learning

experiences throughout the professional degree program from a required and elective coursework approach. Model curricula are combined to represent experiences in both pain management, as well as palliative / end-of-life care.

From a didactic approach, the elective courses are generally more flexible in terms of time devoted to topics and therefore a greater depth and breadth of material and learning experiences may be incorporated. A model syllabus for an elective didactic course within a professional pharmacy program is presented within Table 4.

Table 4. Model syllabus for elective didactic coursework within a pharmacy professional degree program.

<p>Recommended Books / Reading</p>	<p>Pain and palliative care chapter within given pharmacy therapeutics textbook Pain and / or Palliative Care pocket handbook that is inexpensive and free from commercial bias Principles of Analgesic Use in the Treatment of Acute and Cancer Pain (American Pain Society) The Massachusetts General Hospital Handbook of Pain Management Pain.edu Handbook Others Books on insight and philosophy of pain and palliative care Dying Well (Ira Byock) The Truth About Chronic Pain (Arthur Rosenfeld) American Book of Living and Dying (Richard Gross) How We Die (Sherman Nuland) The Fall of Freddie the Leaf (Leo F. Buscaglia) Memoirs and blogs (GeriPal, Pallimed) Fast Facts and Concepts (End of Life / Palliative Education Resource Center)</p>
<p>Recommended Teaching Activities</p>	<p>Writing a condolence letter Completing a journal Visit to a funeral home Calculation of equianalgesic doses of opioids for oral, intravenous, epidural, and intrathecal administration</p>
<p>Recommended Didactic Content</p>	<ol style="list-style-type: none"> 1. Introduction to pain management and palliative care 2. Interdisciplinary nature of pain management and palliative care 3. Review of physiology of pain and pharmacology of analgesics, co-analgesics and non-pain symptom medications 4. Loss and dying 5. Complex Pain Syndromes <ul style="list-style-type: none"> Pre-treatment of acute pain (pre-emptive analgesia) Complicated post-operative or traumatic pain

Temporomandibular joint pain
Metastatic bone pain
Phantom limb and amputation stump pain
Sympathetically maintained pain (complex regional pain syndrome)
Pain of vascular origin (PAD)
Pain in hematological disease (e.g., sickle cell anemia, hemophilia)
Wound pain (including fungating wounds, care of fistulas)
Mucositis pain
Burn pain
Self-treated pain conditions
Failed back pain
Pain in co-morbid conditions (depression, anxiety, schizophrenia, etc.)

6. Pain and Symptom Management in Other Disease States

Parkinson's Disease
MS / ALS/ other neurologic
Post-CVA
CHF
HIV
COPD

7. Pharmaceutical Issues / Drug Dosing

Methadone
Ketamine
Lidocaine
Topical analgesics
Cannabinoids
Altering dosage formulations
Relevance of drug allergy history

8. Alternatives Interventions

Herbals
Music therapy
Memory book / journaling
Dealing with spiritual pain
Cognitive behavioral therapy
Mirror therapy
Pet therapy
Plant therapy
Acupuncture / Acupressure
Energy Therapies
Biofeedback and virtual reality
Mindfulness meditation
Spinal cord stimulator / deep brain stimulators

9. Non-Pain Symptoms

Gastrointestinal

Constipation

Nausea and vomiting

Diarrhea

Bowel Obstruction

Hiccups

Anorexia and Cachexia

Respiratory

Dyspnea

Secretions

Aspiration / Swallowing disorders

URIs

Cough

CNS / Neuropsych

Anxiety

Depression

Delirium

Insomnia

Fatigue

Dementia

Schizophrenia / mental illness

Seizure management

10. Managing Co-Morbid Conditions at End of Life

Diabetes mellitus

Hypertension

Hypercholesterolemia

Antimicrobial therapy

Changing Goals of Care

Feeding tubes

Chronic Obstructive Pulmonary Disease

11. Ethics / Therapeutic Decision Making

Goals of care

Withholding vs. withdrawing

Sedation for refractory symptoms

How to stop therapies

Ventilator withdrawal

Implantable cardiac devices

DNR/Advance Directives

Caring for the Caregiver

Compassion Fatigue

	<p>12. Death Rituals</p> <ul style="list-style-type: none"> Cultural considerations Anticipatory grief Grieving Complicated Grief (SIDS, suicide, etc.) Funeralization / Funeral Home Bereavement Forensics <p>13. Pain and Palliative Care Emergencies</p> <ul style="list-style-type: none"> Spinal Cord Compression Superior Vena Cava Syndrome Hypercalemia Opioid Intoxication Hemorrhage
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Given the already strained curricula of most schools of pharmacy, the workgroup was doubtful that a dedicated, required course could be devoted to pain and palliative care. Thus, key objectives were identified with corresponding time recommendations in which to deliver the content within a course already offered within the curriculum. Consensus was achieved on a total of six, 50-minute lecture blocks (300 minutes) being necessary to adequately deliver essential content to students of pharmacy in a required course. The breakdown of content and time allocation is provided in Table 5.

Note that several of the essential content recommendations are included to ensure these items are covered in previous, pre-requisite coursework, but not allocated time within these recommendations. These competency statements are provided as a tool for the faculty member / curriculum committee to evaluate current content delivery within other courses.

Table 5. Consensus recommendations for time commitment and content for pain and palliative care instruction within required coursework in pharmacy professional degree programs.

