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Exposure to Disability-Related Content and Attitudes Toward Persons with Disabilities within the UConn MPH Program: An Exploratory Study

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Exposure to Disability-Related Content and Attitudes Toward Persons with Disabilities within
the UConn MPH Program: An Exploratory Study

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Master of Public Health Thesis

Exposure to Disability-Related Content and Attitudes Toward Persons with Disabilities within
the UConn MPH Program: An Exploratory Study

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Abstract

Background: The purposes of this study include gathering a baseline assessment of 1) the extent to which UConn MPH students describe their exposure to disability content within the curriculum, and 2) how students describe their experiences encountering persons with disabilities (PWD).

Methods: A survey was completed by 36 current UConn MPH students and alumni.

Results: When asked how often disability was integrated into curriculum and class discussion, a majority of participants (n= 28) answered sometimes, rarely, or never, (77.8%), (88.9%). All students who reported having classes with students from other disciplines reported that it was valuable. Eighty-six percent indicated that the program should do more to promote disability awareness and seventy-four percent believe that PUBH 5501 should be a mandatory MPH course.

Conclusion: This thesis informs efforts to increase the amount of disability content across MPH courses to further the knowledge and skills of future professionals in their work with PWD.

MPH Foundational and Concentration Specific Competencies

This study addressed several foundational competencies as determined by the Council on Education for Public Health, the accrediting body of schools and programs of public health, as well as UConn MPH foundational competencies that reflect the mission of the program (CEPH, 2016). These include selecting data collection methods appropriate for a given public health context (CEPH Foundational Competency 2; 2016, p. 16), as the online survey that was created was distributed via email for participants to collect quantitative data. The online survey method was easy to distribute and reached many students. The data was analyzed using descriptive statistics to answer the research questions (CEPH Foundational Competency 3; 2016, p. 16) .

This project also assessed the needs and capacities of a group, UConn MPH students, that affect the health of PWD (CEPH Foundational Competency 7; 2016, p.16). Results of this study were interpreted and could be used to help inform public health practice (CEPH Foundational Competency 4; 2016, p. 16) regarding disability-related content within MPH programs and may also add to the body of literature on the topic. This study will be used to advocate for social and economic policies to change within graduate programs to improve the health of PWD (CEPH Foundational Competency 14; 2016; p. 16).

In addition to the CEPH Foundational Competencies, this particular project also incorporates a UConn MPH Concentration-Specific Competency which is also CEPH Foundational Competency 22: “The use of systems thinking to promote effective public health programs and policies is a Concentration-Specific Competency in the MPH program (2016, p. 17). The results of this study provide insight into creating an effective MPH program that provides equitable health access and services to PWD.

Systems Thinking Framework

Systems thinking examines how different sectors of health are related to the entire health system (Carey et al., 2015; Peters, 2014). To answer how this exploratory study relates to the entire public health system, the different aims of the study need to be considered. The first aim of this study was to assess the attitudes of MPH students towards PWD. These attitudes or biases may be associated with environmental factors that surround the individual. Disability is often a sensitive, uncomfortable topic for individuals which makes it unlikely for persons to outwardly recognize their biases towards PWD (Hamdani et al., 2017).

Disability is conceptualized and operationalized by several different models. The medical model of disability, which views disability as a disease in need of a medical treatment, results in PWD feeling excluded, undervalued, and treated as if they were subhuman (Goering, 2015). For many PWD, some of the disadvantages they may experience is not from their differences, but from how society views their differences. These perceptions radiate into systemic structures, such as physical structures, institutional norms, and social attitudes (Goering, 2015). These systemic structures create patterns and events that further discriminate against PWD. Systems thinking requires looking beyond the immediate data in order to understand the patterns that prompt them. By assessing the exposure and attitudes around disability in a specific population (UConn MPH students), a part of the health system is being examined, thus contributing to health on a population level.

Background

It is estimated that 61 million adults in the United States live with a disability (CDC, 2019), which includes 26% of the population in the United States (Okoro et al., 2018). This is one estimate, and prevalence may differ based on data source and operationalization of ‘disability’. Surveys measure disability in different ways, leading to differences in prevalence estimates to have ranged from 12% to 30% (Krahn et al., 2015). PWD are more likely to be affected by certain health conditions and behaviors that contribute to poor health outcomes, such as smoking, a sedentary lifestyle, and other poor long-term health behaviors than persons without disabilities (Courtney-Long et al., 2016; Krahn et al., 2015). By increasing the awareness of the disparities in health that PWD experience among future public health professionals, systemic issues such as barriers to access to quality health care may be lessened for PWD, thus increasing quality of life and health outcomes (Okoro et al., 2018). It is also important to have health professionals educated around disability for epidemiological purposes. It is important to accurately count PWD to quantify support needs and services and to target prevention strategies. Enhancing disability knowledge in the field will in turn increase the credibility of disability epidemiology (McDermott et al., 2011). This study will contribute to improving the quality of life of PWD as it will inform better policies in education around educational practices, thus leading to more professionals who are knowledgeable to better serve PWD.

According to a 1993 study by the Centers for Disease Control and Prevention (CDC) and the Massachusetts Department of Public Health, 50% of public health graduate programs in the United States offer courses with disability content. However, this content is almost never required or mandated. The lack of training and education for half of the future public health

workforce puts millions of people living with disabilities in the United States at risk for potential negative health outcomes (CDC, 2019; Okoro et al., 2018).

A 2015 study done by Sinclair and colleagues compared the percentage of public health graduate programs that offered disability coursework in 1999 to 2011. This study concluded, “Future assessments should focus on clarifying disability content within courses and identifying capacity to offer disability training within public health schools and programs” (Sinclair et al., 2015, p. 404). This study also established the baseline measurement for the Healthy People 2020 objective DH-3, to “increase the proportion of U.S. MPH-granting public health schools and programs that offer graduate-level studies in disability and health” (Office of Disease Prevention and Health Promotion, 2018b). As of 2011, the proportion of schools and programs that offered graduate-level studies in disability and health was 50%. The target of 55% is set for 2020 (Healthy People 2020, 2020).

Healthy People 2020, a major guideline for public health practice, has an entire subsection detailing its goal for disability and health (Office of Disease Prevention and Health Promotion, 2018). The goal for the Disability and Health section (DH) of Healthy People 2020 is to maximize health for PWD and improve their quality of life (Office of Disease Prevention and Health Promotion, 2018). The evidence of negative attitudes and a lack of knowledge among health professionals signals the need for better training and education around disability topics (Shakespeare, 2015). By increasing the proportion of disability classes taught in public health courses and by having more widespread public health and disability education, future public health professionals can contribute to achieving this goal.

Theoretical Frameworks

There are several models of disability and they are unique. The primary two include the medical and social models. The medical model of disability holds a person's functional limitations as the cause of the disadvantages they experience. This propagates the idea that PWD are in need of a cure (Goering, 2015). The medical model does have advantages. Providing a diagnosis for a child can be a relief for the family as it can provide access to services such as birth-to-three (Hogan, 2019). Diagnoses can also provide guidance to families and providers to best meet the needs of the PWD (Hogan, 2019). However, the idea that a person needs to be cured or fixed has led to PWD reporting feeling excluded, devalued, and pressured to fit into a norm (Goering, 2015). This leads to the major disadvantage not being the disability itself, but from global unwelcomeness in physical, attitudinal, and structural forms. Despite this, the medical model has been largely used throughout the academic literature and is taught in a majority of health-related courses (e.g., Goering, 2015).

