BACKGROUND

- Transgender (trans) identity is typically defined by the discordance between a person’s gender identity/lived gender role and their sex assigned at birth.¹ ²
- Estimations of the prevalence of people who are transgender range from 0.5% to 1.2% of the global population.¹
- The transgender community is a diverse part of the lesbian, gay, bisexual, transgender, queer, plus (LGBTQ+) community that is increasingly the primary focus of health and healthcare research.³
- Advancements in neuroscience and neurotechnology have been utilized to further understand and characterize the connections between the brain and gender identity.³

NEUROIMAGING

- Studies have uncovered some neuroanatomical and neurophysiological differences and similarities between cisgender (congruence between a person’s gender identity and sex assigned at birth) and transgender brains via neuroimaging modalities including:
  - Differences in hypothalamic physiological changes of transmen that more closely resemble cismen than ciswomen.¹ ²
  - Illustrating that the corpus callosum may demonstrate a pattern that is consistent with gender identity versus biological sex.³
  - Grey matter variations altered in the insula of transgender women which one study suggests may be considered a neurological “transgender trait.”³
- However, some studies have been in complete conflict to these results and have stated that sex differences were far more prominent than gender identity differences, and that gender identity seemed to have little effect on or basis within neurobiology as evidenced by transgender brain imaging resembling more closely that of their assigned sex at birth even with extended hormonal treatment.¹ ²


discussion

- Consider recruiting transgender and/or gender diverse community members be part of the Institutional Review Boards (IRBs) that are meant to approve trans-centered neurobiological studies OR have such community members be an active/consulting part of the research team²
- Examine how the results of a study could be analyzed from a non-scientific lens and what the practical, social, and politico-existential implications may be as dependent on such results²
- Consultation with The World Professional Association for Transgender Health (WPATH) Standards of Care and Ethical Guidelines for Professionals materials which are available for free on the WPATH website³

CONFLICTS OF INTEREST: NONE

REFERENCES