

May 2008 Clinical Laboratory News: The Worsening Shortage of Lab Staff

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The Worsening Shortage of Lab Staff

What's Being Done to Turn it Around?

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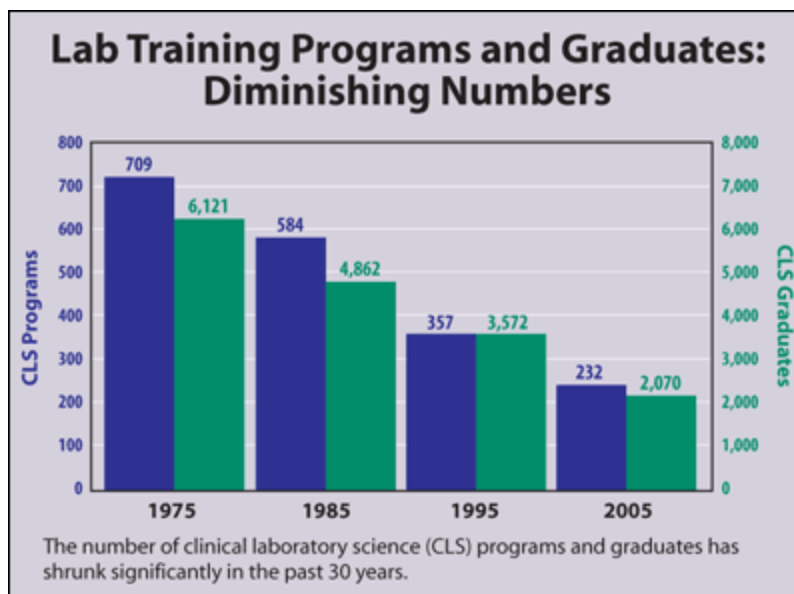
Money Magazine recently ranked lab technologist as one of the best jobs in America, pointing to an average salary of \$51,502 and 10-year job growth of almost 21%. Yet positions in clinical labs remain unfilled, the number of educational programs has plummeted, and the field has suffered an accompanying, precipitous decline in the number of young people entering it. On top of these problems, the profession is nervously anticipating a mass exodus of its members as a generation of current lab professionals retires in the coming years.

At the same time, anecdotal stories about the decline in the number of jobs in laboratories have been around for years. "It was in the mid-1980s that the number of educational programs really began to drop, especially after DRGs were implemented," remarked Kathy Doig, PhD, Program Director for the Clinical Laboratory Sciences Major in the Biomedical Laboratory Diagnostics Program at Michigan State University in East Lansing. "During that time we saw the number of

hospital-based programs drop dramatically. We actually had a slight oversupply of people compared to the number of available jobs then, and students were not finding positions readily. But that started to change in the early 1990s, and by 2000 we were in a shortage situation that has been persistent.”

The Scope of the Problem Today

According to the Bureau of Labor Statistics, in 2006 there were 167,000 practicing clinical laboratory technologists, and a projected need for 21,000 more by 2016. “However, in 2005 only 2,079 people graduated from accredited programs, the number of which keeps shrinking,” explained Susan Gross, MS, MT (ASCP), Senior Supervisor, Clinical Laboratory, Chemistry/Toxicology at San Francisco General Hospital and the University of California-San Francisco. “In 1975 there were 709 clinical laboratory science programs with 6,121 graduates; in 2005 there were 232 programs and 2,079 graduates” (See Graph, below).



When the numbers of graduates of two-year programs are added into the mix, the number of people needed annually to fill clinical laboratory positions exceeds 10,000. But graduates of baccalaureate and associate degree programs in laboratory medicine number only about 4,500, so current educational programs meet only about half of the actual need.

Other data also show the depth of the shortage. The 2005 wage and vacancy survey from the ASCP showed a 6% vacancy rate for clinical laboratory positions. “This is an improvement from the 2003 survey, which showed a 10 to 15% vacancy rate, but it doesn’t take into account what we’re anticipating, which is a significant number of people retiring within the next ten years or so,” said Doig. “Not only will the sheer number of people retiring be enormous,” she added, “but the collective years of knowledge that will be lost will be staggering. I try to use that as a selling point for students and tell them that the opportunities for advancement will be correspondingly huge.”

