

Human-centered veterinary medicine

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Dr. Juan Gilbert founded the concept of human-centered computing at Auburn University in 2000. Although the field of computer science was at that time—and largely still is—dominated by White males, Dr. Gilbert, currently a professor in the School of Computing and chair of the Division of Human-Centered Computing at Clemson University, attracted, assembled, and mentored a team of highly productive, successful, and impactful graduate students, most of whom were female and people of color. In 2012, Clemson led our country's research institutions by having 10% of all Black or African American computer science faculty and doctoral candidates.¹

The veterinary profession, the least diverse of all professions in the United States,² is similar to the computer science profession, being a predominantly White profession with a growing gender imbalance. Unless a transformation occurs, veterinary medicine will soon lose its ability to serve our increasingly diverse society.³ We contend that one of the best ways to change the face of the veterinary profession is to emulate Dr. Gilbert and adopt a human-centered approach for the profession.

Emphasizing Human-Centered Outcomes

People who want to solve grand societal challenges and improve human lives will be attracted to professions that have human-centered outcomes. Dr. Gilbert's success in developing a diverse research team rested, in part, on his commitment to developing and implementing computing solutions to important societal challenges, such as electronic voting and advanced learning technologies.⁴ Similarly, a strategy of demonstrating the positive societal impacts of working in the science, technology, engineering, and mathematics fields has been successfully used to broaden participation in those fields.^{5,6}

The veterinary profession has the opportunity to have an impact on a broad range of societal challenges, such as feeding the world, ensuring food security, and promoting global health. Focusing on these human-centered outcomes could potentially broaden participation in the veterinary profession.⁷

Promoting Human-Centered Systems

Human-centered systems are humanistic, values-driven systems that enhance performance by mediating how

people interact in the workplace and society.⁸ One reason for Dr. Gilbert's success was that he created an inclusive workplace where students developed leadership and teamwork skills while being empowered to share their individual talents and perspectives.⁴ The training and practice needed to foster such inclusive climates has an added benefit of reducing some inherent cognitive biases, including confirmation bias (ie, being inclined to seek or interpret information in a manner that confirms one's personal ideas or philosophies⁹), fundamental attribution error (ie, tending to attribute behavior to an individual's personality rather than situational factors⁹), in-group bias (ie, giving preferential treatment to individuals who are members of one's own social and demographic groups⁹), and stereotype bias (ie, attributing certain traits to an individual simply because he or she is a member of a larger group⁹). This is important because inherent personal biases tend to guide an individual's problem-solving strategies.¹⁰ Cognitive psychology suggests that simply teaching people about their biases and training them to avoid such biases might not be sufficient.¹⁰ Instead, research suggests that it might be more effective to help individuals recognize situations in which their typical problem-solving strategies might fail because of personal biases.¹⁰

Inclusive climates that reduce systemic cognitive biases promote better coordination through open and effective communication. Health-care teams that work well together translate into better human patient care through reduced medical errors.⁹ The North American Veterinary Medical Education Consortium recognized the importance of this concept in veterinary medicine by recommending that diversity and intercultural awareness be considered core competencies that all veterinarians should possess because "culture and belief systems impact delivery of veterinary medical care."¹¹

Human-centered systems can play important roles throughout the veterinary profession. In the workplace, a human-centered approach would involve providing extra attention, support, and mentorship for new staff members or associates. In academia, a human-centered approach would help entering veterinary medical students transition from college to the more rigorous professional curriculum.

In practice, a human-centered approach would emphasize the need for a welcoming environment for patients and their owners. Providing a practice environment that is welcoming to diverse clientele would likely improve patient care, increase the number of veterinary visits, and add profitability. Importantly, methods for incorporating a human-centered approach could be as simple as improving accessibility, displaying a sign to indicate alliance with the LGBT community (eg, a rain-

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bow symbol), having client information sheets in multiple languages, providing a translation service, or displaying photographs that reflect a diverse client base.

Optimizing the academic or practice environment through the use of human-centered approaches would help reduce stress and allow students, faculty, staff, and colleagues to achieve their full potential. Inclusive and supportive environments can also reduce employee turnover in practice and lead to improved retention at veterinary schools and colleges.¹²

Advancing Human-Centered Veterinary Medicine

Dr. Gilbert produced transformational change in the field of computer science by shifting from a focus on computers as machines to a focus on how individuals could use computers to benefit society.¹³ Historically, the veterinary profession has focused on the environmental, social, and medical needs of animals. We do not suggest that veterinarians move away from this focus on animals; however, we do contend that the veterinary profession could be advanced by embracing a concept of human-centered veterinary medicine that incorporates both human-centered outcomes (ie, the societal impacts of the profession) and human-centered systems (ie, how relationships among veterinarians and between veterinarians and animal owners affect animal health and well-being).

An example of human-centered veterinary medicine can be seen in the Purdue University College of Veterinary Medicine strategic plan, which affirms the college's commitment to promoting collegial, diverse, and supportive work and learning environments that are enhanced by diversity of gender, race, ethnicity, sexual orientation, gender identity, career goals, socioeconomic status, educational background, and geographic background.¹⁴ Similarly, the strategic plan of the Association of American Veterinary Medical Colleges, under the goal of enhancing diversity in the veterinary profession, advocates for developing a veterinary medical workforce that is more reflective of society and ensuring "the viability of diverse, inclusive environments on the campuses of our member institutions and throughout the profession."¹⁵ The AVMA has recognized the need for diversity in its strategic plan by incorporating inclusiveness as a value and fostering "increased veterinary workforce diversity pertaining to professional areas of service and to cultural, ethnic, gender, and racial representations" as an objective under its workforce strategic goal.¹⁶

In 2013, the Purdue University College of Veterinary Medicine, in partnership with the Association of American Veterinary Medical Colleges and the AVMA, launched the Center of Excellence for Diversity and Inclusion in Veterinary Medicine,¹⁷ which will take a human-centered approach to providing tools that increase the cultural competency of veterinary professionals and lead to inclusive workplaces that are welcoming for both professionals and clients. In fall 2014, the Center of Excellence for Diversity and Inclusion in Veterinary Medicine is anticipating launching online professional development modules for students, faculty, and staff at veterinary colleges. This will be followed by modules

for practicing veterinarians and veterinary technicians. The Center of Excellence for Diversity and Inclusion in Veterinary Medicine hopes to offer tools and training that will allow veterinary professionals to assess and continuously improve their workplace climate. Our ultimate goal is for the veterinary profession to transform itself from the least diverse profession in the United States to a profession well prepared to meet the needs of our changing nation.

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