

Special Article

Consensus Recommendations From the Strategic Planning Summit for Pain and Palliative Care Pharmacy Practice

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Abstract

Pain and symptoms related to palliative care (pain and palliative care [PPC]) are often undertreated. This is largely owing to the complexity in the provision of care and the potential discrepancy in education among the various health care professionals required to deliver care. Pharmacists are frequently involved in the care of PPC patients, although pharmacy education currently does not offer or require a strong curriculum commitment to this area of practice. The Strategic Planning Summit for the Advancement of Pain and Palliative Care Pharmacy was convened to address opportunities to improve the education of pharmacists and pharmacy students on PPC. Six working groups were charged with objectives to address barriers and opportunities in the areas of student and professional assessment, model curricula, postgraduate training, professional education, and credentialing. Consensus was reached among the working groups and presented to the Summit Advisory Board for adoption. These recommendations will provide guidance on improving the care provided to PPC patients by pharmacists through integrating education at all points along the professional education continuum. J Pain Symptom Manage 2012;43:925–944. © 2012 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.

Key Words

Pharmacy, palliative care, pain, end of life, hospice, pharmacist, pharmacotherapy

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Introduction

Untreated and undertreated pain and symptoms at the end of life (EOL) represent an international problem. Yet, despite the advances made in the understanding and treatment of

pain and related symptoms, and the availability of evidence-based practice guidelines, unacceptable outcomes for patients with pain and related symptoms continue to occur, resulting in unnecessary suffering and increased health care costs.¹⁻⁴ A recent Health, United States survey suggests that approximately half of those surveyed over the age of 45 reported pain for more than one year.⁵ European one-month prevalence of moderate-to-severe chronic non-cancer pain approaches 20%.⁶ Additional data support the need for improved pain care in the cancer treatment and postoperative care settings.^{1,7,8} Even within hospice care settings, undertreated pain appears to still be of concern.^{9,10} Despite numerous advances in our understanding of the diagnosis and treatment of pain and symptoms at the EOL, 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 stigmas about opioid analgesics, and inappropriate patient stereotyping.¹¹⁻¹³

An exhaustive review of factors contributing to suboptimal pain management is beyond the scope of this summary; however, the relative paucity in education of both the health care provider (HCP) and the patient is a major contributor to these shortcomings. Barriers are commonly identified as personal (patient), professional, and regulatory.¹⁴ The ability to communicate pain and symptoms may be problematic for older and noncommunicative patients and for those from certain cultures and of certain ethnicities.^{11,15,16} Health professionals' ability to recognize and treat pain in noncommunicative patients is likewise difficult without proper training. Health literacy likely also plays a functional role as a barrier to effective pain management and symptom control. With these barriers in mind, pharmacy is uniquely positioned to contribute to the care of patients with pain and related symptoms.

Of recent concern is the considerable rise in opioid-related overdose and associated death.¹⁷ There are likely many contributing factors to this phenomenon. Shift of opioid prescribing from pain specialist to primary care provider, relative availability, and a lack of understanding in the identification of misuse or abuse certainly are suspect. Balancing this public health concern of abuse with the continued focus on the

patient with pain becomes increasingly difficult. Attempts to curb the nonmedical use and diversion of opioid analgesics are evidenced by increasing regulatory scrutiny, legislated patient education, and prescription monitoring. Practice guidelines also have addressed the use of these medications in noncancer pain.¹⁸ The idea of practicing a standard approach to the monitoring of these medications and evaluation of the patients using them has become more widely accepted within the health care community.¹⁹ Pharmacists, with the proper educational background, may assist in the monitoring and evaluation of opioid therapy in numerous practice settings.²⁰

Pain and symptom management through interdisciplinary care has been unequivocally proven to achieve better outcomes compared with that of standard medical practice.²¹⁻²⁵ As experts in pharmacotherapy, pharmacists are key components to the provision of pain and palliative care (PPC) treatment, given the complexity of drug combinations frequently used. As a result 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. Before effective PPC treatment may be provided for a patient, positive and negative barriers to care must be identified. 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 because of lack of understanding of the medication, extensive follow-up and scrutiny of prescriptions based on ethnicity or socioeconomic status, and stereotyping associated with opioid prescriptions. Negative pharmacy barriers also result from a lack of appropriate pharmacist education but are a consequence 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 recognizing that their PPC skills are substandard, not seeking continuing education (CE) to improve pain and symptom management, failure to stock adequate supplies of essential medications for PPC patients, and failure to provide adequate patient-specific counseling and education.^{26,27}

In recent years, we have seen efforts to improve the education and understanding of PPC for physicians (Education on Palliative and End of Life Care, EPEC), nurses (End of Life Nursing Education Consortium, ELNEC), and social workers (Advocating for Clinical Excellence Project).²⁸⁻³⁰ In 2003, the National Pain and Palliative Care Summit, hosted by the Ohio State University, convened health professionals from all stakeholder disciplines to identify opportunities and barriers to quality pain and symptom care for each of the professions. The pharmacist working group 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.

Continuum of Education for Pharmacists

The education of health care professionals is complex. Pharmacy, similar to medicine, nursing, and social work, uses a step-wise didactic strategy, in which students take increasingly difficult and clinically applicable courses and are immersed into various practice settings during the entry-level degree program (Doctor of Pharmacy, PharmD). The last year of the degree program typically consists primarily of clinical experience clerkships. After the receipt of the professional pharmacy degree, these professionals may choose to enter the practice of pharmacy, continue through postgraduate residency or fellowship training, or seek advanced degrees. Whereas postgraduate residency training has been standard in medicine, other professions, such as pharmacy, nursing, and social work, are increasingly offering these opportunities to further the clinical competency of practitioners before entering into the workforce. Specific to the pharmacy profession, graduates may choose to complete a general practice postgraduate residency and more specialized, targeted training experiences (postgraduate year 1 [PGY-1] and postgraduate year 2 [PGY-2] specialty residencies, respectively).

Pharmacy schools in the U.S. and its territories are accredited by the Accreditation Council

for Pharmacy Education (ACPE). The 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. The ACPE provides standards for schools of pharmacy it accredits as a guideline for creation and ongoing improvement of these programs.

