Development of a Men’s Health Course for First-Year Undergraduates Using Culturally Responsive Teaching Strategies

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Manuscript Title: Development of a Men’s Health Course for First-Year Undergraduates

Using Culturally Responsive Teaching Strategies
ABSTRACT

Purpose
A novel first-year experience course was developed using culturally responsive teaching strategies at an undergraduate liberal arts college in the southeastern USA to promote health advocacy and to provide students with an overview of male health. The course focuses on the biological, socio-cultural, economic, and gender influences that shape men’s health beliefs and practices. It also emphasizes health disparities in the USA among Black/African American men compared to other racial groups and intervention strategies to improve health outcomes.

Design/methodology/approach
The lecture and laboratory components of the course were designed as a blended learning environment with a modified flipped class model. Culturally relevant strategies guided the course design with three focus domains: academic success, cultural competence, and sociopolitical consciousness. A community engagement model and service-learning activities were also incorporated in the design. We used course grades to gauge learning and implemented a survey to assess students’ perception of the knowledge gained in three realms: men’s health, health sciences, and physical sciences.

Findings
This report describes the course design, highlights the value of using culturally responsive teaching strategies, and service-learning projects to encourage students’ active learning. Course activity examples are discussed with student responses. We found that students’
perception of their knowledge in men’s health, health sciences, and physical sciences increased and the students performed well in the course.

**Originality/value**

This is one of few biology courses in the nation that intentionally focuses on the unique health challenges of Black men, while empowering college students to develop culturally competent strategies to improve their health outcomes. Our findings suggest that the students learned the material and that their perceived knowledge on men’s health increased. We urge other academic institutions and healthcare providers to consider implementation of similar courses in an effort to enhance male health equity.
Background and Rationale

Women and men experience health differently and show distinct rates of mortality and disease incidence across nearly all age groups, with further heightening of these disparities among racial groups. Men and boys in every age group have higher death rates than women and girls for each of the 15 leading causes of death except Alzheimer’s disease, but the largest gap is between college-aged men and women (Courtenay, 1998; Davies et al., 2000). Further, in the USA alone, men live five fewer years than women and about seven years worldwide, with elderly men being outnumbered by older women by several million (Pinkhasov et al., 2010). The health disparities among Black/African American men are striking: they are 30% more likely to die from heart disease and 60% more likely to die from stroke than are non-Hispanic White men (CDC, 2021). Additionally, HIV is one of the top 10 killers of Black/African American men, and Latino men also have higher HIV-related death rates compared to White men (Rhodes et al., 2006; Sanchez et al., 2006; Villarosa, 2019; Whitehead, 1997). Although it is well known that lung and prostate cancers are responsible for most cancer deaths in men, the rates of prostate cancer and related deaths in Black/African American men are among the highest in the world (Chu et al., 2003; Woods et al., 2004).

Exactly why men suffer higher rates of morbidity and mortality is not entirely clear. Research suggests that a leading reason for the “longevity gender gap” between men and women is that men do not take care of themselves as well as women do, and that men generally lead less healthy lifestyles (Aviv, 2007; Pinkhasov et al., 2010). For example, minority men are less likely to seek preventive care and to have access to quality health care when they fall sick (Blendon et al., 1989; Cheatham et al., 2008;
Council on Ethical and Judicial Affairs, 1990; Ginzberg, 1991). It is also important to note that racism and historical oppression have created barriers of mistrust for many people of color of the healthcare system, further challenging the maintenance of good health (Cheatham et al., 2008; Kennedy et al., 2007; Woods et al., 2004). Although systemic racism and mistrust are not easily addressed, raising awareness about men’s health and racial disparities as well as educating men on lifestyle changes that significantly lower risk of death from many of the leading causes of morbidity and mortality are attainable and needed to change health outcomes for men.

