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When Gender Identity Doesn't Equal Sex Recorded at Birth: The Role of the Laboratory in Providing Effective Healthcare to the Transgender Community

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Guest: Dr. Dina Greene is Associate Professor at the University of Washington in the Department of Laboratory Medicine. She also co-directs the chemistry section of the University Hospital Laboratory.

Bob Barrett: This is a podcast from *Clinical Chemistry,* sponsored by the Department of Laboratory Medicine at Boston Children's Hospital. I am Bob Barrett.

Transgender is an umbrella term used to describe individuals who identify with a gender incongruent to or variant from their sex recorded at birth. Affirming gender identity through a variety of social, medical and surgical interventions is critical to the mental health of transgender individuals. It is increasingly being recognized that transgender individuals and their providers encounter significant health related disparities, including differences experienced when seeking clinical laboratory services. Increased social and clinical awareness regarding sex and gender incongruence and insight into the physiological manifestations and laboratory interpretations of gender affirming strategies will help to diminish these disparities.

A Review article in the August 2017 issue of *Clinical Chemistry* provides a contemporary summarization of these topics. We're joined for this podcast by the article's senior author, Dr. Dina Greene. She is an Associate Professor at the University of Washington in the Department of Laboratory Medicine, where she co-directs the chemistry section of the University Hospital Laboratory. So, Dr. Greene, let's get basic first, what is the difference between sex and gender?

Dr. Dina Greene: Okay. So Bob, this is actually a really interesting question and one that I don't think too many people think about, because we're basically socialized to believe that sex and gender are synonymous, but in reality, they're different. So, sex is a person's chromosomal make up. You basically ask yourself or themselves, do they have two X-chromosomes or is there a Y-chromosome in the picture. And gene expression of these chromosomes is what will result in the development of specific reproductive organs and then what will ultimately put you through puberty, which we as a society will specifically define as characteristics that belong to men or women.

Gender, on the other hand, is a psychosocial identity. Meaning that gender is an internal sense of being that is developed with a sense of self. So, this starts to develop around when children start to understand things like their name or that the dog is different from they are, as far as what type of animal species. So, gender is the way in which a person inherently identifies how they themselves and how they want the world around them to perceive them as an individual.

Bob Barrett: How does this difference impact access in delivery of healthcare in the US?

Dr. Dina Greene: Respecting someone's gender identity isn't really complicated, but many people, including physicians are uneducated about transgender health, and may not understand the value in respecting someone's gender. So being transgender is not in and of itself a pathology. In fact, with proper social support, there is absolutely no pathology associated with the transgender state of being. However, when an individual's social environment is inconsistent with their gender identity, like if a trans-woman is referred to using male pronouns, this can be a major source of distress for the individual and that can lead to psychological distress, which is known as gender dysphoria.

So, medical support is often used to support a person's gender identity and will reduce either the risk of or presence of gender dysphoria. However, oftentimes, transgender people need access to healthcare for conditions that are completely unrelated to their gender, but the medical provider will unnecessarily incorporate the patient's transgender status into their care, which is often interpreted as ignorance and/or discrimination, but is optimistically likely more a result of the lack of education of the medical provider has received related to transgender people.

Bob Barrett: So let's move into the laboratory now, what is the laboratories role in providing effective healthcare to the transgender community?

Dr. Dina Greene: Right. So, knowing the laboratory systems and limitations are really important. So a major limitation is that the medical record systems only have a single entry for sex and gender. So the medical record systems assume that they are equivalent. And what the laboratory can do is helps you understand and identify if sex or gender is what is listed in the medical chart of your institution, and that will help to minimize confusion if there is ever a specific case that you're called about or to help design a generic lab process. So most healthcare institutions will have gender listed in the patient's demographics. And therefore tests that are

reproductive organ specific should be inclusive of both "male" and "female" reproductive organs.

One really simple example would be pregnancy tests. So, don't cancel pregnancy test that are ordered on men because a trans-man might still have the desire to conceive and/or have sexual activities that put them at risk for unwanted pregnancies. Similarly, don't flag prostate-specific antigen, or PSA results, based on the male sex only, because a trans-woman might still need prostate monitoring. These are really simple things, but can save a patient a lot of uncomfortable and frustrating medical experiences.

Slightly more difficult to probably obtain, because it's not just unchecking a box within our laboratory information system, but still well within the realm of possibilities that would be helpful to provide better care for the transgender community, would be to ensure that the phlebotomists that are drawing the blood have had some sort of diversity training. And therefore, if there is any type of discrepancy between sex and gender as perceived by the phlebotomist, there is no uncomfortable situation between them and the patient, or no chance of specimens getting held up or lost within the confusion process.

Bob Barrett: Okay. Finally, what do you think are the most pressing needs in the area of trans health? Are there associated challenges, and what can laboratories and clinical lab industry do to overcome them?

Dr. Dina Greene: I think the most pressing needs are for society as a whole to become more accepting of human diversity and gender identity and expression. Similarly, understanding that the transgender community or transgender people are in and of themselves a highly diverse group of individuals. So, the associated challenges mainly stem from system limitations that we're all very well aware of and then the general problems that are associated with insurance reimbursement, health disparities, and discrimination.

Overall, I am optimistic that we're heading in the right direction, and that the next generation and the generation after them will be much better at conceptualizing the differences between sex and gender. I'm using that knowledge to design healthcare systems and protocols that are more inclusive of human diversity.

Bob Barrett: Dr. Dina Greene is Associate Professor at the University of Washington in the Department of Laboratory Medicine. She also co-directs the chemistry section of the University Hospital Laboratory. She has been our guest in this podcast

from *Clinical Chemistry*. I'm Bob Barrett. Thanks for listening.