In the United States, once a pharmacy student graduates, he or she must pass two or more 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 and the federal government (Multi-State Pharmacy Jurisprudence Examination). The second exam is a minimum competency, practice-related examination covering the clinical and core aspects of the profession (North American Pharmacist Licensure Examination or NAPLEX). The law exams are offered by the respective state boards of pharmacy, and the NAPLEX is offered by the National Association of Boards of Pharmacy (NABP). Some states may additionally require other assessments of competency, such as compounding (New York).

Residencies are the most commonly sought postgraduate training (PGT) in the profession of pharmacy. These programs are 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. This organization accredits both general practice residencies (also known as PGY-1 residencies) and specialty residencies (frequently referred to as PGY-2 residencies). PGY-1 training is usually highly diverse, with a broad range of experiences within hospital, managed care, and community pharmacy. PGY-2 programs usually represent a more focused, specialized area of practice (i.e., PPC, psychiatry, infectious disease, and so forth).

Once a graduate has successfully passed all licensure examinations, the pharmacist then may practice pharmacy within the state(s) in

which he or she is licensed. Pharmacist license renewal through the respective state board of pharmacy usually requires the completion of ACPE-accredited CE, usually 15 contact hours per calendar year. These programs may be valuable sources of ongoing education. Additionally, some states have provided direction and legislation on which types of educational venues and topics the renewing pharmacist must seek. Some states dictate that pain- or palliative care-related CE must be obtained on an annual or biannual basis. These educational requirements dictate the bare minimum required by each respective licensing state.

For pharmacists who seek additional training or education in a specific disease state or area of practice, opportunities include certificate programs and mini-fellowships. Certificate programs generally consist of focused areas of study and are usually accredited by ACPE for the provision of CE credits on completion. In contrast to certificate programs, pharmacists may seek *certification* in specialized areas of practice, knowledge, or skills. Frequently, certification represents the successful completion 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 (pharmacists are included under this category). Credentialing examinations within the pharmacy profession include those offered by the Board of Pharmaceutical Specialties (BPS) on pharmacotherapy, nutrition, nuclear pharmacy, oncology, psychiatry, and ambulatory care. Additionally, the American Society for Consultant Pharmacists offers a pharmacist-only board certification examination in geriatrics. Currently, two multidisciplinary PPC examinations exist for which pharmacists may sit (American Society of Pain Educators [ASPE] and American Academy of Pain Management [AAPM]).

By understanding the educational continuum of a pharmacist, and the diverse practice areas, the Strategic Planning Summit for Pain and Palliative Care Pharmacy Practice (Summit) sought to identify strategies to improve the attitudes, knowledge, and skills of the profession as a whole during each of the above-mentioned vehicles for instruction.

The Summit

The Summit was held in October 2009. It was developed by a multidisciplinary advisory board, including pharmacists, physicians, and nurses. The advisory board identified key stakeholders, including professional organizations and individuals with either a vested interest or an expertise in the area of pharmacy practice and/or PPC. Individuals were chosen based on previous or current efforts in education, policy, committee work, or practice. Invitations were sent to these individuals and the executive directors of 10 pharmacy organizations, three physician organizations, four nursing organizations, and 12 pain or palliative care interdisciplinary organizations. Invitations also were sent to international organizations representing PPC professionals. Seventy-nine participants attended the Summit (Appendix I), with five professional stakeholder organizations represented.

The Summit objectives were constructed to examine the education and development of pharmacists in PPC across the entire professional continuum. Goals and objectives for the Summit were classified as: 1) professional degree program training, 2) postgraduate formal training, 3) professional CE, and 4) certification and credentialing (Table 1). To reach as many pharmacists and pharmacists-in-training as possible, six working groups were created with more specific objectives as they related to PPC education and assessment of pharmacists or pharmacy students. The working groups were assigned the following topics: Assessment, Curriculum, PGT, Core Training, Practice-Specific Training, and Credentialing. They were 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. Each working group developed consensus recommendations and presented them to the advisory board for adoption and dissemination.

Working Group Recommendations

Assessment Working Group

The Assessment Working Group was charged with objectives primarily within the pregraduate scope of pharmacist education; however, assessment strategies throughout the professional

Table 1
Goals and Objectives for the Strategic Planning Summit

Training Continuum	Goal	Objective
Pregraduate training	<ol style="list-style-type: none"> 1. Increase/standardize didactic exposure to PPC during the professional degree program 2. Increase/standardize experiential rotation/clerkship exposure to PPC during introductory and advanced patient care experiences during the professional degree program 	<ol style="list-style-type: none"> 1. Identify opportunities and recommend strategies to strengthen current processes within key organizations as they relate to PPC education to pharmacy students, trainees, and practitioners 2. Review and potentially revise IASP curricular recommendations for schools of pharmacy
Postgraduate training	<ol style="list-style-type: none"> 1. Improve/increase exposure to PPC during PGY-1 general pharmacy residencies 2. Review ASHP accreditation standards for PGY-2 specialty residencies in PPC 3. Improve consistency among PGY-2 specialty residencies in areas of practice outside PPC (Geriatrics, Hematology-Oncology, Internal Medicine, and Pediatrics) 	<ol style="list-style-type: none"> 1. Develop recommendations for elective objectives to be submitted to ASHP for inclusion into PGY-1 residency training standards as they relate to PPC 2. Review current ASHP PGY-2 PPC residency standards and provide recommendations 3. 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 PPC
Professional training	Improve the skills, attitudes, and knowledge base of practicing licensed pharmacists regarding PPC in all practice settings	Identify core content for PPC certificate programs across practice settings. Develop content for "train-the-trainer" educational programming
Credentialing	Reach consensus on PPC credentialing for pharmacists with therapeutic expertise or focused practice settings	<ol style="list-style-type: none"> 1. Review current credentialing opportunities 2. Recommend future credentialing opportunities

educational continuum were found to directly affect pregraduation education (i.e., lack of expert preceptors or faculty). Specifically, this working group sought to identify areas in which to effect change to ensure adequate education of pharmacists-in-training during professional degree programs outside specific curricular recommendations. Partnering organizations were identified for Summit invitation based upon considerations of how pharmacists, pharmacy students, and schools of pharmacy are assessed.

These groups included professional, regulatory, interprofessional, and patient advocacy groups, as well as large employers. A complete list of stakeholder organizations identified by the Assessment Working Group is presented in [Appendix II](#) (available at jpsmjournal.com). Additionally, the Assessment Working Group produced 16 consensus recommendations and associated strategies for implementation, which are presented in [Table 2](#).

