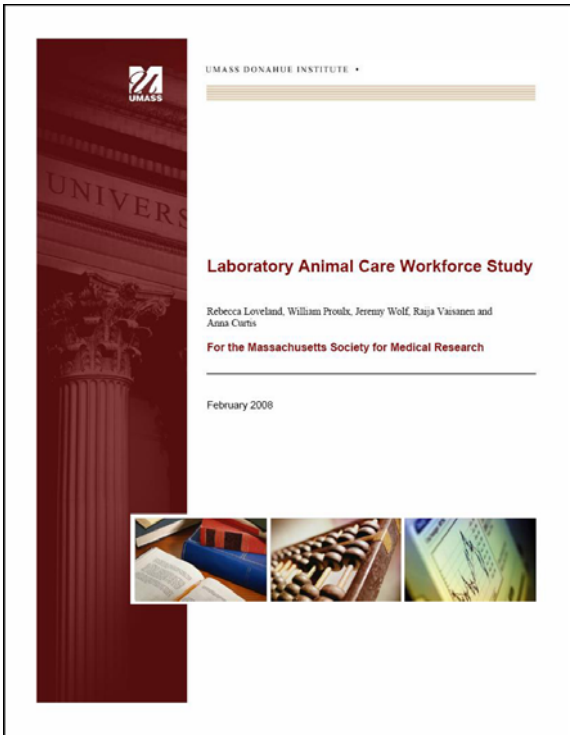
The Massachusetts Society for Medical Research

FOUNDED 1953

Executive Summary



Important life-saving and life-enhancing therapies, cures and medical devices originate in Massachusetts every year, helping and giving hope to millions of people worldwide.

The fundamental research behind these crucial medical advances is an enterprise of more than $2.4 billion annually in Massachusetts, employing at least 20,000 skilled workers statewide in universities, medical centers, biotechnology and pharmaceutical firms, and contract research organizations.

Well worth noting, but too often overlooked, is the fact that more than half of all biomedical research in Massachusetts depends at some point upon animal studies. Laboratory animal studies are conducted under carefully controlled conditions and adhere to federal, state, and local animal care regulations, as well as to procedures identified by expert professional societies such as the American Veterinary Medical Association.

Absolutely essential to the success of biomedical research in our region is the workforce of laboratory animal care workers, employed at laboratory animal facilities within the research organizations and contract facilities.

There are at most a few thousand workers in Massachusetts laboratory animal research facilities – 2,331, according to the Bureau of Labor Statistics – yet the Life Sciences industry and its monumental medical advances are fully dependent upon them.

The Risk

Massachusetts schools and colleges do not train enough students with the special skills and hands-on experience to fill the growing number of laboratory animal care positions in the Commonwealth. The shortfall appears to occur at every level – from specialist laboratory animal veterinarians to entry-level animal care husbandry technicians.

The necessary education has two parts: (a) instilling the specific scientific knowledge and technical animal care skills; and (b) informing students about the career opportunities in laboratory animal work. Right now, many of those who do learn the specialized skills, such as veterinarians and veterinary technicians, do not know enough about the laboratory animal field, instead choosing lower-paying jobs at clinics and shelters.

For example, colleges in Massachusetts collectively awarded 73 veterinary technician degrees in 2006. The predicted 3-year need for this category of worker is 130, or nearly 60% of all future

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graduates.* But the actual number going into laboratory animal research is far less. The statistics for laboratory animal veterinarians are even more unbalanced.

As a consequence of a shortfall in the available trained labor pool, research operations are forced to (i) leave positions vacant, (ii) hire employees with less than the needed skills and try to fill the training gap themselves, (iii) hire temporary or contract staff, or (iv) look outside the state, where recruitment/relocation is difficult because of our region's high cost of living. The long-term effect of staffing problems could be a slow-down in life-saving research in the state, or the movement of that research to other regions, where laboratory animal careers are more strongly promoted and where training is more broadly available.

The Massachusetts Society for Medical Research, a non-profit member organization founded in 1953 and representing stakeholders in biomedical research in the state, engaged the UMass Donahue Institute to investigate the animal care workforce. We sought to understand the current challenges to hiring and retention, the expected future demand for workers, and the possible mechanisms for improving knowledge of and preparation in animal care work for research facilities.