Biological differences between men and women contribute to many sex-specific illnesses and disorders (Ngun et al., 2011; Pardue and Wizemann, 2001). 'Men's health' are the distinct health concerns that stem from biological sex differences, such as reproductive system and sexuality (Ngun et al., 2011; Pardue and Wizemann, 2001). More broadly, men's health is defined as the holistic management of health conditions and risks that are most common or specific to men in order to promote optimal physical, emotional and social health.

While male health education is not new, courses and workshops targeted at male students are rare. Previous work aimed at identifying content and strategies for developing health advocacy skills has focused on elementary, middle, and senior high school students, but not on males specifically (e.g., Herlitz et al. 2020). Other research explored non-conventional options, such as barbershops, which show a promising avenue for male health education (Randolph et al. 2017; Sutton et al. 2021). Although higher education institutions provide an excellent opportunity to reach young men, none to our knowledge, offer a course that focuses on male health issues from scientific and
sociopolitical perspectives. Here we outline the development of a general education college health course titled: *Men’s Health*, the only one in the nation that focuses intentionally on gaining a deeper understanding of the unique health challenges of Black/African American men, and that seeks to inform and empower college male students to develop culturally competent strategies and solutions to improve their own health outcomes and those of their community by engaging in active and service learning.

**Educational Setting**

Morehouse College (Morehouse) is a private historically Black men’s liberal arts college. Like most colleges and universities, Morehouse requires students to complete general education courses in fields outside of their area of study making up one-quarter to one-third of a student’s academic program. As such, general education science courses are populated by students with a diversity of attitudes and experiences with science and health. There is the potential then for collegiate general education science courses, both at Morehouse and elsewhere, to serve as avenues to broadly improve scientific literacy and health advocacy. The *Men’s Health* course was also intentionally designed as a general education First Year Experience (FYE) course targeting students in their first two years of college, and transfer students. FYE courses have been shown to have an overall positive impact on the academic performance, persistence, and graduation rates of students (Lang, 2007). It is important to note that this biology course is not intended to replace qualified medical and professional consultation. We emphasize this point at the beginning of the semester and provide the students with information to
the college health center as well as Disclaimer and Disclosure statements (see Supplementary Material).

**Course Design and Content**

Instructional material in this biology course introduces students to the concepts of male health beyond a traditional focus on the reproductive and urinary system, to a biological sex and gender-focused view of the unique health needs facing boys and men. The course emphasizes a holistic view of the physical, mental, emotional, social, and spiritual life experiences and health needs of men throughout their lifespan. As students gain knowledge and understanding, the course presents opportunities for students to apply their value systems to decisions concerning their own health. The course is designed with no pre-requisites as a one-semester lecture and lab, with lab as a required co-requisite.

We designed the course using “backwards design” and Bloom’s Taxonomy to develop the intended course learning outcomes (Table I), associated class activities, and assessments (Huitt 2011; Wiggins and McTighe 2005; Reynolds and Kearns 2017). Course development was initiated by Dr. Ethell Vereen and all authors contributed to designing activities and assessments. Based on student feedback and evaluations at the end of each semester, we adjusted course materials accordingly. This led to the overarching course goal: as a result of successfully completing this course, students should develop the knowledge and skills they need to make healthy decisions, gain enhanced appreciation for the scientific process, and develop communication skills that allow them to demonstrate healthy choices with respect for self, family, and others.
The lecture and laboratory component of the course were designed as a blended learning environment that specifically utilized a modified flipped class model (Bergmann and Sams 2012; Sohrabi and Iraj 2016; Akcayir and Akcayir 2018). Flipping the classroom, or ‘inverted teaching’ is a response to the idea that class time can be used to engage students in learning through active learning techniques, rather than through delivering lectures alone (Bergmann and Sams 2012). Flipping the classroom is the process of replacing traditional lectures with more student-centered learning strategies, such as active learning, discussions, problem-based learning, and other forms of group work and peer instruction (Bergmann and Sams 2012). Content delivery is moved outside of the classroom through videos, case studies, or pre-class readings and students are responsible for completing assigned material prior to class meeting (Bergmann and Sams 2012). The interactive and inquiry-based teaching techniques are the basis of the flipped classroom model and have been shown to enhance learning (Galindo-Dominguez, 2021; Crouch and Mazur, 2001; Deslauriers et al., 2011). Additionally, students report that they prefer courses that have a blend of online and face-to-face components (Dahlstrom and Bichsel, 2014).