Curricular Working Group

The Curricular Working Group was charged with reviewing the current International Association for the Study of Pain (IASP) Outline Curriculum on Pain for Schools of Pharmacy prepared by the IASP's Ad Hoc Subcommittee

on University Courses and Curricula published in 1992. After the review of the IASP model curriculum, the working group sought to provide recommendations and an updated outline for courses on PPC 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. Although the degree program length has been extended, the curricula of most schools of pharmacy continue to be strained, resulting in little room for additional courses. With this in mind, the Curricular Working Group provided recommended outlines, competencies, and learning experiences throughout the professional degree program from a required and elective coursework approach. Model curricula were combined to represent experiences in both pain management and palliative and EOL 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

Table 2
Recommendations and Strategies for Assessment in Pharmacy for PPC

Recommendations	Strategies
Develop and share educational assessment tools for PPC	<ul style="list-style-type: none"> • Encourage faculty to post existing tools on PEAS (AACP) • Encourage AACP to put out a call for examples of educational assessment tools for PPC 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 and delineate number of practitioners and minimum competencies for entry-level graduates • Identify and catalog programs on educational assessment in PPC, preceptor training, and so forth
Define minimum competencies for entry-level graduates	<ul style="list-style-type: none"> • Request AACP to identify good models • 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 (e.g., APF, American Chronic Pain Association) • Target new graduate and alumni surveys specifically regarding PPC (AACP) • Objective Structured Clinical Examination—publications and training programs to train faculty to conduct (AACP or specialty organizations; e.g., APS for interdisciplinary training)
Advocate for research and innovation in teaching methodologies and curricular design	<ul style="list-style-type: none"> • Incorporate use of real (volunteer) and simulated patients in the classroom as a method of teaching • Identify decision tools, algorithms, resources, and databases that pharmacy students should learn to use in practice • Encourage the development of case studies in all areas of PPC that might be used interprofessionally (simulation) and encourage publication and foundation grants to develop and publish • Ensure that related topics are integrated across the curriculum (i.e., law, regulatory affairs, communications, ethics, and so forth) and highlight effective curricular models • Encourage pedagogical models that include interprofessional learning for PPC (added specificity to ACPE accreditation standards) • Request AACP to publish a special AJPE issue on innovative teaching methods in PPC
Develop models for preceptor training in PPC	<ul style="list-style-type: none"> • Include broad training beyond pharmacotherapy (i.e., behavioral, ethics, communication, law/regulatory, abuse and diversion, risk management, and assessment skill evaluation) • Encourage professional organizations to include in meeting programming or develop online CE programs • PGY-1 residency preceptor education in PPC • 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
Identify and expand the pool of preceptors with expertise in PPC	<ul style="list-style-type: none"> • Network through professional organizations (PRNs, special interest groups) • Outreach to recognized specialists in PPC
Disseminate information regarding career paths in PPC	<ul style="list-style-type: none"> • Identify career path models of successful practitioners • Promote student organization activities • APhA pathway program—specialty area • Articles in Pharmacy Today highlighting pharmacists working in PPC • Create shadowing and mentoring opportunities with specialty practitioners • Professional organization website information • Special grand rounds or lecture series • Leadership skills in PPC

(Continued)

Table 2
Continued

Recommendations	Strategies
Enhance NAPLEX assessment regarding PPC	<ul style="list-style-type: none"> • Evaluate innovative assessment models incorporating psychosocial, communications, ethics, and so forth • Encourage practitioners to complete blueprint role delineation/scope of practice surveys • Ensure NAPLEX item writers include practitioners with expertise in PPC
Advocate the design and delivery of CE programs to enhance knowledge, skills, and attitudes regarding PPC	<ul style="list-style-type: none"> • Quantitative and qualitative analysis of CE that is currently devoted to the topic • Advocate minimum requirements in this area to state boards of pharmacy • Advocate for interprofessional CE programming (for the team, by the team)—solicit educational grants for development • Ensure CE providers are aware of the dimensions of PPC 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 • Educational modules that can be used in practice settings
Encourage employers to support continuing professional development in PPC	
Advocate that employers include competence assessment of pharmacists in caring for patients with pain or receiving palliative care as part of regular performance evaluations	<ul style="list-style-type: none"> • Document participation in CE • Use validated assessment tools to document
Presentation to JCPP regarding importance of pharmacist role in PPC	<ul style="list-style-type: none"> • Formal request to JCPP with supporting information (pain most common reason for medical attention and so forth)
Advocate NABP to include appropriate expectations for PPC in community pharmacy accreditation	<ul style="list-style-type: none"> • Write a letter and send the white paper • Develop competence assessments
Enhance curricular requirements for PPC	<ul style="list-style-type: none"> • Advocate inclusion of questions regarding competencies in PPC in AACP standardized (or school specific) surveys and include preceptors, students, new grads, alumni, and faculty • Request ACPE to address emphasis on PPC in standards and curricular assessment
Develop and publish a White Paper summarizing the roles of pharmacists on interprofessional teams in PPC, 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 interprofessional organization focusing on pharmacotherapy of PPC	

within a professional pharmacy program is presented in [Table 3](#). Given the already full curricula of most schools of pharmacy, the working group was doubtful that a required course could be devoted to PPC. 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 4](#). Note that several of the essential content recommendations

are included but not allocated time, to ensure that these items are covered in previous, prerequisite coursework. These competency statements are provided as a tool for the faculty member or curriculum committee to evaluate current content delivery within other courses.