Data from Gross's lab backs up Doig's predictions. "In our lab, as of July 2006, 20 of the 79 clinical laboratory scientists were older than 55 and had more than 30 years of service," Gross said. "Another 9 were older than 55 and had more than 21 years of service."

Other factors add to the growing shortage of incoming people to fill those positions: the lack of available clinical rotation sites and the decreased capacity of the existing educational programs. The limiting factor for clinical programs is finding hospitals and other laboratories that are willing to accept students in rotation, noted Gross and Doig. "San Francisco State and San José State Universities could have accepted more students, but were limited by clinical rotation sites," said Gross. "I could accept more students into our program—we now have eighteen compared to the twenty eight we used to take—but I have no places for them to do their clinical rotation," said Doig.

"On the other hand," Doig added, "we need to congratulate those institutions that make the commitment to educate students. They have the same pressures on productivity as everyone else, but they recognize their professional obligation to train the next generation of laboratory professionals." Labs benefit from the up side to training students, however. "It's not entirely altruistic they get the first look at graduates so they can hire the best and the brightest," she pointed out.

Recruiting the Next Generation

The shortage of students entering the field has not gone unnoticed. A number of initiatives are already aimed at attracting young people to careers in laboratory science. Paula Garrott, EdM CLS(NCA), Chair of the Coordinating Council on the Clinical Laboratory Workforce (CCCLW), points to a partnership with Dade Behring (now Siemens), which has provided \$300,000 per year in scholarship support for students enrolled in CLS and CLT programs. The company has pledged \$1.25 million through 2008. "But we're also working on finding other ways to interest young people. The CCCLW just met to refine our strategic plan and from that meeting we developed four strategic workgroups to develop actions and implementation tactics. One of these workgroups will specifically examine recruitment and retention issues for the industry. One of their charges is to develop materials that can target middle school, high school, and college students and increase awareness of laboratory science as a profession," she said. "Promotional materials aimed at young or middle-aged adults who are thinking about changing careers also are on the agenda. One thing we have going for us is that there's almost guaranteed employment."

Results of a recent CCCLW survey of people who were either in a laboratory science program or had been working in the field for up to 5 years showed that 75% of the more than 4,500 respondents were completely unaware of the profession upon graduating from high school. Noted Paul Epner, Director of Health Care Improvement Initiatives for the Diagnostics Division of Abbott Laboratories in Abbott Park, Ill., "These individuals couldn't have chosen or even considered colleges or universities with laboratory medicine programs, because they didn't even know the profession existed."

Encouraging Students to Enter Laboratory Medicine

In recent years, AACC has stepped up efforts to recruit more students into the field of laboratory medicine, as well as create a special community for new members under the age of 40. Through the Van Slyke Foundation (VSF), AACC promotes a variety of opportunities for young investigators to obtain support money, and in 2004, the Society for Young Clinical Laboratorians (SYCL) was formed to meet the unique needs of AACC's young and student members.

AACC's Past-President's Scholarship, created in 2006 by a generous gift from Mr. Gopal Savjani, founder of Diagnostic Systems Laboratories, funds postdoctoral candidates in COMACC-approved training programs. This year, Dr. T. Scott Isbell at Washington University, St. Louis, Mo. received the \$50,000, award, which is renewable once, for a second year of funding. Applications for the 2009 scholarship will be accepted starting in September.

The Genzyme Student Research Awards recognize outstanding research by students and postdoctoral fellows at the AACC Annual Meeting. Students' poster presentations are judged on scientific quality, clarity of display, and presentation style. First prize is \$1,000, second prize is \$300, and two honorable mentions receive \$100 each. The four students with the top ranked abstracts are invited to compete in the Genzyme Student Oral Presentation Contest, which has the same prize structure. Judges evaluate the oral presentations on scientific quality as well as the organization and quality of the presentation and accompanying slides.

