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SHORT REPORT



## Addressing the dearth of critical gender analysis in public health and medical pedagogy: an interdisciplinary seminar to generate student-created teaching examples

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### ABSTRACT

Gender-based analysis in public health is a systematic examination of how population health is shaped by systems of gender relations, involving policies and laws, programs and services, research priorities, social norms and practices, and public discourse. To address the paucity of critical gender-based analysis training in most public health, medical, and health policy courses, we designed the capstone course in the Women, Gender, and Health (WGH) Interdisciplinary Concentration at the Harvard T.H. Chan School of Public Health. This course enables students to develop brief teaching examples to expose students in non-WGH courses to gender-based analysis (e.g. challenging simplistic connotations of gender and sex). The assignment has yielded 26 teaching examples (several available online at no cost) and offers a model that can be used to address analogous curriculum gaps in relation to other social determinants of health, including racism, social class, sexuality, and immigration.

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## Introduction

With topics such as reproductive healthcare access and transgender rights at the forefront of current social and political discourse, understanding the complexities of how sex and gender relate to health is critical to promoting health equity (Allotey et al., 2011; Krieger, 2003). Gender-based analysis in public health is a systematic examination of how population health is shaped by systems of gender relations, involving policies and laws, programs and services, research priorities, social norms and practices, and public discourse (Haworth-Brockman, Isfeld, & Prairie Women's Health Centre of Excellence, 2008; Krieger, 2003; Springer, Mager Stellman, & Jordan-Young, 2012). Models such as the Canadian Institutes of Health Research Institute on Gender and Health have demonstrated that promoting a rigorous sex- and gender-sensitive research program can strengthen understanding of sex and gender as social determinants of health and improve health across genders (Stewart, Kushner, Gray, & Hart, 2013). However, courses that teach critical gender-based analysis in public health are rare (Allotey et al., 2011).

Moreover, the new guidelines issued by the National Institutes of Health Office of Research on Women's Health (Office of Women's Health, 2010), which require the scientific community to, when appropriate, consider sex as a biological variable when developing research questions, designing studies, analyzing data, and reporting results, nevertheless disturbingly neglect any requirements to consider gender, whether as a determinant of health, including gender disparities in health, or as a modifier of associations between sex-linked biology and health (Krieger, 2003; Richardson, Reiches, Shattuck-Heidorn, LaBonte, & Consoli, 2015). More training of health professionals in the complexities of gender-based analysis is warranted.

Graduate level learners (Song, Jones, & Casanova, 2016) as well as researchers and educators in public health (Allotey et al., 2011; Bird & Sharman, 2014; Nowatzki & Grant, 2011), medicine (Madsen & McGregor, 2016), public policy (Cooke et al., 2017; Miller et al., 2013), and health policy have all expressed interest in increasing opportunities for training in gender-based analysis. However, gaps in training opportunities persist (Johnson, Greaves, & Repta, 2009; World Health Organization, 2007). For example, a recent review of Canadian public health graduate programs found that only 25% required at least one course in social theory or social determinants of health (i.e. courses in which instructors and learners may be most likely to discuss gender-based analysis techniques in depth) (Yassi, Lockhart, Gray, & Hancock, 2017). Training opportunities in gender-based analysis may be even scarcer at the postgraduate level. In one study of postgraduate medical trainees in the United States, 55% of trainees occasionally engaged in discussions with instructors about how sex or gender impact patient health or health care, while 16% of trainees never discussed such topics (Kling, Rose, Kransdorf, Viggiano, & Miller, 2016).

Providing a formal course in gender-based analysis can address training gaps, yet the scarcity of faculty with the necessary expertise as well as institutional resistance and fiscal constraint concerning curriculum development and expansion may complicate new course development and integration (World Health Organization, 2007). For instance, a course in gender-based analysis may compete with established electives and degree progress timelines, and thus fail to accomplish the goal of widespread training in gender-based analysis. Based on the myriad challenges faced in increasing gender-based analysis in health education curricula, the World Health Organization recommended developing standalone modules on gender-based analyses, which can be offered alongside standard coursework or training while faculty members build their capacities to incorporate gender-based analysis into their research and learning materials (World Health Organization, 2007). In addition, researchers and educators can also produce and implement ready-to-use, gender-based analysis teaching materials to help overcome fiscal and logistic barriers to larger curriculum change (Johnson et al., 2009; World Health Organization, 2007). Incorporating such pedagogical techniques can help ensure that educators and learners of diverse experience levels receive exposure to gender-based analysis training while simultaneously pursuing sustainable institutional commitment and curriculum change.

