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## Preparing Future Health Care Workers: An Assessment of Undergraduate Student Integrative Pre-Health Education

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Preparing Future Health Care Workers: An Assessment of Undergraduate  
Student Integrative Pre-Health Education

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Thesis in Anthropology

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**Abstract**

This paper analyzes the current state of, and demand for, integrative pre-health education in the undergraduate setting, specifically at the University of Connecticut. Students' knowledge of, exposure to, and attitudes towards complementary and alternative medicine (CAM) are assessed through a web-based survey and semi-structured interviews. This paper compares this research with surveys conducted in undergraduate, medical school, and medical professional settings to gauge current efforts to provide a more holistic approach to educating health care workers in subjects such as mind-body therapies, lifestyle contributors to health such as diet and exercise, culturally competent care, and therapeutic techniques outside of the biomedical model that may aid patient wellbeing. Additionally, this research compares students' desires to learn about CAM therapies within these populations. An assessment of CAM education is appreciable in that these therapies have the potential to contribute to the implementation of the accepted biopsychosocial model of health to replace the insufficient biomedical model that is still widely practiced today. While there is a high level of interest among all populations in learning more about CAM therapeutic techniques, such as chiropractic medicine, nutrition, and meditation, few educational institutions have provided an adequate rigorous and scientifically-based curriculum to give future health care workers enough information to develop an integrative practice. While the focus has been largely on providing integrative health education in the professional educational setting, such as medical school, this research suggests that the undergraduate setting is ideal to train future health care workers in a variety of CAM therapies to prepare students to respond to the current need to provide holistic patient care. While professional and graduate schools have a compacted curriculum, undergraduate programs have more schedule flexibility. In addition, the melting pot of pre-health care professionals in the undergraduate setting allows

for more collaboration between these careers to begin to not only create a standardized level of care, but also to build interprofessional respect and communication to foster the development of a comprehensive coordinated health care system. This research also offers insight into the current state of pre-health education at the University of Connecticut for potential program development.

## **Introduction to Integrative Medicine Education**

There is a growing interest and need to approach health care from a holistic perspective that integrates therapies considered to be outside of the Western conventional model of care. These therapies are referred to as complementary and alternative medicine (CAM). CAM is an umbrella term for a plethora of therapies, including mind-body therapies, natural products or substances, traditional cultural healing systems, and lifestyle factors such as diet and exercise that share common values in treating individuals. Abbott and Colleagues (2019) define these values as:

- a) a holistic and individualized approach to patient care
- b) belief in the innate ability of the body to heal
- c) belief in a spiritual aspect of illness
- d) humanistic, relationship centered patient-physician interactions

In contrast, the conventional practice of medicine in hospitals and doctors' offices in the United States utilizes the biomedical model of health, which solely focuses on the physiological, pathological, and biochemical manifestations of disease to treat patients. This model fails to acknowledge other variables of health, namely psychological, socio-cultural, and lifestyle factors, in treating patients. However, there is increasing use of CAM therapies around the world. According to the National Institutes of Health, 38% of adults in the United States use CAM and spend an estimated \$30 billion dollars annually on complementary practitioners, natural products, and other therapeutic self-care approaches (2016). While some of these therapies may be beneficial to patients, others may have little regulation. There is therefore a need to combine

these medical systems in order to standardize care and also expand the scope of conventional medicine to provide the best available treatment.

Integrative medicine combines conventional and complementary approaches to health in a coordinated way. The National Center for Complementary and Integrative Health (NCCIH), the United States government's leading agency for scientific research in CAM and integrative medicine, explains that integrative health,

“ . . . emphasizes a holistic, patient-focused approach to health care and wellness – often including mental, emotional, functional, spiritual, social, and community aspects – and treating the whole person rather than, for example, one organ system. It aims for well-coordinated care between different providers and institutions” (2019).

Complementary medicine can benefit patients' comprehensive health care plans within conventional practice by providing preventative treatment and chronic disease management options. In order to develop a practice of integrative medicine physicians and other health care providers need to be educated in CAM. Lack of physician knowledge about CAM is the main contributor to the formation and propagation of a dualistic medical system between CAM and conventional medicine. This system is often uncoordinated and may lack interprofessional respect. This will not only help medical systems expand individualized and preventative medicine treatments, but also address the rising frustration that patients feel when treated within the biomedical model of care. At present, physicians have minimal training and exposure to evidence-based complementary therapies. Of the medical schools that offer at least one course on complementary therapies, such courses are voluntary electives, of poor quality, and not standardized to educate future doctors about the various complementary therapies under the umbrella of CAM (Scheffer et al. 2012). However, studies have shown there is a high level of interest in learning about CAM in undergraduate premedical and pre-health student populations,

as well as medical professional student populations, relative to the low level of availability of comprehensive coursework (Liu et al. 2014). While it may be difficult to specifically add further coursework to medical students' compacted curriculum, undergraduate pre-health students have the opportunity to build a solid foundation in CAM education, patient-provider interactions, and holistic care.

The need for CAM education stems from increasing dissatisfaction with biomedicine and increasing reliance on CAM to fill areas of health care need often inadequately addressed by conventional medicine. Rates of patient dissatisfaction with conventional medicine are increasing and patients are choosing to use complementary medicine as an alternative without disclosing their CAM use to their primary care doctors (Sewitch et al. 2008). Americans seek care outside of biomedicine for a variety of reasons (Flaherty et al. 2015; Liu et al. 2014; NHSR 2015; Weiss & Lonnquist 2017), including:

- 1) the potential to treat or manage chronic diseases
- 2) avoidance of medications and unwanted side effects
- 3) lower costs relative to conventional therapies
- 4) a focus on health rather than on treating disease
- 5) a lack of confidence in the service orientation of physicians
- 6) a dissatisfaction with the authoritarian patient-physician relationship.

This list identifies patient dissatisfaction not only with treatment options available in biomedicine but also a lack of confidence in receiving the best possible care from physicians. This includes culturally competent discourse with physicians who display empathy and have a humanistic approach. It is also clear that societies' needs have shifted with rising chronic diseases linked to lifestyle factors that require more preventative care options. This suggests that



the role of the physician and other health care workers needs to expand beyond those of technician and diagnostician who defines disease and prescribes standardized procedures and medicines.

At present, studies show that physicians have only minimal training and exposure to evidence-based complementary therapies. In order to educate future health care workers to meet societal demand, students need to be aware of the broad range of complementary therapies through an evidence-based approach (Wells et al. 2015). For example, Astin and colleagues write, “Evidence emerging over the past several decades suggest that psychosocial factors can impact both physiological functioning, and health outcomes. These factors include emotional states such as depression, behavioral dispositions such as hostility, and psychological stress” (2005). CAM treatments in mind-body therapies that are lacking in clinical encounters have strong evidence to treat patients suffering from the biopsychosocial interaction of morbidity for cardiac rehabilitation postinfarction, cancer symptoms, rheumatoid arthritis, and headache disorders (Astin et al. 2005). Lack of patient satisfaction is also directly correlated with unsatisfactory socio-emotional encounters between the patient and the physician as well as the scarcity of physicians willing to talk about psychosocial factors and preventative care (Weiss & Lonnquist 2017). A focus on curing the patient at the expense of caring behaviors, such as active listening to patients’ concerns, empathetic communication, and encouragement of personal involvement in decisions, are related to socialized behaviors learned in the educational training of physicians (Weiss & Lonnquist 2017). Education related to individualized, culturally competent, and empathetic communication skills is essential to improving patient-centered health care. In spite of this need and the expectation that physicians will provide the best

comprehensive quality care, the foundation of health workers' knowledge continues to lag behind public health needs (Wells et al. 2015).

Physicians are the gatekeepers for medical services beyond primary care through referrals and educating patients about their best available options. Education of doctors, at least on the level of awareness of the different therapies available, is critical for physician confidence to refer patients to CAM services in order to provide comprehensive care and to be able to counsel patients about the best treatment options available (Abbott et al. 2011). Without basic knowledge, physicians cannot be expected to refer patients to unknown treatment. Educating physicians about complementary medicine will not only give them the tools to create more holistic health care plans for patients but will also provide the necessary background about the safety and efficacy of each CAM therapy (Flaherty et al. 2015). In contrast, the current dualistic medical system leads patients to self-diagnose using unreliable on-line sources of health information and direct-to-consumer marketing of health products. Lack of communication about CAM use presents a risk for drug interactions unknown to patients and CAM providers, as well as susceptibility of the patient to the market-based system of complementary health products that may or may not be evidence-based (Coulter 2004). In addition, it is important that other health care providers be educated in CAM to maintain standardized care across the health care team, provide additional tools to treat patients, and counsel patients so they can differentiate between effective evidence-based CAM therapies and current fads propagated by media outlets. These providers include physician assistants, physical therapists, nurses, dietitians, and other professional health care workers. Health provider education would encourage a more integrated health practice and would also alleviate unknown interactions of CAM and conventional

therapies because of the current uncoordinated care system and thereby ensure the safety of patients.

Research on attitudes of medical students, residents, and practicing physicians about complementary medicine shows that there is a desire for increased education in complementary medicine. Of surveyed medical students, 84% believe that CAM offers therapies and philosophies of practice that will benefit allopathic medicine and 74% believe an integrative practice is more effective in treating patients (Abbott et al. 2011). However, although the majority of all medical students believe that an integrative practice would be more beneficial to patients than CAM or allopathic medicine alone, there is a gap between perception and practice. One study found that 89% of practicing physicians would consider referring patients to CAM services for treatment, while in reality only 14% of physicians indicated that they actually do refer patients to complementary practitioners or utilize a complementary therapeutic technique with their patients (Sewitch et al. 2008). This gap between attitude and practice can be explained by four major barriers to physician adoption of an integrative medical practice (Sewitch et al. 2008):

- 1) lack of education about CAM in medical training
- 2) lack of hard evidence that CAM treatments are effective
- 3) lack of knowledge about potential side effects of CAM treatments
- 4) the possibility of adverse interactions with allopathic medicine.

Educational exposure to and personal experience with CAM are directly correlated with openness towards adopting an integrative practice through referrals or clinical use of complementary therapies by physicians themselves (Flaherty et al. 2015). Education is the solution to this divide between attitudes and action. However, only 39% of medical students

believe that complementary medical education is adequate today, which is also reflective of the lack of clinical use of complementary medicine (Abbott et al. 2011). This indicates that there is a need to assess current efforts to teach complementary medicine in physician training in order to improve the system and to provide future physicians the tools for a holistic health care practice.

There are three themes common in the system of educating medical students about complementary medicine. The first is that, compared to the rest of students' medical education, complementary medicine lectures and lessons are of a much poorer quality (Abbott et al. 2011). Second, complementary medical education is either biased for or against its practice (Abbott et al. 2011; Bailey et al. 2015). Third, the 64% of medical schools that do have a CAM curriculum mostly offer stand-alone CAM electives that are neither mandatory nor integrated into the systems-based knowledge of students (Scheffer et al. 2012). Liu and colleagues suggest that one major barrier that has resulted in the failure to integrate complementary medical training and patient-centered care into the curriculum of medical schools is that medical students already have a compacted course-load and adding additional educational requirements is unfeasible (2014). One potential solution is to focus on undergraduate premedical exposure to complementary therapies (Liu et al. 2014).

Undergraduate students are a suitable population to train health professional in CAM to prepare them for a more holistic medical practice. Undergraduate students have greater flexibility in their schedules compared to a more rigid and compacted curriculum for professional schooling. This allows students to explore a range of CAM therapies to give a general understanding of clinical applications. It also gives students the option to study particular therapies or even traditional systems, such as Ayurvedic Medicine, in depth. Also, courses in CAM in the undergraduate setting do not need to be limited to one educational program. For

example, a course in nutrition can be applied to a person majoring or minoring in Holistic Health studies, or can fill a general education requirement for another degree program or an independent studies major, or even an elective. This also allows students with a range of pre-health interests to collaborate and begin to build interprofessional communication skills. Finally, college life is also a time when health habits are formed for many students and courses in CAM may help students manage their own personal health (Liu et al. 2014). This may help reduce the high levels of stress for students who are navigating academia and developing good eating and exercising habits by improving student wellbeing overall. This is one step that can lead to a cultural shift in training our health care workers.

Similar to premedical requirements in math and science in applying to medical school, undergraduate students could also be encouraged to take courses that develop health care ethics, humanistic qualities, and an in-depth knowledge of CAM for medical schools and pre-health offices (Astin et al. 2005). Wells and colleagues clearly state that, “the foci needs to be directed to the appreciation for the broad range of CAM specialties, availability of evidence-based material, appropriate use of referral resources in the community and the potential application of IM [integrative medicine] to public health issues” (2015). This functional educational model would effectively integrate conventional and complementary medicine. Such an educational model will create a cultural expectation of future physicians to provide patient-centered holistic care. This change in educational standards would also represent medicine’s commitment to offer the best possible care (Academic Medicine 2002). Majors, minors, and classes in complementary medicine and integrative health are already being offered in various colleges across the United States, such as San Francisco State University (Sierpina et al. 2007). However, these programs are still limited. Expanding undergraduate integrative and complementary medicine education

can provide a strong foundation to prepare future physicians and health professionals for the changing health care needs of the American population.

### **Research Setting and Population**

My study of the need for CAM training took place at the University of Connecticut (UConn), Storrs campus, during the Spring 2020 semester. UConn currently has 19,000 undergraduate students enrolled in various programs, including a myriad of pre-health majors and minors such as Physiology and Neurobiology, Allied Health Sciences, and Dietetics, among others. The population for this study consisted of a convenience sample of undergraduate students currently enrolled at this university who are pursuing a career in health care. These careers include, but are not limited to, medical doctors, nurses, allied health professionals, and dentists, as well as other careers under the umbrella of health. All students were age 18 or older.

While students pursuing careers as doctors in medical schools have been the focus of previous research into the education of, perceptions about, and exposure to integrative medicine, this research focuses on students pursuing all pre-health careers in the undergraduate setting. All pre-health careers were included due to the importance of developing a coordinated health care system in which all professionals on a health care team can provide standardized evidence-based recommendations to patients on the use of CAM. This not only provides an academic background in complementary therapies that may be efficacious in promoting the wellbeing of patients beyond the biomedical model of care, but also ensures safety of patients by avoiding known drug interactions, particularly for dietary and herbal recommendations, and encourages patients to disclose CAM use in an open environment where questions can be knowledgeably answered rather than met with bias against all therapies under the umbrella of CAM.