Culturally Responsive Teaching

We intentionally included culturally responsive teaching throughout the course. While no single teaching strategy consistently engages all learners, culturally responsive teaching places students’ cultures at the core of the learning process and utilizes the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students in all aspects of learning (Gay, 2018, 2014; Ladson-Billings,
Culturally relevant strategies have guided the design of this course and continue to be refined to engage diverse students. The three major domains of focus are: academic success, cultural competence, and sociopolitical consciousness (Ladson-Billings, 2014, 1995). Briefly as defined by Ladson-Billings, these domains can be described as (1) **academic success**, or the intellectual growth that students experience as a result of classroom instruction and learning experiences; (2) **cultural competence**, or the ability to help students appreciate and celebrate their cultures of origin while gaining knowledge of and fluency in at least one other culture; and (3) **sociopolitical consciousness**, the ability to take learning beyond the confines of the classroom using school knowledge and skills to identify, analyze and solve real-world problems.

The *Men’s Health* course includes a broad series of lectures and lab activities that offer a variety of modalities for student engagement, content retention, and assessment towards achieving academic success. Formative and summative assessments are used to allow both instructors and students to monitor progress towards achieving learning outcome and to identify misconceptions and learning gaps. As an example, each unit contains a series of lessons that include introduction of content, scholarly activity for demonstration of content, and a quiz. Formative assessments such as these have been shown to bolster students’ abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply only to final grades (Trumbull and Lash, 2013). The course includes end of unit exams, a group course project, and a final exam. For examples of assessment used in the course see Supplementary Materials.
Because guest lecturing programs have been shown to improve students’ applied learning and engagement (Li and Guo, 2015; Rowland and Algie, 2007), the *Men’s Health* course design intentionally includes the participation of professionals and subject matter experts. These guests were invited to share their professional insights with students through a series of guest lecturers during class sessions, and outside classroom learning experiences, including departmental seminars. Invited professionals and subject matter experts have ranged from urologists, family physicians, mental health counselors, chefs and nutritionists, and health and wellness trainers or coaches.

**Student group project**

Cultural competence and sociopolitical consciousness are integrated throughout the course. They are further demonstrated in the culmination of this course, using the design thinking model, whereby students complete a group course project (3 or 4 students per group). Specifically, students conduct background research on a health issue of their choosing that is of particular concern to Black/African American men or other relevant groups (e.g., prostate cancer). Next, students identify and use publicly available datasets for federal, state, and local level to quantify measures of the disease or health issue, such as prevalence over time. Students use the data to describe the health issue occurrence in the population at the national level – USA, state level – Georgia, and local level – Fulton County, GA. Additionally, students include county level data for their own hometown. *International students are encouraged to use World Health Organization and international reports.* The group project intends to provide a deeper understanding of a
particular health issue and a practice of data visualization and communication skills via
infographic, Public Service Announcement (PSA) and a final presentation.

As part of the group project, students are also introduced to the Morehouse College
“Makerspace Exploration Center” (MakerSpace), a cooperative laboratory workspace
where students and faculty can design novel products, conduct research, and collaborate.
The center includes 3D printers, computers, equipment, and supplies to facilitate student
work. As part of the Men’s Health course, students had the option to use the MakerSpace
to address a disease or a health problem. While some students created 3D print models
of human anatomical structures, others designed and created inventions, or improved
existing prototypes.