Time allocation - total	Six, fifty-minute lecture equivalents (300 minutes)
Time allocation – content	<ul style="list-style-type: none"> Introduction and Overview - 10 Definition of Pain and Palliative Care – 10 Physiological Issues – 0 (previously covered in earlier coursework) Pain and Symptom Assessment and Management - 15 Pharmacologic Issues – 0 (previously covered in earlier coursework) Nonpharmacological Approaches to Pain - 5 Management of Common Pain Etiologies - 180 Management of Common Non-Pain Symptoms 20 Analgesic Dosing Strategies - 30 Pharmaceutical Concerns -10 Ethical/Legal Issues – 20

Competency Statements

1. Introduction and Overview (10 minutes)
 - 1.1 Pain as a public health problem
 - 1.2 Epidemiology
 - 1.3 Societal consequences
 - 1.4 Economic impact
2. Definition of Pain and Definition of Palliative Care (10 minutes)
 - 2.1 International Association for the Study of Pain nomenclature
 - 2.2 International Association for Hospice and Palliative Care nomenclature
 - 2.3 Systems for classifying pain
 - 2.3.1 Relationships and difference between acute pain and chronic pain
 - 2.4 Biologic significance of pain and survival value
 - 2.5 Concept of Total Pain (i.e. physical, psychological, spiritual, financial)
3. Physiological Issues (0 minutes) – concepts should be covered in earlier coursework
 - 3.1 Review of pain pathways and physiology
 - 3.2 Transmitters and modulators (peptides, catecholamines, and amino acids)
 - 3.3 Differentiated opioid receptors
 - 3.3.1 Agonist, partial agonist, agonist-antagonist, and antagonist
 - 3.3.2 Effects of stimulation of opioid receptors
 - 3.3.3 Differential drug affinities for opioid receptor types
4. Pain and Symptom Management (15 minutes)
 - 4.1 Measurement, quantification and recording of pain and symptoms
 - 4.2 Assessment of pain
 - 4.2.1 Symptom analysis
 - 4.2.2 Uni-dimensional and multidimensional tools
 - 4.2.3 Pain diaries
 - 4.3 Screening tools for risk of or current drug abuse and diversion
 - 4.3.1 Opioid Risk Tool
 - 4.3.2 Screener and Opioid Assessment for Patients with Pain
 - 4.3.3 Current Opioid Misuse Measure
 - 4.3.4 Diagnosis, Intractability, Risk, and Efficacy Score (DIRE)
5. Pharmacological Issues (0 minutes) – concepts should be covered in earlier coursework
 - 5.1 Analgesics
 - 5.1.1 Non-opioid analgesics
 - 5.1.2 Nonsteroidal anti-inflammatory agent
 - 5.1.3 Opioids
 - 5.1.4 Co-analgesics
 - 5.1.4.1 Antidepressants
 - 5.1.4.2 Anticonvulsants
 - 5.1.4.3 Systemic local anesthetics
 - 5.1.4.4 Topical analgesics
 - 5.1.4.5 Glucocorticoids
 - 5.1.4.6 Bisphosphonates

5.2 Non-pain symptom management medications:

- 5.2.1 Antidepressants
- 5.2.2 Anxiolytics
- 5.2.3 Phenothiazines, phenothiazine derivatives, and butyrophenones
- 5.2.4 Antihistamines
- 5.2.5 Sedative-hypnotics
- 5.2.6 Neurologic agents
- 5.2.7 Stimulants
- 5.2.8 Laxatives and bowel preparation
- 5.2.9 Antinausea medications
- 5.2.10 Anticholinergic agents

6. Nonpharmacotherapy Approaches to Pain (5 minutes)

- 6.1 Physical therapy
- 6.2 Surgical intervention
- 6.3 Relaxation techniques and stress management
- 6.4 Operant conditioning
- 6.5 Hypnotherapy
- 6.6 Psychotherapy and Cognitive Behavioral Therapy
- 6.7 Myofascial trigger point injections
- 6.8 Acupuncture and acupressure
- 6.9 Chiropractic manipulation
- 6.10 Aromatherapy
- 6.11 Radiation therapy
- 6.12 Palliative chemotherapy

7. Management of Common Pain Etiologies (180 minutes)

- 7.1 Acute pain
- 7.2 Musculoskeletal pain
- 7.3 Headache pain
- 7.4 Neuropathic pain
- 7.5 Pain with advanced illness (e.g., cancer or HIV/AIDS)

8. Management of common non-pain symptoms (20 minutes)

- 8.1 Nausea and vomiting
- 8.2 Constipation
- 8.3 Dyspnea
- 8.4 Myoclonus
- 8.5 Pruritus
- 8.6 Respiratory secretions
- 8.7 Delirium

9. Analgesic Dosing Strategies (30 minutes)

- 9.1 Dosing in opioid-naïve patients
- 9.2 Dosage escalation and de-escalation
- 9.3 Impact of genetic variability on analgesic metabolism
- 9.4 Opioid conversion calculations
- 9.5 Time-contingent versus “as needed” dosing
- 9.6 Dose-stacking strategies
- 9.7 Clinical relevance of pharmacokinetic and pharmacodynamic parameters of individual analgesics

- 10. Pharmaceutical Concerns (10 minutes)**
 - 10.1 Routes of administration**
 - 10.1.1 Oral
 - 10.1.2 Parenteral
 - 10.1.3 Rectal
 - 10.1.4 Sublingual
 - 10.1.5 Nasal
 - 10.1.6 Buccal
 - 10.1.7 Transmucosal
 - 10.1.8 Percutaneous
 - 10.1.9 Subcutaneous
 - 10.1.10 Intramuscular
 - 10.1.11 Intravenous
 - 10.1.12 Neuroaxial including epidural and intrathecal
 - 10.2 Role of local anesthetic nerve blocks, myofascial trigger point injections, and neurolytic blocks
 - 10.3 Extemporaneous compounding of needed dosage forms not commercially available
 - 10.4 Provision for legal and safe destruction of controlled substances and controlled drugs
- 11. Ethical and Legal Issues (20 minutes)**
 - 11.1 Concepts of opioid physical dependence, psychological dependence, tolerance, addiction, pseudoaddiction
 - 11.2 Identify transdisciplinary nature of health care providers in pain management and palliative care
 - 11.3 Use of euthanasia, physician-assisted suicide, palliative sedation, and pain relief in terminally ill patients
 - 11.4 Relevance of the controlled substances reporting act
 - 11.5 Screening and handling of potentially fraudulent prescriptions
 - 11.6 Recognizing and handling inappropriate health care beliefs (patients and families) and behaviors (practitioners)
 - 11.7 Risk Evaluation and Mitigation Strategies (REMS) and similar country-specific programs
 - 11.8 Neuropsychological effects of opioids and effects on driving
 - 11.9 Placebo analgesics

