Building a Laboratory Workforce to Meet the Future: ASCP Task Force on the Laboratory Professionals Workforce

Prepared by
Fahad hassanalgusheri
Clinical Laboratory sciences

IBRAHIM ABDULLAH ALRAQIBAH
Clinical laboratory Sciences

Ahmed M. Alshehri
Clinical laboratory science

ALAA HASSAN ALMELEIHI
Clinical laboratory science

Abstract:

Objectives: To analyze the demand for services from the nation's medical laboratories, which is predicted to dramatically increase as our citizens age and millions receive insurance coverage through the Affordable Care Act.

Methods: A systematic review of relevant publications and databases was conducted to assess the current state of the nation's medical laboratory workforce and to examine the impact of population demographics and health reform on workforce development to address the future demand for laboratory services.

Results: Building a Laboratory Workforce to Meet the Future, a new report from the American Society for Clinical Pathology (ASCP), provides a comprehensive strategy to address the future workforce needs of the nation's medical laboratories to meet this demand to provide timely, accurate, and safe patient care and to fully realize the benefits of personalized medicine.

Keywords: **Workforce; Laboratory professionals; Vacancy rate.**
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Introduction:

The mission of the ASCP Task Force on the Laboratory Professionals Workforce was to recommend a comprehensive organizational strategy to address the future workforce needs of the nation's medical laboratories to provide timely, accurate, and safe patient care, as well as fully realize the benefits of personalized medicine**. The specific charges of the task force were as follows:** Evaluate the current data on all laboratory professions, identify gaps, and make recommendations for future data collection initiatives.

Review the ASCP's role in workforce development and current initiatives.

Examine how the ASCP might leverage its resources and standing among other pathology/laboratory medicine organizations/industry, government, and the broader health care system to develop long-term initiatives that will provide a meaningful, measurable impact (Garcia et al., 2011)

While parallel concern exists over a possible shortage of pathologists in the coming years, the primary focus of this task force is the nonphysician laboratory professions.

Workforce dynamics and projected needs in the pathologist workforce will be considered separately since the demographics of each group, the challenges to recruitment and retention, educational requirements, and the body of available workforce data for each group differ significantly.

Health Care: Undergoing Dramatic Transformation

The US health care system is characterized by a complex interdependent network of multiple stakeholders at the national, state, and local levels and within professional, educational, and other jurisdictions. Efficient and effective workforce planning and deployment are inextricably tied to changes in demand for services based on assumptions about the health needs of an aging population, (Cearlock, 2011)the growing prevalence of chronic disease,the cost burden of chronic disease and comorbidities, population risk profiles,and anticipated increased utilization due to the PPACA provisions intended to expand access to care. (Castillo JB, 2000) Additional factors include clinical technologies to facilitate diagnosis and treatment, payment systems that influence provider behaviors, workforce policies that frame personnel standards and scopes of practice, and the overall structure of the system.

The Medical Laboratory Workforce:

Medical laboratory testing is an integral part of quality health care. The medical laboratory workforce includes multiple categories of laboratory science practitioners, who have various levels of education and training, ranging from on-the-job training to associate, bachelor, and graduate or professionaldegrees.(Garcia, 2013) Medical laboratory practitioners include pathologists, doctoral-level clinical scientists, technologists/scientists, and technicians, and each has a vital role in the health care system, managing and applying evidence-based, scientific testing that supports patient care and protects against public health threats.

Key Findings of the 2012–2013 ASCP Wage and Vacancy Surveys:

The ASCP provides the principal source of data on the medical laboratory workforce for the nation through its Wage and Vacancy Surveys. These surveys, administered biennially since 1988, attempt to determine the extent and distribution of workforce shortages across the country. Laboratory medicine is a complex and rapidly evolving field. With each administration of the survey, the ASCP seeks to improve its method to collect the most current and meaningful data(AAMC, 2012).

Key Issues Affecting the Laboratory Workforce:

Workforce supply and demand in our nation's medical laboratories continues to be determined by a myriad of influences. On the supply side, the profession faces challenges with the three Rsrecruitment, retention, and retirements. On the demand side, the convergence of profound shifts in population demographics, legislative and regulatory reforms, and major advances in medical diagnostics and treatments will be significant influences. There continues to be much debate among policy makers. Some think these factors will create an unprecedented demand for services, while others believe the demand will be tempered by more efficient utilization.