According to the social model of disability, the attitudes and structures of society are what defines a person's disability (e.g., Goering, 2015). This model focuses on the societal obstacles faced by persons who identify as having a disability. Because of this, the social model has greatly impacted the disability rights movement. The societal assumptions of PWD regarding their quality of life, ability to work, and other beliefs affect the ways that physical and institutional norms are shaped. These assumptions create additional disability for these individuals by making a high quality of life more challenging. The social model can be applied to health practices by ensuring that health professionals maintain respect for PWD and fight for disability justice while supporting their needs (e.g., Goering, 2015). Future professionals must

understand all models of disability so that they can make an informed decision when supporting and helping PWD.

The World Health Organization (WHO) International Classification of Functioning, Disability and Health (ICF) model is a necessary framework that integrates these major models of disability. The ICF is used to implement reform in education systems by assisting health professionals to look outside of their areas of practice and across disciplines so that they can take on a more functional perspective of disability (WHO, 2020). This study will follow these ideals assessing the amount of exposure students are getting to disability related-issues and thus opportunities to incorporate aspects of the ICF model into their future careers as health professionals. The ICF model views disability and functioning as outcomes of interactions between health conditions and contextual factors. Health conditions include diseases, disorders and injuries, and contextual factors include external environmental factors and internal personal factors (WHO, 2002).

This study incorporated measures developed by Bruder and Mogro-Wilson (2010), who assessed student and faculty awareness of disability issues at UConn Storrs in order to provide recommendations for campus improvements for PWD. This project is also guided by the public health disability course evaluation conducted by Lutz and Bruder (2019) that measured student and employment related outcomes of those who completed at least one master's level course on disability in public health.

The UConn Master of Public Health program is a professional degree program that is accredited by the National Council on Education for Public Health (CEPH). Its focus aims to prepare persons for careers as public health professionals working in a variety of environments. The curriculum consists of the completion of 48 graduate credits which are allotted across the

foundational disciplines of public health practice. This includes a program-specific requirement in interprofessional practice, public health law, research methods, and an applied practice experience (UConn MPH Program, 2017). Within the core cores of the MPH program, different social and behavioral models are covered to provide students with foundational knowledge of the theoretical foundations upon which public health and related interventions are based. Some of these theories and models include the social cognitive theory, the social ecological model, and the human belief model.

Individuals are offered the additional opportunity to complete the Certificate in Interdisciplinary Disability Studies in Public Health (Disability Certificate). This is a freestanding certificate that is open to any individual in the professional health workforce in the position to ensure the health and social equity for all persons with disabilities and their families. The Disability Certificate consists of a series of four, 3-credit courses offered in an online format. The four courses are: PUBH 5501: Foundations of Public Health and Disability; PUBH 5502: Epidemiology of Disability; 5503: Disability Law, Policy, Ethics, and Advocacy; and PUBH 5504: Public Health Interventions in Disability (Lutz et al., 2019, p. 25; UConn, 2017)The Disability Certificate was cited in a 2015 article in the Journal of Public Health Management and Practice as a potential learning opportunity for other public health programs to develop disability-related courses. It has also been highlighted by the CDC as a potential resource (Sinclair et al., 2015). A 2019 publication by Lutz and Bruder provides more information regarding the history of the Disability Certificate as well as student and employment outcomes for students who took at least one of the courses.

Research Aims

The research aims of this project include the following:

- Explain the importance of disability as an integral part of public health schools and programs;
- Describe student self-report of exposure to disability-related content during their MPH training;
- Describe student self-report of experiences encountering persons with disabilities in current everyday life;
- Explain the importance of the interprofessional component within the MPH program.

Methods

Participants

The sample pool included 143 participants who were current MPH students during the 2019-2020 academic year or who graduated in the last three years. It was decided to not include participants past three years from graduation due to potential memory recall bias. Invitations to participate in the survey were attempted to be sent to 144 potential participants. The number of potential participants who successfully received the survey was 143 because one email address was not valid and it bounced back. A total of 40 participants attempted to participate in the study. However, data from four participants were unusable as they did not complete the survey. The survey had a response rate of 25.2% because 36 out of 143 participants completed the survey in its entirety.

A total of 36 participants comprised the final sample for analysis. A majority of participants were female (75%) (n=27) and identified as Caucasian (72.2%) (n=26). The mean age of participants was 29 years (SD = 9.6) and ranged from 22 to 70 years old. About two-thirds of participants (n=23; 63.9%) reported being current MPH students. Almost 98% of the sample

reported their academic status, of which 60% indicated full-time status. Four participants identified as a person with a disability (11.1%). Participants reported a number of different undergraduate majors including molecular & cell biology, sociology, government, physiology and neurobiology, allied health science, radiologic science, computer science, anthropology, biochemistry, chemistry, human development and family studies, marketing communications, continuing studies, cognitive science, political science, kinesiology, philosophy, chemistry, nursing, psychology, neuroscience, pathobiology, public health, and women gender and sexuality studies. For more demographic information, see Appendix B, Table 1.

Procedure

The data collection instrument, based on the instrument developed by Bruder and Mogro-Wilson (2010), was created in Qualtrics, a program available to UConn students and faculty which requires a username and password. Email addresses to invite current and former students to participate were obtained with permission from UConn's Graduate Program in Applied Public Health Sciences upon receiving IRB approval from UConn Health (20X-129-1). Current students and alumni who graduated in the past three years were sent an email invitation that included an explanation of the study. The entire study was conducted online, consisting of open and closed-ended questions that took approximately 10 minutes to complete. Data collection began on February 13, 2020. Two weeks after the initial email invitation was sent, a follow-up reminder was sent. Participants who completed the survey had the opportunity to enter into a drawing for one \$15 Amazon gift card. The drawing was determined by randomly selecting from a list of collected emails from an excel spreadsheet.

The questions in the instrument focused on the disability-related content that participants were exposed to during their MPH training as well as their attitudes when encountering persons with disabilities. In particular, to measure social desirability, this instrument included a Marlowe-Crowne Social Desirability Index (1960) which was included in the study by Bruder and Mogro-Wilson (2010). This index measures students' internal feelings to answer questions in a way that they feel will have their answers viewed favorably. This was included because in disability related surveys, there is a concern that people will answer questions with a positive bias (Bruder et al., 2010).

The questions were formatted primarily through multiple choice and five-point Likert Scales. Likert Scales are frequently used to rate the degree to which a participant agrees or disagrees with a statement (Sullivan et al., 2013). On the Likert Scale items, participants cited how often disability-related issues were integrated into their MPH courses, their attitudes around encountering PWD, and their opinions on the UConn MPH program's current capacity to promote awareness of disability-related issues. Prior to survey distribution, the survey instrument and study proposal were reviewed by three UConn Health faculty members and the UConn MPH Director. Survey items and methodology were revised based on their feedback.

Privacy of participants & confidentiality of data

The privacy of participants was maintained. Only the email addresses provided by the program in Applied Public Health Sciences were needed to contact potential participants. The data collection instrument itself did not collect identifying information. Data collected in the study were anonymous. All responses were collected and stored using a third-party, *Qualtrics*. *Qualtrics* is password-protected and the instrument itself can only be accessed by the research team. The research team could only access the de-identified information, as only de-identified

information was collected. This information was stored in the *Qualtrics* online system for the duration of the survey assessment, data analysis and following dissemination of results. Data was appropriately archived in a password protected file with other completed study materials within the UConn Center for Excellence in Developmental Disabilities (UCEDD). All computers within the UCEDD were also password protected and required a UConn Health username to log in.