During experiential education, Introductory Pharmacy Practice Experiences (IPPE) and Advanced Pharmacy Practice Experiences (APPE) oftentimes lend themselves to varying competencies based on the timing of completing during the curriculum. As the name implies, IPPE rotations are offered early in the program and may be limited to hospital and community pharmacy experiences. Here competencies, as they relate to pain and palliative care education, may be uniquely suited to regulatory and reporting issues, although other competencies are certainly achievable. APPE experiences, offered during the end of the pharmacy curriculum, are designed to allow the student to utilize concepts learned during didactic and earlier experiential coursework. Experiential education, much like the didactic component of the pharmacy program, may be difficult to integrate required experiences on pain and palliative care due to already heavy loads of required rotations, lack of qualified learning sites or preceptors. The Curricular Workgroup provided recommendations on competencies on pain and palliative care to be integrated within already required experiential rotations, as well as competencies and proposed activities for a pharmacy student on a pain and palliative care specific elective rotation. These consensus recommendations are provided in Tables 6 and 7, respectively. Within the elective PPC experiential rotation, the workgroup recommends assessing the level of exposure to each of the content areas / competencies based upon number of patients and level of discussion with preceptor. The workgroup notes that experiences will vary greatly with regards to opportunities on individual rotations.

Table 6. Consensus recommendations on proposed required competencies to be integrated and evaluated within required Introductory Pharmacy Practice Experiences and Advanced Pharmacy Practice Experiences.

Group recognizes that preceptors may need additional training.

1. Interview a patient about a pain report (or symptom).
 2. Participate in a family meeting or discussion with patient about goal-setting regarding pain and/or symptom management.
 3. Program a patient controlled analgesia (PCA) pump.
 4. Counsel a patient on use of a nonprescription analgesic.
 5. Counsel a patient on use of long-acting opioid and rescue opioid.
 6. Perform an opioid conversion calculation:
 - a. From one route of administration to another route (same opioid)
 - b. From one opioid to another opioid
 - c. Combination of changing drug and route of administration
- Counsel a patient on how to manage adverse effects associated with opioid therapy.

Table 7. Model syllabus for an elective pain and palliative care Advanced Pharmacy Practice Experience (APPE) within a pharmacy professional degree program.

<p>Recommended Books / Reading</p>	<p>Pain and palliative care chapter within given pharmacy therapeutics textbook Pain and / or Palliative Care pocket handbook that is inexpensive and free from commercial bias Principles of Analgesic Use in the Treatment of Acute and Cancer Pain (American Pain Society) The Massachusetts General Hospital Handbook of Pain Management Pain.edu Handbook Others Books on insight and philosophy of pain and palliative care Dying Well (Ira Byock) The Truth About Chronic Pain (Arthur Rosenfeld) American Book of Living and Dying (Richard Gross) How We Die (Sherman Nuland) The Fall of Freddie the Leaf (Leo F. Buscaglia) Fast Facts and Concepts (End of Life / Palliative Education Resource Center)</p>
<p>Recommended Teaching Activities</p>	<p>Writing a condolence letter Completing a journal Visit to a funeral home Calculation of equianalgesic doses of opioids for oral, intravenous, epidural, and intrathecal administration Patient care rounds/team meeting Attend morbidity and mortality (M&M) rounds, tumor board, Grand Rounds, ethics, departmental meetings, Pharmacy and Therapeutics Committee, etc. Home hospice visits with various disciplines. Drug information questions Project: newsletter, inservice, participate in research, journal club Patient write-ups: consult notes, problem-oriented notes Competency/discussion topics in palliative care Describe role of all team members, pharmacist role on team Exercises in grief, bereavement and funeralization Observe/participate in discussion of goal-setting with patient/family.</p>

Recommended Didactic Content

14. Introduction to pain management and palliative care
15. Interdisciplinary nature of pain management and palliative care
16. Review of physiology of pain and pharmacology of analgesics, co-analgesics and non-pain symptom medications
17. Loss and dying
18. Complex Pain Syndromes
 - Pre-treatment of acute pain (pre-emptive analgesia)
 - Complicated post-operative or traumatic pain
 - Temporomandibular joint pain
 - Metastatic bone pain
 - Phantom limb and amputation stump pain
 - Sympathetically maintained pain (complex regional pain syndrome)
 - Pain of vascular origin (PAD)
19. Pain in hematological disease (e.g., sickle cell anemia, hemophilia)
 - Wound pain (including fungating wounds, care of fistulas)
 - Mucositis pain
19. Burn pain
 - Self-treated pain conditions
 - Failed back pain
 - Pain in co-morbid conditions (depression, anxiety, schizophrenia, etc.)
 - Pain and Symptom Management in Other Disease States
 - Parkinson's Disease
 - MS / ALS/ other neurologic
 - Post-CVA
 - CHF
 - HIV
 - COPD
20. Pharmaceutical Issues / Drug Dosing
 - Methadone
 - Ketamine
 - Lidocaine
 - Topical analgesics
 - Cannabinoids
 - Altering dosage formulations
 - Relevance of drug allergy history
21. Alternatives Interventions
 - Herbals
 - Music therapy
 - Memory book / journaling
 - Dealing with spiritual pain

Pet therapy
Plant therapy
Acupuncture / Acupressure
Energy Therapies
Biofeedback and virtual reality
Mindfulness meditation
Spinal cord stimulator / deep brain stimulators

