

Preliminary Request for the Board of Pharmacy Specialties to Consider a New Specialty April 4, 2011

1. Name of the practice area of the proposed specialty.

Critical Care Pharmacy Practice

2. Description of the specialty practice area, the work of pharmacists engaged in it, and its overall impact on society.

The critical care pharmacy practice area focuses on the pharmaceutical care of critically ill patients. Critical care pharmacists practice as members of interprofessional health care teams in a variety of settings, including medical intensive care units (ICU), surgical ICU, coronary care units, pediatric ICU, neonatal ICU, burn and trauma units, neurological ICU, and emergency departments (ED). As summarized in a joint position paper from the Society of Critical Care Medicine and the American College of Clinical Pharmacy (SCCM and ACCP – see <http://www.accp.com/docs/positions/positionStatements/pos28.pdf><http://www.accp.com/docs/positions/positionStatements/pos28.pdf>), the fundamental activities of critical care pharmacists include:

- Prospective evaluation of all drug therapy in the critically ill patient;
- Evaluation of all nutrition orders in the ICU;
- Identification, management, and prevention of medication-related adverse events;
- Monitoring every stage of medication therapy to improve all aspects of effectiveness;
- Documentation of pharmacotherapeutic recommendations in the medical record;
- Pharmacokinetic monitoring;
- Pharmacotherapy-related education to ICU team members;
- Implementation and maintenance of departmental policies and procedures related to safe and effective use of medications in the ICU;
- Provision of consultation to institutional committees (e.g., Pharmacy and Therapeutics Committee) regarding critical care pharmacotherapeutic agents;
- Identification of mechanisms to minimize medication costs in the ICU through the implementation of cost-containment measures; and
- Participation in quality assurance programs to enhance pharmaceutical care in critical care settings.

In addition, many critical care pharmacists are involved in teaching pharmacotherapy to pharmacy students, medical students, pharmacy/medical residents, fellows, and other health care practitioners. A number of critical care pharmacists are also involved in health services (outcomes), basic, and/or translational research.

Critical care pharmacists possess specialized knowledge and experience in the care of critically ill patients. Many have completed formal, post-graduate residency training in critical care practice environments. They possess unique knowledge of the epidemiology and pathophysiology of critical illness; the pharmacotherapy and nutritional support of critically ill patients; the application of pharmacokinetics, pharmacodynamics, and pharmacogenomics to critical care; and operational and clinical systems designed to assure medication safety. They also contribute to, and evaluate, biomedical literature pertinent to critical care pharmacotherapy and nutrition support.

Safe and optimal pharmacotherapy in the critical care setting requires contributions from all members of the specialized health care team. Pharmacists have been recognized as an essential member of that interdisciplinary team (1). In addition to the SCCM–ACCP position paper noted above,

recommendations published by SCCM in 1999 noted that the availability of pharmacists is essential to health care delivery in the critical care setting (2). A recent multi-organization, evidence-based, scientific statement on medication errors in patients with acute cardiovascular disorders or stroke recommends that pharmacists should be included as health professionals integrated into multidisciplinary teams in the ICU, ED, and inpatient care areas (3). Within the context of team care of critical care patients, clinical pharmacists have been found to have a high impact on the reduction of medication errors and adverse drug events (4).

3. Estimates of potential numbers of pharmacists who might seek such certification (using available data such as number of residents and residency programs, organizational member surveys, and evolving practice and environmental changes in the profession expected to support the specialty practice).

The Society of Critical Care Medicine lists about 850 pharmacist members in its clinical pharmacy and pharmacology section (see http://www.sccm.org/Membership/Specialty_Sections/Pharmacy_and_Pharmacology/Pages/HistoryofCPPSSpecialtySection.aspx). The ACCP Critical Care Practice and Research Network now includes more than 1500 active members. Despite considerable overlap in the membership of these two groups, because not all critical care pharmacists are members of SCCM or ACCP, we estimate that there are more than 2000 pharmacists now practicing in critical care environments. In addition to this existing pool of practitioners, ASHP listed in February 2011 83 current PGY-2 critical care residency training programs. Taken together, we believe that the number of current and future critical care pharmacists is sufficient to support establishment of this new specialty area. Finally, in a March 2011 survey of ACCP members, 55% of 1,823 respondents (or 1,003) indicated their belief that critical care pharmacy practice should be recognized as a new specialty. This survey included 1,100 respondents who *already* hold one or more BPS specialty certifications.

4. Potential sources of financial resources to develop and implement the specialty prior to receipt of candidate fees.

The ACCP Board of Regents is committed to providing resources to help support the development and implementation of this specialty. In addition, the College will reach out to other professional pharmacy organizations, seeking their support and/or sponsorship as a co-petitioning organization for the critical care pharmacy practice specialty.

5. Name(s) and contact information of the requestor(s).

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References:

1. Erstad BL, Haas CE, O'Keefe T, Hokula CA, Parrinello K, Theodorou AA. Interdisciplinary patient care in the intensive care unit: focus on the pharmacist. *Pharmacotherapy* 2011;31:128-37.
2. American College of Critical Care Medicine of the Society of Critical Care Medicine. Critical care services and personnel: recommendations based on a system of categorization into two levels of care. *Crit Care Med* 1999;27:422-6.
3. Michaels AD, Spinler SA, Leeper B, et al. Medication errors in acute cardiovascular and stroke patients: a scientific statement for the American Heart Association. *Circulation* 2010;121:1-19.

4. Leape LL, Cullen DJ, Clap MD, et al. Pharmacist participation on physician rounds and adverse events in the intensive care unit. JAMA 1999;282:267-70.