Closures of Clinical Laboratory Programs:

According to the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), school closings in the past 15 years have reduced the number of medical laboratory scientists/clinical laboratory scientists (MLS/CLS) and medical laboratory technicians/clinical laboratory technicians (MLT/CLT) being trained annually. The number of individuals graduating from these programs declined from approximately 7,000 graduates in 1994 to approximately 6,000 in 2009. (Cearlock, 2011) In the 20 years since 1990, the number of laboratory training programs has decreased from 720 to 552, a decrease of almost 25%. Program closures have been the result of a multitude of factors, including declining enrollment and cost. For many hospital-based programs, the implementation of the Medicare Prospective Payment Systems changed the hospital payment structure so that medical laboratories (including outreach testing), once a source of revenue, became cost centers. (Castillo, 2000)Fewer training programs can have profound impacts on rural areas, where prospective laboratory practitioners often seek training close to home. Idaho, for

example, has only one medical laboratory educational program.

Recruitment Challenges:

1. Finding and Supporting the Next Generation of Laboratory Professionals.
2. Targeting the STEM Pipeline.
3. Opening the Door to Nontraditional Students and Career Changers.
4. Funding Opportunities for Students/Scholarships.
5. Pathways to the Profession.
6. Access to Training Opportunities.
7. Clinical Experience.

Molecular Diagnostics:

Many new diagnostic techniques and laboratory tests have been introduced as a result of both research on the fundamental pathogenesis of diseases and the development of new methods in themselves. Explosive advances in the areas of molecular-level and genetic testing are dramatically changing clinical practice. The National Institutes of Health (NIH) Genetic Test Registry currently has more than 7,000 orderable tests for approximately 3,000 conditions and 6,300 genes (Seaberg, 2000).

Recommendations:

1. Promote the role of laboratory professionals to patients, other providers, health care administrators, educators, policy makers, and the public at large, as an integral part of the clinical care team in a transitioning health care system. Challenge current paradigms of laboratory service delivery to develop and implement novel approaches capable of guiding quality patient care in a more effective and efficient manner.

2. Conduct and disseminate original health services research that supports laboratory workforce policy and compels the nation toward an adequate supply of qualified laboratory professionals, with the appropriate skills and education, to ensure access to quality care for all citizens. Use high-quality, objective, care-driven data to assess workforce supply and demand to provide projections for future needs to inform programs and policies that will meet the needs of an evolving health care system.

3. Engage in outreach opportunities that promote STEM education to support and promote the development of high-level skills critical to the performance of quality laboratory testing and management, as well as bolster the pipeline of potential candidates for the profession and leadership in health care.

4. Develop and incorporate future-based products and information into educational programming via multiple platforms (web, conferences, publications, etc) that will enable laboratory professionals and pathologists to be at the forefront of health care.

5. Seek and support initiatives that promote the development of a qualified workforce through quality education programs that reflect advancing technologies, maintaining high standards for certification of laboratory professionals and laboratory accreditation programs that incorporate personnel standards.

Conclusion:

The report, from the ASCP Task Force on the Laboratory Professionals Workforce, is a comprehensive review of the myriad of factors affecting recruitment and retention of qualified laboratory professionals and provides a set of thoughtful recommendations outlining a multifaceted approach to bolster the pipeline of potential candidates for the profession as well as leadership in health care.

As the largest professional organization in the laboratory community and the only organization whose membership represents all the clinical laboratory professions, the American Society for Clinical Pathology (ASCP) has made workforce issues a top priority. All of the ASCP's workforce-related programs and activities are predicated on and driven by the latest data. The ASCP Wage and Vacancy Surveys, administered biennially for the past 24 years, serve to not only monitor supply and demand but also identify underlying factors. In addition to efforts to monitor and more clearly define the workforce needs, the ASCP asserts its influence and broad reach to affect change through other venuesadvocacy, education, certification, communication, and collaboration.Periodic evaluation of the workforce landscape and the organization's activities is essential to fulfill the ASCP's role as a leader in the promotion of patient-centered care and the profession. The coming convergence of a multitude of variables within

both the laboratory workforce itself and the nation's patient population, coupled with numerous and rapidly occurring advances in the practice of medicine, warrants an in-depth comprehensive review at this time. The ASCP is committed to ensuring that the nation's clinical laboratories are adequately staffed with qualified laboratory professionals.

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