22. Non-Pain Symptoms

Gastrointestinal
Constipation
Nausea and vomiting
Diarrhea
Bowel Obstruction
Hiccups
Anorexia and Cachexia
Respiratory
Dyspnea
Secretions
Aspiration / Swallowing disorders
URIs
Cough
CNS / Neuropsych
Anxiety
Depression
Delirium
Insomnia
Fatigue
Dementia
Schizophrenia / mental illness
Seizure management

23. Managing Co-Morbid Conditions at End of Life

Diabetes mellitus
Hypertension
Hypercholesterolemia
Antimicrobial therapy
Changing Goals of Care

24. Ethics / Therapeutic Decision Making

Goals of care
Withholding vs. withdrawing
Sedation for refractory symptoms
How to stop therapies

	<ul style="list-style-type: none"> Ventilator withdrawal Implantable cardiac devices DNR/Advance Directives Caring for the Caregiver Compassion Fatigue
	<p>25. Death Rituals</p> <ul style="list-style-type: none"> Cultural considerations Anticipatory grief Grieving Complicated Grief (SIDS, suicide, etc.) Funeralization / Funeral Home Bereavement Forensics Death of pets Pain and Palliative Care Emergencies Spinal Cord Compression Superior Vena Cava Syndrome Hypercalemia Opioid Intoxication Hemorrhage
	<p>26. Pain and Palliative Care Emergencies</p> <ul style="list-style-type: none"> Spinal Cord Compression Superior Vena Cava Syndrome Hypercalemia Opioid Intoxication Hemorrhage

Post-Graduate Training Workgroup

The Post-Graduate Training (PGT) Workgroup sought to reach consensus on recommended competencies, experiences, and standards as they relate to PPC in the various forms of formal post-graduate education for pharmacists. The PGT workgroup identified post-graduate year 1 (PGY-1) pharmacy residencies, post-graduate year 2 (PGY-2) pharmacy residencies, and research fellowships as clinical post-graduate training opportunities for pharmacists. Advanced degrees, while noted as post-graduate options for pharmacists, were not discussed. The workgroup reviewed current ASHP PGY-1 and PGY-2 residency standards, as well as model guidelines for research fellowships and reached consensus on recommendations for program consideration when assessing learning experiences and required program content.

Currently, PGY-1 residency standards do not identify specific therapeutic areas as *required* or *elective per se*, however, they identify general required and elective objectives as they relate to the general practice of pharmacy. As PGY-1 residencies are considered advanced training for the generalist pharmacists, frequently these programs attempt to offer the resident an abundance of experiences versus focusing on a particular area. Programs do exist that emphasize a distinct area of practice although the accreditation standards seek to limit over-exposure to any specific area of practice, group of patients, or individual preceptor. The workgroup provides consensus recommendations for consideration by Residency Program Directors of PGY-1 residencies of competencies in pain and palliative care in Table 8.

Table 8. Consensus recommendations for competencies on pain and palliative care in post-graduate year 1 and post-graduate year 2 (not PPC specialty) residency programs.

1. Understand the pathophysiology of acute and chronic pain including pain transmission pathways, pain etiologies, and consequences of uncontrolled pain.
2. Understand the prevalence of chronic pain and its impact on psychosocial, economic, and other comorbidities.
3. Design and manage optimal therapeutic plans for patients with acute and/or chronic pain.
4. Design and manage appropriate therapeutic plans for the palliative care of patients (e.g. nausea, pruritis, constipation, dyspnea).
5. Understand available non-pharmacological, or interventional, evidence-based symptom management strategies (e.g. peripheral nerve blocks, myofascial trigger point injections, transcutaneous electrical nerve stimulation (TENS), relaxation therapy, occupational therapy, massage, acupuncture, physical therapy).
6. Understand the unique aspects of providing evidence-based, patient-centered medication therapy management within multidisciplinary teams for pain and palliative care patients.
7. Design cost-effective, evidence-based therapeutic plans to improve outcomes for patients with pain and/or palliative care needs.
8. Appropriately counsel patients on therapeutic regimens used for the management of pain and other associated symptoms.
9. Differentiate behaviors associated with physiological dependence, tolerance, pseudoaddiction, and substance dependence (addiction).
10. Identify risk factors and behaviors associated with substance dependence and develop strategies for effectively managing such patients.
11. Understand how to effectively use current evidence-based practice guidelines in the management of patients with painful conditions.
12. Demonstrate how to assess pain and other symptoms using validated assessment tools in all patient populations (e.g. adult, geriatric, pediatric, and cognitively impaired).
13. Appropriately document and communicate pain and symptom management treatment recommendations.
14. Understand the appropriate indications for various administration routes of analgesics (e.g. parenteral opioids on a regular schedule and prn, opioids via patient controlled analgesia (PCA), epidural and intrathecal opioids and oral and parenteral NSAIDs).
15. Determine safe and effective patient specific equianalgesic opioid dosing strategies.
16. Determine appropriate use of adjuvant analgesics (e.g. tricyclic antidepressants, antiepileptic, non-steroidal anti-inflammatory agents, acetaminophen).
17. Recognize and manage opioid withdrawal and overdose.
18. Understand the current legal and regulatory issues surrounding the safe use and proper disposal of opioids and other analgesics.
19. Obtain comprehensive medication histories from patients experiencing pain or needing palliative care, which address medication use, adverse reactions, compliance, patients' goals and beliefs about medications, and a needs assessment for patient education and counseling in order to facilitate the development of a therapeutic regimen.
20. Describe strategies for making optimal choices for alternative medications when a drug shortage arises.
21. Educate patients, caregivers and/or health care providers on appropriate medication therapy management for pain and palliative care patients.

