

# Board-certified oncology pharmacists: partners in the multidisciplinary care of cancer patients

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Including an oncology pharmacy clinical specialist on the treatment team for cancer patients improves outcomes for patients, reduces the length of hospital stays for adverse events/complications, and reduces medical errors in both ambulatory and inpatient settings. Practicing in a variety of settings, oncology clinical pharmacists play an important role in the treatment of patients with cancer, as well as the management and prevention of cancer- and treatment-related complications.

Oncology pharmacy specialists are experts in the pharmacology of cancer chemotherapy, including the therapeutic and toxic effects of these agents. Specializing in oncology pharmacy requires years of clinical experience and/or additional postgraduate training. The services of oncology pharmacists can help coordinate the continuity of care for patients as well as ensure the optimal use of medications in various treatment settings. In addition, oncology pharmacists help facilitate reimbursement for a more efficient practice.

## Board of Pharmaceutical Specialties

The Board of Pharmaceutical Specialties (BPS) was established in 1976 by the American Pharmaceutical Association, now known as the American Pharmacists Association (APhA). BPS certification is con-

sidered the advanced practice specialty level. There are specific educational and experience-based criteria that a candidate must meet to be eligible to sit for one of the five established specialty area examinations within pharmacy practice.<sup>1,2</sup> Eligibility criteria are shown in Table 1. (For more information related to eligibility criteria, registration, and the examination process, refer to the BPS Web site at [www.bpsweb.org](http://www.bpsweb.org) or call the BPS at 202-429-7591.)

To obtain the designation of Board-Certified Oncology Pharmacist (BCOP), candidates must demonstrate an ability to design, implement, monitor, and modify pharmacotherapeutic plans to optimize outcomes in patients with malignant disease. Table 2 lists the areas of expertise that must be mastered. To date, nearly 600 pharmacists have earned a BCOP credential, most of whom practice in the United States.

## Pharmacy expertise

With their experience and training, oncology pharmacy specialists become highly skilled clinicians, equipped to practice in a variety of acute and ambulatory care practice settings. Many oncology pharmacists are directly involved in patient care in an inpatient medical oncology unit or outpatient cancer treatment center. In these settings, pharmacists:

- Coordinate orders and prescriptions for che-

### KEY POINTS

Oncology pharmacists are highly educated experts in drug therapy related to cancer treatment and supportive care.

Direct pharmacist involvement with a patient care team can decrease the risk of medication errors.

The expertise of oncology pharmacists also helps reduce adverse events which lowers costs.

Oncology pharmacists are a valuable resource to nurses, physicians, patients, and caregivers in providing education and information about chemotherapy drugs.

Manuscript received December 8, 2005; accepted April 17, 2006.

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## The making of an oncology specialty pharmacist

THE BOARD OF PHARMACEUTICAL SPECIALTIES (BPS) has four primary responsibilities:

- Recognizing specialties in pharmacy practice
- Establishing standards for certification and recertification
- Evaluating individuals seeking certification and recertification
- Serving as a source of information and a coordinating agency for pharmacy specialties.

Nine members comprise the Board:

- Six pharmacists
- Two healthcare practitioners outside pharmacy
- One public/consumer member.

Currently, there are five recognized specialty areas in pharmacy practice:

- Oncology pharmacy, recognized as a specialty in 1996, the most recently established specialty area
- Nuclear pharmacy (established in 1978)
- Nutritional support pharmacy (established in 1988)
- Pharmacotherapy (established in 1988)
- Psychiatric pharmacy (established in 1992).

Each specialty has a council that operates under the auspices of the BPS.

The specialty councils are composed of six pharmacist specialists and three pharmacists who are not in the specialty.

### Licensure vs certification

Like other professions, pharmacy requires that all pharmacists have a valid license to practice in the state in which they work. Candidates for licensure in the United States must pass the North American Pharmacist Licensure Examination as well as a pharmacy law examination. When candidates for pharmacy licensure have successfully completed these examinations and a state license is conferred, they may use the abbreviation RPh (Registered Pharmacist).<sup>1</sup> In contrast, certification is a voluntary process by which a practitioner's education, experience, knowledge, and skills are confirmed by one's profession as meeting or surpassing a standard beyond that required for licensure. BPS certification is considered to be at the advanced practice specialty level. The designation Board-Certified Oncology Pharmacist (BCOP) is awarded upon successful completion of the BPS oncology specialty examination.

### Education and training

Most oncology specialty pharma-

cists will have completed a Doctor of Pharmacy degree (PharmD). Further training is provided through a general pharmacy practice residency. Focused training in oncology is provided through an oncology specialty residency.