The first page of the study included the information sheet, which served as the consent to participate. The information sheet provided all of the following information: purposes of the exploratory study, procedures, risks and benefits, information protection, participant's rights, and contact information regarding study content and rights. The consent of the subject was obtained when they select "accept" when prompted with the following question "by selecting 'accept' below you are consenting to participate in this needs assessment." Potential subjects also had the option to select "decline". If "decline" was selected, they were brought to the UCEDD homepage rather than the first section of the study. After "accepting" participation, participants began the study. Data collection closed approximately 1 month after initial emails were sent, two weeks after the follow-up emails were sent. Ethical approval was granted for this study by the Institutional Review Board (IRB) at UConn Health.

Data Analysis

Qualtrics, *Microsoft Word*, and *Microsoft Excel* were used to analyze the data. Due to the nature of the questions in the evaluation, descriptive statistics were used. Tables were formed in *Microsoft Word* and figures were formed in *Microsoft Excel*. Analyses regarding means and ranges were done on *Microsoft Excel*. Analyses regarding percentages were done on *Qualtrics*.

Results

Disability-related Issues Integrated in MPH Courses & Class Discussions

When asked how often disability-related issues were integrated into their MPH courses, a majority of participants answered sometimes, rarely, or never (77.8%). When asked how often they felt that class discussions or activities addressed disability-related issues, a majority of participants (n=32) also answered sometimes, rarely, or never (88.9%), and of these, 23 participants answered rarely or never (63.9%) (See Appendix B, Table 2).

Participants were asked which of the 10 core courses promoted disability-related issues within their course curriculum. A majority of participants (n=32; 54.2%) stated that among their core courses, Law & Public Health (PUBH 5406) and/or Social and Behavioral Foundations of Public Health (PUBH 5405) promoted disability-related issues. Of the 26 participants that indicated at least one of the MPH core courses promoted disability issues, 15 stated that PUBH 5406 promoted disability-related issues (57.7%) and 17 stated that PUBH 5405 promoted disability-related issues (65.4%) (See Figure 7).

When asked which electives promoted awareness of disability related issues, participant responses varied widely. Four participants wrote in Foundations of Public Health & Disability (PUBH 5501). Other participants wrote in Epidemiology of Disability (PUBH 5502), Public Health Interventions in Disability (PUBH 5504), Graduate Seminar in Public Health (PUBH 5497), Public Health Policy & Advocacy, Reproductive Justice & Ethics (PUBH 5497 Reproductive Ethics, Rights, and Policy), Eliminating Social [Inequality and] Health Disparities (PUBH 5502), and Ethics & Advocacy.

When asked if they had taken any of the Disability Certificate courses 72.2% (n=26) responded yes. Of these, eight participants had taken PUBH 5501 (30.8%), three participants had

taken PUBH 5502 (11.5%), two participants had taken PUBH 5503 (7.7%), and two participants had taken PUBH 5504 (7.7%).

Interprofessional MPH Training

Eighty-nine percent of participants (n=32) reported taking MPH courses with students from disciplines outside of their degree program. Participants who responded “yes” to taking MPH courses with students from disciplines outside of their degree program were asked a follow-up question about how valuable it was to have students from other disciplines in their MPH classes. Twelve participants answered the follow up question. All 12 reported that having students from other programs was either somewhat valuable or very valuable (See Figure 2).

Participant Interaction with Persons with Disabilities

Four participants identified as a PWD (11.1%) whereas 32 participants identified as not having a disability (88.9%). Over half of participants (n=20; 55.6%) reported that they had a friend or family member with a disability. When asked where participants interact with PWD, a majority reported in the community (n=29, 87.9%) and at work (n=22, 66.7%). One participant reported that they interact with PWD through volunteer work.

Most participants reported that they encounter persons with disabilities either once a month or almost every week (61.2%). These interactions took place primarily within the community (83.3%) at work (61.1%) and at school (36.1%) (See Appendix B, Table 3; Figure 4).

Participant Attitudes Toward Persons with Disabilities

For this set of questions, there was concern that persons may answer with a positive bias. Therefore, these questions included the Marlowe-Crowne Social Desirability Index. This scale is used to measure participants’ internal attitudes to answer questions in a way that will portray them favorably (Bruder & Mogro-Wilson, 2010). When asked how often participants feel

admiration when they encounter an individual with a disability, 41.7% of participants stated they often feel admiration. When asked about their attitudes toward PWD, participants reported never, seldom, or occasionally feeling pity (88.9%), never feeling embarrassed (66.7%), occasionally, seldom or never feeling awkward (91.7%). When asked if participants found themselves looking away more than they usually do when communicating with PWD, a majority of participants disagreed or strongly disagreed (89.2%) that they do not look away more than usual (See Appendix B, Table 4).

Opinion on Awareness of Disability-related Issues within the MPH Program

Participants were asked questions regarding if and how the UConn MPH program as a whole promotes awareness of disability-related issues. Half of respondents agreed or strongly agreed (n=18; 50%) and half of respondents disagreed or strongly disagreed (n=18, 50%) that the UConn MPH curriculum promotes disability-related issues. However, most agreed (86.1%) that the UConn MPH program should do more to promote awareness of disability-related issues (See Figure 5). Further, almost 75% of participants indicated that Foundations of Public Health and Disability (PUBH 5501) should be a mandatory class (n=27) (See Appendix B, Table 5, Figure 6).

Open-ended Disability Questions

Open-ended questions were asked to provide participants an opportunity to comment on the value of the interprofessional component of the program along with the program's promotion of disability-related issues. Some participant comments are provided here (See Appendix D for all write-in comments):

“Really appreciated having other mid-career people with different experiences in classes. For example there were a couple people in my disability class who worked in clinical settings and that really helped understand the reality of practice.”

“In Interprofessional Development, (we) discuss(ed) how to discuss appropriate team-based care for an individual with a disability.”

“I can always greatly appreciate the value of students from other programs in my classes because they bring a unique perspective of their background and academic study. I do wish more students from different programs were integrated into the MPH program to be able to have a more comprehensive learning experience AND to highlight the need for disability awareness in our society.”

“I learned the most about disability-related issues in my Disability Interventions class. I think one of the most important things I learned was that people aren't disabled, society makes them disabled. It was a whole new perspective for me.”

Discussion

The current study is related to the Bruder & Mogro-Wilson study as it also seeks to make recommendations, but these recommendations will be targeted at the curriculum level of a graduate program rather than a campus environment. However, both studies aim to enhance the knowledge of students on disability-related issues. The results of this exploratory study address 2015 recommendations from Sinclair and colleagues that “future assessments should focus on clarifying disability content within courses and identifying capacity to offer disability training within public health schools and programs” (p. 404). These results also give support to the Healthy People 2020 objective DH-3 (Office of Disease Prevention and Health Promotion, 2018b).

This study informs interprofessional public health practice because the dialogue between public health and disability is severely lacking in research and practice (Bruder & Mogro-Wilson, 2010; CDC, 2019; Krahn et al., 2015; Okoro et al., 2018; Shakespeare, 2015; Sinclair et al., 2015). Public health professionals must interact with PWD and their families to assess their health care needs. However, public health interacts with PWD beyond healthcare needs.

Socioeconomic factors associated with disability, such as poverty, institutionalization, and exclusion, all contribute to public health efforts. The life course perspective notes that health trajectories are affected by the impact of one's experiences, the environment, and health disparities (Krahn et al., 2015). As a population, PWD experience worse outcomes than persons without disabilities across a wide range of health indicators (US Department of Health and Human Services, 2002). The core mission of public health is to improve the health trajectory of all populations. Preventing and reducing these socioeconomic factors for PWD also reduces healthcare needs in this population.