Additionally, undergraduate students are the focus of this research rather than post-undergraduate pre-professional programs for a variety of reasons. First, medical schools and other pre-professional programs have extremely compacted curriculums that do not allow enough time for adequate training of health care workers. The courses that are offered in these institutions may consist of a single lecture and are often not as rigorous as other areas of these students' coursework, which creates a perception that all CAM therapies have no physiological or mental health impact to improve the wellbeing of patients. Second, undergraduate students are able to take more elective courses, which can allow multiple CAM therapies and integrative medicine topics to be assessed in the undergraduate setting. For example, a student may be able to take courses such as Health Psychology, Illness and Curing, and Nutrition, all of which are currently offered at UConn. Finally, the undergraduate setting is a melting pot of pre-health professional students. This allows for students to collaborate in pre-health integrative medicine courses to create a foundation for coordinated care and interprofessional respect beyond the classroom.

This study was conducted remotely as a result of the COVID-19 pandemic that put Connecticut in lockdown beginning May 23 and required all students to leave campus. Participants were recruited using online marketing strategies described below. Surveys were collected online via Qualtrics. Semi-structured interviews were conducted with participants recruited via a question on the initial survey. These interviews were recorded remotely via FaceTime.

## **Research Methods**

This study is a two-part investigation into pre-health students' perceptions of, exposure to, and interest in integrative medicine. Two methods were used to collect data from participants:

standardized online surveys through the UConn Qualtrics site and remotely conducted semi-structured interviews. A total of 125 students participated in the survey portion of this project. In addition, 5 students from the survey pool of participants were recruited for the second part of this study after indicating interest to complete the interview portion of this experiment via a question on the survey. A description of research methods is detailed in the following paragraphs.

Participant recruitment for the survey portion of this research was conducted through online marketing. The survey was marketed via the UConn Daily Digest, a daily electronic mailing list sent to all students, faculty, and staff at the University of Connecticut. Direct emails were also sent in coordination with multiple groups on campus, including the UConn Pre dental and Premedical Office's mailing list to registered premedical students at the University of Connecticut, the course email lists for Anatomy and Physiology I and II, and the email list for the UConn Windham Hospital Volunteer Group. A virtual informational flyer that briefly explained the purpose of the research project, contact information for investigators, and the website link to the online survey were used for all marketing avenues. An incentive was also provided to attract more students to engage in the research. This incentive was for any student who completed the survey to be entered into a drawing for a \$20 prepaid debit card and for any student who participated in an interview to be entered into an additional drawing for a second \$20 prepaid debit card. Participants were coded using a numbering system of 001 to 125 participants and a random number generator was used to choose the winner for each raffle.

A total of 125 surveys were collected through the UConn Qualtrics site. Of these 125 participants, 113 of these surveys met the criteria for data analysis. Four survey questions were used to filter participants. These items were a question on consent to begin the survey, a question on the student's current undergraduate status at the University of Connecticut, and two questions



that asked for the participant's student NetID and email address. All participants provided consent by clicking yes for the first question of the survey. Two respondents were filtered by indicating they were not undergraduate students at the University of Connecticut and were thus removed from the survey pool. The final two questions asked for the student's NetID and email address in order to record participation for taking the survey and to indicate if they wanted to take part in the interview portion of the experiment. Either of these questions could be left blank, but if no student NetID, student ID (which was not requested but often confused with NetID), or UConn email address was given there was no way to exclude duplicate surveys and ensure participant identities as UConn undergraduate students. No duplicate responses were found through these questions. However, 10 responses were removed due to failure to provide confirmation of undergraduate student status.

The survey consisted of 32 questions of which 29 were used for data analysis. The three questions not used for analysis include the initial question on consent to take the survey and the final two questions used to record student participation. The 29 content questions consisted of 13 questions single answer multiple-choice questions (six of which were select-all-that-apply multiple choice), eight fill-in-the-blank open-ended questions, and two rating tasks. A copy of the Qualtrics survey can be found in the Appendix section of this report. The overarching questions of this survey are:

1. What is your gender?
2. What is your age?
3. What is your race/ethnicity?
4. What is your religious background?
5. Are you an undergraduate student at the University of Connecticut?
6. What year of study are you at the University of Connecticut?
7. What is your major?
8. Do you have a minor?
9. Are you a registered pre-medical/pre-dental student with the UConn Pre-Medical and Pre-Dental Office?

10. Are you a self-declared pre-medical/pre-health student?
11. Are you interested in a career in health care?
12. What career are you interested in pursuing after college?
13. What are your plans after you graduate?
14. Are you involved in any extra-curricular activities during the school semester?
15. Do you have any medical/ health care training?
16. How would you define Complementary and Alternative Medicine (CAM)?
17. How would you define Integrative Medicine (IM)?
18. How would you define Conventional Medicine?
19. Are you aware of any CAM courses offered at UConn?
20. List any CAM courses that you know are offered at UConn.
21. Have you ever been educated in CAM in any of the following forms?
22. Would you like to receive more education about CAM?
23. Would you enroll in a college course in CAM if the class...
24. If offered at UConn, would you major/minor in Integrative Medicine?
25. Have you ever been personally treated with, or used, CAM?
26. If you answered no to the previous question, why haven't you considered using CAM in the past?
27. What are your primary reasons for using CAM?
28. Have you ever personally used any of the following forms of CAM?
29. Please choose a response to indicate the extent to which you agree or disagree with each statement.

Participants' general demographic information and educational background were assessed by 13 questions, numbered one to 13 in the listed survey questions above. These questions were used to define the participant pool. General student knowledge about CAM was also evaluated by asking students to define CAM in their own words in an open-ended response question, as well as indicate how they learned about CAM, personal use of CAM therapies, and perceptions of which therapies they believe to be effective. Perceptions of CAM and conventional medicine were assessed through a rating task on a 4-point Likert scale, with '1' indicating disagree and '4' indicating agree to the question, in response to four statements. The option for 'do not know' was also given by selecting the number '0'. Complementary medicine use was assessed by giving students three options to choose from for each CAM practice listed, including 'never', 'more than 12 months ago', or 'less than 12 months ago'. Reasons for using or not using CAM were

determined. Finally, desires and need for CAM-related integrated medical education were analyzed in-depth.

The survey provides quantitative data about the general pre-health student population's perceptions of, exposure to, and desire to learn about integrative medicine. Basic statistical methods were used to analyze multiple choice questions and ranking responses. Open-ended question responses were grouped into categories based-on content or attitude to be later used for discussion. Themes, key words, and overall differences between open-ended qualitative questions were analyzed.

The second part of this study consisted of semi-structured interviews conducted with participants recruited via a question on the initial survey. These interviews were recorded remotely via FaceTime. Prior to beginning the interview, the consent form was reviewed and permission asked to audio record the interview for later transcription. The goal of these interviews was to expand upon survey questions on the perceptions of, exposure to, and desire to learn more about integrative medicine as pre-health students. These interviews were transcribed and analyzed for recurring attitudes and topics related to the current state of integrative medical education at the University of Connecticut. A total of five interviews were conducted.

Student participants were asked in-depth about their use and perceptions of CAM. They were also asked about their current pre-health education, courses they want to take that are not currently available or that participants want to take but are not aware are offered at UConn, and the desire for CAM-related education. The overarching questions of the interview guide are:

1. What are you currently studying at the University of Connecticut?
2. What career do you plan to pursue after college?
3. Are you a part of any health-related clubs on campus?

4. Have you ever taken a course on patient-centered care in your pre-health courses or groups on campus?
5. What do you think when you hear Complementary and Alternative Medicine (CAM)? Integrative Medicine? Conventional Medicine?
6. Have you ever personally used CAM yourself or through a practitioner?
7. Do you think that Integrative Medicine is more or less effective than Conventional Medicine?
8. Would you be interested in taking a course on CAM?
9. Do you wish to improve anything about pre-medical/pre-health education at UConn?
10. Is there anything else that you would like to share about health and health care education at UConn?

The interview schedule contained general areas of discussion and potential probing questions based on the participants' responses. This semi-structured interview allowed exploration into topics relevant to integrative health education that were not anticipated or included in the interview guide. The point of these interviews was to discover the underlying reasons behind CAM use and the need for an integrative medicine education at the University of Connecticut. The transcripts were analyzed for key themes and issues common among students. A copy of the interview schedule can be found in the Appendix section of this report.

### **Research Questions and Goals**

This research seeks to measure pre-health students' desire to learn about complementary and integrative medicine in an undergraduate setting and to assess perceptions and personal exposure to CAM. This research will add to the growing body of knowledge on preparing future health care workers by taking a novel in-depth ethnographic approach beyond standardized surveys by using semi-structured interviews. Additionally, an in-depth analysis of pre-health students' motivations related to learning about integrative medicine provides grounds to develop comprehensive coursework on holistic health care in the undergraduate setting. The hypotheses of the study are:

- 1) The majority of students have had exposure to mind-body and natural-product CAM therapies such as yoga, meditation, nutritional supplementation, and exercise.
- 2) The majority of students have not been exposed to traditional healing systems, such as Ayurvedic Medicine.
- 3) More than half of students are dissatisfied with the current medical system.
- 4) Students want to learn more about integrative health.
- 5) Students believe that an integrative medical practice would be beneficial to patient health.

This research was developed in response to the growing interest and need to approach health care from an integrated perspective. The University of Connecticut may be able to dispense a comprehensive integrative health curriculum for students pursuing pre-health careers. Such coursework will prepare our future physicians and health care workers to address the current needs of the American population and close the gaps in patient-centered care in biomedical practice. It will also develop a degree of interprofessional respect and understanding by creating an evidence-based approach to complementary and integrative medicine. This will allow our future health care workers to make informed decisions about best care options, allow an open dialogue between provider and patient about all forms of therapy being used, and supply patients with information about the possible interactions and falsities between marketed therapies.

This research will contribute to a foundational assessment of pre-health students' desires and motivations to learn about complementary and integrative medicine in an undergraduate setting at the University of Connecticut, as well as assess perceptions, use, and personal exposure

regarding CAM. This will invigorate a need to provide comprehensive coursework and other resources about patient-centered holistic medicine in the undergraduate setting. Not only would this benefit the common good by preparing our future health care workers in the areas of greatest need, but it would also attract students to the University of Connecticut to engage in an academic holistic pre-health program that is offered in few schools today. This research will provide quantitative and qualitative information that can be used by administrators to improve pre-health programs at the University of Connecticut to address the desires of the student body and the needs of the field of health care.

## **Presentation of Data**

### ***Survey Data and Analysis***

In the survey, 29 questions were used to collect background information about students, as well as assess their perceptions of, exposure to, and knowledge about CAM. These questions were a mix of multiple choice, open-ended response, and ranking questions. The survey was analyzed in the following grouping of questions: general demographics and education, health care career pursuit and training, definition questions to assess perceptions, current undergraduate CAM education, demand for CAM education, exposure to CAM, and ranking questions on attitudes toward CAM.

### ***General Demographics and Education***

General demographic and educational background questions were used to define students in the participant pool for this research. Responses for survey questions one to eight are shown in the graphs below. These graphs provide information about population distribution based on gender, age, race/ethnicity, religious background, year of study at UConn, and declared majors and minors of students.

The majority of participants in the survey were female (81%). In addition, two students chose to identify as other (2%) and the remaining participants were male (18%). The majority of participants (96%) were between the ages of 18 and 22. Outside of this range, one student respondent represented the ages of 25, 26, 27, 29, and 40. The two main racial/ethnic backgrounds represented by this pool of participants were Caucasian (53%) and Asian (28%). The remaining participants were Hispanic/Latino (7%), Black/African American (6%), and Other (5%). No students were Hawaiian/Pacific Islander or Native American/Alaskan. The majority of students had a Christian religious background (52%) and the second highest response for religious background was 'none' (24%). Other religious representation was Hindu (10%), Jewish (5%), Muslim (3%), Buddhist (1%), and 'Other' (5%). No students identified as Sikh. All students responded 'yes' to the question of whether they were an undergraduate student at the University of Connecticut. This was one of four filtering questions as described previously in this report. Finally, all students were between year one to year four of their studies at UConn. Years two and three had higher representation than years one and four. The percentage of students in each group were: year one 16%, year two 35%, year three 33%, and year four 17%.

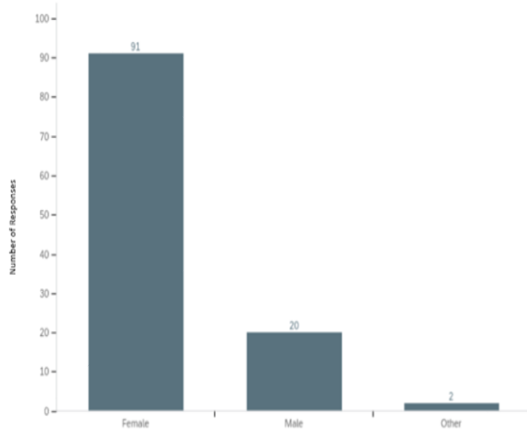
Questions seven and eight were open-ended responses that assessed the majors and minors of student participants. This question was left open-ended due to the large number of majors and minors offered at the University of Connecticut, as well as the option to create an individualized major or minor. Over 113 responses were recorded for student majors due to seven students who declared two major and one student who declared three majors. These majors were grouped by title and similar responses, such as 'Psychological Sciences' and 'Psychology'. To view the uncategorized data on student responses on majors and minors please see the Appendix section of this report.

Seven majors with the greatest student responses were represented. From most to least these majors are: Allied Health Sciences, Physiology and Neurobiology, Molecular and Cellular Biology, Biological Sciences, Pre-Pharmacy, Psychology, and Nursing. There were 20 additional majors represented by students. These majors were Spanish, Exercise Science, Pathobiology, Animal Science, Chemistry, Nutritional Sciences, Dietetics, Biomedical Engineering, Healthcare Management, Human Rights, Medical Laboratory Science, Electrical and Computer Engineering, Anthropology, Mechanical Engineering, Sociology, Elementary Education, Diagnostic Genetic Sciences, and Statistics. Finally two students indicated that they have individualized majors. Only one student gave the title for his major and that is 'Healthcare and Society.'