While the accreditation standards for specialty PGY-2 residencies are similar in format, specific outcomes, goals, and objectives are stated for each of the accredited PGY-2 residencies. For each of the PGY-2 patient care specialty residencies (ambulatory care, cardiology, critical care, geriatrics, infectious diseases, oncology, pediatrics, pharmacotherapy, psychiatry, and solid organ transplant) other than PPC PGY-2 residencies, the Workgroup recommends the utilization of the competencies provided for PGY-1 residencies provided in Table 8. The Workgroup realizes that all of the specialty learning environments may not lend themselves to each of the competencies listed; however, these recommendations should provide a framework from which to perform self-assessment on the individual residency programs when evaluated desired outcomes to be achieved by the resident.

The Workgroup additionally reviewed the outcomes, goals, and objectives stated for ASHP Accredited PGY-2 residencies in PPC. The Workgroup, through consensus, supports the standards, outcomes, goals, and objectives as provided by ASHP.

In regards to research fellowship training of pharmacists in PPC, the Workgroup felt individual fellowship programs were too variable to provide competency recommendations and supports the ACCP Guidelines for Clinical Research Fellowship Training Programs. While training in research methodology may be the primary focus of the formal pharmacy fellowship program, the Workgroup recommends incorporation of the competencies provided in Table 8 for fellowship programs emphasizing clinical, basic, and translational research in PPC.

Formal post-graduate training opportunities in PPC for pharmacists are considerably lacking. The Workgroup additionally recommends increased institutional commitment to expanding opportunities in formal PPC post-graduate training for pharmacists.

Certificate Programming Workgroups

One of the goals of the Summit as identified by the Advisory Board was the creation of a framework for a certificate continuing education program for pharmacists in PPC with utility across practice settings and specialties. Due to the variance in level of training and practices of currently licensed pharmacists, a conceptual design was envisioned which would provide three levels of educational programming for pharmacists. This would include programming for most licensed pharmacists and would be represented by what is considered core content or basic minimum competencies in PPC that all pharmacists, regardless of level of training or practice setting, should achieve. The second phase or component of the proposed certificate program would be directed to those pharmacists who are not necessarily PPC specialists, but devote a reasonable amount of time to PPC within their individual practice setting (i.e. geriatrics, critical care, specialty compounding, institutional). In addition to the core content previously described, these site or practice-specific modules would provide the practicing pharmacist with the tools necessary to provide quality patient care in their respective setting. The compilation of the core content and all of the site or practice-specific modules would comprise the “train the trainer” program. Those pharmacists considered therapeutic experts in the field of PPC completing the “train the trainer” program would then provide the individual core and site or practice-specific educational programs.

The Summit Advisory Board envisions the utilization of this continuing education system to provide general pharmacist continuing education credits, provide a certificate training experience, and serve as a potential review and / or stipulation for potential credentialing or renewal of credentialing should a pharmacist-specific PPC board examination become available in the future.

Due to the amount of content and workload of such an ambitious endeavor, this charge was split between two workgroups. One workgroup focused on the core competencies required of all practicing pharmacists with respect to PPC regardless of practice setting (Core Certificate Workgroup). The other workgroup sought to identify and collate site and practice-dependent variations in need with respect to PPC competencies.

Certificate Programming Workgroup - Core

The Certificate Programming Workgroup – Core sought to develop a framework of content in which to consider minimum competencies necessary for all practicing pharmacists. The consensus recommendations provided by this workgroup are to be used to develop the primary PPC course which may be offered as continuing education regardless of practicing setting. While this document may look similar to the competencies identified within the professional degree curriculum recommendations, these content areas will be expanded to create a self-contained continuing education offering. Thus the objectives were to a) develop a core curriculum on PPC to be offered to pharmacists, b) consider the best model in which to provide the education (i.e. Education of Palliative and End of Life Care, End of Life Nursing Education Consortium, Unipacs, etc). While discussions of funding and logistics of dissemination of the course was discussed, the Workgroup tabled this discussion in order to focus on the outline for the course. The Workgroup approached the task of content identification in a rather novel manner. First, individual competencies were identified and discussed. Once these minimum core competencies were agreed upon, they were further grouped into larger concepts to begin building the actual outline of the course.

During discussions of the necessary content, the workgroup discussed the possibility of including deeper discussions on Risk Evaluation and Mitigation Strategy (REMS) legislation and design within the core content. The consideration was that this training vehicle on PPC may satisfy general education requirements which may be required by the REMS program outlined by the FDA. The general course outline recommendations are provide in Table 9.

Table 9. General outline of pharmacist pain and palliative care core certificate program.

I. Introduction (discuss pain and palliative care)

II. Pain:

- Epidemiology
- Pathophysiology
- Assessment
- Clinical Pharmacology
- Pharmacotherapy
- Non-pharmacologic/CAM
- Practice Management
- Special Considerations/Challenges

III. Palliative Care:

- Definition vs hospice
- Continuum of palliative care
- Symptom Assessment
- Pharmacotherapy
- Non-pharmacologic txt

IV. End of Life Care:

- Common Symptoms
- Dying Process

V. Practical Considerations:

- Overcoming Barriers/Communication
- Regulatory Issues
- Ethics

Additional discussion surrounded the decision to separate pain and palliative care as separate, distinct programs for certificate and continuing education. This appears to have reached an impasse and consensus was not achieved, primarily due to the consideration of the necessity of pain programming being included within a palliative care program.

The individual competencies, and their associated groupings, are provided within Table 10.

Table 10. Consensus recommendations on core competencies for practicing pharmacists and their associated groupings within a certificate program for continuing education.

