

Who Counts in Prostate Cancer Epidemiology?: Rethinking Sex, Gender, & Risk

Developed in Women, Gender and Health 207:
Advanced Topics of Women, Gender, and Health,
Harvard T.H. Chan School of Public Health, Spring 2026

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Appropriate Courses:

This teaching example is designed specifically for EPI 213: Cancer Epidemiology but could slot into other public health courses related to the epidemiology of cancer.

Brief Background:

Prostate cancer is an active area of cancer research, largely due to the significant burden of disease the condition places upon those labeled as “men” in cancer datasets. Prostate cancer additionally impacts transgender women (sex assigned at birth: male; gender identity: woman), but much less is known about the impacts of the disease for this population. To fill this gap, Manfredi et al. (2024) created a retrospective cohort of 95,460 “transgender women” using deidentified claims records from 2011 to 2022, which they used to understand the factors associated with prostate cancer prevalence among transgender women. While Manfredi et al. usefully reinforced findings that gender-affirming hormone therapy usage was associated with reduced prostate cancer prevalence, other researchers highlighted an important limitation of this research. In this study, there was likely severe misclassification of both cisgender men and cisgender women as “transgender women”, thereby reducing the validity of the study’s findings (Bernier et al., 2025; Hamnvik et al., 2025).

In what follows, we offer a set of resources and teaching instructions for using Manfredi et al. (2024) as a teaching tool for understanding how methodological issues in study design and data collection can result in meaningful research gaps within cancer epidemiology. Throughout the process, students will also have the opportunity to engage with the practical concerns expressed by Bauer (2023), Krieger (2003), Grasso et al. (2021).

Learning Objectives for Students:

This teaching activity will contribute to the following (modified) learning objectives from EPI 213 at Harvard T.H. Chan School of Public Health. Students will be able to:

1. Describe methodologic issues in the study of cancer, and how an understanding of study design, data collection, analysis, and bias can influence causal interpretations of associations.
2. Understand the ongoing health disparities in cancer incidence, mortality, and care and the processes which bring about these disparities.

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Teaching Methods:

We offer two sets of supplemental materials for how Manfredi et al. (2024) and transgender experiences with cancer more broadly can be slotted into EPI 213. Each material could be slotted in by itself, but the materials are most likely to achieve learning objectives if used in tandem.

Supplemental Slides on Prostate Cancer:

EPI 213, and most public health courses on Cancer Epidemiology, likely already have a lecture discussing the epidemiology of prostate cancer. We offer a set of five slides designed to “plug-and-play” with existing lectures on prostate cancer, and have included lecturer notes in the slides, as well as a glossary which can either be used for instructor reference or as a handout for students.

Case Study:

We have additionally created a brief, hypothetical case study for students in the course. This case study could be deployed as a tool for discussion in the middle of a lecture, or alternatively, could be used as a prompt for a reflection assignment. The case study is intended to prompt students to critically consider how unexamined design and measurement assumptions can produce and reinforce bias in epidemiologic research. The case study, discussion questions, and key takeaways are provided as supplemental materials.

Assigned Readings:

- Manfredi C, Ditunno F, Franco A, et al. Prostate cancer in transgender women: Epidemiology, clinical characteristics, and management challenges. *Current Oncology Reports*. 2023;25(12):1431-1443. doi:10.1007/s11912-023-01470-w
- Bauer GR. Sex and gender multidimensionality in epidemiologic research. *American Journal of Epidemiology*. 2023;192(1):122-132. doi:10.1093/aje/kwac173
- Krieger N. Genders, sexes, and health: what are the connections--and why does it matter? *Int J Epidemiol*. 2003;32(4):652-657. doi:10.1093/ije/dyg156

Optional Readings:

- Berner AM, O’Callaghan S, Jackson SS. Methodology Concerns Regarding Claims Data Studies in Transgender Health. *JAMA Oncol*. 2025;11(5):567-568. doi:[10.1001/jamaoncol.2025.0023](https://doi.org/10.1001/jamaoncol.2025.0023)
- Grasso C, Goldhammer H, Thompson J, Keuroghlian AS. Optimizing gender-affirming medical care through anatomical inventories, clinical decision support, and population health management in electronic health record systems. *J Am Med Inform Assoc*. 2021;28(11):2531-2535. doi:[10.1093/jamia/ocab080](https://doi.org/10.1093/jamia/ocab080)
- Hamnvik OPR, Dizon DS, Leone AG. Methodology Concerns Regarding Claims Data Studies in Transgender Health. *JAMA Oncol*. 2025;11(5):567. doi:[10.1001/jamaoncol.2025.0020](https://doi.org/10.1001/jamaoncol.2025.0020).