The service-learning component of this course invites students to go beyond
creating an infographic, PSA, or prototype, and to use their project and knowledge gained
for peer education and community engagement (for examples of student products see
Supplementary Materials). We use the barbershop model for community engagement.
Unlike other community settings, the barbershop, by its very nature, invites men of varied
backgrounds to engage in open, frank communication. Further, barbershops are now
recognized as valuable locations for community outreach targeting Black men to promote
health awareness and research (Ferdinand et al., 2020; Moore et al., 2016; Releford et
al., 2010). Therefore, the group project involves sharing the infographic, PSA, or
prototype with patrons in local barbershops. Students are also encouraged to share their
findings and make postings on social media (e.g., Instagram). Students may also choose
to work with health advocacy groups and community organizations on men’s health
related topics. For example, in the past students have partnered with Wecycle Atlanta
(www.wecycleatlanta.org), a bike shop and bike advocacy organization, which serves the Historic Westside Community of Atlanta to promote cycling.

Student responses and outcomes

A total of 189 undergraduate students have enrolled in this course in the five semesters that the course has been offered. Student responses, and interest in this course have been overwhelmingly positive. As a result, a separate section of the Men’s Health course has been expanded to the Chemistry program. Students are encouraged to complete the end of course evaluation provided by the institution, as well as a course reflection and evaluation assignment (see Supplementary Material for details and examples of student responses). A student response to the course project and a website URL link to one of the student group created PSAs as a general example of student responses is below.

“In the makerspace, I learned how to turn my 3D online prototypes into a physical material item that I can actually use as a miniature model. One main thing I do appreciate about the makerspace is that it is not just confined to the use of engineering and other stem majors, but to all Morehouse students. Overall, I had an excellent makerspace experience and I will definitely be using it in the future for my endeavors.” Student response example

Morehouse College Men’s Health Course Student Group Public Service Announcement – Prostate Cancer Link:

https://www.youtube.com/watch?v=SF3p7zB0C0
Students have also demonstrated proficiency and competency in meeting course learning outcomes as determined using final grade distribution as one assessment tool (Table II). The majority of students, 79% (149 out of 189), earned a C or better in this course. On Monday, March 23, 2020 Morehouse implemented its decision to put into place remote working arrangements for all staff, students and faculty in response to the coronavirus (COVID-19) pandemic. For the Spring 2020 and Fall 2020 semesters, students were provided an option to choose the letter grade, or to choose a Pass/Fail option, where the minimum grade earned to receive a Pass was a ‘C’. The course was delivered online due to the pandemic and previous work indicated the methods used were effective in supporting student engagement and learning (Majewska, Ania A. and Ethell Vereen, 2021).

Assessment of perceived knowledge
To better understand whether our course was effective in increasing students’ perceived knowledge on men’s health, health sciences, and physical sciences, we employed a survey. The survey was conducted during Fall 2020 semester and consisted of answering pre- and post- lab activity questionnaires (IRB protocol # 570002057). Student participation in the survey was anonymous and voluntary. During the lab portion of the course students were asked to answer initial survey questions aimed at gauging their knowledge on one of the three topics. Completion of the survey took approximately 10 minutes. Following the lab activities, students completed a second survey to gauge knowledge gained. We averaged the scores and compared pre and post perceived
knowledge scores of three main topics and found that post lab scores tended be higher across topics (Table III, Figure 1).