1. Epidemiology of pain
 - a. Populations (neonates, pediatrics, children, adolescents, adults, geriatrics)
 - b. Morbidity (absenteeism & presenteeism)
 - c. Cost
 - d. Treatment
 - e. Prevalence of drug abuse
 - f. Treatment
 - g. Types of pain (malignant, neuropathic, bone, somatic, visceral)
2. Pain taxonomy
 - a. Generators
 - i. Neuropathic
 - ii. Nociceptive
 - b. Time and duration
 - i. Acute (injury, post-operative)
 - ii. Chronic (maintenance, break through pain)
 - iii. Malignant pain
 - iv. Terminal & end of life
 - c. Settings
 - i. Hospice
 - ii. Palliative
 - iii. Outpatient
 - iv. Inpatient
 - v. Institutions
 - vi. Long term care facilities
 - vii. Assisted living facilities
3. Pathophysiology of pain
 - a. Acute, chronic, malignant, neuropathic
 - b. Tolerance
 - c. Hyperalgesia and allodynia
 - d. Dying process
 - e. Addiction, pseudoaddiction, and dependence
 - f. Consequences of untreated or undertreated pain
 - g. Withdrawal symptoms

4. Pain and symptom assessment

- a. Opioid use and symptom management at end of life
- b. Opioid tolerance
- c. Pain versus suffering
- d. Hyperalgesia
- e. Cultural sensitivity
- f. Specific assessment tools
- g. Rating scales
- h. Compliance and adherence assessment
- i. Assessing special populations

5. Clinical pharmacology

- a. Constipation
- b. Bisphosphonates
- c. Palliative sedation
- d. Opioid conversions
- e. Opioid rotations
- f. Treatment of side effects
- g. Addiction and dependence
- h. Drug interactions
- i. Withdrawal symptoms
- j. Opioid induced hyperalgesia
- k. Routes of administration
- l. Allergies and intolerance
- m. Opioid tolerance
- n. Incident and breakthrough pain
- o. Adjuvant / co-analgesics
- p. Implantable technology
- q. Patient controlled analgesia
- r. Pharmacokinetics of analgesics and co-analgesics
- s. Dosing

6. Pharmacotherapy

- a. Evidence based medicine and practice guidelines
- b. Practice management
- c. Interventional therapy

7. Alternative pain management strategies

- a. Interventional / surgical treatment
 - i. Radiation therapy
 - ii. Nerve blocks
 - iii. Trigger injections
 - iv. Implantable pumps
 - v. Intrathecal and epidural administration

- b. Acupuncture
 - c. Transcutaneous Electrical Nerve Stimulations (TENS)
 - d. Behavior modification / cognitive behavioral therapy
 - e. Guided imagery
 - f. Hypnosis
 - g. Massage
8. Practice / Patient management / Treatment care plan
- a. Safe storage and utilization
 - b. Compounding of meds in EOL care
 - c. Cost
 - d. Disposal
 - e. Prescription monitoring programs
 - f. Recommendations for staying current following educational programming
 - g. Dispensing and regulatory issues in pain and palliative care
 - h. Collaborative agreements and medication therapy management
 - i. Drug availability
 - j. Titration
 - k. Transitions of care and patient care settings
 - l. Goals of care
9. Special considerations and populations
- a. Pediatrics
 - b. Geriatrics
 - c. Neonates
 - d. Non-communicative / demential patients
 - e. Altered mental status
 - f. Compounded meds in EOL care
 - g. Renal and hepatic impairment
 - h. Palliative sedation
 - i. Cultural awareness
 - j. Substance abuse / addiction
 - k. Pregnancy
 - l. Adolescents
 - m. Adults
 - n. Routes of administration
10. Communication
- a. Interdisciplinary communication
 - b. Patient education
 - c. Difficult patients and families
 - d. Cultural sensitivity
 - e. Grief training
11. Overcoming barriers
- a. Combine communications into topic as one approach (see above)
 - b. Pharmacist attitudes towards opioids and pain

c. Misconceptions

- i. Patient concerns (addiction, side effects, overdosing, etc)
 - ii. Provider concerns (addiction, side effects, overdosing, regulatory oversight)
- d. Access to care and resources**
- e. System barriers (financial, time, availability of resources)**
- f. Difficult patients or families**
- g. Disparities in care**
- h. Cost**
- i. Reimbursement for services**
- j. Cultural sensitivity and awareness**

12. Ethical and regulatory issues in pain and palliative care

- a. Common terms (malfeasance and beneficence)
- b. Palliative sedation
- c. Euthanasia
- d. Physician assisted suicide
- e. Pain management by proxy
- f. Addiction
- g. Withdrawal of care
- h. Advance directives and living wills
- i. Justification of pharmacist role
- j. Patient bill of rights pertaining to pain and palliative care
- k. Counseling on risk versus benefit of medications (i.e. methadone)
- l. Family conference on goals of care
- m. Medication safety
- n. Compounding and off label use of high risk pain medications
- o. Dispensing and regulatory laws
 - i. Controlled substances acts
 - ii. Risk Evaluation and Mitigation Strategies
- p. Pain management in vulnerable populations (i.e. noncommunicative)
- q. Disposal or destruction of medications
- r. Drug diversion and reporting
- s. Risk management

13. Co-morbid diseases and symptom clusters

14. Treatment of symptoms at end of life

- a. Constipation
- b. Malignant pain
- c. Palliative sedation
- d. Terminal restlessness
- e. Dyspnea
- f. Terminal secretions
- g. Dying process
- h. Hiccups
- i. Opioids at the end of life

- j. Delirium
 - k. Pain versus suffering
 - l. Anxiety and depression
 - m. Communication
 - n. Fatigue
 - o. Routes of administration (compounding, patient controlled analgesia)
 - p. Cachexia and anorexia
 - q. Nausea and vomiting
 - o. Routes of administration (compounding, patient controlled analgesia)
 - p. Cachexia and anorexia
 - q. Nausea and vomiting
15. Program administration
- a. Cost (medications and services)
 - b. Outcomes and goals
 - c. Quality improvement processes
 - d. Digital tools
 - e. Justification for pharmacist role in pain and palliative care
 - f. Reimbursement for services
 - g. Medication therapy management

Next steps for this process will include identification of partners / organizations in which to provide continuing education credits and potential certificates.