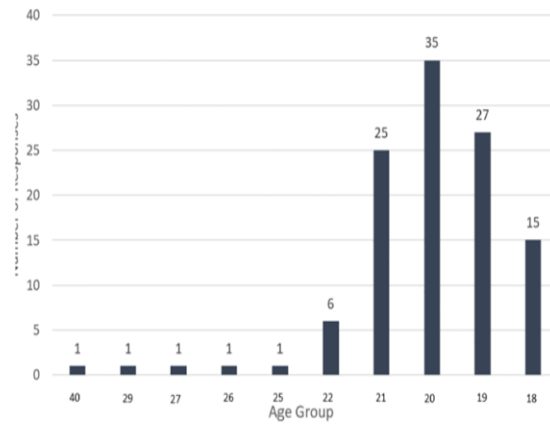
Data on students' minors were categorized and organized similarly. Only 55 students of 113 respondents had a declared minor. The top six minors represented in the graph below, from most to least are: Psychology, Molecular and Cellular Biology, Spanish, Anthropology, Neuroscience, and Mathematics. There were 11 additional minors represented by students. These minors were Biological Sciences, Chemistry, Human and Development Studies, Physiology and Neurobiology, Computer Science, Statistics, Urban and Community Studies, Computer Science, Film Studies, Healthcare Management and Insurance Studies, and Linguistics.



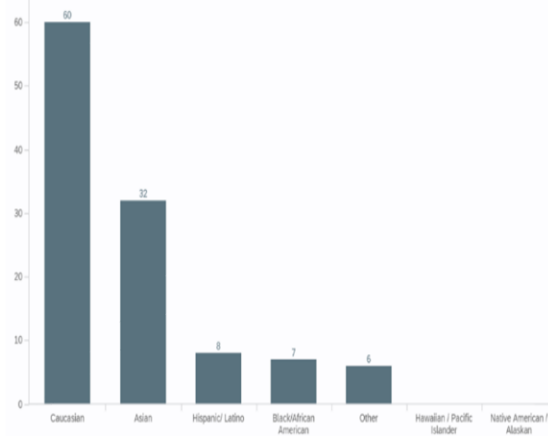
Q1: What is your gender?



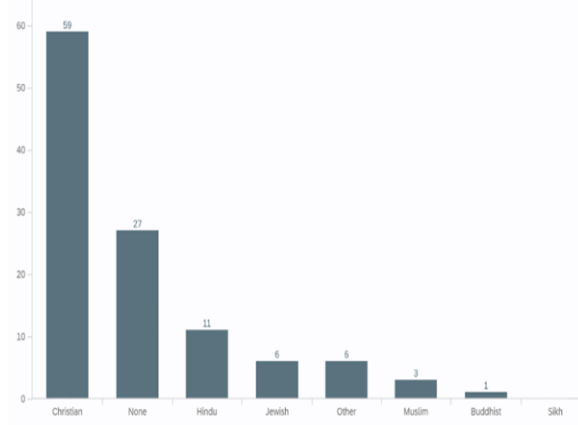
Q2: What is your Age?



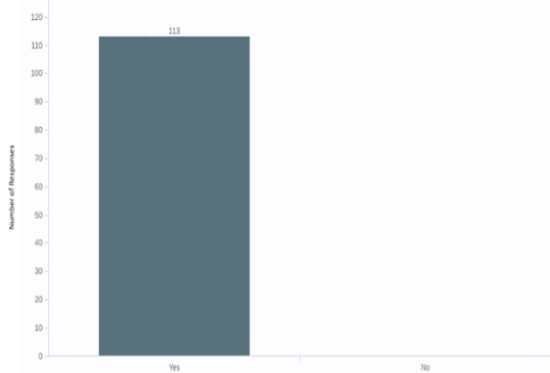
Q3: What is your race/ethnicity?



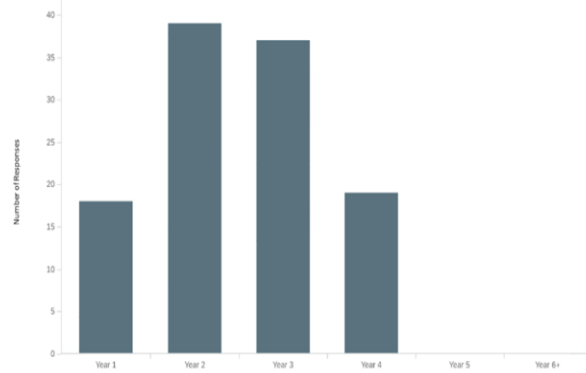
Q4: What is your religious background?

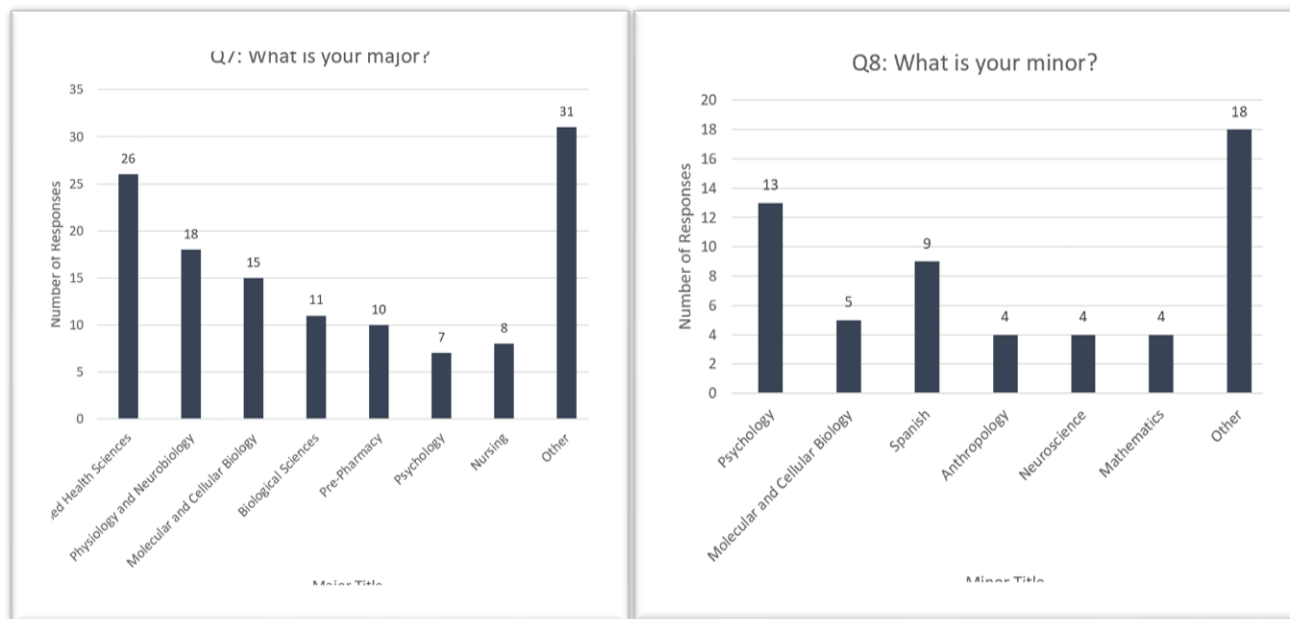


Q5: Are you an undergraduate student at the University of Connecticut?



Q6: What year of study are you at the University of Connecticut?





### *Health Care Career Pursuit and Training*

Questions about health care pursuits of participants, as well as any health care training students may have had in CAM or in conventional medicine, were used to assess the current health-focused training of students in the undergraduate setting. Responses for survey question nine to 13 are shown in the graphs and tables below.

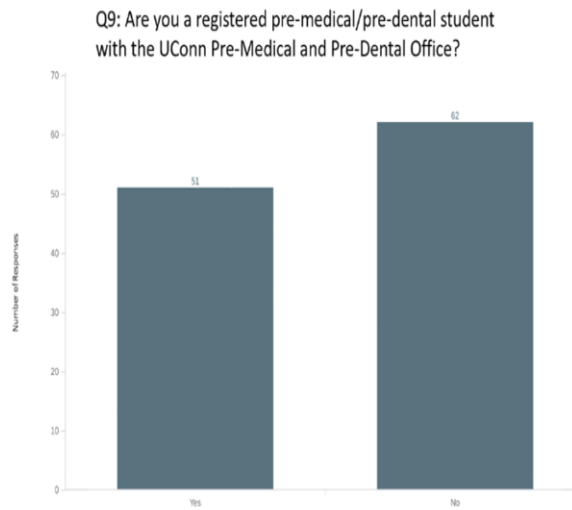
Question nine assesses whether participants were declared premedical or pre dental students. According to the survey, 55% of respondents were not registered as such in the UConn Pre-Medical and Pre-Dental Office compared to 45% of registered students. Question 10 was used to determine who self-identifies as a pre-medical or pre-health student more generally, to which 70% of student responded 'yes.' The next question further broadened the category to ask students whether they wanted to pursue a career in health care, to which 98% of students responded 'yes.' Only two students responded that they have no interest in pursuing a career in health care.

Question 12 was an open-ended question that asks students to name the career they are interested in pursuing after college. Responses were grouped according to content similarity, as will be discussed. From most to least responses, the top five careers students are interested in pursuing were: physician (41%), nurse (12%), physician's assistant (11%), pharmacy (8%), and physical therapy (6%). There were 14 other careers that students also named that do not fit into these categories. These were research, occupational therapy, registered dietician, dentistry, public health, genetic counseling, teaching, allied health sciences, engineering, pathology, hospital administration, veterinary medicine, medical technologist, and 'do not know'. The physician group included the responses 'physician', 'doctor', 'M.D.', and 'Medicine'. This category also included specific specialties that require medical training past a medical degree such as surgeon, optometry, and pediatrician. Within the nurse category the responses 'nurse practitioner', 'APRN', and 'Registered Nurse', among others, were included. It is also important to note there are 125 responses recorded due to the ability to enter more than one career per respondent.

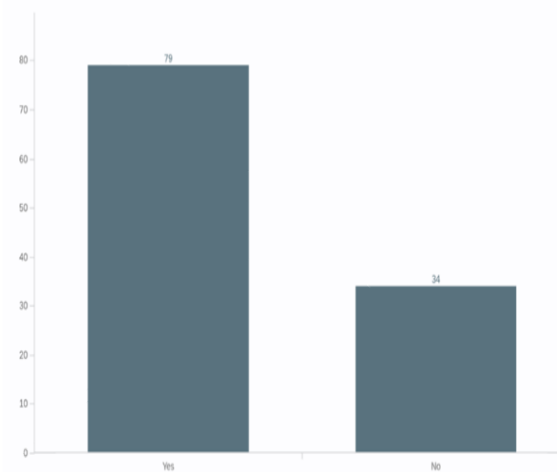
Question 13 assessed respondents' plans after graduation in a multiple choice question. Responses to this question, from most to least, were medical doctor school (42%), graduate school (22%), 'other' (15%), nursing school (8%) and physical therapy school (8%), and pharmacy school (5%). No responses were recorded for osteopathic school. This question only allowed one response per respondent.

Question 14 asked students about their involvement in extracurricular activities in a select all that apply multiple choice question. Responses given, from most to least of the top four categories were student clubs (80%), volunteer work (56%), employment (50%), and undergraduate research (44%).

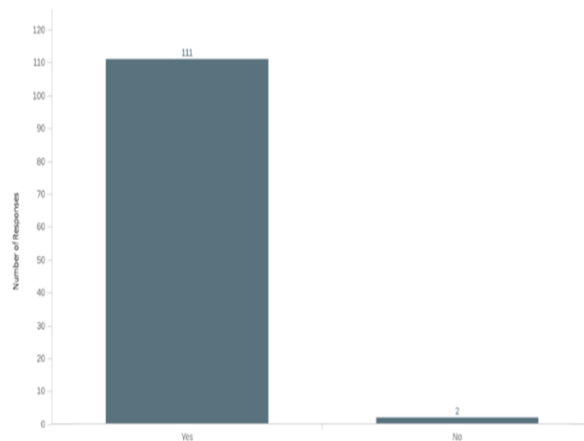
Question 15 assessed student training in different health care therapies in a multiple choice select-all-that-apply question. From most to least, responses were other (20%), emergency medical technician (11%), medical assistant (3%), physical therapy aide (3%), nutrition (2%), yoga (2%), and massage therapy (1%). No responses were recorded for the following options: health coach, personal trainer, reiki, and meditation.



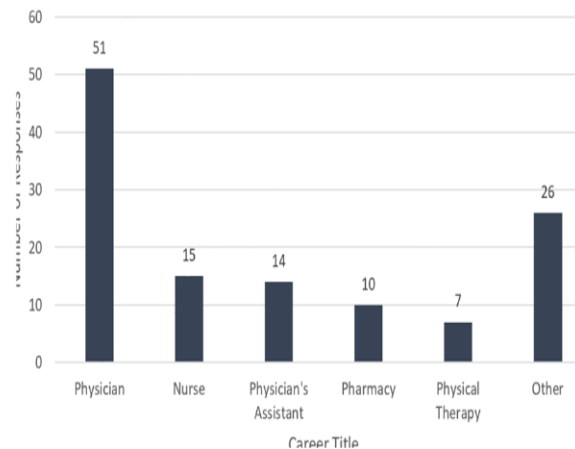
Q10: Are you a self-declared pre-medical/pre-health student?



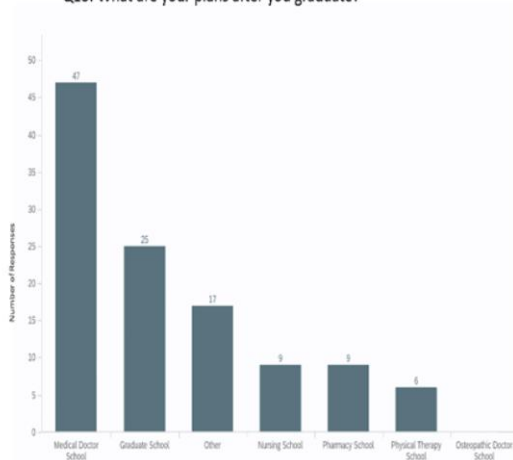
Q11: Are you interested in a career in health care?