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 completion during the curriculum. As the name implies, IPPE rotations are offered early in the program and may be limited to hospital and

Table 3

Model Syllabus for Elective Didactic Coursework Within a Pharmacy Professional Degree Program

Recommended books/reading	<ul style="list-style-type: none"> ● PPC chapter within given pharmacy therapeutics textbook ● Pain and/or palliative care pocket handbook that is inexpensive and free from commercial bias <ul style="list-style-type: none"> ○ <i>Principles of Analgesic Use in the Treatment of Acute and Cancer Pain</i> (American Pain Society) ○ <i>The Massachusetts General Hospital Handbook of Pain Management</i> ○ <i>Pain.edu Handbook</i> ○ Others ● Books on insight and philosophy of PPC <ul style="list-style-type: none"> ○ <i>Dying Well</i> (Ira Byock) ○ <i>The Truth About Chronic Pain</i> (Arthur Rosenfeld) ○ <i>American Book of Living and Dying</i> (Richard Gross) ○ <i>How We Die</i> (Sherman Nuland) ○ <i>The Fall of Freddie the Leaf</i> (Leo F. Buscaglia) ● Memoirs and blogs (GeriPal, Pallimed) ● <i>Fast Facts and Concepts</i> (End of Life/Palliative Education Resource Center)
Recommended teaching activities	<ul style="list-style-type: none"> ● Writing a condolence letter ● Completing a journal (i.e., reflections on self-learning, writing a self-eulogy, out of class discussion boards, and so forth) ● Visit to a funeral home ● Calculation of equianalgesic doses of opioids for oral, intravenous, epidural, and intrathecal administration
Recommended didactic content	<ul style="list-style-type: none"> ● Introduction to pain management and palliative care ● Interdisciplinary nature of pain management and palliative care (physician, nurse, social worker, pharmacist, clergy, psychology, music/art counselor, massage therapy, and so forth) ● Review of physiology of pain and pharmacology of analgesics, co-analgesics, and nonpain symptom medications ● Loss and dying ● Complex pain syndromes <ul style="list-style-type: none"> ○ Pretreatment of acute pain (preemptive analgesia) ○ Complicated postoperative 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 and hemophilia) ○ Wound pain (including fungating wounds and care of fistulas) ○ Mucositis pain ○ Burn pain ○ Self-treated pain conditions ○ Failed back pain ○ Pain in comorbid conditions (depression, anxiety, schizophrenia, and so forth) ● Pain and symptom management in other disease states <ul style="list-style-type: none"> ○ Parkinson's Disease ○ Multiple sclerosis/amyotrophic lateral sclerosis/other neurologic ○ Post-cerebrovascular accident ○ Congestive heart failure ○ Human immunodeficiency virus ○ Chronic obstructive pulmonary disease ● Pharmaceutical issues/drug dosing <ul style="list-style-type: none"> ○ Opioids ○ Ketamine ○ Lidocaine ○ Topical analgesics ○ Cannabinoids ○ Psychostimulants ○ Altering dosage formulations ○ Relevance of drug allergy history ● Alternative interventions <ul style="list-style-type: none"> ○ Herbs ○ Music therapy ○ Memory book/journaling ○ Dealing with spiritual pain ○ Cognitive behavioral therapy ○ Alternative therapy (art therapy, recreational therapy, aromatherapy, mirror therapy, pet therapy, and plant therapy) ○ Acupuncture/acupressure ○ Energy therapies

(Continued)

Table 3
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- Biofeedback and virtual reality
 - Mindfulness meditation
 - Spinal cord stimulator/deep brain stimulators
 - Nonpain symptoms
 - Gastrointestinal
 - Constipation
 - Nausea and vomiting
 - Diarrhea
 - Bowel obstruction
 - Ascites
 - Oral mucositis
 - Hiccups
 - Anorexia and cachexia
 - Respiratory
 - Dyspnea
 - Secretions
 - Aspiration/swallowing disorders
 - Upper respiratory infections
 - Cough
 - Central nervous system/neuropsychiatric
 - Anxiety
 - Depression
 - Delirium/agitation
 - Insomnia
 - Fatigue
 - Dementia
 - Schizophrenia/mental illness
 - Seizure management
 - Managing comorbid conditions at EOL
 - Cardiovascular (heart failure, hypertension, and hyperlipidemia)
 - Pulmonary (chronic obstructive pulmonary disease, asthma, and chronic bronchitis)
 - Endocrine/metabolic (diabetes mellitus, thyroid disorders, and hypercalcemia)
 - Infectious disease (HIV/AIDS and appropriateness of antimicrobial therapy)
 - Changing goals of care
 - Feeding tubes
 - Ethics/therapeutic decision making
 - Goals of care and EOL decisions (including assessment of decision-making capacity)
 - Quality of life and futility
 - Withholding vs. withdrawing
 - Sedation for refractory symptoms
 - How to stop therapies
 - Ventilator withdrawal
 - Implantable cardiac devices
 - Do Not Resuscitate/advance directives
 - Caring for the caregiver
 - Compassion fatigue
 - Death rituals
 - Cultural considerations
 - Anticipatory grief
 - Grieving
 - Complicated grief (sudden infant death syndrome, suicide, and so forth)
 - Funeralization/funeral home
 - Bereavement
 - Forensics
 - PPC emergencies
 - Spinal cord compression
 - Superior vena cava syndrome
 - Hypercalcemia
 - Opioid intoxication
 - Tumor lysis syndrome
 - Syndrome of inappropriate antidiuretic hormone secretion
 - Hemorrhage/disseminated intravascular coagulopathy
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community pharmacy experiences. Here, PPC competencies may be uniquely suited to regulatory and reporting issues, although other

competencies are certainly achievable. APPEs are offered during the end of the pharmacy curriculum and designed to allow the student

Table 4
Consensus Recommendations for Time Commitment and Content for PPC Instruction Within Required Coursework in Pharmacy Professional Degree Programs

Time Allocation—Total	Six, 50-Minute Lecture Equivalents (300 Minutes)
Time allocation—content	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 Nonpain 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, and 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. Unidimensional 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 5. Pharmacological Issues (0 minutes)—concepts should be covered in earlier coursework 5.1. Analgesics 5.1.1. Nonopioid analgesics 5.1.2. Nonsteroidal anti-inflammatory agents 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. Nonpain symptom management medications 5.2.1. Antidepressants 5.2.2. Anxiolytics 5.2.3. Phenoazines, 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

(Continued)

Table 4
Continued

Time Allocation—Total	Six, 50-Minute Lecture Equivalents (300 Minutes)
	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 Nonpain 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 vs. “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, and pseudoaddiction
	11.2. Identify transdisciplinary nature of HCPs in pain management and palliative care

(Continued)

Table 4
Continued

Time Allocation—Total	Six, 50-Minute Lecture Equivalents (300 Minutes)
	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 and similar country-specific programs
	11.8. Neuropsychological effects of opioids and effects on driving
	11.9. Placebo analgesics

to use concepts learned during didactic and earlier experiential coursework. Experiential education, much like the didactic component of the pharmacy program, may be difficult to integrate with required experiences on PPC because of the already heavy loads of required rotations and the lack of qualified learning sites or preceptors. The Curricular Working Group provided recommendations on competencies in PPC to be integrated in already required experiential rotations, as well as competencies and proposed activities for a pharmacy student on a PPC-specific elective rotation. These consensus recommendations are provided in [Appendices III and IV](#), respectively (available at jpsmjourn.com). Within the elective PPC experiential rotation, the working group recommends assessing the level of exposure to each of the content areas/competencies based on number of patients and level of discussion with the preceptor. The working group notes that experiences will vary greatly with regard to opportunities on individual rotations.