Certificate Programming Workgroup – Site Dependent

The Certificate Programming – Site Dependent Workgroup was charged with identifying competencies that may be practice-specific (i.e. specialty infusion, compounding pharmacy, etc) as they relate to PPC. The first goal was to identify the individual practice settings in which to consider and how groupings of related practice settings may occur. The first practice site grouping identified by the workgroup was *Inpatient oriented*. This group included hospitals of various sizes and academic affiliations, outpatient surgery centers, specialty clinics (such as dialysis or pain management), oncology centers, and infusion centers. The second practice setting grouping was *ambulatory or primary care*. The third setting group identified was *community*, although this set of practice sites may have an incredibly diverse set of skills required by the pharmacist depending on the type of community pharmacy employed within. Such examples may include high volume chains, independent pharmacies, compounding pharmacies, and those pharmacies providing auxiliary services to small long term care facilities. The fourth practice setting group was labeled *managed care* and may include sites such as dedicated long term care facility pharmacies, pharmacies or pharmacists working directly within hospices, and those pharmacists working within managed care companies / pharmacy benefit managers.

The methodology of this workgroup was similar to that of the core content certificate programming workgroup. Major competencies as they relate to PPC were identified and then grouped within practice setting specific categories. Competencies that were felt to be necessary by all pharmacists, regardless of practice setting, were provided for consideration and cross-reference by the core programming workgroup. Those competency statements that were left and assigned to particular practice settings would then be provided as recommendations for the creation of *site-dependent add-on modules* to the core course educational programming. Thus a pharmacist seeking additional training or education in PPC that works in a community pharmacy could participate in the continuing education program consisting of the core program and the site-dependent module. Those seeking a more global expertise in PPC could complete the core programming and all of the site-dependent modules, and then may be considered to provide the continuing education programs to others (a train the trainer model). Practice settings and their associated competencies are provided in Table 11.

Similar models of education may be found within the Education on Palliative and End of Life Care (EPEC) specialty programs, the End of Life Nursing Education Consortium (ELNEC), the Advocating for Clinical Excellence (ACE) Project for social work, and others.[16-18]

Table 11. Consensus recommendations on site-dependent pain and palliative care competencies for pharmacists.	
Inpatient	<ul style="list-style-type: none"> Induction and maintenance of anesthesia Intravenous analgesia <ul style="list-style-type: none"> Patient controlled analgesia Bolus dosing Conversion between routes of administration of opioids Opioid naïve versus opioid tolerant dosing Intraspinal analgesia <ul style="list-style-type: none"> Patient controlled epidural analgesia (PCEA) Intrathecal administration

	<ul style="list-style-type: none">Epidural with or without local anestheticsAdmixture processes and compounding for these routesPeripheral infusion of local anestheticsNerve blocks or ablationImplantable devicesComorbid substance abuse and staff diversion identificationTreatment of overdose using naloxone treatment guidelinesUnusual routes of administration<ul style="list-style-type: none">IntracerebroventricularContinuous subcutaneous infusionRectal administration of non-rectal formulationsUrine and serum drug screening<ul style="list-style-type: none">InterpretationFalse positives and negativesChain of custodyManagement of patients with complex pain syndromes<ul style="list-style-type: none">Sickle cell diseaseCancer painAcute treatment of patients with implantable devicesPatients with high opioid tolerance / dose requirementsPre-operative and post-operative pain and symptom management<ul style="list-style-type: none">Pre-admission clinicPre-emptive analgesiaAnticipation of post-operative pain and symptomsEmergent headachesDose escalations and weanOpioid rotationInpatient palliative care<ul style="list-style-type: none">Multidisciplinary careRole of the pharmacistReimbursement considerationsEvaluation of data to support programActively dying persons within the hospitalTerminal extubation and sedationDrug-induced sedation/coma to treat intractable pain<ul style="list-style-type: none">Evaluation of patientsIntensive care unitTrauma unitSpecial populations<ul style="list-style-type: none">Pediatric inpatient pain managementNeonatal wean from opioidsGeriatricsDialysis, anephric, and severe hepatic diseaseProcedural pain
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	<p>Complex documented opioid and anesthetic allergies</p> <p>Desensitization protocols</p> <p>Transitions of care within the hospital</p> <p>Post-anesthesia care unit to medical surgical floor</p> <p>Discharge to home, rehabilitation, skilled nursing facility, long term care facility, hospice</p> <p>Acute treatment of patients enrolled in treatment programs</p> <p>Alcohol</p> <p>Opioid / heroin (methadone, buprenorphine)</p> <p>Continuity of care and discharge planning</p>
<p>Community</p>	<p>Continuity of care</p> <p>Patient care settings and common drugs</p> <p>Formulary guidelines and therapeutic interchange</p> <p>Drug shortages</p> <p>Evaluation of drug allergies versus hypersensitivities versus preferences</p> <p>Pain contracts and agreements</p> <p> Bilateral versus trilateral</p> <p> State specific requirements</p> <p>Risk Evaluation and Mitigation Strategies</p> <p>Federation of State Medical Boards Responsible Opioid Prescribing</p> <p>Universal Precautions</p> <p>Prescription monitoring programs and their evaluation</p> <p>Death with dignity / conscience clauses</p> <p>Internet pharmacies</p> <p>Combination analgesics</p> <p> Appropriate use and recommendations for over the counter analgesics and herbals</p> <p> Acetaminophen doses and recommendations based on special populations</p> <p>Herbal / complementary pain and palliative care</p> <p>Adverse events and reporting</p> <p>Common drug interactions with pain and palliative care medications</p> <p>Prescription assistance programs available</p> <p> Industry based</p> <p> Community based</p> <p>Medication Therapy Management</p> <p>Toxicology and urine drug screening evaluation</p> <p>Addiction medicine and regulatory</p> <p> Suboxone</p> <p> Subutex</p> <p> Methadone</p> <p>Risk management</p> <p> Identifying problematic behaviors or fraudulent prescriptions</p> <p> VIGIL program by Brushwood</p>