Key Findings

Education is critical: a high school diploma is an essential entry-level requirement in every job category in the laboratory animal facility. An associate's or bachelor's degree becomes increasingly important as one moves up the animal husbandry technician ladder – 35% of organizations want their senior husbandry techs to have a college degree. At the next step, more than 56% of organizations expect their veterinary technicians to have at least a bachelor's degree. At the supervisory and manager levels, these numbers rise to 62% and 89%, respectively.

Just to cover staff *turnover* in the next 3 years, the agricultural high schools, community and 4-year colleges would need to train 433 animal care workers (equal to about 18.5% of the entire current total workforce). Projected *growth* in the period calls for about 298 more trained workers (about 12.8% of the current total workforce.)

In addition, from the mid-level husbandry technician upward, more than half of all organizations also want their staffs to have the appropriate professional certifications.

Our lab animal facilities understand the educational dilemma. When queried, 92% of our respondents identified *customized skills training and certificate programs at Massachusetts community colleges* as the strategy that would be beneficial or highly beneficial in building the needed workforce.

The research facilities are trying hard: more than 95% offer informal and more than 74% offer formal in-house training to get and keep their animal care staffs prepared. But of course, that is after the employees are already hired.

To help their employees improve, more than ¾ pay for or reimburse professional society membership fees, certification training programs, and national and local professional society meetings; 83% give release time for employees to attend national meetings. More than half give

* Our survey respondents employ about 45% of the animal care workers in Massachusetts. The "needed" employee numbers are extrapolated from the survey projections.

salary incentives for certification. And 49% even offer English as a Second Language, because many positions are now being offered to non-native speakers.

Hiring is already difficult: nearly ⅔ of the organizations reported hiring difficulties in all but the entry-level cage washer (maintenance) position. "Lack of workers with the necessary job or technical skills" was the predominant reason for this difficulty. For the critical category of animal husbandry technician, more than 68% cited it as the top hiring difficulty. This is exactly the area where more training at the high school, associate's degree, and certificate courses is needed.

Local salary/benefits competition was the second principal difficulty, but generally far less of an issue than just finding people with the needed skill set.

An added hurdle – non-profits are at a salary disadvantage to biotechnology, pharmaceutical and contract research companies. Workers are 2 to 4 times as likely to leave a non-profit for *salary/benefit* reasons than a for-profit. This sometimes makes the non-profit academic and medical animal research operations feel like training leagues, whose best employees are then skimmed off by companies that can offer better pay and benefits.

Inadequate English language skills are a slight problem for the husbandry technicians but become truly significant for organizations trying to hire cage washers, with more than 17% reporting that as the primary difficulty in hiring for that category.

Keeping employees can also be challenging, particularly at the junior- and mid-level husbandry technician levels, where career advancement and higher pay induce employees to move to competitors. For example, 44% of organizations reported that their mid-level husbandry technicians leave for these reasons. Exactly these same two categories also have the highest "failure" rate ("employee unable to perform as expected") so just the place where the most workers are needed is also the place where there is the greatest attrition, creating accelerating need.

Many positions are open to new workers: a significant majority of the organizations hiring cage washers, junior- and mid-level husbandry technicians will hire a candidate with only one year or less of experience. Workers with just one to three years of experience are desired by more than half of the organizations seeking senior-level husbandry technicians, veterinary technicians, facility supervisors and laboratory animal veterinarians. As expected, senior managers need to have lots of experience: nearly 78% of facilities wanted more than five years' experience here.

New workers could be recent graduates, adults re-entering the workforce, career changers, and immigrant workers … if the training and practical skills development were available.

If no qualified workers are available: the options are not ideal. More than half the organizations will leave a senior manager or supervisor position open if an appropriate candidate cannot be found. But because of the need for continual animal care and observation, less than 20% of the organizations will leave an animal husbandry position open and nearly 53% will hire a candidate with less than the desired minimum qualifications.

Between 15% and 30% will hire a contract or temporary worker in all categories except veterinarian, where the number jumps to nearly 50%.

Conclusion

We believe that the biomedical research industry, the education community and state government can all participate in a successful effort to (a) train more in-school students for careers in

laboratory animal research through the development of a consistent statewide curriculum, (b) inform students, potential workers, and job placement agencies about research animal care careers through a variety of outreach mechanisms, (c) create specialty training and certification programs for those who want to enter this field from another work area, or who are already working in it and want to advance, and offer the programs through the community college system.

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