In addition to families, public health professionals will likely interact with professionals from different backgrounds such as law, medicine, social work, and others who also serve PWD in various capacities. Professionals must use an interprofessional approach while working with other support networks to achieve their patients and family's health goals. An interprofessional background that is more inclusive of disability-related issues is vital to public health practice and will ultimately improve health outcomes for PWD.

Disability-Related Issues Integrated in MPH Courses

It was found that when asked how often disability-related issues integrated into their MPH course curriculum and class discussions, a majority of participants answered sometimes, rarely, or never. In particular, two of the ten core courses were reported. One participant commented that the Americans with Disability Act (ADA) was discussed in the Law & Public Health course (PUBH 5406). However, the other core courses received minimal to no acknowledgement. This presents an area of opportunity for course instructors and MPH program faculty to share knowledge, expertise, and resources to incorporate disability-related issues in core courses.

The incorporation of disability-related issues into the core courses would be helpful in enhancing knowledge around disability. In fact, a majority of respondents agreed (86.1%) that the UConn MPH program should do more to promote awareness of disability-related issues. A majority of participants believe that Foundations of Public Health and Disability (PUBH 5501), a course that is a part of the Disability Certificate series should be a mandatory or a core class (74.3%). Regarding public health electives, participants answered with a wide variety of classes in which they believe promoted awareness of disability. Many of the classes were a part of the Disability Certificate. These results suggest that there is interest in disability related courses, content, and discussions among UConn MPH students, but more can be done to better integrate disability into courses. These findings also suggest that Disability Certificate courses are valuable towards promoting disability awareness. One participant spoke to this increased awareness (See Appendix D).

Interprofessional MPH Training

Interprofessional MPH training was also examined in this study. Eighty-nine percent of participants reported having taken MPH courses with students from disciplines outside of their degree program, and all of these participants reported that having students from other programs as part of their MPH training was valuable. One participant highlighted the importance of education with students in different career states and health settings, and two students highlighted the intersection between disability and their interprofessional development (See Appendix D). This feedback suggests that interprofessional public health practice is an integral aspect of the UConn MPH program, and that students are benefitting as well as intersecting this practice with disability awareness. It is necessary that professionals across all health fields can bring together their experiences and education regarding disability.

Attitudes Toward Persons with Disabilities

Attitudes toward PWD were measured using social desirability questions similar to those used by Bruder and Mogro-Wilson (2010). Questions in this section of the survey asked participants to indicate how often they feel particular emotions when encountering a PWD such as admiration, pity, embarrassment, and awkwardness. Less than half of participants reported often feeling admiration while majority reported never, seldom, or occasionally feeling pity, never feeling embarrassed, and never, seldom, or occasionally feeling awkward (See Appendix B, Table 4). These data on attitudes around PWD may suggest that participants have relatively low biases toward PWD, perhaps as a result of taking disability electives or through interaction with PWD in the community and at work. Though participants reported generally positive interactions and feelings toward PWD, their answers to the series of attitude items were relatively mixed and may have been affected by social desirability, a type of response bias that causes respondents to answer surveys in a way that will be viewed favorably to others (Crowe, 1960). This is important because in disability related surveys, there is a concern that people will answer questions with a positive bias (Bruder & Mogro-Wilson, 2010).

Limitations

One limitation with the sample was that the email list used may not have been completely up to date on emails that participants currently used. As with any survey study, participants may have exhibited social desirability on certain questions, especially on questions that asked about their attitudes toward PWD. Social desirability is the tendency for participants to report an answer that they believe is more socially acceptable than what would be their honest answer. This is done to deem themselves more favorable or to avoid receiving criticism (Lavrakas, 2008).

The data collection instrument was based on the instrument developed by Bruder and Mogro-Wilson, yet it did not include all measures and incorporated additional measures to better fit specifically to the UConn MPH program. Therefore, the Marlow-Crowe social desirability index used in the Bruder & Mogro-Wilson instrument was not fully utilized in this survey instrument.

The nature of the sample could be considered a limitation. For example, respondents stated that certain courses mentioned disability in class and in discussion. However, the respondents were not all in the same class and class curriculums and discussions vary year to year. Respondents included current students and alumni who graduated within the past three years. Within this time frame, classes may have varied by instructor, classmates, and content. Therefore, it is a challenge to narrow down which specific courses incorporated disability-related issues into discussion and coursework.

Conclusion

Next steps

Analysis of this survey reveals that current and past MPH students would like to see the UConn MPH program incorporate disability-related issues into the curriculum. In order to maximize the health of PWD and improve their quality of life, the addition of disability content into health-related learning environments needs to increase.

A majority of students expressed that disability-related issues were rarely discussed in class. In order to better contribute to the goals of Healthy People 2020, class discussions and activities should do more to incorporate disability into the learning environment. Potential avenues for this type of integration could include class discussions of current issues related to disability and a push to have disability discussed in the curriculum alongside minority groups.

Systemic health differences have been observed in groups based on race and ethnicity have been recognized as inequities in health outcomes, which has led to increased efforts to reduce these disparities. There are multiple opportunities for learning about the health of racial and ethnic groups in the UConn MPH curriculum. This recognition is lacking for disability-related health outcomes. Persons with disabilities have often been cited as an unrecognized health disparity population (Krahn et al., 2015). By taking measures to improve the health of PWD, such as increasing educational efforts, public health won't experience this unnecessary burden in poor health outcomes. PWD are four times more likely to report their health to be poor than persons without disabilities (Krahn et al., 2015). Therefore, it is important for educational systems to not downplay this effect (Butera, 2014).

Another avenue that could be quite informative could be to create practicum opportunities that involve students working directly with PWD and their families. This would enable students to have more positive attitudes toward PWD and get firsthand insight into what PWD need for support from health professionals. The Leadership and Education in Neurodevelopmental and Related Disabilities (LEND) program through the UConn UCEDD Health provides the opportunity for public health students a valuable resource and reference for disability. The LEND program requires students attend practicum sites and match with a family who has a person(s) with a disability in their household. This allows trainees to gain firsthand experience into what life is like for PWD and how to provide support through referencing the voices of PWD. LEND ensures high levels of interdisciplinary competence by including graduate students from diverse professional disciplines such as audiology, nursing, public health, social work, speech pathology, educational psychology, special education, and more (CT LEND, 2019; AUCD, 2011.)

UConn Health has made great additions to the MPH curriculum, specifically with the incorporation of the Disability Certificate which participants often cited as beneficial to their disability awareness levels and interprofessional work. Though the UConn MPH program still has progress to be made, the inclusion of the disability certificate and disability focused electives surpasses curricular activity among other graduate schools (Lutz et al., 2019).

This exploratory study leads to future steps in research, which include examining other public health graduate program curriculums and gauging student's attitudes and awareness of disability-related issues in other graduate programs. The Disability Certificate is an online certificate. Therefore, it is available for others outside of the MPH program and the UConn student body. Perhaps raising awareness of the Disability Certificate to MPH students at other CT schools and programs of public health could enhance the interprofessional aspect of the curriculum while expanding disability awareness.

By describing the current inclusion of disability-related content in this public health program as well as examining students' current attitudes toward PWD, these results can be used by the UConn MPH program as a 'snapshot' to describe current and on-going efforts in both core and elective courses to address disability issues. Results can also be used to address where disability-related issues could be incorporated in MPH courses in order to better prepare students to work with diverse populations. Future activities can include training and technical assistance on how to better incorporate disability as a focal point of public health practice and how to build upon existing disability content. PWD are more likely to have better health outcomes if the public health workforce supporting them is more informed on disability-related issues.