Conclusion

Recognizing the pressing need for innovative health promotion and education targeting men led to the development of the Men’s Health course. This course was designed to raise awareness of the unique health challenges of men, emphasizing health disparities faced by Black/African American men and men of color in the USA, while not diminishing the health challenges of women and other groups. We used culturally relevant teaching strategies and activities because they empower college students, especially students from diverse backgrounds, to be engaged learners and producers of knowledge, not mere receivers or consumers of information. The barbershop community engagement model and service-learning activities using student created infographics and PSA’s are an innovative means to foster health promotion and education beyond the classroom. The incorporation of guest lecturers and subject matter experts in the course reinforce preventative health strategies and provide additional insight that students may use to improve their own health outcomes, and those of their family, friends, and community. We urge faculty at other academic institutions to use the framework and design described here to implement similar health and wellness courses at their institutions. We expect that, wherever offered, the delivery of this course will increase awareness of the dramatic disparities in male morbidity and mortality worldwide.
References


Supplementary Materials

To accompany “Development of a Men’s Health Course for First-Year Undergraduates Using Culturally Responsive Teaching Strategies”

Examples of materials used in the design of the Men’s Health course at Morehouse College.

I. Disclaimer and Disclosure (provided at the beginning of the semester)

DISCLAIMER: This course is a general education course on Men’s Health. This course is not intended to replace qualified medical and professional consultation. The information provided in this course is intended for your general knowledge only and is not intended to be a substitute for professional medical advice, diagnosis or treatment. You should not use this information to diagnose or treat a health problem or disease without consulting with a qualified healthcare provider. If you have a personal health concern, we recommend consultation with a health care provider. Always seek the advice of your physician or other qualified healthcare provider with any questions about your medical condition. Health care providers are available to you for free at the Morehouse College Student Health Center.

James B. Ellison, Sr. Student Health Center
Brazeal Hall, Ground Floor (north end of campus)
830 Westview Drive, S.W.
Atlanta, GA 30314-3773

Office: (470) 639-0603
Fax: (470) 639-0198
E-mail: shc@morehouse.edu

DISCLOSURE: I am not a medical doctor, and as such cannot diagnose or treat any medical issues. Students are strongly encouraged and advised to do their own research and make decisions in partnership with their healthcare provider. Please consult your healthcare provider with any questions or concerns you may have regarding a medical condition.
II. Images

Majewska, Ania A. and Ethell Vereen, 2021 supplemental material

a) Diagram used for a mini-lecture on cardiovascular disease. b) Learning Management System (LMS) post for week 7 announcements. c) LMS post accompanying unit assessments.

Figure S1. Examples of images used in the course: a) Diagram used for a mini-lecture on cardiovascular disease. b) Learning Management System (LMS) post for week 7 announcements. c) LMS post accompanying unit assessments.

III. Reading

Majewska, Ania A. and Ethell Vereen, 2021 supplemental material

Required course textbook:

IV. Assignments

Majewska, Ania A. and Ethell Vereen, 2021 supplemental material

Discussion Board

In order to promote a healthier male in today's society, an understanding of how to best reach this group is needed. Understanding male health requires a working knowledge of causal factors of disease burden, psychological and gender-specific views on what health means to males, male sex role identity, and how ethnic and cultural factors affect male health.

Choose one of the following prompts for your discussion post this week.

1. Which cultures do you think do the best job in promoting male health? What makes their approach superior and how do you see this advancing a global male health agenda?

2. Are there any cultures that devalue males or trivialize their health concerns? What makes their approach inferior and how do you see this diminishing a global male health agenda?

Posting Requirements

This discussion requires two posts: an initial reply (response to the discussion question) and a response post (a reply to a fellow scholar). As a general guideline, all posts should be in the 100-to-200 word range. You are encouraged to incorporate your personal experiences in discussions. Netiquette is expected and required. To encourage an inclusive learning environment, consider responding to a fellow scholar who does not yet have a reply. You are not permitted to edit your posts in the discussion forums.