To address widespread training gaps and implement the aforementioned pedagogical recommendations we designed the capstone course in the Women, Gender, and Health (WGH) Interdisciplinary Concentration at the Harvard T.H. Chan School of Public Health (Harvard Chan School). This course enables students to develop brief teaching examples to expose students in non-WGH courses to gender-based analysis (e.g. challenging simplistic confluences of gender and sex). We argue that providing students the opportunity to develop teaching examples of gender-based analysis for public health courses strengthens their understanding of social determinants of health and increases opportunities for engaging colleagues in conversations about promoting health equity. In this short report, we describe our course (WGH 207: Advanced Topics in Women, Gender, and Health) and provide a link to the teaching examples (<https://caseresources.hsph.harvard.edu/publications/teaching-examples-women-gender-and-health-course-wgh-207>), in order to facilitate the adoption of this approach in other schools and programs training public health professionals and researchers.

## Context

WGH was founded in 1996 as a working group to address curricular gaps involving WGH. The cross-departmental Interdisciplinary Concentration in WGH was formally approved by the Harvard Chan School in 2002. The premise of WGH and its courses is that addressing issues of gender and health requires: (1) acknowledging that gender, gender inequality, and biology are important and interacting determinants of well-being and disease; (2) recognizing that diversity and inequality among women, men, and people of other genders intersects with factors such as race/ethnicity, nationality, class, sexuality, life stage, and generation; and (3) accepting that protection of human rights is fundamental to health (Harvard Women, Gender, & Health Interdisciplinary Concentration, 2016). Thus, a commitment to critical pedagogy involving gender-based analysis has been fundamental to WGH since its inception.

As WGH faculty, we have found that Harvard Chan School students over the years continue to report receiving limited exposure to gender-based analysis outside of WGH and other courses explicitly focused on women's health, gender, and/or sexuality. Accordingly, in 2013 the WGH faculty redesigned WGH 207 to provide students with the opportunity to develop brief teaching examples that teach gender-based analysis using a method that could be used in any public health course. The WGH 207 seminar was the ideal course for developing the teaching examples assignment given its existing course objectives, which are to equip students with the knowledge and skills to: (1) analyze and critique social, developmental, behavioral, and biological theories of health, health behaviors, and illness as they related to gender and health; (2) evaluate different approaches to applying epidemiologic, behavioral, and evaluation research to gender and health frameworks for public health; (3) apply gender and health frameworks to understanding how individual and community concerns, assets, resources, and deficits inform public health research, interventions, policies, and programs; and (4) develop skills and confidence for discussing concepts of gender and health in a group setting. Many students who enroll in WGH 207 already completed other WGH courses (e.g. Gender and Health: Introductory Perspectives; Sexuality and Public Health) and enroll in WGH 207 as a capstone to their WGH concentration completion. Throughout the WGH 207 seminar, students meet with invited guest speakers from diverse disciplines who share their work and experiences focusing on how gender-based analysis contributes to understanding and intervening on population distributions of health and disease. Thus, the WGH faculty saw an opportunity for students to build teaching examples around the critical analytic skills developed throughout their WGH coursework, and based on the readings and guest lectures encountered in WGH 207.

Using principles of active learning (Handelsman, 2007), the WGH 207 Teaching Examples Assignment gives students an opportunity to engage their newfound knowledge of gender-based analysis and apply it to their own learning environment. The National Research Council's 1999 overview of the science on learning concluded that 'learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information to do something that has an impact on others – especially their local community' (National Research Council, 2000, p. 61). In addition, depth of knowledge and ability to transfer knowledge is strengthened by helping students to see the potential applications of what they are learning (National Research Council, 2000), in this case via preparing teaching examples. Additionally, the teaching examples situate gender-based analysis as a critical public health skill and provide an accessible way for faculty without expertise in gender-based analysis to incorporate concepts related to sex and gender into a wide-range of required and elective public health courses.