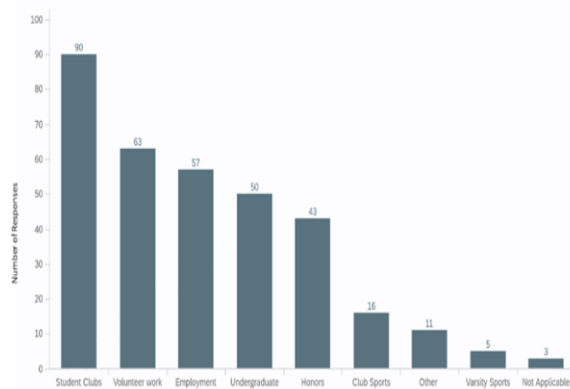
Q12: What career are you interested in pursuing after college?



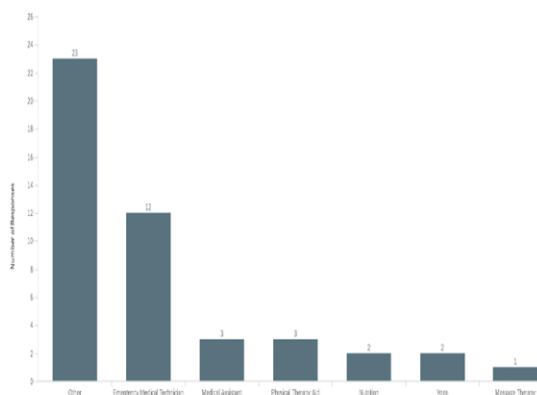
Q13: What are your plans after you graduate?



Q14: Are you involved in any extra-curricular activities during the school semester?



Q15: Do you have any medical/health care training?



### *Definitions of Complementary and Alternative Medicine, Integrative Medicine, and Conventional Medicine*

Three open-ended questions asked participants to define Complementary and Alternative Medicine, Integrative Medicine, and Conventional Medicine in their own words. This was used to assess underlying perceptions and attitudes towards each categorization of medicine and also to assess student knowledge of what each of these terms represent. Responses were broken-down into broad categories based on overall content, ideas, key words, connotation as positive or

negative, and also by differences between definitions. Some categories were too broad and were broken down into more specific subcategories to further refine grouping responses. The categorization and sorting of responses can be found in the Appendix section.

For question 16, students were asked to define complementary and alternative medicine (CAM). Responses were grouped into six categories. The first category was ‘unsure/do not know’ with 15 responses (13%). Category two was ‘outside standard care/biomedicine’ generally and two more specific subcategories that fit under category two were ‘negative attitudes/not founded in science’ and ‘treatments outside of pharmacology.’ As a whole this category had the greatest number of definitions included (50%). The subcategories within the entire category contributed 6 definitions each (5%) to the overall number of definitions in this category. These definitions focused on the word ‘alternative’ in CAM and on the division between conventional medicine and CAM, with the perspective of CAM as ‘other.’ Category three was ‘CAM as supplemental therapy’ which has a grouping of 17 definitions (15%). Category four was ‘distinguishes complementary and alternative’ and has a grouping of five definitions (44%). Category five was ‘associates CAM with a specific therapy’ and has a grouping of 8 definitions (7%). Category six was ‘CAM as natural’ and has a coupling of two definitions (21%). Category seven contained only one response for ‘unable to categorize.’

For question 17 students were asked to define integrative medicine (IM) in their own words. Responses were grouped into 10 categories with no subcategories. The first category was ‘do not know/unsure’ and had a grouping of 19 definitions (17%). The second category was ‘overall wellness/holistic’ and contained a grouping of 28 definitions (25%) making it the largest category for this definition. The third category was ‘combination of alternative and conventional medicine’ and contained a grouping of 17 responses (15%). The fourth category was ‘a

combination of general therapies’ and contained 13 different definitions (12%). The fifth category was ‘lifestyle as a factor of health’ and contained three responses (3%). The sixth category was ‘lifestyle integration of medicine’ and contained seven responses (6%). The seventh category was ‘patient and practitioner relationship’ and contained two definitions (2%). The eighth category was ‘focuses on the whole physical body’ and contained two responses (2%). Category 9 was ‘a combination of synthetic and natural drugs’ and contained two definitions (2%). Finally, category 10 was ‘unable to categorize’ and contained eight definitions (7%).

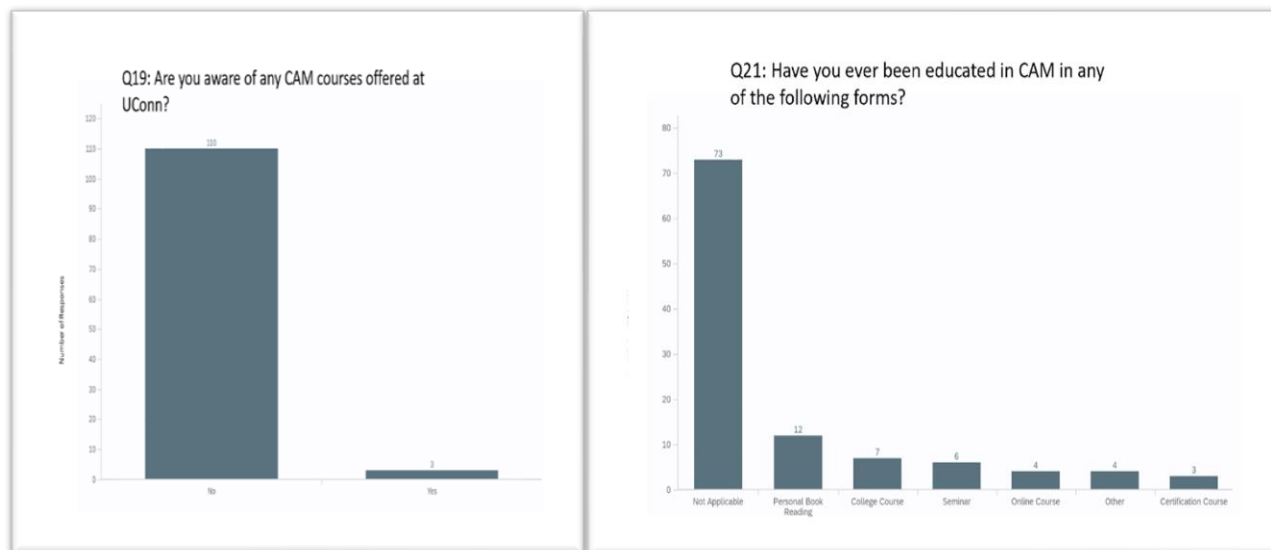
For question 18, students were asked to define conventional medicine (CM) in their own words. These definitions were grouped into seven main categories. Category one also contained three subcategories. Category one was ‘standard/normal medicine’ and contained 68 responses (60%) divided among the general listing of these categories and four subcategories. These subcategories and their respective contributions to the total of 68 definitions included ‘medicine practiced by doctors and pharmacists’ with 13 responses (12%), ‘medicine practiced by health care professionals’ with 10 responses (9%), ‘medications, surgery, and radiation’ with 19 responses (17%), and ‘evidence-based medicine’ with 5 responses (5%). The second big category, category two, was ‘drug treatment and surgery’ with 17 responses (15%). This category differed from subcategory 3 of category 1 (‘medications, surgery, and radiation’) because responses in this category were also associated as normal. In contrast, category two simply contained definitions that listed certain therapies, such as pharmaceutical interventions, without qualifying as within or outside of the norm. Category three was ‘evidence based treatment’ and contained two definitions (2%). Category four was ‘do not know/unsure’ and contained 10 definitions (9%). Category five was ‘the traditional medicine from the perspective

of each culture’ and contained three definitions (3%). Category six was ‘simply treating disease’ and contained two definitions (2%). Category seven was ‘unable to categorize’ and contained two definitions (2%).

### *Current Undergraduate CAM Education*

Three questions asked participants about their CAM education at UConn and outside of the university setting. Question 19 asked if participants were aware of any CAM courses offered at UConn currently. The overwhelming majority of students (97.35%) were unaware of any courses on CAM offered at the university. Three students (2.6%) indicated they were aware of CAM courses offered at UConn. Question 20 provided an open-ended question asking students to list any courses that they believed included CAM education. For this question five responses were given, even though only three students indicated they were aware of CAM courses offered at UConn. One response proposed that CAM courses include general premedical prerequisite science courses such as biology and chemistry. Another response simply wrote ‘meditation.’ Two students suggested the course “Patient and Healer” provided CAM education and one student suggested the course “Health and Wellness” as a part of the Allied Health Sciences Department at UConn. Lastly, prior CAM education outside the university setting was assessed. The majority of students (67%) indicated that this question ‘did not apply’ and therefore had no prior education in CAM. The next highest response was through personal reading (11%), followed by college course (6%), seminar (6%), online course (4%), other (4%), and a certification course (3%).

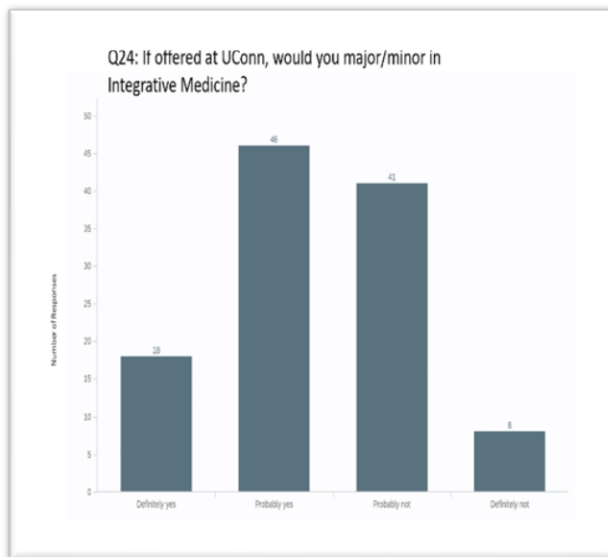
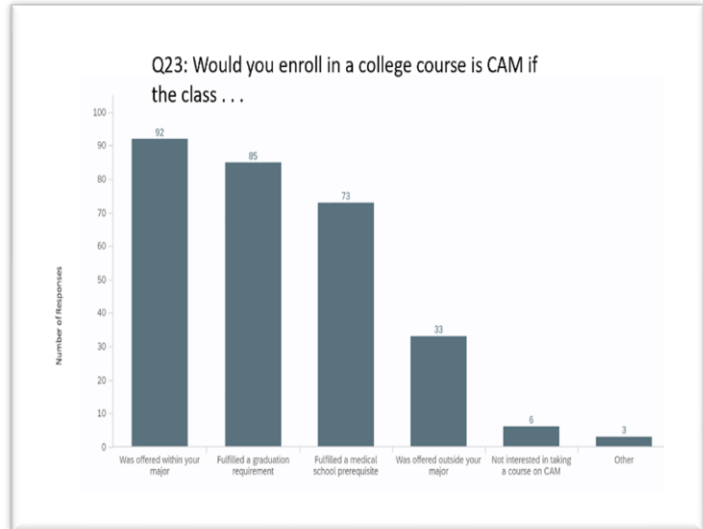
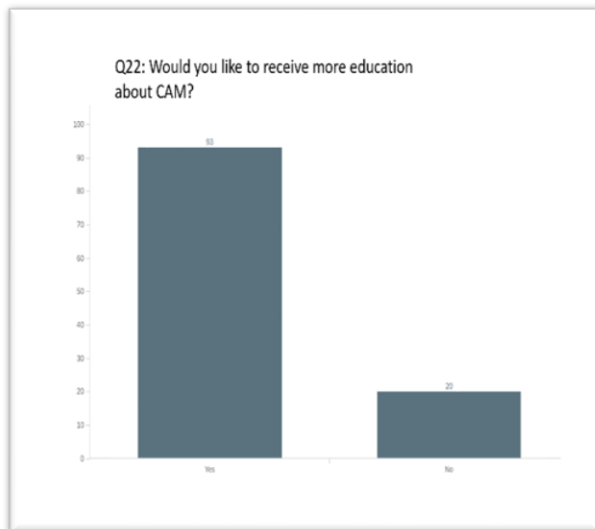




### *Demand for CAM Education*

Three questions were used to assess student demand for CAM education and potential ways to offer CAM education at UConn. Question 22 asked if students would like to receive more education about CAM. The vast majority (82%) were interested in receiving education about CAM. Question 23 asked in a select-all-that-apply multiple choice question whether the student would enroll in a CAM course for four conditions. The conditions and the corresponding number of students who were interested in taking CAM courses under each condition are: 1.) if the course fulfills a graduation requirement (85 students or 75%); 2.) if the course is offered within the student's major (92 students or 81%); 3.) if the course is offered outside of the student's major (33 students or 29%); 4.) if the course fulfills a medical school prerequisite (73 students or 65%). In addition, there are two other options students could choose from, which were 'not interested in taking a course on CAM' and 'other.' Only six students (5%) were not interested in taking a course on CAM. Three students (3%) were interested in taking CAM courses in other conditions or formats. Lastly, question 24 asked participants if they would major

or minor in Integrative Medicine if the option were available. Eight students responded definitely not (7%), 41 students responded probably not (36%), 46 students responded probably yes (41%), and 18 students responded definitely yes (16%).



### *Exposure to CAM*

Four questions in the survey assessed exposure to CAM therapies and reasons for CAM use. Question 25 asked if students have ever been treated with CAM or used a CAM technique in a yes or no question. The majority of students (60%) have never used CAM. Question 26 asks

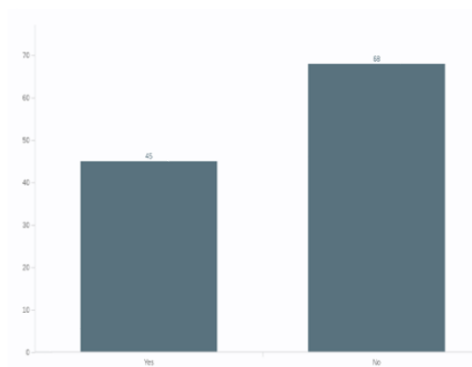
for those students who answered no to question 25 (a total of 68 students), why they haven't considered using CAM in a select-all-that-apply multiple choice. Seven response options are given. From most to least responses for each option, students have not used CAM because: they are not familiar with CAM (48 students or 71%), have been healthy (26 students or 38%), were not recommended or referred by a doctor (26 students or 38%), not applicable (27 students or 40%), CAM is not effective (3 students or 4%), and financially unaffordable (3 students or 4%). No responses were given for the option other. Question 27 assessed the primary reasons students used CAM for those who answered yes to question 25 (45 students). Ten options were given in a select-all-that-apply format. From most to least, students used CAM because a friend or relative recommended it (38 students or 84%), it is effective (29 students or 64%), curiosity (26 students or 58%), less side effects (18 students or 40%), conventional medicine did not help (17 students or 38%), personal philosophy (16 students or 36%), financially affordable (14 students or 31%), doctor or practitioner recommendation (13 students or 29%), and other (3 students or 7%). In addition 59 students responded that the question was not applicable.