Initial Response due: Tuesday, 08/25/2020 11:59PM EST
Comment due: Friday, 08/28/2020 11:59PM EST

Discussion Board Grading Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1: Unsatisfactory</th>
<th>Level 2: Needs Improvement</th>
<th>Level 3: Satisfactory</th>
<th>Level 4: Good</th>
<th>Level 5: Excellent</th>
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<tr>
<td>Participation and Content</td>
<td>0</td>
<td>1-5</td>
<td>6-10</td>
<td>11-15</td>
<td>16-20</td>
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<td>The student fails to meet the minimum requirement of at least an initial response and one comment.</td>
<td>Initial response and comments are not timely and are vague, incomplete, and exhibit a lack of understanding of the topic.</td>
<td>Initial response and comments are timely and demonstrate a basic understanding of the topic and main ideas but may lack relevancy, clarity, and focus.</td>
<td>Initial response and comments are timely, support the discussion topic, and promote relevant, clear, and focused ideas.</td>
<td>Initial response and comments are timely, advance the discussion topic, and promote relevant and exceptionally clear, focused, and thought provoking ideas.</td>
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</table>
Unit | Assessment – Section II Essay
Availability: You are enrolled in this class. It was last available on Sep 11, 2020 11:58 PM.
Unit | Online Assessment Section II Essay

As you have learned in this unit, understanding male health requires a working knowledge of causal factors of disease burden. Historical, psychological, and sociocultural factors influence male health. Use the information provided below, and choose one to write about for your essay. MUST BE SUBMITTED BY FRIDAY, SEPTEMBER 11, 2020 11:59 PM.

Option 1:
Beliefs about masculinity and manhood that are deeply rooted in culture and supported by social institutions play a role in shaping the behavioral patterns of men in ways that have consequences for health. Concerning Black men, cultural beliefs and norms have been shown to shape perceptions of the risks associated with risky behaviors, such as drinking and smoking. Cultural beliefs also influence the way in which Black men are treated by the medical system. Provide multiple examples to illustrate and justify your points. Include at least 2 references; only one can be textbook or other assigned reading.

Option 2:
Most research on men, gender, and mental health supports two findings: (a) men and women have approximately equal rates of disorder overall; and (b) that the disorders that have been assessed (e.g., mood, anxiety, sleep) are more likely to be influenced by cultural factors. (Gold
culture, 2016; Rosenfeld & Smith, 2000) and (c) men and women tend to experience different levels of psychiatric disorders. (Rosenfeld & Smith, 2016) Rosenfeld & Smith, 2000. Rosenfeld, Venderfield, & Al-Kahtani, 2020. Discuss sex and gender similarly in relation to mental health, and the impact of masculinity on men’s mental health and the direction for future research in this area.

Option 3:
Sexual health is fundamental to the overall health and well-being of individuals, couples, and families, and to the social and economic development of communities and countries. Sexual health, when viewed affirmatively, requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having a pleasurable and safe sexual experiences. The prevention of sexual transmitted infections, especially when used consistently and correctly, can help prevent HIV/AIDS and other sexually transmitted infections. Discuss two male sexual health-related issues, and challenges and opportunities to improve the sexual health of college males especially.

Formatting Guidelines
Your response should be a minimum of one (1) page in length, not including your title page and reference page. Any outside sources you choose to use should be scholarly sources. All sources used, including textbooks, must be referenced, paraphrased, and quoted material must have accompanying APA citations. Set your margins to 1 inch on the top, bottom, and both sides of the page. Before you start typing, set the spacing of the paper to 1.5 space. Set your font to Arial, size 12.
V. Group project assignment intended learning outcomes

A. Summarizing data findings, trends, and comparisons and list the principal gaps in knowledge about the distribution of the disease or health problem.

B. Summarizing any current hypotheses that have been proposed to explain the observed health disparity, and intervention strategies that are available for this disease or health problem. Students are also encouraged to generate hypotheses of their own.

C. Designing and creating an infographic, or a 30-second to two-minute PSA to raise awareness about the health disparity or topic that was investigated, or promote an intervention strategy to address the disease or health problem.
VI. Reflect and Evaluate Writing Assignment and Rubric

Reflect and Evaluate Writing Assignment

What have I learned from this class discussion and reflective writing?

