

The Future of the Profession

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Clin Lab Sci 2011;24(4):Suppl 4-2

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Options for ordering and utilizing diagnostic laboratory testing are burgeoning. It is estimated that more than 10,000 diagnostic laboratory tests are available to providers to aid in diagnosis and treatment. Further, spending for *in vitro* diagnostics represents 2-3% of the U.S. gross domestic product.¹ With the emergence of testing capability in the genome, and the promise of personalized, designer laboratory medicine, numbers of tests and their costs are increasing daily. Unfortunately, the services delivery gap between analytic accuracy (laboratorians' providing valid, actionable test results) and medical meaningfulness (providers' understanding of what to do with them) is growing larger, too. Issues related to re-interpretation of diagnostic laboratory information produced by older generations of technology in light of information from new, more sensitive and specific generations are increasing, also, because of the rapid advancement of technology and computerization. With the Health and Human Services (HHS) Department announcement, September 12, 2011, https://www.cms.gov/apps/media/fact_sheets.asp, that HHS, Center for Medicare and Medicaid Services (CMS), and Centers for Disease Control and Prevention (CDC) intend to amend the Clinical Laboratory Improvement Act of 1988 to allow patients direct access to their test results, the stakes have become

even higher in the challenge to provide quality laboratory information at reasonable costs.²

As discussed extensively in the professional literature, a new practice role is needed to address this gap in services delivery in laboratory medicine (LM).^{3,4,5} While other members of the LM team, i.e., pathologists and specialty Ph.D. scientists, focus on medical and analytic issues, respectively, this new practice role would consult with consumers of laboratory information, healthcare providers and patients alike, and conduct evidence-based quality improvement studies related to medical outcomes. Practicing at the system (facility) level, they would optimize the medical effectiveness of practice guidelines. The new practice would integrate with existing LM roles and augment greatly the overall effectiveness of the clinical laboratory in health services delivery.

Actually, this new practice role for the MLS practitioner is already here and many in the Profession are performing in it. But the new practice is generally unrecognized as a job category, and the experienced practitioners, who have developed these consulting roles, have accepted these functions as adjunct to their primary responsibilities.

There are obvious barriers to general acceptance and implementation of this expanded role, both political and financial. Implementing this expanded role for MLS practitioners rather than focusing on analytic instrumentation and technology is a paradigm shift for pathologists and laboratory and hospital administrative leadership. Only recently have these LM professionals understood, through reinforcement by federal and Institute of Medicine guidelines, that LM practice should emphasize non-analytic considerations like appropriateness of medical orders and optimal utilization of laboratory information among non-laboratorian healthcare providers. The MLS expanded practice role could portend a systematic loss of control and influence over LM clinical services delivery.

DIALOGUE AND DISCUSSION

Likewise, with the specialty scientist Ph.D.'s, disenfranchisement and competition for LM positions are concerns since the generalist preparation of the MLS expanded practice role allows for much increased practice flexibility over the discipline-specific education of the specialty scientist. This expanded practice role also represents a new practitioner whose worth is mostly theoretical. Given the traditional emphasis on analytic measures of quality and billable tests as measures of productivity, administrators are reticent to hire MLS who will address medical effectiveness and efficiency without a track record of results.

But the most significant barrier to development and implementation of this new practice role may be MLS professionals themselves. Many MLS practitioners maintain that their practices are restricted to the laboratory or the analytic process. Many more opine that they are not prepared for consultation with other healthcare providers and consumers. Yet more LM practitioners describe their days as “too busy” for non-analytic problem-solving and may be ill-prepared by education or nature to practice comfortably in the ambiguity of interdisciplinary team responsibilities.⁶

So where do we go from here, when the future of the Profession – and perhaps all quality laboratory services delivery – hangs in the balance? We educate for this new practice role by inculcating our new practitioners with requisite consulting skills and a thorough understanding of the requirements for quality laboratory services delivery at every practice level – associate through doctorate. The Focus section of this 2011 issue of the *Clinical Laboratory Science Education Supplement* begins describing this journey with discussions of research methods for conducting

comparative effectiveness and medical outcomes studies or, in other words, our evidence-based practice (EBP). How to incorporate EBP research methods instruction into the graduate curriculum and research into the baccalaureate curriculum receives larger treatment threaded through the entire issue. So read, internalize, incorporate, and promote. This is the educators' mission – in succinct summary, you are foundational and crucial to the changes that must occur for the progression of the Profession.

As always, the ASCLS Education Scientific Assembly, sponsor of this edition, encourages your comments, feedback, and insight regarding the role of the LM professions educator in advancing practice.

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The findings and conclusions in this presentation are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.