The Doctorate in Clinical Laboratory Science: Enhanced Quality for Healthcare

ELIZABETH KENIMER LEIBACH

ABBREVIATIONS: ASCLS = American Society for Clinical Laboratory Science; CLS = clinical laboratory science; DCLS = doctorate in clinical laboratory science.

INDEX TERMS: clinical doctorate; clinical laboratory science; evidence-based practice; professional doctorate.

Clin Lab Sci 2008;21(1):5

***Elizabeth Kenimer Leibach** is **chair** and **associate professor** in the Department of Biomedical and Radiological Technologies, Medical College of Georgia, Augusta GA.*

***Address for correspondence:** Elizabeth Kenimer Leibach EdD MS CLS MT(SBB), chair and associate professor, Department of Biomedical and Radiological Technologies, EC 2437 Medical College of Georgia, Augusta GA 30912-0500. (706) 721-3046, (706) 721-7631 (fax).ekenimer@mcg.edu.*

The position statement of the American Society for Clinical Laboratory Science (ASCLS) regarding the doctorate in clinical laboratory science (DCLS) begins:

Missing within the continuity of healthcare are enough scientists and physicians within the clinical laboratory or elsewhere on the healthcare team who are totally dedicated to and who have the breadth of knowledge and assigned authority essential to the ordering of appropriate laboratory tests, the effective use of laboratory test information, effective consultation with other healthcare team members, direct communication with patients, review of patient records, and interpretation/application of laboratory-generated information in reference to clinical signs and symptoms. A clinical laboratory science professional holding a doctoral degree (DCLS) is needed to provide the critical interface across the healthcare system in order to assure improved patient outcomes and cost effective patient care.[1]

This succinct introduction defines the practitioner needed to provide the knowledge required "to assure improved patient outcomes and cost effective patient care." To identify, describe, measure, provide for, and improve the ordering, dissemination, and utilization of medically effective and cost-efficient clinical laboratory information defines the objectives of quality in clinical laboratory science as well as the focus of clinical laboratory science (CLS) evidence-based practice.

The Institute of Medicine (Crossing the Quality Chasm, http://www.iom.edu/CMS/8089.aspx) has challenged the healthcare delivery system to refocus on appropriate use of healthcare services. The clinical laboratory by every cost, revenue, and quality measure is foundational to any consideration of this directive given that as much as 93% of the objective data in the clinical record is contributed by the laboratory.[2] In addition, it is estimated that 50%-60% of all laboratory orders may be inappropriate[3] and most (68%-87%) of laboratory errors are non-analytical.[4] Inefficiencies involving the generation of orders (pre-analytical processing) and utilization of laboratory data (post-analytical processing) further increase the possibility of inappropriate resource utilization. Accreditors of clinical laboratories have taken up the challenge and are actively reviewing progress toward this "new quality" of appropriate use of clinical laboratory information relative to an increase in patient safety and decrease in medical errors (JCAHO, http://www.jointcommission.org/).

The responsibility of quality oversight will require education of clinical laboratory scientists at the doctoral level resulting in the conferral of either the doctor of CLS (clinical practice and clinical project) or the doctor of philosophy in CLS (clinical practice and dissertation). The curriculum of the DCLS will provide the CLS profession with the heuristics, based on the CLS generalist scope of practice, to deliver quality healthcare required in today's workplace as summarized in the ASCLS position statement. Supporting this position are reports that healthcare practitioners with advanced, post-baccalaureate education (to include doctorate-prepared laboratory professionals) improved the quality of patient outcomes and medical care, reduced medical errors, and helped to contain costs.[5,6]

This generalist DCLS' knowledge will supplement and support the focused knowledge of clinical laboratory PhD specialty scientists as well as the practice of medical doctors in fulfilling quality responsibilities in the clinical laboratory. Most likely, rules regulating the practice of specialty scientists

in the clinical laboratory (e.g., CLIA, state-specific licensure laws) will apply to these new DCLS degrees. Additionally, a more non-traditional role of consultation is envisioned and supported in the literature. There is growing evidence of physicians' need for advice on laboratory test selection and interpretation of complex and diverse laboratory test options and results.[7] The DCLS will be formally educated as a key resource in disease prevention and management, thus reducing the burden of practice related to CLS among physicians.

Work continues on curriculum development and doctoral program implementation. A group of educators planning to implement DCLS degrees at their institutions will meet after the Clinical Laboratory Educators' Conference in Savannah, Georgia, February 23-24, 2008. Continue to monitor our professional literature and the ASCLS website (www.ascls.org) for progress updates on the latest developments emerging from this meeting. Please post general comments to the ASCLS Forums. (You can find the Forums from the "About" link on the title bar of the ASCLS Homepage.) Your opinions, interest, and support are vital!

REFERENCES

1. Educational statement regarding doctoral level clinical laboratory science professionals. Bethesda, MD: American Society for Clinical Laboratory Science; 2007.
2. Forsman RW. The value of the laboratory professional in the continuum of care. Clinical Leadership and Management Review 2002;16(6):370-3.
3. Bissell MG. Introduction: what's in a laboratory outcome? In: Bissell MG, editor. Laboratory-related measures of parient outcomes: an introduction. Washington, DC: AACC Press; 2000:4.
4. Bonini P, Plebani M, Ceriotti F, Rubboli F. Errors in laboratory medicine. Clin Chem 2002;(48):691-8.
5. Aiken L, Clarke S, Cheung R, and others. Educational levels of hospital nurses and surgical patient mortality. JAMA 2003;(290):1617-23
6. Kratz A, Laposata M. Enhanced clinical consulting-moving toward the core competencies of laboratory professionals. Clin Chim Acta 2002;(319):117-25.
7. Dighe A, Soderberg B, Laposata M. Narrative interpretations for clinical laboratory evaluations; an overview. Am J Clin Pathol 2001;(116 Suppl):S123-8.