"Excellence is going far beyond the call of duty, and doing more than others expect. It comes from striving, maintaining the highest standards and looking after the smallest detail. Excellence means doing your very best. In everything. In every way." - Anonymous

Assignment Overview: We are going to reflect on what we’ve learned in this course and evaluate how well it went. At the end of this course we want you to be able to:

- Explain through discussion and writing what you have learned in the course and any changes that you see in yourself or would like to see in yourself.
- Explain through discussion and writing why what you have learned is important.
- Predict how you will use it.

Not everything that you learn is going to be easy and fun. We try to make it as fun as possible but sometimes learning can be challenging. Learning may not be occurring if something is too easy. Learning something new is challenging, but if we can make it interesting it will not only make more sense but it will also affect us as a person.

We have discussed a lot of things this semester. Now I would like you to “Reflect and Evaluate” independently, and through a conversation with a family member or friend. I want you to share in a conversation something that you have learned in this course. I want you to write about what you have personally learned, and reflect on the conversation with your family member or friend. What did you share in the conversation and why? I also want you to write more about some changes that you might be seeing in yourself or would like to see in yourself. Finally, I want you also to include how you have used or will use what you have learned in this course in your everyday life and goals.

Reflective writing is:
- your response to experiences, opinions, events or new information
- your response to thoughts and feelings
- a way of thinking to explore your learning
- an opportunity to gain self-knowledge
- a way to achieve clarity and better understanding of what you are learning
- a chance to develop and reinforce writing skills
- a way of making meaning out of what you study

Reflective writing is not:
- just conveying information, instruction or argument
- pure description, though there may be descriptive elements
- straightforward decision or judgement (e.g. about whether something is right or wrong, good or bad)
- simple problem-solving
- a summary of course notes
- a standard university essay

See rubric for additional grading criteria. Assignment Point Value: 100 points
Example of student response to above reflect and evaluate activity

Over the Thanksgiving break, I was fortunate enough to talk to my dad about the things I learned from the Men’s Health course. We talked about the list of the highest ranked health disparities for males. He commented on suicide being number eight on the list, saying “that doesn’t sound like Black people.” I referred him to the list of the highest ranked health disparities for African-American males. He said that he could understand why homicide and diabetes would be on that list. The fact that he was not surprised at the information shows that Black men of all ages understand that we have a problem when it comes to violence in our community and our eating habits as a demographic. To give my dad a takeaway, I informed him [of] the importance of getting your prostate checked for any abnormalities. He was squeamish when it came to the topic, but he understood after I let him know that he could be affected right at that very moment and he would not know. He, then, had a change of heart and said he was more willing to get a prostate exam when he went in for a check-up.
VII. Example of student created infographics
Supplemental Material References
Figure I. Increased perception of knowledge about topics in health sciences after taking *Men’s Health* course. On the first day of class (n=15), and prior to final exams (n=17), students were asked, “What do you feel is your current level of knowledge pertaining to the subjects of Health Sciences?” Answer option responses ranged from 1=None to 4=High. The box represents quartile range. The inner horizontal line indicates the median of whole data set. The triangles indicate the mean. The maximum and minimum values in the data set are represented as whiskers.
Table I. *Men’s Health* course intended learning outcomes

1. Understand male health in historical, cultural, and global contexts
2. Interpret epidemiological and statistical evidence as it relates to male health
3. Explain how culture can enhance or reduce health in males in the case of health-related disparities.
4. Identify biological and sociocultural underpinnings, factors, and risks in male health.
5. List the primary signs and symptoms of sexually transmitted infections, rates, trends and modes of transmission, and preventative strategies.
6. Identify and understand the various physical, social, and emotional variables, and health challenges that men face in young and middle adulthood, and strategies to prevent and address challenges to their physical, social and emotional health.
7. Discuss factors relating to hypertension (high blood pressure), heart disease, stroke, diabetes, cancer (emphasis on prostate cancer), and sickle cell disease, as well as preventative strategies.
8. Identify advocacy groups and organizations, and common advocacy topics about male health, including challenges facing a male health agenda in the United States.
9. Apply strategies by which to close gaps in health disparities in males, particularly in racial, ethnic, and other minority groups.
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<td>Total Students</td>
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<td>19</td>
<td>17</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