In addition to serving young members training for careers or already established in laboratory medicine, SYCL also encourages students to enter the field. The SYCL Seminar Series sends energetic young clinical laboratory scientists back to their graduate schools to educate others about the field and to encourage them to explore the possibility of laboratory science as a career. Other programs sponsored by the group include the Mentor of the Month interview featured on AACC's Web site that showcases a prominent individual in laboratory science, special programs for SYCL members at the AACC Annual Meeting, and travel grants.

Information about all these programs is available on the [AACC Web site](#).

Plugging into Young People

In addition to chairing the CCCLW recruitment work group, Epner also oversees activities for Abbott's Labs Are Vital program. This multi-pronged, ongoing change management effort is designed to highlight the critical role laboratory professionals play in healthcare and take on the issues facing laboratories today. Recently, the program launched a group on Facebook, an online network that connects young people with peers. Intended to increase awareness about the profession, the Web site group encourages students to apply for scholarships through the development of video ads, print ads, or T-shirt designs that encourage others to consider careers

in laboratory medicine. "Through partnerships with three laboratory associations, we're offering nine scholarships, three in each content area—clinical health, public health and bloodbanking," said Epner. "The video scholarships will be \$2,500 and the others will be \$1,000. You don't have to be interested in the profession yourself, you just have to be able to design or formulate a compelling message about laboratory medicine. The entries will be available online and Facebook members will vote on those that most creatively address the issue. It's an exercise in 'viral marketing' in which entrants will recruit friends and other peers to view the submissions and vote, further boosting visibility."

The Facebook initiative launched in January, and after 11 weeks Lab Are Vital had tracked 27,000 unique visitors to the site. To accompany this new program, Abbott also created a new Web site not affiliated with Facebook, labsciencecareers.com, that contains career information. That site has recorded more than 11,000 unique visitors. "To provide a vehicle for students to show a higher level of interest, they can actually join the Labs Are Vital group in Facebook," said Epner. "Almost 2,000 people have already done that and that level of commitment tells us these individuals have a more serious interest in the profession. We know who they are, and we can send them messages. This is all very encouraging and we've just begun."

Labs Are Vital also works to help existing laboratory medicine educational programs, Epner said. "These programs often are small in scope, with high capital requirements—equipment, space, and labs. The teacher/student ratio is small and schools find them expensive to maintain. We used to hear from schools that even if they could get equipment, they lacked funds for reagents and service. When an instrument did eventually break down, it usually went into a closet. So, two years ago we created an equipment donation program and said we'd donate \$1 million worth of equipment and free reagents and service for a minimum of three years. We've already surpassed that by donating \$2.5 million worth of equipment and we think it's helped in keeping some programs open and increasing their visibility within their schools."

Healthcare Laboratory Workforce Initiative

States are also creating initiatives to tackle the future needs of labs. In 2005, the Hospital Council of Northern and Central California in conjunction with the California Hospital Association created the Healthcare Laboratory Workforce Initiative to increase funding for and expand the training capacity of clinical laboratory educational programs in California. The Abbott Fund already has given three \$100,000 grants to the initiative. The Abbott Fund is a private 501(c)3 not-for-profit organization in the state of Illinois and is funded solely by Abbott.

"We're looking for proposals and projects that will help expand the numbers of trainees in laboratory medicine in the state," said Hospital Council Regional Vice President Rebecca Rozen. "One of our grantees at California State University, Dominguez Hills, will be experimenting with having a person within the program who will act as a navigator and who will approach a facility about becoming a training site. This person would walk the appropriate personnel through the process of what they have to get approved by the state, what the program will look like, and how to choose and train their students."