Postgraduate Training Working Group

The PGT Working Group sought to reach consensus on recommended competencies, experiences, and standards as they relate to PPC in the various forms of formal postgraduate education for pharmacists. The PGT Working Group identified PGY-1 pharmacy residencies, PGY-2 pharmacy residencies, and research fellowships as clinical PGT opportunities for pharmacists. Although noted as postgraduate options for pharmacists, advanced degrees, including the Master of Science and Doctor of Philosophy, were not discussed. The working group reviewed current ASHP PGY-1 and PGY-2 residency standards and

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 vs. focusing on a particular area. Programs do exist that emphasize a distinct area of practice, although the accreditation standards seek to limit overexposure to any specific area of practice, group of patients, or individual preceptor. The working group provides consensus recommendations for consideration by Residency Program Directors of PGY-1 residencies of competencies in PPC in [Appendix V](#) (available at jpsmjourn.com).

Whereas 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 working group recommends the utilization of the competencies provided for PGY-1 residencies provided in [Appendix V](#). The working group realizes that all 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 desired outcomes to be achieved are evaluated by the pharmacy resident.

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

With regard to research fellowship training of pharmacists in PPC, the working group felt that individual fellowship programs were too variable to provide competency recommendations and supports the American College of Clinical Pharmacy Guidelines for Clinical Research Fellowship Training Programs. Although training in research methodology may be the primary focus of the formal pharmacy fellowship program, the working group recommends incorporation of the previously identified competencies in [Appendix V](#) for fellowship programs emphasizing clinical, basic, and translational research in PPC.

Formal PGT opportunities in PPC for pharmacists are considerably lacking. The working group additionally recommends increased institutional commitment to expanding opportunities in formal PPC PGT for pharmacists.

Certificate Programming Working Groups

One of the goals of the Summit was the creation of a framework for a certificate CE program for pharmacists in PPC with utility across practice settings and specialties. Because of the differences in levels of training and practices of currently licensed pharmacists, a conceptual design was envisioned that 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 who devote a reasonable amount of time to PPC within their individual practice setting (i.e., geriatrics, critical care, specialty compounding, and

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 the site- or practice-specific modules would comprise a “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.

As a result of the amount of content and workload of such an ambitious endeavor, this charge was split between two working groups. One working group focused on the core competencies required of all practicing pharmacists with respect to PPC regardless of practice setting (Certificate Programming Working Group—Core). The other working group sought to identify and collate site- and practice-dependent variations in need with respect to PPC competencies.

Certificate Programming Working Group—Core.

This working group sought to develop a framework of content in which to consider minimum competencies necessary for all practicing pharmacists. The objectives were to 1) develop a core curriculum on PPC to be offered to pharmacists, 2) consider the best model in which to provide the education (i.e., EPEC, ELNEC, UNIPACs, and so forth).^{28–30} Although funding and logistics of dissemination of the course were discussed, the working group tabled this discussion to focus on the outline for the course. The working group 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 on, they were further grouped into larger concepts to begin building the actual outline of the course.

Ideally, the consensus recommendations provided by this working group ([Table 5](#)) will be used to develop the primary PPC course that may be offered as CE regardless of practice setting. Although this document may look similar to the competencies identified within the professional degree curriculum

Table 5
Consensus Recommendations on Core Competencies for Practicing Pharmacists and Their Associated Groupings Within a Certificate Program for CE

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1. Epidemiology of pain
 - 1.1. Populations (neonates, pediatrics, children, adolescents, adults, and geriatrics)
 - 1.2. Morbidity (absenteeism and presenteeism)
 - 1.3. Cost
 - 1.4. Treatment
 - 1.5. Prevalence of drug abuse
 - 1.6. Treatment
 - 1.7. Types of pain (malignant, neuropathic, bone, somatic, and visceral)
 2. Pain taxonomy
 - 2.1. Generators
 - 2.1.1. Neuropathic
 - 2.1.2. Nociceptive
 - 2.2. Time and duration
 - 2.2.1. Acute (injury, postoperative)
 - 2.2.2. Chronic (maintenance, breakthrough pain)
 - 2.2.3. Malignant pain
 - 2.2.4. Terminal and EOL
 - 2.3. Settings
 - 2.3.1. Hospice
 - 2.3.2. Palliative
 - 2.3.3. Outpatient
 - 2.3.4. Inpatient
 - 2.3.5. Institutions
 - 2.3.6. Long-term care facilities
 - 2.3.7. Assisted living facilities
 3. Pathophysiology of pain
 - 3.1. Acute, chronic, malignant, and neuropathic
 - 3.2. Tolerance
 - 3.3. Hyperalgesia and allodynia
 - 3.4. Dying process
 - 3.5. Addiction, pseudoaddiction, and dependence
 - 3.6. Consequences of untreated or undertreated pain
 - 3.7. Withdrawal symptoms
 4. Pain and symptom assessment
 - 4.1. Opioid use and symptom management at EOL
 - 4.2. Opioid tolerance
 - 4.3. Pain vs. suffering
 - 4.4. Hyperalgesia
 - 4.5. Cultural sensitivity
 - 4.6. Specific assessment tools
 - 4.7. Rating scales
 - 4.8. Compliance and adherence assessment
 - 4.9. Assessing special populations
 5. Clinical pharmacology
 - 5.1. Constipation
 - 5.2. Bisphosphonates
 - 5.3. Palliative sedation
 - 5.4. Opioid conversions
 - 5.5. Opioid rotations
 - 5.6. Treatment of side effects
 - 5.7. Addiction and dependence
 - 5.8. Drug interactions
 - 5.9. Withdrawal symptoms
 - 5.10. Opioid-induced hyperalgesia
 - 5.11. Routes of administration
 - 5.12. Allergies and intolerance
 - 5.13. Opioid tolerance
 - 5.14. Incident and breakthrough pain
 - 5.15. Adjuvant/co-analgesics
 - 5.16. Implantable technology
 - 5.17. Patient-controlled analgesia
 - 5.18. Pharmacokinetics of analgesics and co-analgesics
 - 5.19. Dosing
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(Continued)

