The Impending Crisis in the Clinical Laboratory Workforce

The profession of clinical laboratory science is experiencing a shortage of qualified individuals

Raymond L. Kaplan and Thomas E. Burgess

Imagine going to your doctor for a routine checkup and the phlebotomist takes a few blood samples for lab work. Three days later, the doctor’s office calls and asks you to come back because they need to get another sample for testing. Wondering if something is terribly wrong, you ask “why?” since you already gave a blood sample just a few days ago. The person on the phone assures you that nothing is wrong. Imagine, though, that the laboratory that received your blood sample did not have enough clinical laboratory scientists to test your sample upon arrival and now they are out of stability (too old to test).

Does this sound unbelievable? This scenario may be a little melodramatic but across the United States in hospitals, clinics, commercial laboratories, and doctors’ offices, clinical laboratories are experiencing a severe shortage of personnel often referred to as clinical laboratory scientists, medical technologists, or medical laboratory scientists. In fact, more than 70% of programs teaching this critical profession have closed. From 1975 to 2005, nearly 500 accredited medical technology programs were closed across the country, and the number of graduates fell from 6,121 to 2,070 during the same period. In fact, there is an impending crisis in the clinical laboratory science workforce. Seven years ago a study by the American Society of Clinical Pathology indicated 72% of the laboratory workforce was 40 years of age or older, with the majority close to retirement. Nearly one-half (43%) of all clinical laboratories nationwide struggle to hire laboratory personnel. The U.S. Bureau of Labor Statistics (BLS) projects that by 2014, an additional 81,000 technologists and technicians will be needed to replace retirees and 68,000 to fill new positions.

We have some possible causes and suggestions for averting or reversing the situation. Young students at and below the college level are not interested in the field of clinical laboratory medicine. This is due to the lack of knowledge of what the profession is all about. One of the major reasons for declining enrollment is that we in the profession are “faceless.” The average “person on the street” does not know we exist and therefore our youth know nothing of the profession of laboratory medicine. Laboratory professionals work behind the scenes with little to no patient contact.

The profession is invisible to the general public. If you were to ask the average man on the street, “Who performed the lab work on the specimens that were taken the last time you visited your doctor?” The most common answer might be the nurse or the phlebotomist or the doctor.

The Solution. First, the profession must become visible and apparent to the educators of our youth. If the educators do not know of the profession, how should we expect our children (otherwise known as the next generation of potential clinical laboratory scientists) to aspire to this profession? Some of our colleagues believe we should start by making the colleges and universities more aware of this profession and impending staffing crisis. While this will help, our opinion is that a focus at this educational level MAY be too late.

A few years ago, the Coordinating Council for the Clinical Laboratory Workforce (CCCLW) conducted a survey of the people who were
either in a laboratory science program or had been working in the field for up to 5 years. The survey showed that 75% of the more than 4,500 respondents were completely unaware of the profession upon graduating from high school.

In order to effect a change, Clinical Laboratory Science must be apparent as a career choice (other than medical school) for an individual who likes a cross between microbiology, biology, or chemistry and patient care. If we wait until a young adult is in college, this is too late and to quote from Julius Caesar, “Alea iacta est,” or “The die is cast.” In most cases, their career choice may have already been made or at least pointed in a direction other than clinical laboratory science. To alleviate this issue, earlier intervention must occur. Teachers at the middle school and high school level as well as college professors must be made aware of the profession. Their students are aware of “House,” “NCIS,” and “CSI”; why aren’t they aware of clinical laboratory science? We can change this invisibility; here are a few suggestions.

(i) As a profession, we need to begin increasing the visibility of our career path. Venues such as middle and high school science fairs are excellent opportunities to bring our profession to the attention of educators and students. We have served as science fair judges and have seen many microbiology projects. We have asked the students if their project was interesting and whether they like microbiology and let them know about the profession of clinical microbiology.

(ii) Become involved in organizations such as HOSA (Health Occupations Students of America) at local, state, and national levels. These students are already looking at health care as a profession and are fertile for the seeds of Clinical Laboratory Science to be planted. Personal experience with this group at a local and state level has been extremely rewarding both from the students’ perspective and from our viewpoint. When exposed to this career opportunity, large numbers of these prospective healthcare professionals have expressed a real interest in pursuing this field as a profession and most had never heard of it until we brought it to their attention.

For those of you who are clinical microbiologists, volunteer to describe your “job” to elementary, middle, or high school students when asked by your child, or a friend’s child, during the “what does your parent do” days.

(iii) Recruiting students to enroll in clinical laboratory science programs is critical. Presentations, by a med tech or a student that is currently in such a program, to microbiology or biology classes in middle and high schools, as well first- and second-year college classes, can help with career choices.

(iv) The National Youth Leadership Foundation (NYLF) for medicine exposes high school students, during the summer, to the many opportunities in health care. We have participated with the Atlanta chapter by hosting about 90 students each summer (in smaller groups) and making them aware, by informal talks and a tour of the lab, of the clinical laboratory sciences profession.

The crisis looms ahead of us and is rapidly approaching. The shortage of laboratory professionals, for the most part, has gone unnoticed outside the field, probably because the full impact has not yet been felt. Our profession needs your help. Please consider this as a challenge to recruit new members to the field, for your health’s sake and for the health of generations to come.