HLWI grant funding to San Francisco State University (SFSU) has been used to develop presentations that introduce high school students to laboratory operations with hands-on experiments on diabetes testing and pseudo blood typing activities. Grant money also has supported the planning of an innovative hybrid curriculum that includes the development of online modules and other educational tools. Aimed at increasing opportunities for CLS internships at areas distant from the SFSU campus, interns will significantly reduce the time needed at SFSU by participating in online courses and meeting with mentors.

HLWI will be an ongoing initiative, added Rozen. "We haven't churned out hundreds of students yet, but we've really raised awareness about the issue among key stakeholders and have brought them all to the table so we can work together."

Retaining Laboratory Professionals

Another strategy being used to deal with the shortage of laboratory workers is to make sure they don't leave once they have started working in a clinical lab. "Recruitment strategies are important, but we also need to focus on retaining those people we get," said Garrott, who also is Director of the Natural Sciences Division and Chair and Professor Emeritus of the Clinical Laboratory Sciences Department at the University of Illinois at Springfield. "An issue we face is that we're victims of our own success in some ways. Skills developed during the educational process, particularly in baccalaureate programs, are highly transferable to other areas. Increasingly, we find that a number of our students are using our programs as stepping stones to medical school or other professional programs, or going on to in vitro diagnostics or the biotech industries. I know the local medical school loves getting our graduates as research associates, because their skills are so good."

Retention issues also were the focus of a survey that Doig and her colleague, Susan Beck, PhD, Professor and Director of the Division of Clinical Laboratory Science at the University of North Carolina at Chapel Hill, conducted in which they asked 600 laboratory practitioners to identify factors related to this subject. Their findings, published in *Clinical Laboratory Science* (2005: 18(1), 16–27), noted that laboratory professionals regard their work as important and interesting and are proud of their contributions. But the top suggestion on how to retain people in the field was to provide salaries that are commensurate with their education and equivalent to nursing. The survey also showed that a paramount concern among those surveyed was the perceived lack of appreciation from other medical caregivers.

In San Francisco, Gross said the primary competition for good lab staff is from the biotech industry, "which has the dollars, doesn't have the weekend work, and may not require a California license."

Recruiting From Overseas

Other professions in healthcare have turned to overseas recruiting to fill open positions. The lab is no exception. "Absolutely, we're seeing personnel recruitment form overseas markets, especially in coastal areas," said Epner. "Facilities in California have many employees who have

come from the Philippines, for example. The problem with hiring people who have been educated in other countries is that they may simply not have the same level of training that's required for these positions here in the United States."

Garrott noted other difficulties. "It's especially problematic if foreign staff seek credentialing here, because if they don't meet the requirements for certification they have to go through a U.S. program. One of the laboratory science certification agencies—National Credentialing Agency for Laboratory Personnel or NCA—has developed a program where people can get temporary credentials while gaining experience for certification and licensure. Because the need for people to fill positions is so dire, we also need to investigate more ways we can encourage people from other countries to come here."

But licensure and certification may not be a paramount problem for such individuals. Certification remains a voluntary process and employers can choose to hire or not hire people who have passed stringent certification requirements. Currently, only 12 states and Puerto Rico require that laboratory personnel be licensed to practice. "This does not happen in other areas of healthcare," remarked Garrott. "Would we allow unlicensed or uncredentialed physicians or nurses to practice? Of course not! But that's one reason why we have problems recruiting people to the field—the notion that anyone can do lab tests."

Stiff Competition Ahead

Demographics have a lot to do with the problem, too. "Right now, there are just not enough young people in the workforce and preparing to enter the workforce to fill all the jobs that need to be filled," said Doig. "It means we're not only competing with just the science and health sectors for this scarce commodity, but we're also competing with all sectors of the workplace and we need to find ways to market ourselves so people know how much the profession has to offer."

People who enter the profession tend to be very satisfied with it, added Garrott, and it offers compensations over and above the obvious. "Yes, there are downsides, such as working long hours, but the thing about clinical laboratory professionals is that we always get the job done! In the face of the nursing shortage, we've all heard about hospitals shutting down units. But I know of no situations where a lab has been shut down. We're always there when people need us."