Table 5
Continued

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6. Pharmacotherapy
 - 6.1. Evidence-based medicine and practice guidelines
 - 6.2. Practice management
 - 6.3. Interventional therapy
 7. Alternative pain management strategies
 - 7.1. Interventional/surgical treatment
 - 7.1.1. Radiation therapy
 - 7.1.2. Nerve blocks
 - 7.1.3. Trigger injections
 - 7.1.4. Implantable pumps
 - 7.1.5. Intrathecal and epidural administration
 - 7.2. Acupuncture
 - 7.3. Transcutaneous Electrical Nerve Stimulations
 - 7.4. Behavior modification/cognitive behavioral therapy
 - 7.5. Guided imagery
 - 7.6. Hypnosis
 - 7.7. Massage
 8. Practice/patient management/treatment care plan
 - 8.1. Safe storage and utilization
 - 8.2. Compounding of meds in EOL care
 - 8.3. Cost
 - 8.4. Disposal
 - 8.5. Prescription monitoring programs
 - 8.6. Recommendations for staying current following educational programming
 - 8.7. Dispensing and regulatory issues in PPC
 - 8.8. Collaborative agreements and medication therapy management
 - 8.9. Drug availability
 - 8.10. Titration
 - 8.11. Transitions of care and patient care settings
 - 8.12. Goals of care
 9. Special considerations and populations
 - 9.1. Pediatrics
 - 9.2. Geriatrics
 - 9.3. Neonates
 - 9.4. Noncommunicative/demential patients
 - 9.5. Altered mental status
 - 9.6. Compounded meds in EOL care
 - 9.7. Renal and hepatic impairment
 - 9.8. Palliative sedation
 - 9.9. Cultural awareness
 - 9.10. Substance abuse/addiction
 - 9.11. Pregnancy
 - 9.12. Adolescents
 - 9.13. Adults
 - 9.14. Routes of administration
 10. Communication
 - 10.1. Interdisciplinary communication
 - 10.2. Patient education
 - 10.3. Difficult patients and families
 - 10.4. Cultural sensitivity
 - 10.5. Grief training
 11. Overcoming barriers
 - 11.1. Combine communications into topic as one approach (see above)
 - 11.2. Pharmacist attitudes toward opioids and pain
 - 11.3. Misconceptions
 - 11.3.1. Patient concerns (addiction, side effects, overdosing, and so forth)
 - 11.3.2. Provider concerns (addiction, side effects, overdosing, and regulatory oversight)
 - 11.4. Access to care and resources
 - 11.5. System barriers (financial, time, and availability of resources)
 - 11.6. Difficult patients or families
 - 11.7. Disparities in care
 - 11.8. Cost
 - 11.9. Reimbursement for services
 - 11.10. Cultural sensitivity and awareness
-

(Continued)

Table 5
Continued

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- 12. Ethical and regulatory issues in PPC
 - 12.1. Common terms (malfeasance and beneficence)
 - 12.2. Palliative sedation
 - 12.3. Euthanasia
 - 12.4. Physician-assisted suicide
 - 12.5. Pain management by proxy
 - 12.6. Addiction
 - 12.7. Withdrawal of care
 - 12.8. Advance directives and living wills
 - 12.9. Justification of pharmacist role
 - 12.10. Patient bill of rights pertaining to PPC
 - 12.11. Counseling on risk vs. benefit of medications (i.e., methadone)
 - 12.12. Family conference on goals of care
 - 12.13. Medication safety
 - 12.14. Compounding and off-label use of high risk pain medications
 - 12.15. Dispensing and regulatory laws
 - 12.15.1. Controlled substances acts
 - 12.15.2. Risk Evaluation and Mitigation Strategies
 - 12.16. Pain management in vulnerable populations (i.e., noncommunicative)
 - 12.17. Disposal or destruction of medications
 - 12.18. Drug diversion and reporting
 - 12.19. Risk management
 - 13. Comorbid diseases and symptom clusters
 - 14. Treatment of symptoms at EOL
 - 14.1. Constipation
 - 14.2. Malignant pain
 - 14.3. Palliative sedation
 - 14.4. Terminal restlessness
 - 14.5. Dyspnea
 - 14.6. Terminal secretions
 - 14.7. Dying process
 - 14.8. Hiccups
 - 14.9. Opioids at the EOL
 - 14.10. Delirium
 - 14.11. Pain vs. suffering
 - 14.12. Anxiety and depression
 - 14.13. Communication
 - 14.14. Fatigue
 - 14.15. Routes of administration (compounding, patient-controlled analgesia)
 - 14.16. Cachexia and anorexia
 - 14.17. Nausea and vomiting
 - 15. Program administration
 - 15.1. Cost (medications and services)
 - 15.2. Outcomes and goals
 - 15.3. Quality-improvement processes
 - 15.4. Digital tools
 - 15.5. Justification for pharmacist role in PPC
 - 15.6. Reimbursement for services
 - 15.7. Medication therapy management
-

recommendations, these content areas will be expanded to create a self-contained CE offering.

Certificate Programming Working Group—Site Dependent. This working group was charged with identifying competencies that may be practice specific (i.e., specialty infusion, compounding pharmacy, and so forth) as they relate to PPC. The first goal was to identify the individual practice settings to consider and how groupings of related practice settings

may occur. The first practice site grouping identified by the working group 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 practice setting grouping 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. 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 as pharmacy benefit managers.

The methodology of this working group was similar to that of the Core Content Working Group. 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-referenced by the Core Content Working Group. 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 who works in a community pharmacy could participate in the CE program comprising the core program and the site-dependent module. Those seeking a more global expertise in PPC could complete the core programming and all the site-dependent modules and then may be considered to provide the CE programs to others (a train-the-trainer model). Practice settings and their associated competencies are provided in [Appendix VI](#) (available at jpsmjournal.com).

Credentialing Working Group

The Credentialing Working Group was charged with the goal of evaluating currently available credentialing opportunities for pharmacists in PPC and to make consensus recommendations regarding the feasibility or necessity of seeking independent board certification or credentialing within the profession. 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 nonpharmacy professions, costs associated with developing a certification

examination, and potential benefits of becoming credentialed.