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Appendix A: Survey instrument

Exposure to Disability-Related Content and Beliefs about Persons With Disabilities UConn Health

University Center for Excellence in Developmental Disabilities (UCEDD)

Informed Consent

Principal Investigator (PI): Dr. Tara Lutz

Student Investigator: Holly LaBrecque

**Title of Research Study: Exposure to Disability-Related Content and Beliefs about
Persons with Disabilities: A Survey of UConn MPH Students**

Introduction & Purpose

You are invited to participate in this study because you are either a current or former MPH student at the University of Connecticut. This study aims to assess exposure and awareness levels of Master's of Public Health students at the University of Connecticut around disability. It also is an examination of the integration of disability in the public health curriculum at UConn as well as the availability of graduate level courses that involve disability at UConn. This study is being conducted by the University Center for Excellence in Developmental Disabilities (UCEDD) at UConn Health. This study is a part of the requirements for the integrated learning experience (ILE) thesis for the UConn MPH program for the student investigator.

What are evaluation study procedures? What will I be asked to do?

You will be asked to provide some basic demographic information, information about your current status as a student, and your current opinions on disability-related issues. The study is anonymous, online, and will take approximately 10 minutes to complete.

What are the risks or inconveniences to participating?

There are some slight risks to participating in this evaluation study. No data are being collected regarding your name, contact information, or name of your place of employment to maintain your anonymity. However, you may experience uncomfortable feelings related to memories of events/experiences during your time in the program. If you do feel any discomfort or are unsure how to answer the questions, you may choose not to answer those questions.

What are the benefits to participating?

You may not personally benefit from the results of this study. However, these results will add to the growing body of evidence related to integrating disability into public health practice, By describing the study of disability within public health, as well as examining students' current attitudes toward persons with disabilities (PWD), results will inform public health programs on how to incorporate disability as a focal point of public health practice.

Will I receive payment for participation? Are there costs to participate?

There is no cost to participate. Participants who complete the survey will have the opportunity to enter into a drawing for a \$15 amazon gift card. These participants will provide their contact information in a separate survey instrument that cannot be linked to their initial responses. There are no penalties for not participating or for not completing it. Participation is voluntary and can be stopped at any time.

How will my information be protected?

Your information is anonymous and your responses will not be linked to you. Information is collected and stored by a third-party, *Qualtrics*, and is password-protected. The research team can only access the de-identified information. This information will be stored in their online system for the duration of the needs assessment. You should also know that the UConn Health Institutional Review Board (IRB) and the Office of Research Compliance may inspect study records as part of its auditing program, but these reviews will only focus on the researchers and not on your responses or involvement. The IRB is a group of people that review research studies to protect the rights and welfare of participants.

Can I stop being in the study? What are my rights?

You do not have to participate in this study if you do not want to. If you agree to participate, but later change your mind, you may stop answering questions at any time. Completion of the survey implies voluntary participation.

Whom do I contact if I have questions?

If you have questions, you may contact the student investigator, Holly LaBrecque at hlabrecque@uchc.edu (207-907-5002). If you have any questions concerning your rights as a research subject, you may contact the UConn Health IRB at 860-679-2215. This study has been approved by UConn Health IRB (20X-129-1).

Q2 Please indicate your participation:

- Accept (1)
 - Decline (2)
-

Q3 What is your current status in the program?

- Current MPH student (1)
 - Alumni of the MPH Program (2)
 - N/A; I am neither a current nor former student in the MPH program (3)
-

Q4 Which of the following describes your current or former academic status?

- Full-time student (1)
 - Part-time student (2)
-

Q6 What was your undergraduate major?

Q8 The next few questions are related to the courses you've completed for your MPH degree.

Q5 How often are/were disability-related issues integrated into your MPH courses?

- Always; in all courses (1)
- Often; in several courses (2)
- Sometimes; in a few courses (3)
- Rarely; in one course (4)
- Never (5)
- Not sure/prefer not to respond (6)

Q9 How often do/did you feel that class discussions or activities have addressed disability-related issues?

- Always (1)
- Often (2)
- Sometimes (3)
- Rarely (4)
- Never (5)
- Not sure/prefer not to respond (6)

Q10 Which of the following core courses promoted disability-related issues within the course curriculum when you took them? (Select all that apply).

- PUBH 5400 Principles of Interprofessional Public Health Practice (1)
- PUBH 5403 Health Administration (2)
- PUBH 5404 Environmental Health (3)
- PUBH 5405 Social and Behavioral Foundations of Public Health (4)
- PUBH 5406 Law and Public Health (5)
- PUBH 5407 Practicum in Public Health (6)
- PUBH 5408 Epidemiology & Biostatistics I (7)
- PUBH 5409 Epidemiology & Biostatistics II (8)
- PUBH 5431 Public Health Research Methods (9)
- PUBH 5500 Public Health in Practice (10)

Q11 What electives have you taken that have promoted awareness of disability-related issues? (Be as specific as possible).

Q12 Have you taken any of the following courses? (Select all that apply).

- PUBH 5501 Foundations of Public Health and Disability (1)
 - PUBH 5502 Epidemiology of Disability (2)
 - PUBH 5503 Disability Law, Policy, Ethics, and Advocacy (3)
 - PUBH 5504 Public Health Interventions in Disability (4)
 - I did not take any of these courses. (5)
-

Q13

Were students from outside of the MPH program (part of different degree programs) in these courses?

- Yes (1)
 - No (2)
 - Not sure (3)
-

Q15 How valuable was having students from other programs to your MPH training?

- Very valuable (1)
 - Somewhat valuable (2)
 - Not very valuable (3)
 - Not valuable at all (4)
-

Q16 If you have any additional comments about having students from other programs, please provide them here.

Q17 For the following questions, the term "disability" refers to long term physical or mental impairments that substantially limit one or more major life activities for an individual.

Q14 Do you have a friend or family member with a disability?

- No (1)
 - Yes (2)
 - Prefer not to respond (3)
-

Q18 Do you identify as a person with a disability?

- No (1)
 - Yes (2)
 - Prefer not to respond (3)
-

Q19 When you encounter a person with a disability, how often do you feel admiration towards that individual?

- Always (1)
 - Often (2)
 - Occasionally (3)
 - Seldom (4)
 - Never (5)
 - Not sure (6)
-

Q20 When you encounter a person with a disability, how often do you feel pity towards that individual?

- Always (1)
 - Often (2)
 - Occasionally (3)
 - Seldom (4)
 - Never (5)
 - Not Sure (6)
-

Q21 When you encounter a person with a disability, how often do you feel embarrassed towards that individual?

- Always (1)
 - Often (2)
 - Occasionally (3)
 - Seldom (4)
 - Never (5)
 - Not sure (6)
-

Q22 When you encounter a person with a disability, how often do you feel awkward towards that individual?

- Always (1)
 - Often (2)
 - Occasionally (3)
 - Seldom (4)
 - Never (5)
 - Not sure (6)
-

Q23 How often do you interact with persons with disabilities?

- Every day (1)
 - Almost every day (2)
 - Almost every week (3)
 - About once a month (4)
 - One or two times a year (5)
 - Never (6)
 - Not sure/prefer not to respond (7)
-

Q25 I interact with persons with disabilities in the following places (Select all that apply):

- At school (1)
 - At work (2)
 - At home (3)
 - In the community (4)
 - Other (5) _____
-

Page Break

Q24 Please indicate if you agree or disagree with the following statements.