A pharmacy practice residency is a prerequisite for most oncology specialty residency programs. There are approximately 35–40 oncology residency positions available each year in the United States.<sup>3</sup>

The American Society of Health-System Pharmacists accreditation standards for oncology pharmacy residencies require that programs include exposure to a variety of common malignancies (eg, acute leukemias; lymphomas; lung, colorectal, breast, ovarian, and prostate cancers) and core rotations in medical oncology, malignant hematology, and bone marrow transplantation.<sup>4</sup>

Many programs offer additional experience in pediatric oncology, radiation oncology, palliative care, nutritional support, infectious diseases, and investigational drug services. The programs also provide training in preparing, dispensing, and administering chemotherapeutic agents.

motherapy as well as supportive medications

- Review orders for accuracy and safety
- Provide formulary review for new oncology drugs
- Provide clinical services to cancer patients, including those undergoing bone marrow transplantation
- Develop and implement policies related to medication safety and proper handling of cytotoxic agents.

The role of an oncology pharmacist can be further expanded to teaching pharmacy students and pharmacy residents in academic teaching hospi-

tals and schools of pharmacy.

### Practice partners

#### *Patient care*

Pharmacists work together with physicians and nurses to:

- Provide information about chemotherapy medications
- Facilitate optimal chemotherapy drug dosing
- Coordinate safe and timely administration of chemotherapy drugs and supportive therapies
- Help coordinate prescriptions for discharge and home medications

- Help develop treatment guidelines to ensure the optimal use of support-

**TABLE 1**

#### Eligibility criteria for BPS oncology pharmacy specialty examination

- Entry-level pharmacy degree (BS or PharmD)
- Current, active pharmacy license
- Three years of oncology pharmacy practice experience *or*
- Completion of an oncology pharmacy specialty residency *and*
- One year of oncology pharmacy practice experience
- \$600 application fee

BPS = Board of Pharmaceutical Specialties; BS = Bachelor of Science; PharmD = Doctor of Pharmacy

TABLE 2

## Areas of expertise that must be mastered to earn a BCOP credential

Optimize drug therapy for patients with cancer through the design, recommendation, implementation, monitoring, and modification of individualized pharmacotherapeutic plans in collaboration with the healthcare team

Contribute to the care of patients with cancer through research, the application of research results, and education

Ensure the safe, effective, and appropriate use of medications in patients with cancer through the implementation of guidelines and the development and modification of pharmacy policies and systems

Raise awareness among the public and healthcare providers regarding cancer-related issues (risk factors, prevention, screening, treatment)

ive care medications (eg, antiemetics and growth factors) and better outcomes for patients

- Obtain prior authorization, identify alternative funding resources, and/or procure medication assistance from pharmaceutical companies to provide patients with the medications they need
- Help decrease the potential for medication errors.<sup>5-11</sup>

#### Education

Pharmacists play a key role in educating:

- Other members of the healthcare team about chemotherapeutic medications and their expected side effects and management
- Patients, family members, and other caregivers, who may feel overwhelmed by their diagnosis, treatment, and side effects
- Members of the public who want to know about cancer risk factors, prevention strategies, and recommendations for screening and early detection.

#### Research

More than 60% of patients in clinical trials are recruited by community practices, and an on-site oncology pharmacist can play an active role in facilitating such studies by:

- Writing research grants and investigational protocols
- Participating in institutional review board approval of clinical trials as well as scientific review and monitoring committees
- Serving as primary or collaborative

investigators

- Taking responsibility for the accountability and processing of investigational drugs used in investigational protocols
- Assisting in the collection, management, and evaluation of data for presentation at medical meetings and publication.

#### Practice management

Drug-related problems including adverse events are estimated to cost more than \$175 billion per year.<sup>12</sup> In the oncology setting, where complex and toxic therapies are routinely used, the chance of encountering drug-related problems is high. Having a knowledgeable pharmacist involved helps to ensure the safe, effective, and appropriate use of complex regimens.

#### Conclusion

Oncology pharmacists with specialty certification are skilled individuals who have taken the initiative to obtain additional training focused on the unique aspects of cancer treatment as well as the management and prevention of cancer- and treatment-related complications. The services of oncology pharmacists can help ensure the optimal use of medications, which can result in positive economic benefits through reduction in hospital admissions, length of hospital stays, adverse drug events, repeated office visits for medication-related problems, and the suboptimal management of the expected adverse effects associated with cancer treatment.

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**Conflicts of interest:** None disclosed.