Currently, two credentialing examinations are available for pharmacists with an interest or expertise in PPC. The first is offered by the AAPM to any HCP with a terminal degree. If the individual achieves a passing score, he or she is designated a Diplomate of the AAPM. Those without a terminal degree may sit for the examination and achieve the credential Fellow of the AAPM. The second credential is offered by the ASPE and, if the individual achieves a passing score, he or she earns the designation of a Certified Pain Educator. This credential is available to any candidate meeting the testing requirements and demonstrating a commitment to pain management through CE credits. Both the aforementioned credentials are primarily focused on pain management, with little palliative care emphasis. Neither is recognized by the Joint Commission of Pharmacy Practice (JCPP) as a board certification.

The working group identified several organizations that currently offer board certification for pain and/or palliative medicine for other health care professions. The group discussed whether pharmacist-specific PPC credentialing would be recognized outside the profession and the need to have other professions either involved or directing the creation of a pharmacist-specific board certification process to ensure interdisciplinary credibility. Those organizations directly discussed included the American Board of Anesthesiology and the American Academy of Hospice and Palliative Medicine, both of which have physician-specific board certification processes.

The working group additionally reviewed the application process for consideration of specialty board examination creation through the BPS. This organization is considered the official credentialing organization for the profession of pharmacy by the JCPP. After the 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, the BPS may elect to allow creation of the examination. Although beyond the scope of this summary, the specific steps are outlined on the BPS website (www.bps.org). The BPS also offers a status

of Added Qualifications, which may be added to its current general practice credential, Pharmacotherapy. This option also was discussed by the working group but was found to fall short of serving the purpose of expertise recognition and may be difficult to implement; currently, there are at least two BPS specialties that would be applicable (Pharmacotherapy and Oncology) but the Added Qualifications are only offered for the Pharmacotherapy certification.

After consideration of these avenues for specialty recognition within the profession of pharmacy for PPC, the working group reached consensus on the following recommendations: 1) submit a petition for specialty recognition through the BPS for PPC, 2) identify a petitioning organization or organizations to collaborate on the development of the board examination, and 3) in the event that a sponsoring organization is not found, the development of a profession-specific organization for those pharmacists interested in and practicing PPC.

Summary

The Summit hosted 79 participants within six working groups to identify processes by which to improve the education of pharmacists in PPC. The opportunities available for pharmacist involvement in the care of these patients are plentiful, and the time is now for our profession to take the next steps in increasing pharmacy involvement in the interdisciplinary care of patients in pain and at the EOL. As pharmacists strive to play larger roles within the health care team in PPC, the availability of learning experiences both within and following professional degree programs is paramount. With the consensus recommendations reached at this Summit, we have an opportunity to vastly improve our position on the PPC team and greatly affect the care delivered to these patients.

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. To effect change in pharmacy professional degree programs, collaboration must be sought from degree program accreditation bodies, state and national licensing boards, and professional organizations representing pharmacy educators. Consensus recommendations for pursuing these opportunities are outlined.
3. Pharmacists seeking formal postgraduate clinical training outside 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 in PPC are presented as a framework for a CE certificate program.
5. Unique practice settings often require specialized skills as they relate 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

Pharmacists are an integral part of the PPC team. By addressing educational barriers and opportunities at every step of a pharmacist's professional continuum (pregraduate, postgraduate, licensed, and specialized practice), the attitudes, skills, and knowledge of PPC will be improved. The consensus recommendations provided as a result of these proceedings provide a framework with which to strengthen the profession's ability to assist in the provision of PPC care to patients. Recommendations in their

entirety and editable model syllabi may be downloaded at www.pharmacypainsummit.com.

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Appendix I

Participants of the Strategic Planning Summit for Pain and Palliative Care Pharmacy

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Appendix II

Stakeholder Organizations Identified for Partnership by the Assessment Working Group

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 inter-professional groups including nursing, medicine, social work
Major multi-professional 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)

Appendix III

Consensus Recommendations on Proposed Required Competencies to Be Integrated and Evaluated Within Required Introductory Pharmacy Practice Experiences and Advanced Pharmacy Practice Experiences

(Note: The Curriculum Working Group recognizes that preceptors may need additional training.)

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

Appendix IV

Model Syllabus for an Elective Pain and Palliative Care Advanced Pharmacy Practice Experience (APPE) Within a Pharmacy Professional Degree Program

Recommended books/reading	<ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ○ <i>Principles of Analgesic Use in the Treatment of Acute and Cancer Pain</i> (American Pain Society) ○ <i>The Massachusetts General Hospital Handbook of Pain Management</i> ○ <i>Pain.edu Handbook</i> ○ Others ● Books on insight and philosophy of pain and palliative care <ul style="list-style-type: none"> ○ <i>Dying Well</i> (Ira Byock) ○ <i>The Truth About Chronic Pain</i> (Arthur Rosenfeld) ○ <i>American Book of Living and Dying</i> (Richard Gross) ○ <i>How We Die</i> (Sherman Nuland) ○ <i>The Fall of Freddie the Leaf</i> (Leo F. Buscaglia) ● <i>Fast Facts and Concepts</i> (End of Life/Palliative Education Resource Center)
Recommended teaching activities	<ul style="list-style-type: none"> ● 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
Recommended didactic content	<ol style="list-style-type: none"> 1. Introduction to pain management and palliative care 2. Interdisciplinary nature of pain management and palliative care (physician, nurse, social worker, pharmacist, clergy, psychology, music / art counselor, massage therapy, etc.) 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 <ul style="list-style-type: none"> ○ Parkinson's Disease ○ MS/ALS/ other neurologic ○ Post-CVA ○ CHF ○ HIV ○ COPD