## Designing teaching examples

The goal of the Teaching Examples Assignment is for WGH 207 students to create teaching examples to 'expose students to gender-based analysis while cultivating core skills in public health'. The assignment functions as a culminating project for the course. Students work in pairs to create a teaching example that draws on the substantive material presented throughout the course (e.g. reproductive technologies, masculinity, eating disorders), while also drawing on knowledge of gender-based analysis acquired in

previous WGH courses. The students choose from six different teaching example topics that represent different aspects of gender-based analysis; for example, challenging connotations of sex and gender, or considering gender from a life course perspective (see Figure 1). Teaching examples additionally focus on cultivating a key technical skill within public health (e.g. directed acyclic graphs, policy briefs). Students are instructed to develop teaching examples that could fit seamlessly into existing courses of public health faculty who are not experts in gender-based analysis. Therefore, the examples must be framed with sufficient background information and must be brief. To help visualize the deliverable for the students, we indicated that a teaching example created for a biostatistics lecture, for example, should take no longer than five minutes for an instructor to teach.

Each student pair is required to submit a two-page teaching guide, which includes: substantive background; learning goals, including specific public health skills that will be developed; teaching methods; and potential public health core courses in which the teaching example could be implemented, such as environmental health or health policy. Students also submit supplemental materials, such as readings, web links, handouts, or presentation slides. In the final session of the course, each pair presents their teaching example to peers and other WGH faculty for feedback before the example is finalized.

## Outcome

Since the implementation of the teaching examples assignment in 2014, WGH 207 has received excellent student evaluations, with overall course ratings of 4.2 in 2014, 4.7 in 2015, and 4.8 in 2016 (range: 1 = poor to 5 = excellent). Without specifically being prompted to evaluate the teaching examples assignment, a number of students have mentioned the assignment in their course evaluations:

The topics covered in this course are really interesting and the process of creating a teaching example forces you to reflect on how you can 'create, and not just critique' work related to gender and health. I would recommend taking this course if you are interested in being exposed to really rigorous research + a little bit of professional development in applying gender analysis to health and in going through the exercise of trying to teach someone. (WGH 207 2014 student)

This is a great course to put knowledge of gender analysis to work through creating a teaching example that could be used in other courses. There are great topics and great speakers. (WGH 207 2015 student)

The [teaching examples] assignment is really useful at developing concrete skills to integrate gender analysis into practice and work. (WGH 207 2017 student)

To date, the assignment has yielded 26 teaching examples (five from 2014, eight from 2015, six from 2016, and seven from 2017), which are summarized in Table 1. Additionally, we have worked with the

- 1) Create a teaching example that challenges simplistic connotations of gender and sex by analyzing a health-related variable typically treated as biological only (e.g., parity). Consider how gender and sex, independently and possibly synergistically, could both be involved in causal pathways leading to a health outcome.
- 2) Create a teaching example related to health that challenges simplistic assumptions about gender and gender roles, including in relation to sexuality and/or sexual orientation.
- 3) Create a teaching example about whether the exposure (e.g., environmental, behavioral, biological) is truly the same exposure for people of different genders.
- 4) Create a teaching example that considers gender as it relates to health with respect to the life course (i.e., change within an individual with age) and/or socio-historical context (i.e., generations).
- 5) Create a teaching example that considers the intersection of gender with other social markers (e.g., race/ethnicity, socioeconomic status, nationality, culture, immigration status, religion, sexual orientation, etc.) as they influence health.
- 6) Create a teaching example that considers ethical perspectives on the study of gender and health (e.g., the inclusion of people of all genders in research, health care policy, decisions about access to services).

Figure 1. Teaching example topics.

Harvard Chan School to develop a school-wide policy and online system (<https://caseresources.hsph.harvard.edu/publications/teaching-examples-women-gender-and-health-course-wgh-207>) to allow us to share, at no cost, the student-created teaching examples with faculty within and outside of the Harvard Chan School for use in their courses.