Lastly, student exposure to 20 different CAM therapies were assessed. For each therapy the student was asked have you ever personally used any of the following forms of CAM and three choice options are given: never, more than 12 months ago, and within the past 12 months. This data can be seen in the table below and a breakdown of each CAM therapy used can be found in the Appendix section. The therapies assessed were Ayurvedic Medicine, Homeopathy, Naturopathy, Traditional Chinese Medicine, acupuncture and acupressure, aromatherapy, biofeedback, chiropractic, diet, dietary supplements, exercise, healing touch, hypnotherapy, massage therapy, meditation, natural products, osteopathic manipulation, Pilates, reflexology, relaxation techniques, tai chi, and yoga. The top six CAM-related therapies that students have

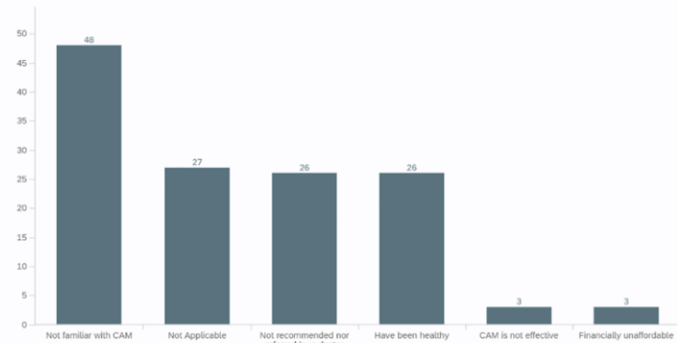
used in the past 12 months, from most to least, were exercise (81%), diet (50%), relaxation techniques (45%), dietary supplements (43%), natural products (36%), and meditation (35%).

The top six CAM-related therapies that students have never used were biofeedback (97%), osteopathic manipulation (95%), tai chi (95%), reflexology (94%), hypnotherapy (94%), and healing touch (91%).

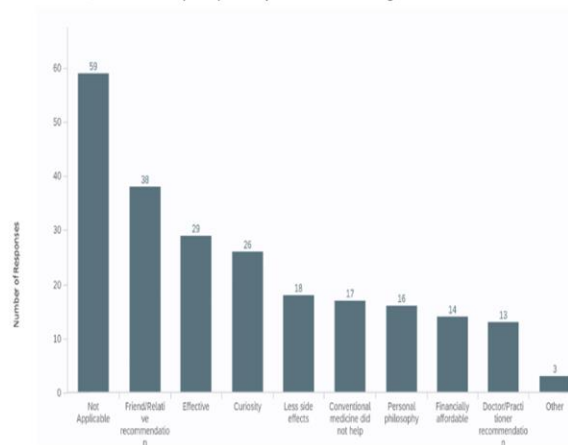
Q25: have you ever been personally treated with, or used, CAM?



Q26: If you have never personally used CAM, why haven't you considered using CAM in the past?



Q27: What are your primary reasons for using CAM?



	Never		>12 mon.		<12 mon.		Total Responses
<b>Ayurvedic Medicine</b>	92.73%	102	1.82%	2	5.45%	6	110
<b>Homeopathy</b>	90.09%	100	5.41%	6	4.50%	5	111
<b>Naturopathy</b>	88.18%	97	7.27%	8	4.55%	5	110
<b>Traditional Chinese Medicine</b>	87.27%	96	9.09%	10	3.64%	4	110
<b>Acupuncture/Acupressure</b>	89.19%	99	5.41%	6	5.41%	6	111
<b>Aromatherapy</b>	72.73%	80	4.55%	5	22.73%	25	110
<b>Biofeedback</b>	97.27%	107	2.73%	3	0.00%	0	110
<b>Chiropractic</b>	73.87%	82	16.22%	18	9.91%	11	111
<b>Diet</b>	35.71%	40	14.29%	16	50.00%	56	112
<b>Dietary Supplements</b>	41.82%	46	15.45%	17	42.73%	47	110
<b>Exercise</b>	12.61%	14	6.31%	7	81.08%	90	111
<b>Healing Touch</b>	90.91%	100	6.36%	7	2.73%	3	110
<b>Hypnotherapy</b>	93.64%	103	5.45%	6	0.91%	1	110
<b>Massage Therapy</b>	60.91%	67	20.91%	23	18.18%	20	110
<b>Meditation</b>	51.82%	57	12.73%	14	35.45%	39	110
<b>Natural Products</b>	58.56%	65	5.41%	6	36.04%	40	111
<b>Osteopathic Manipulation</b>	94.55%	104	1.82%	2	3.64%	4	110
<b>Pilates</b>	68.18%	75	11.82%	13	20.00%	22	110
<b>Reflexology</b>	93.64%	103	4.55%	5	1.82%	2	110
<b>Relaxation Techniques</b>	42.73%	47	11.82%	13	45.45%	50	110
<b>Tai Chi</b>	94.50%	103	2.75%	3	2.75%	3	109
<b>Yoga</b>	33.33%	37	22.52%	25	44.14%	49	111

### *Attitudes Toward CAM-Ranking Questions*

The last question of this survey consisted of a series of four statements that students ranked on a four point Likert scale with the options of disagree, somewhat disagree, somewhat agree, and agree, in addition to the option unsure/don't know. Data for these questions can be found in the table below.

#	Field	Disagree		Somewhat disagree		Somewhat Agree		Agree		Unsure/Don't Know		Total
1	I am satisfied with the current medical system.	22.32%	25	27.68%	31	35.71%	40	10.71%	12	3.57%	4	112
2	My undergraduate education is adequately preparing me for a career in health care.	5.36%	6	17.86%	20	41.07%	46	28.57%	32	7.14%	8	112
3	CAM is not related to my career goals.	33.04%	37	34.82%	39	11.61%	13	5.36%	6	15.18%	17	112
4	I am familiar with CAM.	28.57%	32	27.68%	31	29.46%	33	8.04%	9	6.25%	7	112

### ***Interview Data and Analysis***

Five interviews were conducted with participants recruited from the survey pool using question 30 of the survey. In this section, each interview will be discussed separately.

Specifically, this analysis will focus on the educational background, perceptions of CAM, and areas of focus that each participant stressed in their interviews. A transcription of interviews one through five can be found in the Appendix section of this research report.

#### ***Interview One: Senior, Female, Allied Health and Spanish***

Participant one was a graduating female student at the University of Connecticut. She is a dual major student studying Allied Health Sciences and Spanish. She is attending medical school this Fall. She feels that the Allied Health track allowed her to take courses related to health that were beyond her premedical prerequisite courses, which include basic science courses such as biology, physics, chemistry, and biochemistry. She notes some of the titles of her Allied Health courses: Health and Wellness for Life, Patient and Healer, Public Issues in Health, and My Fitness. The first two of these courses were two courses mentioned by participants in the survey that include CAM education. She noted that some of these courses include a focus on diet and exercise as a means of maintaining personal health.

She views conventional medicine as, “like going to the doctor’s and getting prescribed medicine”, while CAM is outside this model and associated with the concept of being “holistic” and a form of “self-help” therapy. She views integrative medicine as a means to provide preventative medicine options in treating patients, while the current model is better for acute “emergency and trauma” situations of illness or disease.

When asked about taking courses in CAM, she indicated she would have been very interested if she were not graduating from UConn or had heard about CAM courses when she

was a freshman. However, she is more interested in taking CAM courses as optional for-credit courses for her major rather than having a course be a core requirement. She noted that having a required core course may “deter them [students] away from taking the course.” In addition, she would have been interested in minoring or majoring in CAM but would have had a double major if she had the option. She would not have only majored in CAM.

She spoke at length about how the number of options of study at UConn are “overwhelming.” She expresses frustration at not having known about certain courses, opportunities, or educational choices she could have made that she found out were offered at UConn only after it was too late to change. She says, “Like for example, if I was a freshman, or if I had time left, I would major or minor in Global Health. Like there’s a program for that! But I wasn’t aware until it was too late.” She expresses her frustration about her preconception about what she needed to study to get into medical school, particularly that she thought she had to remain focused on basic science courses. She did not realize, again, that she had so many more options that would have allowed her to expand her area of focus in health while still allowing her to take all the required courses, and be a viable candidate, for medical school. She suggests that students need to have an increased awareness of the various options available for pre-health students to study, including CAM courses and if a CAM major or minor were offered, similar to the individualized major in Global Health. When asked about what solutions she suggests to solve this problem she provides five main recommendations:

1. Provide students with informational pamphlets to administer written and concrete options that students can refer to in learning about pre-health majors, minors, and classes that students can take at UConn to make informed educational decisions.
2. Encourage or mandate more contact between students with their advisors or department heads for greater informational exchange.
3. Encourage advisors to email students more information on educational decisions. These emails can be mass emails to all of the students under the advisor’s care, but the goal is to have more personal contact and dialogue thereafter. In addition, emails

- can be more tailored to a particular grouping of students due to close contact with an advisor who may be more aware of the students' interests and the available course options that students may take advantage of.
4. Develop a FYE (freshman year experience) or orientation course to allow incoming freshmen to learn more about the options available to them in their area of interest. However, she cautions that this option should be done over time to not overwhelm incoming freshmen.
  5. Create more experiences throughout the year for students in pre-health to learn more about the different majors, minors, and opportunities available to students.

Overall, this participant was interested in expanding her pre-health foundation. As a senior, she is now aware of many educational opportunities at UConn that she is too late to participate in that could have been beneficial to her pre-health career. She believes that CAM courses may be interesting to pre-health students and provide a stronger foundation to address patient needs. Such opportunities and other pre-health experiences need to be better advertised to increase student awareness and provide the opportunity of students to develop an expansive pre-health educational background.

*Interview Two: Junior, Female, Allied Sciences and Anthropology*

Participant two was a female junior undergraduate student at the University of Connecticut. She is a dual major student and her areas of study are Allied Health Sciences and Anthropology. She is interested in going to medical school upon graduation and is applying for the next cycle. Some of the courses she is taking for pre-health outside of standard medical school prerequisite courses include Counseling and Teaching for the Health Profession and Management in the Health Profession. She is also interested in taking the course Medical Anthropology in the future. She finds that her Allied Health major is beneficial to her career in health care. As she expresses, there is another side to health care outside of general anatomy and physiology. She is especially interested in the intersection of mental health and physical manifestations of illness. She describes the importance of being culturally competent in terms of



mental health, and other health-related conditions, in treatment and care. For example, she says, “Like when people say ‘mental’ in my language it’s like you’re actually borderline insane crazy – like that sort of stereotyping – but mental health is a different word.”

When asked what she thinks about when she hears the phrases CAM, Integrative Medicine, and Conventional Medicine, she emphasizes the importance of developing a more individualized medical model of health care. In relation to conventional medicine she says, “[W]e’re [the United States] on that track to medicalization where everything . . . has to have some sort of pharmaceutical solution when it may not be the case.” She also notes there are other ways to treat patients beyond prescribed drugs and that “individualized medicine”, which is the term she uses for integrative medicine, may provide more treatment options on a case-by-case basis for each patient to have the best possible care. She includes factors such as patients’ “lifestyle choices, their genetics, environmental factors” and other variables that are critical to assessing a person’s overall health in order to determine the most effective and least invasive form of treatment.

She is also interested in taking courses on CAM. When asked if she would be interested in minoring or majoring in Integrative Medicine, she expressed her interest. She would want an actual degree to be offered because students outside of the degree could, “have the option to take it as an elective or a major.” Classes she wants to see make up such a degree include courses discussing mental health and how it effects overall wellbeing across different cultural perspectives, as well as having a course that provides information on treatment methods outside of the physician focus on pharmaceuticals. Overall, she wants a generalized view of CAM rather than to specialize in any one form of therapy. This would aid her path towards becoming a physician and increasing her awareness of the treatment options available. Finally, she wants to

see pre-medical education in general have a greater focus on public health. When asked about where she gets her information to help making educational career decisions she notes that her advisor is her main source of information through in-person contact and discussions.

*Interview Three: Freshman, Male, Molecular and Cellular Biology, IM Healthcare and Society*

Participant three is a male second semester freshman undergraduate student at the University of Connecticut. He is in a program that offers conditional acceptance into UConn Health Medical School that he applied for and was accepted into when he was in high school. He is a double major in the areas of study of Molecular and Cellular Biology, as well as an individualized major in Healthcare and Society. He explains that his individualized major, “focuses on really how different cultures view health and how we can contribute to their healthcare system and vice versa.” Some of the courses related to pre-health that he is taking for this individualized degree go beyond the basic prerequisite medical school science courses and include Medical Anthropology, Introduction to Global Health, Health Care Management, Health Care Industry Analysis, Health Law and Policy, Clinical and Social Issues in Health Care, Epidemiology, and the Sociology of Health. He believes that his area of study is important to his future career as a physician where he is “going to be treating a lot of different kinds of patients . . . so it’s important to understand where they come from culturally, what their backgrounds are, why they may view a certain treatment differently than how I view a certain treatment.”

When asked about how he views CAM compared to Conventional Medicine he associated CAM with the “Eastern hemisphere” of the world, largely due to his grandparents use of Ayurvedic Medicine. He also associates CAM with osteopathic medicine in the United States. He believes that CAM utilizes more natural resources rather than pharmaceutical interventions, which are the basis for Conventional Medicine. From his own experience, he believes that

certain CAM treatments offer “simple solutions” to some areas of health and disease that can aid conventional pharmaceutical treatment options. In particular, he discussed how he treats an annual seasonal sinus infection that he is plagued with by utilizing steam and a neti pot, which are treatment options gained from Ayurvedic Medicine.