Q26 When communicating with a person with a disability, I find myself looking away more than I usually do in conversation.

- Strongly Disagree (1)
 - Disagree (2)
 - Agree (3)
 - Strongly Agree (4)
-

Q27 In my opinion, the UConn MPH program promotes awareness of disability-related issues.

- Strongly Disagree (1)
 - Disagree (2)
 - Agree (3)
 - Strongly agree (4)
-

Q28 Please provide an example of when the UConn MPH program promoted awareness of disability-related issues

Q29 In my opinion, the UConn MPH program should do more to promote awareness of disability-related issues.

- Agree (1)
 - Disagree (2)
-

Q30 Have you taken any MPH courses with students from disciplines outside of your degree program (e.g., medicine, dentistry, nursing, social work, psychology, etc.)?

- Yes (1)
 - No (2)
-

Q31 In your opinion, how valuable was taking these courses with students from other disciplines to your MPH training?

- Not valuable at all (1)
 - Not very valuable (2)
 - Somewhat valuable (3)
 - Extremely valuable (4)
-

Q33 Do you believe that Foundations of Public Health and Disability (PUBH 5501) should be a mandatory class?

- Yes (1)
 - No (2)
-

Q32 Are you pursuing UConn's Certificate of Interdisciplinary Disability Studies in Public Health?

- Yes (1)
 - No (2)
-

Q34 Please enter your age in years:

Q35 Please select the gender with which you most identify:

- Male (1)
 - Female (2)
 - Transgender (3)
 - Gender non-conforming (4)
 - Choose not to identify (5)
-

Q36 Please select the ethnicity with which you most identify:

- Caucasian (1)
 - African American (2)
 - Latinx (3)
 - Asian/Pacific Islander (4)
 - Native American (5)
 - Choose not to identify (6)
 - Other (please specify) (7)
-

Page Break

Q38 Thank you for your participation.

Q37 If you would like to be entered into a drawing to receive a \$15 Amazon gift card, please click the link below. Your contact information will be gathered via a separate survey so your responses will remain anonymous.

[Drawing entry](#)

End of Block: Default Question Block

Appendix B

Table 1

Participant Demographic characteristics (n=36)

Demographics	n	Percent
Gender	7	19.4%
Male		
Female	27	75%
Transgender	1	2.8%
Choose not to identify	1	2.8%
Ethnicity		
Caucasian	26	72.2%
Latinx	3	8.3%
African American	3	8.3%
Asian/Pacific Islander	3	8.3%
Choose not to identify	1	2.7%
Age Range		
22-24	9	25%
25-27	11	30.6%
28-30	9	25%
31+	7	19.4%
Current Program Status		
Current MPH student	23	63.9%
MPH alumni	13	36.1%
Academic Status*		
Full time student	21	60%
Part time student	14	40%

* n=35

Table 2

Disability-related issues integrated in MPH courses & class discussions (n=37)

Disability-related question	n	Percent
How often were disability-related issues integrated into your MPH courses?		
Always	0	0%
Often	7	18.92%
Sometimes	15	40.54%
Rarely	12	32.43%
Never	12	5.41%
Not sure/prefer not to respond	1	2.70%
How often do/did you feel that class discussions or activities have addressed disability-related issues?		
Always	1	2.8%
Often	3	8.3%
Sometimes	9	25%
Rarely	20	55.6%
Never	3	8.3%

Table 3.1

Participant interaction with persons with disabilities (n=36)

Disability-related question	n	Percent
I interact with persons with disabilities in the following places:		
At school	13	39.3%
At work	22	66.7%
At home	7	21.2%
In the community	29	87.9%
Other: volunteer work	1	2.8%

Table 3.2

Place of participant interaction with persons with disabilities (n=33)

Disability-related question	n	Percent
How often do you interact with persons with disabilities?		
One or two times a year	7	19.4%
About once a month	11	30.6%
Almost every week	11	30.6%
Almost every day	4	11.1%
Every day	2	5.5%

Table 4

Participants attitude around persons with disabilities (n=36)

Disability-related question	n	Percent
When you encounter a person with a disability, how often do you feel admiration towards that individual?		
Always	3	8.3%
Often	15	41.7%
Occasionally	6	16.7%
Seldom	4	11.1%
Never	4	11.1%
Not sure	4	11.1%
When you encounter a person with a disability, how often do you feel pity towards that individual?		
Always	0	0%
Often	3	8.3%
Occasionally	12	33.3%
Seldom	10	27.8%
Never	10	27.8%
Not sure	1	2.8%
When you encounter a person with a disability, how often do you feel embarrassed towards that individual?		
Always	0	0%
Often	0	0%
Occasionally	4	11.1%
Seldom	8	22.2%
Never	24	66.7%
Not sure	0	0%
When you encounter a person with a disability, how often do you feel awkward towards that individual?		
Always	0	0%
Often	2	5.6%
Occasionally	10	27.8%
Seldom	12	33.3%
Never	11	30.6%
Not sure	1	2.8%

Table 5

Opinion on current and future awareness of disability-related issues within the MPH program (n=36)

Disability-related question	n	Percent
In my opinion, the UConn MPH program promotes awareness of disability-related issues.		
Strongly disagree	2	5.6%
Disagree	16	44.4%
Agree	15	41.7%
Strongly agree	3	8.3%
In my opinion, the UConn MPH program should do more to promote awareness of disability-related issues.		
Agree	31	86.1%
Disagree	5	13.9%
Do you believe that Foundations of Public Health and Disability (PUBH 5501) should be a mandatory class?*		
Yes	26	74.3%
No	9	25.7%

*n=35

Appendix C

Figure 1. Ethnicity of Study Participants (n=36).

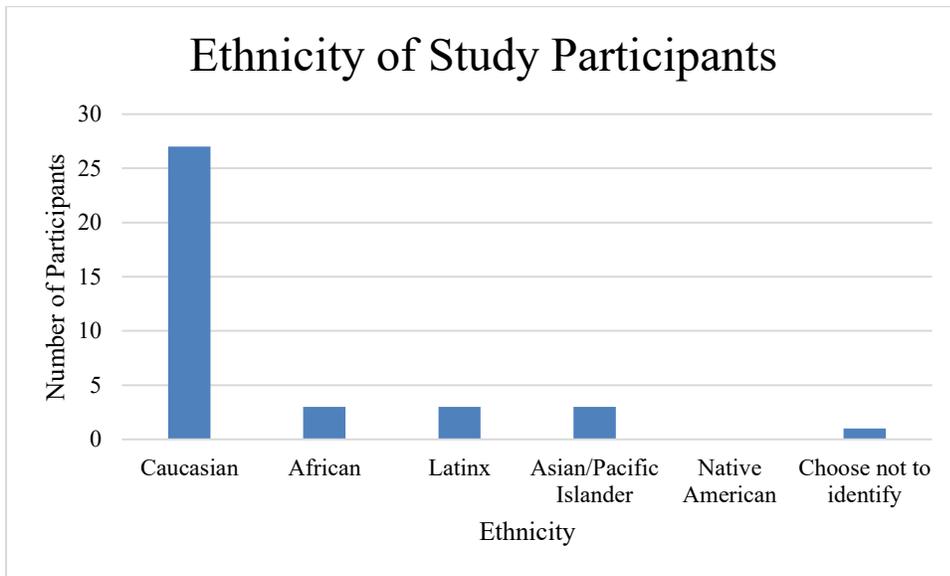


Figure 2. Value of having students from other programs to MPH training (n=12).