## Discussion

We have learned several lessons through the process of developing the teaching examples. First, we learned that it is critical to instill a deep understanding of gender-based analysis and its role in promoting health equity starting from the first day of class. We learned that this understanding is fundamental to the creation of the teaching examples, as well as for engaging the speakers and their classmates in constructive discussion. We established that students were learning this concept via a number of check-in exercises throughout the course. For example, at the end of class on the first day, we presented an infographic from the National Institutes of Health (Office of Research on Women's Health's, *n.d.*), which distinguishes between sex and gender effects on health to spark discussion and ensure that students are thinking about the complexity of both conceptualizing and teaching about these constructs.

Second, we discovered the importance of promoting a tone of 'generativity' in the course. At this point in their training, public health students are generally skilled at critiquing work, but have few opportunities to create new knowledge or offer constructive feedback. One of the goals of the teaching examples is to create a product that will help move work forward in the promotion of gender-based health equity. Through the creation of the teaching examples, the students in this course learn how to convey gender-based analysis to others. We aim to instill a sense of responsibility in students to promote critical gender-based analysis, cognizant of links to other forms of health inequities and to the larger task of promoting health equity within and across countries worldwide.

Third, we learned that students needed specific instructions to ensure that the resulting teaching examples are concise (i.e. can be taught in five minutes or less), meet the objectives of the assignment, and can be easily implemented by other instructors. Of note, the first year we implemented the assignment, one student created a three-hour lesson plan, which spoke to the need to provide clearer instructions. Even after revising the assignment to make it more clear and specific, we found that students often feel pressure to make the teaching examples extensive. A key lesson students learn is that creating a concise assignment takes careful planning and thought, even for seasoned instructors.

Fourth, it is important to check in with students early in the process, even before they have a fully formed idea, to ensure that students are following the guidelines, while still giving them creative license to take their examples in new directions. We recommend that instructors keep a record of which examples have already been created in previous years to help steer students toward new examples and avoid repetition. We have learned that some examples are easier (e.g. effect modification, confounding) to create than others. Students may need encouragement to go beyond these types of examples to address issues of policy, management, occupational health, ethics, and global health, among other topics. For example, because of the growing number of policies and program planning approaches that take sex and gender-based analysis into consideration globally (e.g. DiGiacomo, Green, Rodrigues, Mulligan, & Davidson, 2015; Lombard, Burke, Waddell, & Franke, 2015; van Anders et al., 2017), future instructors may encourage students to develop teaching examples focused on evaluating the effectiveness of existing approaches that take sex and gender-based factors into consideration.

Fifth, we cannot overstate the role of institutional policy and commitment. When we first developed this assignment, we discovered that there was no policy in place to share student work outside of the course in which it was created. Despite existing resources for copyrighting materials on an individual level (e.g. Creative Commons), we had to consult our institution's legal team to ensure our release form abided by institutional policies. Eventually, this resulted in an institution-wide policy to allow students' work to be shared for educational purposes.

**Table 1.** Teaching methods and public health skills in teaching examples from WGH 207: Advanced Topics in Women, Gender, and Health at the Harvard T.H. Chan School of Public Health (2014–2017).