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- 7. Pharmaceutical issues/drug dosing**
 - Opioids
 - Ketamine
 - Lidocaine
 - Topical analgesics
 - Cannabinoids
 - Psychostimulants
 - Altering dosage formulations
 - Relevance of drug allergy history
 - 8. Alternatives interventions**
 - Herbals
 - Music therapy
 - Memory book / journaling
 - Dealing with spiritual pain
 - Cognitive behavioral therapy
 - Alternative therapy (art therapy, recreational therapy, aromatherapy, 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
 - Ascites
 - Oral mucositis
 - Hiccups
 - Anorexia and cachexia
 - Respiratory
 - Dyspnea
 - Secretions
 - Aspiration/swallowing disorders
 - Upper respiratory infections
 - Cough
 - CNS/Neuropsych
 - Anxiety
 - Depression
 - Delirium/agitation
 - Insomnia
 - Fatigue
 - Dementia
 - Schizophrenia/mental illness
 - Seizure management
 - 10. Managing co-morbid conditions at end of life**
 - Cardiovascular (heart failure, hypertension, hyperlipidemia)
 - Pulmonary (Chronic Obstructive Pulmonary Disease, asthma, chronic bronchitis)
 - Endocrine/metabolic (diabetes mellitus, thyroid disorders, hypercalcemia)
 - Infectious disease (HIV / AIDS, appropriateness of antimicrobial therapy)
 - Changing goals of care
 - Feeding tubes
 - 11. Ethics/therapeutic decision making**
 - Goals of care and end of life decisions (including assessment of decision making capacity)
 - Quality of life and futility
 - 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
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12. Death rituals

- Cultural considerations
- Anticipatory grief
- Grieving
- Complicated Grief (SIDS, suicide, etc.)
- Funeralization/funeral home
- Bereavement
- Forensics
- Death of pets

13. Pain and palliative care emergencies

- Spinal cord compression
 - Superior Vena Cava Syndrome
 - Hypercalcemia
 - Opioid Intoxication
 - Tumor Lysis Syndrome
 - Syndrome of Inappropriate Antidiuretic Hormone Secretion
 - Hemorrhage/disseminated intravascular coagulopathy
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Appendix V

Consensus Recommendations for Competencies on Pain and Palliative Care in Postgraduate Year 1 and Postgraduate 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.

Appendix VI

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 ● Intra-spinal analgesia <ul style="list-style-type: none"> ○ Patient-controlled epidural analgesia (PCEA) ○ Intrathecal administration ○ Epidural with or without local anesthetics ○ Admixture processes and compounding for these routes ● Peripheral infusion of local anesthetics ● Nerve blocks or ablation ● Implantable devices ● Comorbid substance abuse and staff diversion identification ● Treatment of overdose using naloxone treatment guidelines ● Unusual routes of administration <ul style="list-style-type: none"> ○ Intracerebroventricular ○ Continuous subcutaneous infusion ○ Rectal administration of non-rectal formulations ● Urine and serum drug screening <ul style="list-style-type: none"> ○ Interpretation ○ False positives and negatives ○ Chain of custody ● Management of patients with complex pain syndromes <ul style="list-style-type: none"> ○ Sickle cell disease ○ Cancer pain ○ Acute treatment of patients with implantable devices ○ Patients with high opioid tolerance / dose requirements ● Pre-operative and post-operative pain and symptom management <ul style="list-style-type: none"> ○ Pre-admission clinic ○ Pre-emptive analgesia ○ Anticipation of post-operative pain and symptoms ● Emergent headaches ● Dose escalations and wean ● Opioid rotation ● Inpatient palliative care <ul style="list-style-type: none"> ○ Multidisciplinary care ○ Role of the pharmacist ○ Reimbursement considerations ○ Evaluation of data to support program ● Actively dying persons within the hospital ● Terminal extubation and sedation ● Drug-induced sedation/coma to treat intractable pain <ul style="list-style-type: none"> ○ Evaluation of patients ○ Intensive care unit ○ Trauma unit ● Special populations <ul style="list-style-type: none"> ○ Pediatric inpatient pain management ○ Neonatal wean from opioids ○ Geriatrics ○ Dialysis, anephric, and severe hepatic disease ○ Procedural pain ● Complex documented opioid and anesthetic allergies <ul style="list-style-type: none"> ○ Desensitization protocols ● Transitions of care within the hospital <ul style="list-style-type: none"> ○ Post-anesthesia care unit to medical surgical floor ○ Discharge to home, rehabilitation, skilled nursing facility, long term care facility, hospice ● Acute treatment of patients enrolled in treatment programs <ul style="list-style-type: none"> ○ Alcohol
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Community	<ul style="list-style-type: none"> ○ Opioid / heroin (methadone, buprenorphine) ● Continuity of care and discharge planning ● Continuity of care <ul style="list-style-type: none"> ○ Patient care settings and common drugs ○ Formulary guidelines and therapeutic interchange ○ Drug shortages ● Evaluation of drug allergies versus hypersensitivities versus preferences ● Pain contracts and agreements <ul style="list-style-type: none"> ○ Bilateral versus trilateral ○ State specific requirements ● Risk evaluation and mitigation strategies ● Federation of State Medical Boards responsible opioid prescribing ● Universal precautions ● Prescription monitoring programs and their evaluation ● Death with dignity/conscience clauses ● Internet pharmacies ● Combination analgesics <ul style="list-style-type: none"> ○ Appropriate use and recommendations for over the counter analgesics and herbals ○ Acetaminophen doses and recommendations based on special populations ● Herbal/complementary pain and palliative care ● Adverse events and reporting ● Common drug interactions with pain and palliative care medications ● Prescription assistance programs available <ul style="list-style-type: none"> ○ Industry-based ○ Community-based ● Medication therapy management ● Toxicology and urine drug screening evaluation ● Addiction medicine and regulatory <ul style="list-style-type: none"> ○ Suboxone ○ Subutex ○ Methadone ● Risk management <ul style="list-style-type: none"> ○ Identifying problematic behaviors or fraudulent prescriptions ○ VIGIL program by Brushwood ● 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)
Ambulatory and primary care	<ul style="list-style-type: none"> ● Treatment agreements <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> ○ Medication reconciliation ○ Interval visits and clinic appointments based on state specific requirements ○ Risk assessment and refill approval
Managed care	<ul style="list-style-type: none"> ● Complementary / herbal medication recommendations ● Legal requirements and partial dispensing ● Alternative routes of administration ● Return and destruction of discontinued medication or postmortem ● 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

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- 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
 - Physician-assisted suicide, euthanasia
 - Palliative care symptom management not at end of life
 - Insurance concerns
 - Hospice settings and differences
 - Nursing home-based
 - Home-based
 - Hospital- or inpatient-based
 - Emergency boxes for hospice patients
 - Pain at end of life
 - Spiritual pain
 - Effectiveness evaluation of analgesics and other symptoms medications
 - Delirium, dementia, non-communicative, or uncooperative
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