	<p>Evaluation of high / concerning opioid doses Physician – pharmacist relationship building around PPC patients Assessment and referral of PPC patients Partial dispensing and state and federal controlled substances acts Compounding products and dosage forms as they relate to PPC Evaluation of methadone and buprenorphine as analgesics Rapid acting agents and safe prescribing evaluation Evaluation and recommendation regarding differences in generic analgesics (i.e. transdermal fentanyl)</p>
<p>Ambulatory and Primary Care</p>	<p>Treatment agreements Fishman approach Enforcement or reaction to deviations Tools proposed by FSMB Responsible opioid prescribing / Universal precautions When to seek referral Interdisciplinary communication within and between sites Consistency of practice Models of care as a provider extender Medication reconciliation Interval visits and clinic appointments based on state specific requirements Risk assessment and refill approval Complementary / herbal medication recommendations</p>
<p>Managed Care</p>	<p>Legal requirements and partial dispensing Alternative routes of administration Return and destruction of discontinued medication or post-mortem Terminal sedation, extubation, and medication / therapy weans Centers for Medicare and Medicaid Services Conditions of Participation Hospice per diem issues Assessment of pain and symptoms Undertreatment and lack of treatment bias and consequences Symptom clusters Anecdotal or limited evidence base therapies Frozen Vaseline balls Rectal administration of non-rectal formulations Evaluation of medications with limited short term benefit or narrow therapeutic index Patient oriented goals of therapy Actively dying patients Agitation Secretions Family dynamics Interdisciplinary team issues</p>

	<p>Physician assisted suicide, euthanasia</p> <p>Palliative care symptom management not at end of life</p> <p>Insurance concerns</p> <p>Hospice settings and differences</p> <ul style="list-style-type: none"> Nursing home based Home based Hospital or inpatient based <p>Emergency boxes for hospice patients</p> <p>Pain at end of life</p> <ul style="list-style-type: none"> Spiritual pain Effectiveness evaluation of analgesics and other symptoms medications Delirium, dementia, non-communicative, or uncooperative
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Credentialing Workgroup

The Credentialing Workgroup was tasked with the goal of evaluating currently available credentialing opportunities for pharmacists within PPC and to make consensus recommendations regarding the feasibility or necessity of seeking independent board certification or credentialing within the profession of pharmacy. During the course of discussion, numerous concerns arose including number of pharmacists who may avail themselves of such credentialing, acceptance of a pharmacy PPC credential by non-pharmacy professions, cost, and potential benefits of becoming credentialed.

Currently, two credentialing examinations are available for pharmacists with an interest or expertise in PPC. The first is a credentialing examination offered to any discipline of health care provider with a terminal degree by the American Academy of Pain Management. Following the successful attainment of a passing score, the professional is designated as a Diplomate of the American Academy of Pain Management. Those without a terminal degree may additionally sit for the examination and be provided with the credential Fellow of the American Academy of Pain Management. The second credential is offered by the American Society of Pain Educators and the successful candidate earns the designation of a Certified Pain Educator. This credential is additionally available to any candidate meeting the testing requirements and demonstrating a commitment to pain management through continuing education credits. Both credentials are primarily pain focused with little palliative care emphasis. Neither is considered board certification.

The workgroup identified several groups currently offering board certification for pain and or palliative medicine for other health care professions. Discussion arose around pharmacist recognition and the need to have other professions outside of pharmacy either involved or directing the creating of a pharmacist specific board certification process. Those organizations directly discussed included the American Board of Pain Medicine and the American Academy of Hospice and Palliative Care, both physician-specific board certification processes.

The workgroup additionally reviewed the application process for consideration of specialty board examination creation through the Board of Pharmaceutical Specialties (BPS). This organization is considered the official credentialing organization for the profession of pharmacy by the professional organization members of the Joint Commission of Pharmacy Practice. Following identification of a demand for such board examination, the BPS requires a petition for consideration from pharmacists interested in the examination and submission from a sponsoring organization. Once a needs assessment and delineation study is performed, BPS may elect to allow creation of the examination. While beyond the scope of

this summary, the specific steps are outlined on the Board of Pharmaceutical Specialties website. It is important to note that BPS also offers a status of *Added Qualifications* which may be added to its current general practice credential, *Pharmacotherapy*. This option was additionally discussed by the workgroup but was found to fall short of serving the purpose of expertise recognition and may be difficult to implement as currently there are two BPS board certification specialties which would likely benefit (Pharmacotherapy and Oncology).

Following consideration of these avenues for specialty recognition within the profession of pharmacy for PPC, the workgroup reached consensus on the following recommendations: **a) Submit petition for specialty recognition through the Board of Pharmaceutical Specialties for Pain and Palliative Care, b) identify a petitioning organization or organizations to collaborate on the development of the board examination, and c) in the event that a sponsoring organization may not be found, the development of a pharmacist-specific organization for those pharmacists interested in and practicing pain and palliative care.**

Summary

The Strategic Planning Summit for the Advancement of Pain and Palliative Care Pharmacy hosted 79 participants within six workgroups to identify processes in which to improve the education of pharmacists on pain and palliative care. The opportunities available for pharmacist involvement in the care of these patients are plentiful and the time is now that our profession takes the next steps in increasing pharmacy involvement in the interdisciplinary care of patients in pain and at the end of life. As pharmacists strive to play larger roles within the health care team, patient accountability additionally increases with a greater need for the knowledge, skills, and attitudes necessary to provide this care. By following the consensus recommendations reached at this Summit, we have an opportunity to vastly improve our position on the pain and palliative care team, and greatly effect the care delivered to these patients.

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