Teaching example	Substantive topic	Teaching methods	Public health skills gained	Core knowledge area of public health for implementation
1	Sexual and gender minorities	Lecture; in-class activity	Bioethics	Interdisciplinary – Health and Human Rights
2	Colorectal cancer	Illustrative vignette; in-class activity	Health disparities	Social and Behavioral Sciences; Epidemiology
3 <sup>a</sup>	Depression and suicide risk	Brief lesson	Effect modification vs. confounding	Biostatistics; Epidemiology
4 <sup>a</sup>	HIV disease progression	Homework assignment	Directed Acyclic Graphs	Epidemiology
5	Surrogacy in India	Lecture; in-class activity	Bioethics; policy writing	Health Policy
6	Millennium Development Goals	Brief lesson; homework assignment	Effect measure modification vs. confounding	Epidemiology
7	Sexual risk behaviors among sexual minority youth	Brief lesson; homework assignment	Op-ed writing	Social and Behavioral Sciences; Epidemiology
8	Obesity	In-class debate; homework assignment	Debate skills; policy writing	Health Policy; Epidemiology
9	Intimate partner violence	Illustrative vignettes; group discussion	Prevention strategies; social determinants of health	Social and Behavioral Sciences
10	Sex and gender constructs	Brief lesson	Variables types	Biostatistics; Epidemiology
11	Sexual scripts	Illustrative vignette; homework assignment	Risk and decision analysis	Health Policy
12	Intersectionality and HIV	In-class activity; group discussion	Intervention design; behavioral theory	Social and Behavioral Sciences
13	Intimate partner violence	Illustrative vignettes; group discussion	Diagnostic anchoring	Health Policy; Social and Behavioral Sciences
14 <sup>a</sup>	Logistic regression modeling in eating disorders research	Lecture	Covariate variable selection	Biostatistics
15 <sup>a</sup>	Paid family and medical leave policies	Homework assignment	Policy brief	Health Policy; Social and Behavioral Sciences
16	Radiation exposure in health care settings	Lecture	Structural and behavioral differences in environmental exposure (occupational/ environmental health) and policy implications (behavioral economics)	Environmental Health; Social and Behavioral Sciences
17 <sup>a</sup>	Epidemiologic sampling including gender and sexual minority populations	Lecture	Sampling bias and weights	Epidemiology
18	Regression modeling in sexual health research	Homework assignment	Interaction terms and model interpretation	Biostatistics
19 <sup>a</sup>	Power analysis for eating disorders research in transgender populations	Homework assignment	Power analysis with small populations and rare outcomes	Biostatistics





20	Statistical mediation in mental health research	In-class demonstration	Intermediary variables in regression analysis	Biostatistics
21 <sup>a</sup>	Gender analysis in environmental and occupational exposures	Homework	Effect modification	Environmental Health; Occupational Health
22	Intimate partner violence and sexual abuse	Brief lesson; In-class activity	Social history-taking in clinical settings	Medical Education
23 <sup>a</sup>	Social support and social networks	Brief lecture; In-class activity	Discuss core constructs in social epidemiology	Social and Behavioral Sciences
24	Intersectionality and HIV care continuum	Homework; In-class activity	Conceptual models; effect modification	Epidemiology
25	Data collection on sexual orientation and gender identity	Lecture	Survey design	Biostatistics; Epidemiology; Health Policy
26 <sup>a</sup>	Forced sterilization law & policy	Homework	Legal memorandum writing	Public Health Law; Health Policy

Notes: Teaching examples 1–5 were generated in 2014; teaching examples 6–13 were generated in 2015; teaching examples 14–19 were generated in 2016; teaching examples 20–26 were generated in 2017.

<sup>a</sup>Indicates that the example is available for educational purposes and free to download (<https://casesources.hsph.harvard.edu/publications/teaching-examples-women-gender-and-health-course-wgh-207>).



## Implications for public health and public health education

In conclusion, WGH 207 and its teaching example assignment offers a model that can be used to address critical curriculum gaps in schools of public health regarding training in sex and gender-based analysis. Building upon the diverse knowledge, strengths, and interests of the learners, the teaching examples simultaneously teach gender-based analysis while also reinforcing key skills in public health, medicine, and public policy. The teaching examples have the potential for use in a diverse range of courses in public health, medicine, and health policy, and among faculty whose level of prior training in gender-based analysis may vary. By sharing gender-based analysis teaching examples outside the context of courses specifically focused on gender and health, the teaching examples can help increase overall exposure to gender-based analysis training among educators and learners alike.

In accord with the WGH perspective, our focus on gender necessarily addressed how issues of sex and gender intersect with issues of racism, economic injustice, and other dimensions of social inequality with direct bearing on population health. The format of this assignment could easily be adapted to center on one of these dimensions more specifically (e.g. racism and health), which also require greater focus in public health training (Anderson, 2008; Hart & Hagedorn, 2015; Metzl & Roberts, 2014). We encourage other faculty and students to consider using the model we have developed to advance critical pedagogy in the health professions to build capacity to improve population health and promote health equity.

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