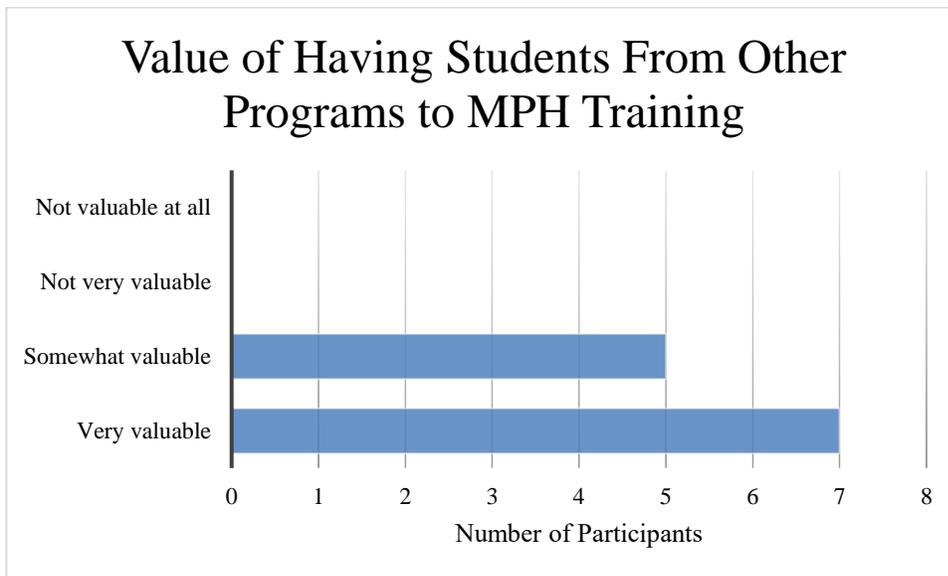


Figure 3. How often class discussions or activities addressed disability-related issues (n=36).

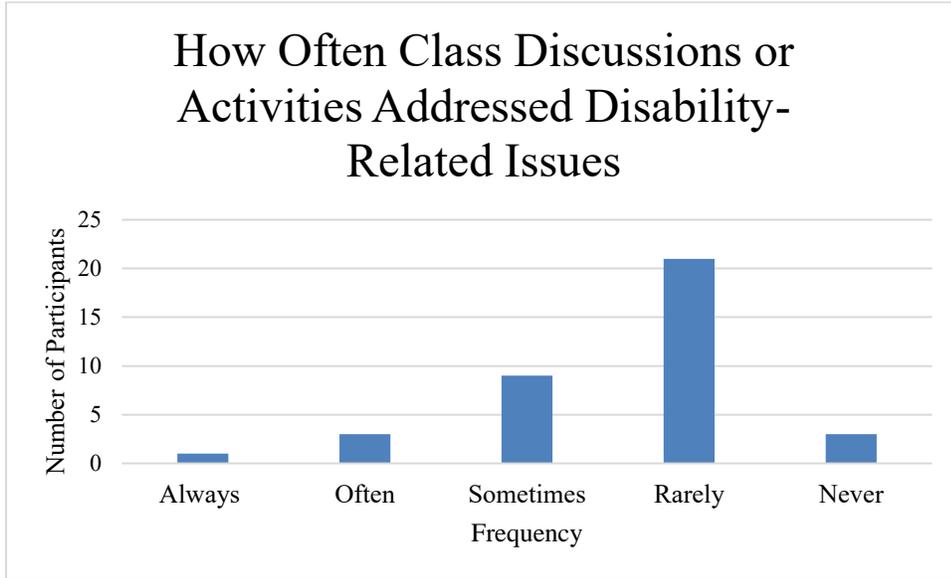


Figure 4. Participants interact with persons with disabilities in the following places (n=36).

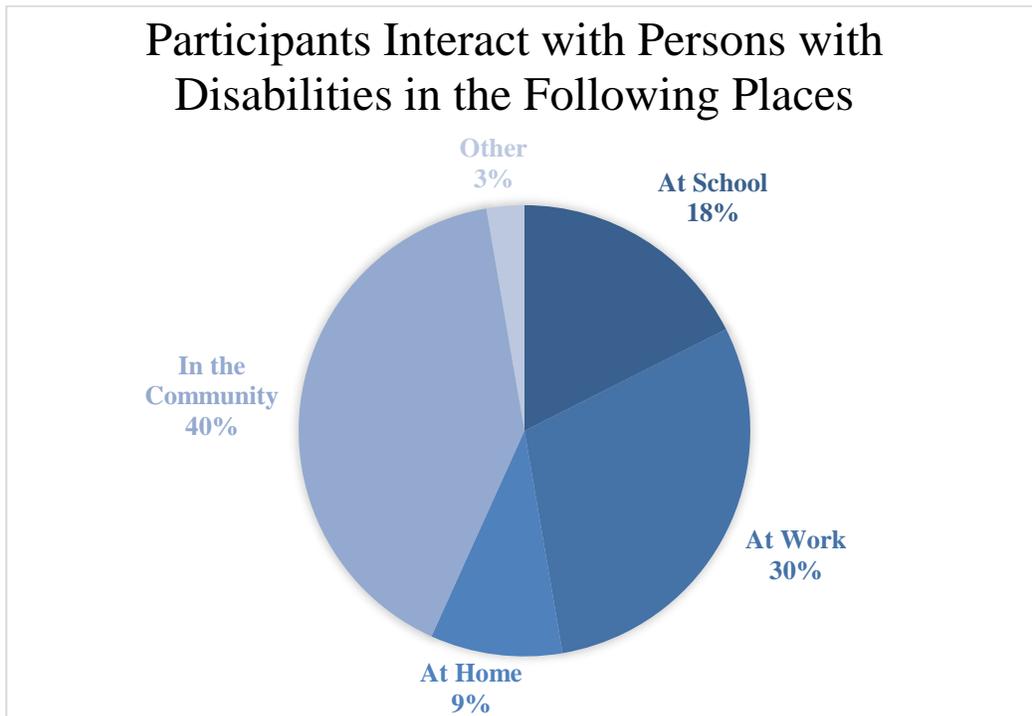


Figure 5. Opinion on whether the UConn MPH program should do more to promote awareness of disability-related issues (n=36).

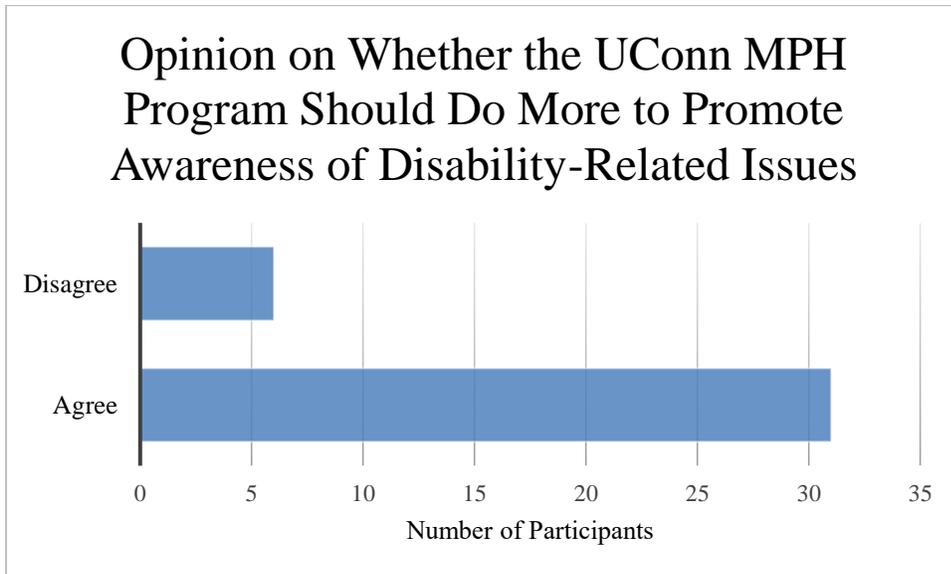


Figure 6. Opinion on whether Foundations of Public Health and Disability (PUBH 5501) should be a mandatory class (n=36).