“I get a sinus infection every year . . . something as simple as just putting hot steam on my face really helps more than antibiotics can at times . . . I’ve noticed that the combination of the two is really the most effective. If I was only to use steam or the neti pot I don’t think my sinus infection would clear as fast as if I used the antibiotics, but the antibiotics work a lot more effectively if I use it in conjunction with this steam and the neti pot.”

He has the attitude that CAM can be supplementary to conventional medicine and aid in patient treatment.

When asked about wanting to learn more about CAM in the undergraduate setting, participant three emphasized that he would be interesting in taking courses as electives. He notes that electives can fit well in a variety of student plans of study, particularly for pre-health students. To determine what courses to take, he gets the majority of his information from his academic advisors and simply taking courses in a certain area of study, such as Anthropology, that piques his interest and makes him want to learn more. Finally, he would like to see a shift in how pre-health students, particularly students who are on track to go to medical school, choose their area of study in college. He believes there is a pervasive ideology among pre-medical students that they have to complete a list of standardized tasks and science courses in the undergraduate setting. Instead, he describes the benefit of a cultural shift in which students understand that, as long as they are well-rounded and complete the prerequisite courses for medical school, there are wider areas of study and courses that students can take to develop a strong foundation for a career in health care beyond Biology and similar basic science degrees.

He believes the pre-health curriculum can include courses like CAM and other subjects that will benefit students.

*Interview Four: Sophomore, Female, Diagnostic Genetics Sciences Program*

Participant four is a female sophomore Undergraduate student at the University of Connecticut. She is in the Diagnostic Genetics Sciences program. Her plan is to enter a Master's program in genetic counseling after graduation. Some courses in her pre-health career include Immunology, Genetics, Cytogenetics, and Microbiology. She identifies as a pre-health student although she feels that others may not categorize her as such because she is not pursuing a medical degree. She emphasized this point multiple times throughout the interview that there seems to be a divide between her area of study, as well as other pre-health care careers, and students studying to become medical doctors.

When asked about her views of CAM she said, "I guess whenever I hear 'alternative' I'm a little bit like skeptical, just as someone from like the scientific community . . . you're just not sure if it's going to work or not." However, with experiences in Pilates, yoga, and deep breathing, she finds that these practices, which are CAM therapies, are beneficial in managing stress and therefore personal health. She believes that integrative medicine can be associated with "personalized medicine", in which multiple factors that contribute to health, such as genetics and mental health, are evaluated to determine the best course of treatment for each patient. In contrast, she associates conventional medicine with a "one-size-fits-all approach" to care.

She expressed interest in learning more about CAM but said she simply doesn't have room in her schedule or educational plan to take courses or include an additional minor or major in CAM. However, when choosing classes she sometimes has one or two class openings to fill

each semester and at those times she would be interested in taking a CAM course if she was aware of any such courses being offered. Also, she would be more interested in taking a course on CAM if she could count those course credits toward her overall major. The only course that she is aware of that can be associated with CAM is “Patient and Healer”. However, she says that she has experienced a major barrier in taking the course as a pre-health student outside of the pre-medical school track and therefore is unable to take the course. She would like to see more courses in CAM offered to address empathetic practitioner care behaviors and courses on counseling patients.

Overall, she wants to see more networking and collaboration between pre-health students to feel included within the pre-health community and not feel outside this community because she is choosing a health care career other than being a medical doctor. She suggests there should be multiple networking events and fairs throughout the year – possibly even an open club – that allows students to get to know students studying pre-health subjects in a variety of areas to pursue various pre-health careers.

*Interview Five: Freshman, Female, Human Development and Family Studies*

Participant five is a female freshman undergraduate student at the University of Connecticut. She is majoring in Human Development and Family Studies and is considering changing her major to one that is more involved in pre-health studies. She is interested in a career in psychology as a counselor for children. When asked about what she thinks of when she hears the term CAM, she specified Traditional Chinese Medicine, which she grew-up with and her family continues to practice in her household. She also thinks of massage therapy and tai chi. She has been exposed to herbal medicine and cupping, both are which are therapeutic techniques under the broad medical practice and view of Traditional Chinese Medicine. She is not sure she

believes in the effectiveness of these therapies, but she says that her parents have a kit to do cupping at home and her parents use this kit rather than go to the Chinese medical clinic in order to relieve back pain. She says that her parents find it very effective in relieving back pain.

She is interested in taking courses in CAM as an elective and possibly a minor. She is specifically interested in taking a minor in Traditional Chinese Medicine. When making decisions about courses to take in her schedule she gets most of her information from her academic advisor and her friends at UConn. She notes that pamphlets may be helpful in making educational decisions about which courses to take in the future.

## **Discussion**

This research assessed pre-health student education in the undergraduate setting at the University of Connecticut. The convenience sample of students do not represent the entire undergraduate population at this university, but instead provide a sampling of students interested in pursuing a degree in health care, including physical therapists, physician's assistants, and medical doctors, among others. The major defining demographic characteristics of this sample are female (81%), between the ages of 18 and 22 (96%), Caucasian (53%) or Asian (28%), and Christian (52%) or nonreligious (24%). All students were currently enrolled undergraduate students and age 18 years and older at the time of this study.

The majors that these pre-health students are pursuing are largely based in the hard sciences. The top seven majors that represent 80% of responses included Allied Health Sciences, Physiology and Neurobiology, Molecular and Cellular Biology, Biological Sciences, Pre-Pharmacy, Psychology, and Nursing. Similarly, student minors are largely science-based. The top six minors that represent (71%) of the 55 responses given are: Psychology, Molecular and Cellular Biology, Spanish, Anthropology, Neuroscience, and Mathematics. Spanish and

Anthropology are notable exceptions that may provide a more culturally competent background for students. CAM education may be able to be used as credits towards each of these majors, especially if presented in a scientific research-based approach to presenting solutions.

### *Knowledge of CAM*

Of surveyed students, 98% are planning to pursue a career in health care, while only 45% are registered pre-medical or pre-dental students. This data is relatively consistent with responses given for the particular careers these students are pursuing. The top five careers are physician (41%) not including dentists, nurse (12%), physician's assistant (11%), pharmacy (8%), and physical therapy (6%). The majority of students are pursuing careers that entail direct patient-provider interactions in the clinical setting. These students will have the potential to develop a discourse with their patients about lifestyle, medicine, and holistic care in order to foster preventative medicine strategies to improve the overall wellbeing of their patients. However, these they have had minimal training in specific CAM therapies to suggest or provide for patients. They know most about nutrition (2%), yoga (2%), and massage therapy (1%). However, 20% of students have had other training related to health care that were not explicitly identified by participants but may include more conventional medicine, such as a training as a crisis counselor, which was not an option given on the survey but was indicated by two interview participants. The health care training of these students can be further assessed in future research to determine whether more students have had CAM-related training. However, it is unlikely that many students have had training in CAM. Survey data indicates that 64% of students have had no educational exposure to CAM. For students who have been educated in CAM, it was largely through unstandardized forms outside of the university setting, such as personal book reading, which may or may not provide students with accurate information. A small minority of students

indicated that they have had some exposure to education in CAM through a college course, seminar, online course, or certification program.

### *Use of CAM*

Students' personal use of CAM was also assessed for 20 different therapies. As predicted, most students used exercise (81%) within the past 12 months as a means to maintain personal health and exercise represents the number one utilized CAM-related form of preventative medicine. However, other mind-body and natural product therapies were not used as much as the researcher predicted. Although these are the top-reported therapies, overall use within the past 12 months was less than majority for diet (50%), relaxation techniques (45%), dietary supplements (43%), natural products (36%), and meditation (35%). However, lack of use and exposure to traditional healing modalities was predicted to be and was extremely low, with students reporting that they have never used each healing system asked about: Ayurvedic Medicine (93%), Homeopathy (90%), Naturopathy (88%), and Traditional Chinese Medicine (87%). It is important to note that medical systems that are increasingly accepted in conventional medicine still had a high level of reported never used: osteopathic medicine (95%) (particularly osteopathic manipulation) and chiropractic (74%). These healing modalities are highly associated with culture and an exposure to these therapies in the clinical setting, either through personal use or shadowing experiences, is important to develop culturally competent care.

### *Interest in CAM*

Regardless of this lack of education in CAM, there is a high interest level among students in receiving more education in holistic therapeutic techniques as predicted. The majority of students (82%) would like to receive more education in CAM in the undergraduate setting and only 5% of students have no interest in learning more about CAM. In response to the statement



‘CAM is unrelated to my career goals’ the majority of students responded that they disagree (33%), somewhat disagree (35%), or simply are unsure (15%), mostly likely due to having little exposure to CAM to be able to respond to that statement. A total of 17% of students agreed or somewhat agree with that statement. The majority of students are interested in taking courses for credit to go towards their majors to fulfill graduation requirements (75%) or simply if the course was offered within the students’ majors (81%). There may be a difference between these responses due to interpretation of making the course a core required major course for the first response or making it an elective for-credit course under a subcategory of potential credit to courses to take for a major, which provides more flexibility for undergraduate scheduling. Additionally, 46% of students are interested in minoring or majoring in integrative medicine, if the option were available. Although there are courses in CAM currently available at UConn, such as the course Illness and Curing, 97% of students have indicated they are not aware of any such courses offered.

The option to take CAM courses and the awareness of these courses within each major is key. This idea was explored in each interview with participants. Students want the option to take courses in CAM regardless of their educational decisions to major or minor in a particular subject. Students are interested in taking CAM courses as credits toward their major or as elective courses. Nearly half of all students surveyed are also interested in majoring or minoring in integrative or holistic medicine. Although there is currently no such program offered at UConn and further courses would need to be developed in order to provide comprehensive training in holistic medicine, there are courses in CAM currently offered. Advisors seem to be the main source of information for student’s educational decisions. Advisors provide important one-on-one attention to students to help them navigate the vast number of opportunities available

at UConn for pre-health students in particular. However, students may not be aware of these opportunities, including courses that may help pre-health students develop preventative health care skills through their undergraduate curriculum. One senior in her interview described navigating UConn programs as “overwhelming” and “frustrating” because she learned about many opportunities too late. For example, she would have developed an individualized major in Global Health rather than take Allied Health Sciences if she had been cognizant of the individualized major program as a freshman or sophomore. Undergraduate advisors therefore provide an avenue to improving undergraduate awareness of CAM-related courses that may benefit pre-health students and a means to disseminate further more information about efforts to provide CAM education in the future through emails, pamphlets, or discussions on options available. Developing a major and minor in Holistic Health would not only provide students the option to complete such as degree, but also provide a defined template for advisors to disseminate to students interested in learning more about CAM.

### *Interview Findings*

Interviews provided greater insight into the current need for integrative medical education in the undergraduate setting and motivating factors that drive student interest in CAM. All five interviewed students believed that treating patients with a combination of integrative medicine and CAM would benefit overall patient wellbeing and improve health outcomes. One participant in particular noted that a combination of therapies taken from conventional and Ayurvedic medicine is better than either alone in treating a recurring annual sinus infection. All students wish to have some background in CAM in order to provide such lifestyle-related therapeutic tools to their future patients. However, most students would prefer to have a general education in CAM to be aware of the vast array of available therapies. While one student said

she was specifically interested in Traditional Chinese Medicine, a broad curriculum of CAM would be the most beneficial for pre-health students in the clinical setting to be aware of the most effective treatments for common illnesses. UConn may also be able to provide “concentrations” within a holistic health major, if offered, so students could focus more specifically on a particular therapy of interest. Such concentrations may include Traditional Chinese Medicine, Nutrition, Natural Products and Supplementation, and other areas of specific interest if enough courses are offered within the subject area. Having a broad understanding of CAM therapies will also help students be able to respond to patient concerns about fad diets, products, and techniques that may or may not be effective or even healthful to practice. If needed, once students enter their respective health care careers, they will also have the options to refer patients to professionals trained in a specific CAM therapeutic technique and will be able to do so with recommendation of evidence-based therapies. Finally, a broad educational background for all pre-health students will encourage collaboration among students pursuing various pre-health careers in the undergraduate setting, help to develop interprofessional respect, and begin to shift the culture of health toward culturally competent and coordinated health care system.

## **Conclusion**

It is clear that there is a growing need to provide future health care workers with the tools to treat patients utilizing a more holistic health model and preventative health techniques. Rising rates of chronic disease have been unsuccessfully addressed by the biomedical model of care. This model fails to include the psychological, social, environmental, and lifestyle factors that contribute to disease. While health professional programs may have little room to provide such education due to compacted curriculums, Undergraduate students are a potentially ideal

population to begin training future medical professionals in CAM. The college setting provides a degree of flexibility to address the range of factors that contribute to the wellbeing of an individual within the bio-psychosocial-environmental model of health and illness. While there are some courses offered in CAM and culturally-competent care at UConn currently, students are largely unaware of these classes. Students would benefit from increased programs in CAM education through the development of a Holistic Health major program, with increased course offerings and programs related to CAM. Students outside the major would also benefit from the development of such a program by having an outline of potential courses to take within other pre-health majors as electives. Pamphlets and online informational sources on a Holistic Health program may also provide a concrete guide for academic advisors to review one-on-one with students interested in pursuing a career in health care. Overall, students within pre-health programs are interested in learning more about CAM relative to a lack of programming. The University of Connecticut has the opportunity to take part in this needed shift in medical culture to prepare our future health care workers to address the most critical areas of patient needs to provide the best-available care.

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*Introduction.***Information Sheet for Participation in a Research Study**

Principal Investigator: Pamela Erickson

Student Investigator: Haley Brennan

Title of Study: Preparing Future Health Care Workers: An Assessment of Undergraduate Integrative Pre-Health Education

You are invited to participate in a research study. This form includes information about the study and contact information if you have any questions.

I am an undergraduate Anthropology student at the University of Connecticut, and I am conducting this survey as part of my course work.

We are interested in understanding how to improve pre-health education at the University of Connecticut in order to better prepare our future health care workers. You will be asked to answer questions about your undergraduate pre-medical education. You will also be asked questions about your experiences with, perceptions of, and desires to learn about complementary and alternative medicine (CAM).

This study should take approximately 15 minutes of your time. Your participation will be anonymous. You will have the option to provide your email and NetID on the final question of this survey to participate in a follow-up interview and to enter a drawing for \$20 Visa gift card.

After you complete today's survey if you indicate yes to participating in a follow-up interview, the researchers will contact you by email within 2 weeks to schedule an interview.

