

Are science laboratories truly inclusive if not accessible to service-dog handlers?

February 17 2021, by Diana Yates



Beckman Institute researcher Joey Ramp advocates for policy changes to make laboratory educational and training experiences accessible to people with service dogs. Credit: L. Brian Stauffer

According to a new commentary in *Disability and Health Journal*, people

with disabilities who rely on service dogs often are prohibited from bringing their working dogs into teaching and research laboratories. This one barrier can stop them from pursuing careers in science, says Joey Ramp, a researcher in the Beckman Institute for Advanced Science and Technology and lead author of the commentary. Ramp spoke about the issue with News Bureau life sciences editor Diana Yates.

Are people with disabilities underrepresented in science, technology and engineering fields?

The short answer is yes, there is plenty of research to support this. The more important question is why.

According to the National Center for Educational Statistics, more students with disabilities of all types are enrolling in postsecondary education institutions than ever before. Roughly 25% of postsecondary students majoring in [science](#), technology, engineering and math fields disclose having a disability, yet the National Science Foundation reports that only about 7% of doctoral recipients in science and engineering had a disability. Disabled students are being lost along the "STEM pipeline." According to students living with a disability, there are three main reasons for this disparity: First, they are often discouraged from pursuing a STEM education because of their disability; second, faculty members are often reluctant to include them and are at times even hostile; and third, they are thwarted by a lack of access to the facilities and services available to nondisabled students. Lack of access is the most common reason stated. Being proactive in making these areas of study accessible to disabled students will improve access for students of all genders, races and abilities, broadening diversity, equity, inclusion and access initiatives.

What kinds of barriers do people with disabilities who

rely on service dogs confront when trying to participate in university and college science laboratories?

Access to undergraduate hands-on laboratory experience is crucial to earning a degree in STEM, yet [student service-dog](#) handlers are frequently barred from these opportunities. Faculty members explicitly tell these students that they cannot enter a laboratory with their [service dog](#). Those barring service dogs often cite space or safety concerns or issues covered under the Americans with Disabilities Act—for example, a fear of or allergy to dogs. For service-dog handlers, exclusion begins in undergraduate core-course laboratory courses, such as general chemistry and general biology. Most academic service-dog policies either do not address laboratory access or focus only on guidelines for exclusion. For example, policies often state that any area requiring personal protective equipment is off limits to service dogs. Some institutions allow case-by-case determinations to be made by faculty members or administrators who lack knowledge of how service dogs function or are trained. This ambiguity allows [faculty members](#) to interpret policies in a manner that is neither uniform nor objective. The barriers become even more formidable as student service-dog handlers apply for graduate positions in research laboratories.



It is possible to safely bring well-trained service dogs into laboratories and provide them with the proper protective gear, as demonstrated by Ramp's dog, Sampson. Credit: Doris K. Dahl

How are institutional policies or guidelines falling short?

Only a handful of universities have developed guidelines for inclusion. Accommodating service dogs and their handlers in core laboratories requires minimal changes to standard laboratory operation, if any. Postsecondary institutions promote DEIA initiatives, but frequently the principal missing piece is a commitment to access: the "A" in DEIA. Acceptance of service-dog handlers in science will occur only when an institution's administration recognizes these students' potential as scientists and demands that STEM faculty create an accessible climate, culture and environment.

A first step is a universitywide laboratory service-dog policy that includes specific guidelines for the inclusion of service-dog handlers in academic laboratories. The policy could include a set of skills necessary for an incoming service dog. The dog could be required to wear appropriate PPE. The policy could require a safe placement for the service dog out of the way of laboratory traffic. The dog should be able to lie on a mat for up to four hours, be able to navigate a safety shower, be trained to respond to emergency situations, use an alternative to nudging a handler for medical alert and leave dropped items alone.

Are there risks associated with bringing service dogs into laboratories?

Laboratories present a variety of risks to all occupants. Engaging in appropriate behavior, receiving proper training and wearing the required PPE make those environments safe. Service dogs undergo approximately 2-2.5-years of training. They are trained to wear all types of gear, attire or equipment, which could include appropriate PPE for a laboratory. Service dogs are conditioned to remain calm in the face of all types of stimuli—for example, loud noises, fire alarms or first responders. They understand and respond to verbal commands, hand signals and body language. A service dog is often one of the most highly trained and best-behaved occupants of a [laboratory](#).

Hazards and risks can be minimized for all by following the "recognize hazards, assess risks, minimize risks and prepare for emergencies" paradigm, a set of guidelines for biosafety-level containment and PPE needed to ensure chemical safety. Individualized risk assessments are common practice for identifying accommodations specific to a student's disabilities. Risk assessments should provide all students with [disabilities](#), including those assisted by service dogs, "reasonable accommodations tailored to an individual student's needs to allow equal access to higher education," as outlined by the Americans with Disabilities Act. This would protect the integrity of the lab environment, with safety at the forefront.



Ramp outlines policies and practices that will make science laboratories accessible to people with service dogs. Her dog, Sampson, demonstrates appropriate protective attire for the laboratory. Credit: Doris K. Dahl

What can be done to address these problems?

The crux of the issue is society's attachment to canine companions and how people view dogs. For over a century, service [dogs](#) have been trained to provide medical assistance to disabled people. Society as a whole, and more specifically the science community, must focus less on the dog and more on the service that dog provides. Scientists and educators ought to appreciate the amount of training that goes into a working dog, and the independence it fosters by doing its job, which is protected under the federal ADA laws and the Rehabilitation Act of 1973.

We must actively evaluate the current policies, or lack thereof, that present unnecessary barriers for service-dog handlers entering STEM fields. Development of inclusive guidelines and policies for student service-dog handlers in science laboratories is a step in the right direction toward a diverse, inclusive and accessible science culture, climate and environment. The goal should be not only to recruit student service-dog handlers into science, but to also maintain a culture that sustains and retains them through graduate programs.

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