*Spring 2020 and Fall 2020 students were given an option to choose Pass/Fail for grading or earned letter grade in response to the COVID-19 pandemic.*
Table III. Students perceived knowledge of health topics before and after the *Men’s Health* course.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Perceived Knowledge of Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-course (n = 17) Mean (SD)</td>
</tr>
<tr>
<td><strong>Men’s Health</strong></td>
<td></td>
</tr>
<tr>
<td>Health issues faced by men (all races)</td>
<td>2.88 (0.47)</td>
</tr>
<tr>
<td>Health issues faced by Black men</td>
<td>3.12 (0.68)</td>
</tr>
<tr>
<td>Sociocultural implications of being male</td>
<td>2.88 (0.83)</td>
</tr>
<tr>
<td>Contributions of Black men to science and health</td>
<td>2.76 (0.81)</td>
</tr>
<tr>
<td><strong>Health Sciences</strong></td>
<td></td>
</tr>
<tr>
<td>Overall traditional view of health</td>
<td>3.12 (0.47)</td>
</tr>
<tr>
<td>Physical Health</td>
<td>3.29 (0.46)</td>
</tr>
<tr>
<td>Environmental Health</td>
<td>2.82 (0.62)</td>
</tr>
<tr>
<td>Mental Health</td>
<td>2.88 (0.68)</td>
</tr>
<tr>
<td>Spiritual Health</td>
<td>3.12 (0.68)</td>
</tr>
<tr>
<td>Social Health</td>
<td>3.00 (0.59)</td>
</tr>
<tr>
<td>Health Equality and Health Equity</td>
<td>3.06 (0.64)</td>
</tr>
<tr>
<td><strong>Physical Health</strong></td>
<td></td>
</tr>
<tr>
<td>Nutrition and diet</td>
<td>2.94 (0.64)</td>
</tr>
<tr>
<td>Male anatomy</td>
<td>2.88 (0.58)</td>
</tr>
<tr>
<td>Reproductive system</td>
<td>2.82 (0.38)</td>
</tr>
<tr>
<td>Female anatomy</td>
<td>2.65 (0.59)</td>
</tr>
<tr>
<td>Respiratory system</td>
<td>2.41 (0.49)</td>
</tr>
<tr>
<td>Cardiovascular system</td>
<td>2.41 (0.60)</td>
</tr>
<tr>
<td>Digestive system</td>
<td>2.35 (0.48)</td>
</tr>
<tr>
<td>Organ systems</td>
<td>2.35 (0.59)</td>
</tr>
<tr>
<td><strong>Learning Science</strong></td>
<td></td>
</tr>
<tr>
<td>Understanding the scientific method</td>
<td>2.71 (0.67)</td>
</tr>
<tr>
<td>Understanding the concept of science</td>
<td>2.47 (0.61)</td>
</tr>
<tr>
<td>How scientist solve everyday problems</td>
<td>2.53 (0.78)</td>
</tr>
<tr>
<td>Genetics and Heredity</td>
<td>2.65 (0.68)</td>
</tr>
<tr>
<td>Evolution and Natural Selection</td>
<td>2.53 (0.70)</td>
</tr>
<tr>
<td>Distinguishing between Facts and Myths</td>
<td>3.00 (0.59)</td>
</tr>
<tr>
<td>Cell division: Mitosis and Meiosis</td>
<td>2.41 (0.60)</td>
</tr>
</tbody>
</table>

The survey questions asked students to indicate “what do you feel is your current level of knowledge pertaining to” the respective topics.

*aTotal response mean was calculated using the means of student responses for each topic.*