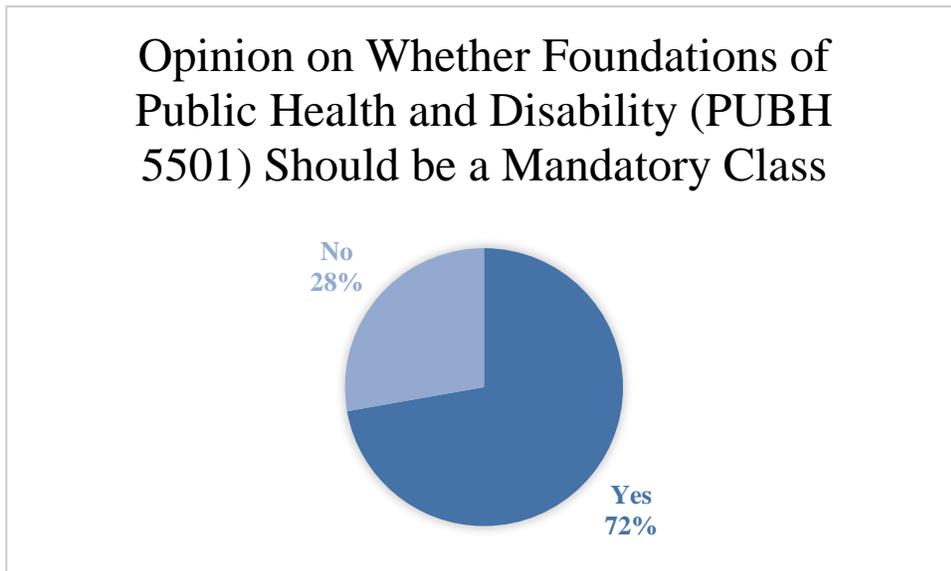
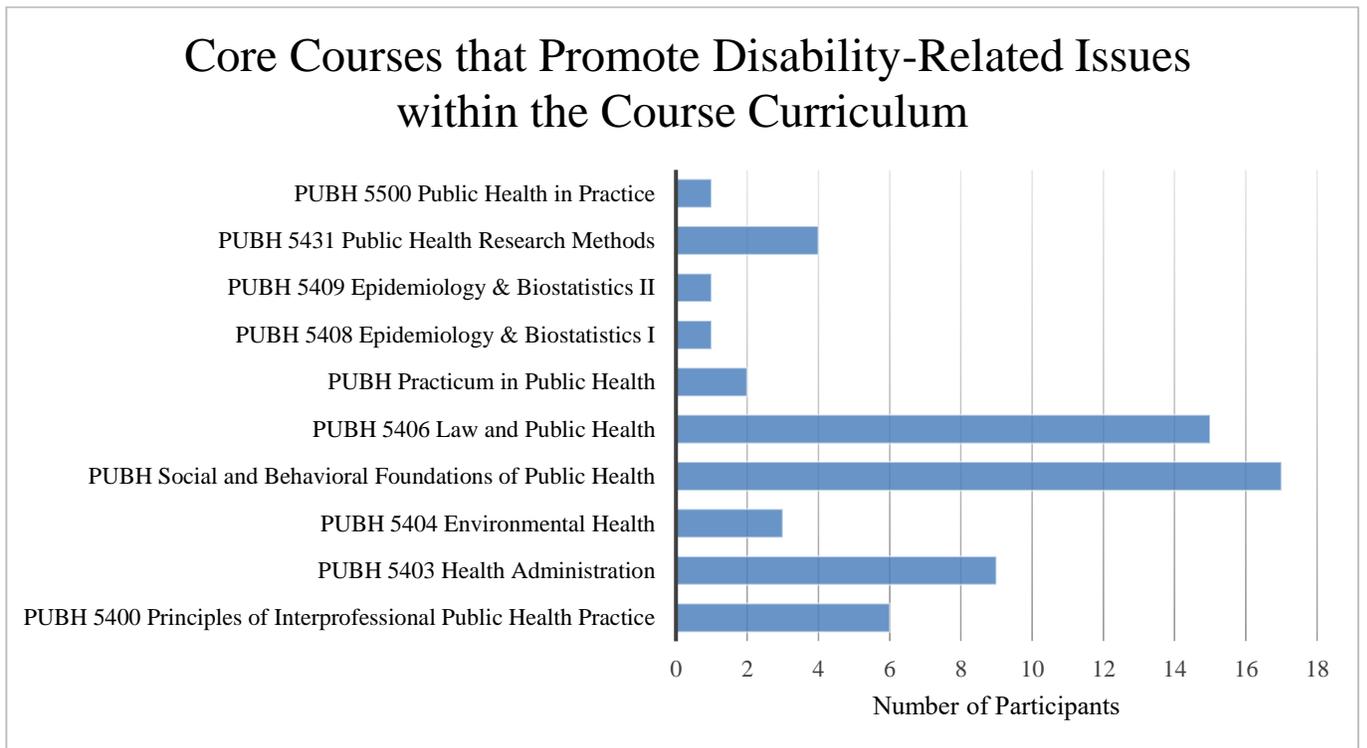


Figure 7. Core courses that promote disability-related issues within the course curriculum.



Appendix D

Write-in Comments

Interprofessional MPH training

“Really appreciated having other mid-career people with different experiences in classes. For example, there were a couple people in my disability class who worked in clinical settings and that really helped understand the reality of practice”

“I enjoyed the perspective from some social work students especially”

“I can always greatly appreciate the value of students from other programs in my classes because they bring a unique perspective of their background and academic study. I do wish more students from different programs were integrated into the MPH program to be able to have a more comprehensive learning experience AND to highlight the need for disability awareness in our society.”

UConn MPH program promotion of awareness of disability-related issues

“It's hard to recall and I chose to focus more on statistics but awareness was sometime promoted in class discussions from a practical point, e.g. environmental changes necessary for the aging population like increasing time of cross-walk signals. Americans with Disability Act was discussed in Public Health and the Law. Disability and whether a person can provide informed, non-coerced consent in research was discussed in CITI certification, as well as research methods class and Public Health & the Law.”

“I felt the online certificate program was encouraged by MPH faculty and staff”

“I learned the most about disability-related issues in my Disability Interventions class. I think one of the most important things I learned was that people aren't disabled, society makes them disabled. It was a whole new perspective for me.”

“It was through the Disability Access program and in discussion in assignments”

“In Interprofessional Development, discussing how to discuss appropriate team-based care for an individual with a disability.”

“When planning health promotion campaigns the students need to take into account the entire community of individuals (those with and without disabilities) to better suit the needs of the community.”

“Perhaps I'm biased because of my "lens" being a disabled student with a disabled child and having completed the Certificate in Disability Studies Coursework, but I feel the MPH program (instructor and administration) has been very accommodating and understanding of my limitations and flexible with time restrictions.”