You will be entered into a drawing to receive a \$20 Visa gift card after completing this survey. You are required to complete all of the questions in the survey to be entered into this drawing. After you complete the survey, you will be asked to provide your email address to enter. The researchers will email you your gift card. Your email is not connected in any way to your survey responses.

We do not anticipate any risks from completing the survey.

You may not benefit from this research. However, the benefits of your participation may impact society by helping increase knowledge about issues surrounding university pre-health education programs. This research may result in information that leads to an initiative to provide more undergraduate pre-health resources for CAM education at UConn.

Any data collected during this research study will be kept confidential by the researchers. Your survey responses will be coded in a sequential number that reflects how many people have enrolled in the study (e.g. 001 for the first participant, 002 for the second participant, and so on). The codes will be maintained in a separate and secure location. The survey data will be destroyed after 3 years. All electronic files (e.g., database, spreadsheet, etc.) containing identifiable information will be password protected. This includes password protected emails. Any computer hosting such files will also have password protection to prevent access by unauthorized users. Only the members of the research staff will have access to the passwords. At the conclusion of this study, the researchers may publish their findings or create a report for UConn pre-health faculty. Study information will be presented in summary format and you will not be personally identified in any publications, presentations, or reports.



We will do our best to protect the confidentiality of the information we gather from you but we cannot guarantee 100% confidentiality. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties.

You do not have to be in this study if you do not want to be. You do not have to answer any question that you do not want to answer for any reason. We will be happy to answer any questions you have about this study. If you have further questions about this project or if you have a research-related problem, you may contact *Haley Brennan* at [haley.brennan@uconn.edu](mailto:haley.brennan@uconn.edu), or call 860-941-8763, or *Dr. Pamela Erickson* at [pamela.erickson@uconn.edu](mailto:pamela.erickson@uconn.edu), or call 860-377-7859.

If you have any questions about your rights as a research participant, you may contact the University of Connecticut Institutional Review Board (IRB) at 860-486-8802. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

***If you would like to participate in this survey, click yes to begin or no to exit.***

- ☐ Yes, begin the study
- ☐ No, I do not wish to participate

Q1. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other

Q2. What is your age?

Q3. What is your race/ethnicity?

- ☐ Black/African American
- ☐ Hispanic/ Latino
- ☐ Caucasian
- ☐ Asian
- ☐ Hawaiian / Pacific Islander
- ☐ Native American / Alaskan
- ☐ Other

Q4. What is your religious background?

- ☐ None
- ☐ Christian
- ☐ Jewish
- ☐ Muslim
- ☐ Buddhist
- ☐ Sikh
- ☐ Hindu
- ☐ Other

Q5. Are you an Undergraduate student at the University of Connecticut?

- ☐ Yes
- ☐ No

Q6. What year of study are you at the University of Connecticut?

- ☐ Year 1
- ☐ Year 2
- ☐ Year 3
- ☐ Year 4
- ☐ Year 5
- ☐ Year 6+

Q7. What is your major?

Q8.

Do you have a minor?

Leave blank and skip question if not applicable.

Q9. Are you a registered pre-medical/pre-dental student with the UConn Pre-Medical and Pre-Dental Office?

- ☐ Yes
- ☐ No

Q10. Are you a self-declared pre-medical/pre-health student?

- ☐ Yes
- ☐ No

Q11. Are you interested in a career in health care (i.g., medicine, nursing, hospital administration, dietetics)?

- ☐ Yes
- ☐ No

Q12. What career are you interested in pursuing after college?

Q13. What are your plans after you graduate?

- ☐ Graduate School
- ☐ Nursing School
- ☐ Medical Doctor School
- ☐ Osteopathic Doctor School
- ☐ Pharmacy School
- ☐ Physical Therapy School
- ☐ Other

Q14.

Are you involved in any extra-curricular activities during the school semester?

Please select all that apply.

- ☐ Undergraduate Research
- ☐ Club Sports
- ☐ Varsity Sports
- ☐ Student Clubs
- ☐ Employment
- ☐ Volunteer work
- ☐ Honors
- ☐ Not Applicable
- ☐ Other \_

Q15.

Do you have any medical/health care training?

Please select all that apply.

- ☐ Emergency Medical Technician
- ☐ Medical Assistant
- ☐ Physical Therapy Aid
- ☐ Health Coach
- ☐ Nutrition
- ☐ Personal Trainer
- ☐ Massage Therapy
- ☐ Reiki
- ☐ Yoga
- ☐ Meditation
- ☐ Not Applicable
- ☐ Other

Q16. How would you define Complementary and Alternative Medicine (CAM)?

Q17. How would you define Integrative Medicine (IM)?

Q18. How would you define Conventional Medicine?

Q19. Are you aware of any CAM courses offered at UConn?

- ☐ Yes
- ☐ No

Q20.

List any CAM courses that you know are offered at UConn.

Leave blank and skip question if not applicable.

Q21.

Have you ever been educated in CAM in any of the following forms?

Select all that apply.

- ☐ College Course
- ☐ Certification Course
- ☐ Online Course
- ☐ Personal Book Reading
- ☐ Seminar
- ☐ Not Applicable
- ☐ Other

Q22. Would you like to receive more education about CAM?

- ☐ Yes
- ☐ No

Q23.

Would you enroll in a college course in CAM if the class . . .

Please select all that apply.

- ☐ Fulfilled a graduation requirement
- ☐ Was offered within your major
- ☐ Was offered outside your major
- ☐ Fulfilled a medical school prerequisite
- ☐ Not interested in taking a course on CAM
- ☐ Other

Q24. If offered at UConn, would you major/minor in Integrative Medicine?

- ☐ Definitely yes
- ☐ Probably yes
- ☐ Probably not
- ☐ Definitely not

Q25. Have you ever been personally treated with, or used, CAM?

- ☐ Yes
- ☐ No

Q26.

If you answered no to the previous question, why haven't you considered using CAM in the past?

Please select all that apply.

- ☐ Not recommended nor referred by a doctor
- ☐ Have been healthy
- ☐ Not familiar with CAM
- ☐ CAM is not effective
- ☐ Financially unaffordable
- ☐ Other
- ☐ Not Applicable

Q27.

What are your primary reasons for using CAM?

Please select all that apply.

- ☐ Conventional medicine did not help
- ☐ Financially affordable
- ☐ Curiosity
- ☐ Doctor/Practitioner recommendation
- ☐ Effective
- ☐ Friend/Relative recommendation
- ☐ Less side effects
- ☐ Personal philosophy
- ☐ Other
- ☐ Not Applicable

Q28.

Have you ever personally used any of the following forms of CAM?

Please choose one response for each of the following CAM therapies listed.

	Never	More than 12 Months Ago	Within the Past 12 Months
Ayurvedic Medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homeopathy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Naturopathy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traditional Chinese Medicine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acupuncture/Acupressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aromatherapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biofeedback	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chiropractic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dietary Supplements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healing Touch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hypnotherapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Massage Therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meditation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Osteopathic Manipulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pilates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflexology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxation Techniques *e.g. Breathing Exercises, Guided Imagery, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tai Chi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yoga	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q29. Please choose a response to indicate the extent to which you agree or disagree with each statement.

	Disagree	Somewhat disagree	Somewhat Agree	Agree	Unsure/Don't Know
I am satisfied with the current medical system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My undergraduate education is adequately preparing me for a career in health care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CAM is not related to my career goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am familiar with CAM.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30. Would you be interested in participating in an interview for this research project?

If so, please type your UConn NetID and email in the space provided. You will have a chance to be entered into an additional \$20 visa gift card drawing for participating in an interview.

If not, skip question and leave blank.

Q31. Please provide your NetID and email to be entered into a drawing for a \$20 visa gift card for completing this survey.

### Interview Schedule

1. What are you currently studying at the University of Connecticut?
  - a. What is your major/minor?
  - b. Are you a pre-health student?
  - c. Are you part of the pre-medical society on campus?
  - d. What courses have you taken for pre-health?
2. What career to plan to pursue after college?
  - a. Health care?
  - b. Graduate school or workforce after UConn?
    - i. What school?
    - ii. What job?
    - iii. Any other plans?
3. Are you a part of any health-related clubs on campus?
  - a. Are these clubs career-orientated, educational, or for personal health?
  - b. Other clubs outside of health?
    - i. Note: May be related to holistic health care without students knowing
4. Have you ever taken a course on bioethics or focused on patient-centered care in any of your pre-health courses or groups on campus?
  - a. If so, can you describe what you talked about/learned?
5. What do you think when you hear Complementary and Alternative Medicine (CAM)? Integrative Medicine? Conventional Medicine?
  - a. Why?
  - b. Where have you heard about CAM?
6. Have you ever personally used CAM on yourself or through a practitioner?
  - a. Provide a list of therapies and definition of CAM
  - b. Self-use examples: Meditation, Yoga, Dietary Supplements
7. Do you think that Integrative Medicine (provide definition) is more or less effective than conventional medicine?
  - a. Why?
  - b. Can you give me an example where it would be more effective or less effective?
8. Would you be interested in taking courses in CAM?
  - a. As an elective?
  - b. As a requirement for your degree?
  - c. As a major/minor?
    - i. Would include all pre-health requisites OR social sciences point of view
    - ii. BA v. BS options (if UConn had both)
9. Do you wish to improve anything about the pre-medical/pre-health education at UConn?
  - a. How?
  - b. What would that look like?
  - c. Why?
10. Is there anything else that you would like to share about health and health care education here at UConn?



## Q7 - What is your major?

What is your major?

Physiology and Neurobiology

Biological Sciences

MCB, Mathematics-Statistics, Sociology (3 degrees)

Elementary Education

Allied Health Sciences

Physiology and Neurobiology

Diagnostic Genetic Sciences

Psychology

Exercise Science

Pre-Pharmacy

Allied Health Science

Mechanical Engineering

Molecular Cell Biology

Biology-Pre-PA

Psychological Sciences

animal science

Pathobiology

Pre-pharmacy

Allied Health Sciences

Animal Science

Nursing

Biological Sciences

What is your major?

Pnb and chemistry

biological sciences

Physiology and Neurobiology

Allied Health Science

pharmacy

Nursing

Physiology & Neurobiology (PNB)

Physiology and neurobiology

Exercise Science

Allied Health Sciences

MCB, NUSC

Biological Sciences

Physiology and Neurobiology

Allied Health Sciences

Nutritional Sciences

Molecular and Cellular Biology

Allied Health Sciences

Molecular and Cell Biology

Molecular and cell biology

Biomedical Engineering

Allied Health Sciences

Physiology and Neurobiology

Physiology and Neurobiology

Allied Health Sciences

What is your major?

Molecular and Cell Biology

Allied Health Sciences

Allied Health Sciences

Chemistry

Physiology and Neurobiology

biological science

Exercise science

Allied health sciences

MCB

healthcare management

Allied Health Sciences with a concentration in Public Health and Health Promotion

Biological Sciences

Nursing

Physiology and neurobiology

Allied Health Sciences

allied health science and spanish

Physiology and neurobiology

Biological Sciences

Biology

psychology and allied health sciences

Physiology and neurobiology

mcb

Individualized major

Psychological Sciences

What is your major?

Biology

Physiology and Neurobiology

Pnb

Chemistry

Spanish

Pathobiology and Vet Sciences

PNB

PNB

Molecular and Cell Biology

Allied Health

Biological Sciences and Psychological Sciences

PNB and HRTS

MCB

Dietetics

Psychology

Molecular and cell biology

Pre Pharmacy

Nursing

Nursing

Pharmacology

Pre-Pharmacy

Allied Health Sciences

Medical laboratory science

Allied Health Sciences

What is your major?

nursing

Pathobiology

Allied Health Sciences

Allied Health Science

Nursing

Allied Health Sciences

Psychology

Dietetics

BME & EE

Allied Health Sciences

Allied Health Sciences

Pre-pharmacy

Nursing

Pre-pharmacy

Allied health

Molecular and Cell Biology

Allied Health Sciences

MCB, Anthropology, Spanish

Molecular and Cell Biology Individualized Major in Healthcare and Society

## Q8 - Do you have a minor? Leave blank and skip question if not applicable.

Do you have a minor? Leave blank and skip question if not applicable.

Psychology

Psychological Sciences

Molecular and Cell Biology

Psychological Sciences

Psychological Sciences

Spanish

Molecular and Cell Biology

Biological sciences

Anthropology, Psychological Sciences

Linguistics and anthropology

spanish

Psychology and Neuroscience

Spanish

no

HDFS

Psychology

PNB and Cognitive science

Biology

Mathematics and Neuroscience

Spanish

Chemistry

Do you have a minor? Leave blank and skip question if not applicable.

Mathematics

MCB and PNB

Statistics

Psychological Sciences and Urban & Community Studies

Cognitive Science

Molecular and Cell Biology

Spanish

Chemistry

Psychological Sciences

Anthropology

anthropology

Spanish

Math

chemistry

Psychology

neuroscience

Molecular and Cell Biology

Spanish

Neuroscience

i

HDFS

Biological Sciences

Spanish

Do you have a minor? Leave blank and skip question if not applicable.

---

psychology

No

Psychological Sciences

Math, Computer Science

Psychological Sciences

No

Film Studies

Spanish

Healthcare Management and Insurance Studies



## How would you define Complementary and Alternative Medicine (CAM)?

106 Responses out of 113 Participants-7 No Response

### CATEGORY 1:

#### Do Not Know:

1. I do not know what this is
2. Unknown
3. I do not know what that is
4. I don't know what that is
5. I don't know.
6. No clue
7. I don't know
8. Idk
9. I'm not sure what CAM is.
10. I'm not sure about an actual definition for this.
11. I haven't had the pleasure to work with them yet.
12. Not familiar
13. NA
14. I have no idea
15. I'm not sure

### CATEGORY 2:

#### Outside Standard Care/Biomedicine

1. CAM is a process by which treating a disease or infection by not using the biomedical mode.
2. This can include types of medicinal approaches that aren't seen as conventional and could be natural, like massage and herbal supplements.
3. Medicinal practices outside of the conventional "primary physician" and "referred specialists". Holistic medicine, something like yoga, acupuncture.
4. Medicine and/or treatment that falls outside of 'traditional' practices in general healthcare - things like aromatherapy, meditation, mindfulness, etc.
5. Practices outside the "traditional" medical model of health.
6. My understanding is that CAM focus on other options beyond medicine for example meditation, acupuncture.
7. An approach to medicine that does not focus on treatment through prescription medicine or hospitals but includes other methods such as homeopathic care that is a less traditional form of medicine.
8. CAM is medicine products, practices, procedures that are outside the realm of standard medicine.
9. Alternate sources of medicine, such as homeopathic medicine.
10. Medicine that doesn't fit under the allopathic umbrella. Traditionally seen as outside Eastern medicine.
11. Complementary and Alternative Medicine are medical therapies that are not part of standard medical care. Some examples include acupuncture, massage, and energy therapy.

12. Things that aren't standard like chiropractic service and acupuncture.
13. To me, alternative medicine means non-injective medicine such as exercising.
14. This practice includes things like massage, acupuncture, and any other treatment that are used in place of a standard medical treatment.
15. Medical products and practices that are not part of standard medical care
16. Attempts to achieve the same healing properties as medicine with techniques that don't include traditional medical interventions
17. Medicine that is not part of conventional western practice but has shown positive benefits or, medicine that is experimental.
18. CAM medicine is a practice that isn't traditional but could, in some circumstances, be beneficial.
19. Complementary and alternative medicine is a method that does not rely on the use of medication and uses alternative methods such as acupuncture, meditation, etc.
20. ways of treatment that are outside of the standard practices that may affect the mind or spirit so to say.
21. Treatments/remedies that are not mainstream/allopathic
22. Types of treatment that use methods other than pharmaceutical drugs and intensive therapies
23. Using natural herbs, plants, spirituality, or other methods of healing than conventional medicine (primary form of medicine in America, using doctors' advice and pharmaceutical medicine)
24. I don't know what it is, I assume it would have to do with alternative ways to treating medical ailments, supplementing regular treatment or in place of it.
25. atypical cures, such as reflexology, for medical problems
26. Medicine that uses treatments other than the ones typically thought of.
27. Medicinal techniques that might fall outside of the mainstream healthcare systems
28. Medical practice that is not part of standard medical care
29. Medical practice that is not part standard medical care
30. Actions taken outside of western biomedicine to improve personal health as a whole.
31. Alternative medicine looks at different ways to treat or cure an illness, the effects are usually untestable and are not commonly practiced by certified physicians.
32. Medicine that are alternative and not part of the standard medical care. But aims to achieve the same effect as the standard medicine.
33. I would describe it as practices aimed to better one's health through methods that do not involve traditional medicine. This can include acupuncture, herbal remedies, and other practices such as those.
34. Medical therapies that fall beyond the scope of scientific medicine
35. Medicines outside of traditional western allopathy that can be used to handle mental/physical/emotional/spiritual health
36. Complementary and Alternative Medicine describes a form of treatment that is unconventional compared to the most ubiquitous forms of treatment administered and received. These might serve to alleviate symptoms rather than counteract molecular defects that underlie the disease.
37. Different methods of treatment that might not treat directly a disease, but might improve overall wellbeing and therefore improve disease recovery outcome.

38. Practices that do not necessarily treat a condition but help to relieve symptoms.
39. Effective medical practices that don't fit within the Western traditional mindset of spot-treating problems with a surgery or purified drug.
40. A holistic approach to reducing symptoms to certain diseases.
41. Complementary and Alternative Medicine might be medicine that isn't medical per say, but holistic and nutritional approaches.
42. An uncommon way of medical practice tends to be viewed as holistic medicine because there is not as much research in this type of practice.
43. I define as Complementary and Alternative Medicine as a type of medical care that a connection with real life, anyone without a medical/health background could do it on a daily basis. In another word, more relaxing therapy.
44. Various approaches to look at medicine in a different and more natural sense. More unconventional and unknown practices and ideologies that have a deeper sense then everyday medicine.
45. CAM refers to non-Westernized medicine that focuses more on underlying causes or preventative measures so that a person is healthy through methods such as acupuncture.

#### **SUBCATEGORY 2.1:**

##### **Negative Attitudes/Not Founded in Science**

1. I am only vaguely familiar with the term Alternative Medicine; it reminds me of those people who believe that crystals will heal them. If that is what CAM is, I don't believe in it.
2. Care and treatment that is not founded in science but instead supports other ways of healing.
3. Alternative medicine is from what I have been taught, not very deeply rooted in scientific research.
4. Methods that are not accepted as pure/true medicine. Mostly referred to as fake medicine. Some of it is not backed up by science.
5. I don't know too much about CAM but it sounds potentially useful as long as it is not anti-science (e.g.: anti vaccination)
6. Not as heavily science based more holistic

#### **SUBCATEGORY 2.2:**

##### **Treatments Outside of Pharmacology**

1. I would define CAM as any type of healing that involves things other than pharmaceutical medicines (prescribed or not).
2. More natural methods of health and wellness promotion outside of the typical pharmacological realm
3. Alternative treatments other than standard drugs
4. I would define this as medicine that does not necessarily rely on lab-based products, but rather natural resources.
5. Medicine other than traditional drugs or prescriptions, including aromatherapy, light therapy, meditation, etc.
6. other forms of healthcare that does not typically involve the use of chemicals

**CATEGORY 3:****CAM as Supplemental Therapy**

1. Anything that supplemental treatments or therapies that are not a medication or procedure, like massage, yoga, and acupuncture.
2. Alternative medicine may focus on the treatment of an individual with methods other than drugs and surgery. For instance if you have back pain, the doctor might recommend a massage or physical therapy before moving on to a cortisone shot.
3. Combination of western medicine with other forms of healing
4. A form of medicine that works with regular medicine (i.e. internal medicine physicians). CAM can be naturopathic physicians.
5. techniques for pain/disease management and reduction used in addition to traditional (western) methods
6. Techniques that have to do more with energy and natural remedies. They complement western medical techniques.
7. Medicine practices that are different than traditional medicine practices but can complement them.
8. Medicine that complements natural practices, but is something other than the traditional practice.
9. CAM are approaches to medicine that may aid main forms of treatments such as meditation or exercise.
10. Non traditional medicine used to aid and enhance the therapy of traditional medicine.
11. I would define CAM as any kind of unconventional way of treating someone that can either add to or substitute standard medicine (i.e. yoga acupuncture meditation)
12. Complementary and Alternative Medicine looks at new and innovative ways to treat diseases in addition to or instead of traditional medications.
13. Therapeutic methods designed to work alongside traditional medicine in order to enhance the effects and increase well-being.
14. CAM is the practice of supplementary forms of medicine such as homeopathic medicine or acupuncture that is based on principles not generally supported by modern medical institutions.
15. Non-pharmacological aides to wellness.
16. Important. If used in conjunction with modern medicine, it's impact spans millennia.
17. CAM is a health care approach that supplements traditional medical techniques currently used in the United States and other countries. It encapsulates preventative care, not only immediate treatment for the disease/illness experienced by the patient. CAM can also rely on natural medications such as herbs. CAM even includes spiritual/meditative practices to realign the energy points within the body to improve overall well-being for the patient.

**CATEGORY 4:****Distinguishes 'Complementary' and 'Alternative':**

1. Complementary Medicine is meant to be used alongside your main form of treatment, while Alternative Medicine is used as a means of medicine outside traditional means, due to lack of success or lack of funding.

2. Medicine that can be used instead of or in conjunction with traditional Western pharmacological medicine treatments.
3. CAM is a holistic treatment which may or may not be used in addition to the standard medical treatment for a condition
4. Tools and practices used to supplement or replace "Western" medicine, typically holding a holistic view of the body.
5. I would define CAM as alternative medicine that does not follow the norms of Western medication and can be used in addition to or in absence of Western medicine.

#### **CATEGORY 5:**

##### **Associates CAM with a Specific Therapy:**

1. I have ever heard of CAM before, but if I had to guess I would associate it with something like naturopathy.
2. I've never heard the term but my best guess would be similar to homeopathic/DO medicine?
3. Complementary and alternative medicine involves activities like massage or acupuncture along with utilizing natural products such as herbs, probiotics, and green tea.
4. forms of relaxation focused on yourself for health benefits.
5. Using herbs and non-invasive treatment to treat disease.
6. Complementary and alternative medicine include practices using herbs, dietary supplements, and other remedies.
7. This relates to osteopathic medicine and the things that are not typically covered by insurance like acupuncture or chiropractic medicine.
8. Chiropractics, massage therapy, essential oils, any non essential hospital based health care

#### **CATEGORY 6:**

##### **Natural – no distinction as “other”:**

1. Using compounds that are naturally derived to treat the body as a whole
2. Healing through natural means.

#### **CATEGORY 7:**

##### **Commentary Response:**

1. Helps people

## How would you define Integrative Medicine (IM)?

102 Responses out of 113 Participants-11 No Response

### CATEGORY 1:

#### Do Not Know/Unsure:

1. I don't know what that is
2. Not sure
3. Not sure
4. Not familiar
5. No idea
6. NA
7. I'm not sure what IM is.
8. I'm not sure
9. I do not know.
10. I do not know what this is
11. I am not sure
12. Do not know what that is
13. Idk
14. I don't know what this is.
15. I don't know how to define Integrative Medicine.
16. I don't know.
17. I don't know what that is.
18. I am unsure of what IM is.
19. I have never heard of it

### CATEGORY 2:

#### Overall wellness/holistic:

1. Utilizing multiples sources of tx for overall wellness
2. Integrative medicine integrates all aspects of a person rather than just solely looking at the injury. It focuses on healing the person as a whole.
3. Healing-oriented medicine that takes account of the whole person.
4. A holistic approach to healthcare
5. Wholistically focused medicine.
6. Utilizing both alternative therapies and typical medical practice to treat a patient holistically.
7. This type of medicine takes the whole person into account.
8. This focuses on a more holistic approach to medicine and treating the patient as a whole person rather than a disease.
9. Taking into account the whole person (more holistic view of medicine) instead of just focusing on treating the condition/disease a person has.
10. A more holistic approach where drug treatments are used with other alternative treatments.
11. A holistic approach to preventing certain diseases.
12. A holistic approach that includes multiple aspects of one's life.
13. Medicine that looks at a person holistically rather than solving one symptom.

14. Medicine that combines many aspects of a person's health to help them. It may include holistic measures such as massage therapy or acupuncture, medicine-based measures (drugs to help with certain aspects), and also stresses the importance of a healthy lifestyle on health (if your knee is bothering you but you're grossly overweight, probably the problem isn't just knee pain, there's more to the story).
15. Medical practices that hold a holistic view of the body, considering mind, body, and spirit in the healing process.
16. Integrative medicine is a holistic treatment that puts the patient as the center is designed to care for the whole person and aspects of their lifestyle.
17. Integrative Medicine is a combination of CAM and conventional medicine to treat the patient in the most holistic manner possible.
18. Integrative Medicine combines CAM with conventional practices to provide a holistic and comprehensive approach to treating a patient.
19. Probably referred to as holistic. It is evidence-based but does not rely on that entirely.
20. I would define Integrative Medicine as health care that uses a holistic approach to treating the patient. Integrative Medicine does not only scrutinize the patient's chief complaint as conventional medicine often does, but IM allows for the patient's entire story to be heard and accounted for in their treatment.
21. Holistic medicine, integrates the different aspects of health.
22. Combining different techniques and methods together to holistically treat a patient.
23. Medicine based on all aspects of ones life.
24. Integrative medicine takes into account the entire person and looks at all aspects of one's lifestyle including relationships the patient has, especially the relationship between the patient and the health care provider.
25. Integrative medicine takes in to account physical, mental, and emotional health when dealing with illness.
26. Integrative medicine is the practice of medicine that combines all comprehensive aspects of the patient, including lifestyle, environment, and demographic.
27. Integrative Medicine takes into account the whole person and their lifestyle when formulating a treatment plan.
28. I would say this is the approach that takes into account all of the pieces that make up a patient. I would define it as treating the person using all methods needed to treat and care the patient. This can include traditional and alternative methods.

### **CATEGORY 3:**

#### **Combination of Alternative and Conventional Medicine:**

1. Using a mix of conventional and alternative medicine to treat disease.
2. This includes both conventional and unconventional approaches to treatments, including a combination of medicinal and herbal treatments for problems patients face.
3. Medicine that integrates allopathy with other forms of CAM that ideally would have the best results.
4. Integrating both CAM and traditional medicine
5. IM medicine combines both CAM and traditional medicine.
6. Integrative medicine is a combination of CAM and conventional medicine.
7. I'm not entirely familiar with this term, but my guess is that it blends alternative and conventional medicine.

8. Medicine that combines complementary/alternative practices with conventional/traditional healthcare
9. Combines alternative with conventional medicine
10. Combines alternative and conventional medicine
11. CAM that is supported by evidence based practice and integrated into conventional medicine
12. Again, I haven't heard this specific term but I would assume a combination of traditional biomedicine and homeopathic approaches.
13. A mix between alternative and conventional medicine
14. A combination of medical techniques to better help patients
15. A combination of conventional medicine and alternative medicine to make a form of wholesome therapy.
16. A combination of CAM and conventional medicine.
17. A combination of "conventional medicine" and CAM

#### **CATEGORY 4:**

##### **A Combination of General Therapies:**

1. Combination of science and patient based techniques
2. By using many types of medicine to approach a problem
3. Bringing many types of treatment together for an overall better treatment
4. Using many different approaches to heal and treat a patient
5. Overlapping treatment from various services.
6. Medicine where many factors are taken into consideration for applying medicine to patients.
7. Medicine that incorporates different fields.
8. Medicinal techniques that integrate many different areas of healthcare
9. Medical practice that combines multiple approaches for long-term overall health.
10. Integrating a variety of disciplines within medicine to come up with a creative solution to treat a patient
11. Incorporating different medical styles into treatment plans.
12. Different types of therapies or treatments (ex. art therapy, massage therapy, acupuncture etc.) used to manage pain as an alternative to pain medication.
13. Combining different types of medical therapies

#### **CATEGORY 5:**

##### **Lifestyle as a Factor of Health:**

1. Medicine that takes in account of the person's lifestyle for example, yoga or meditation.
2. Integrative medicine is healing medicine that analyzes your entire lifestyle.
3. Curing a medical problem with respect to the patient's habits and behavior

#### **CATEGORY 6:**

##### **Lifestyle Integration of Medicine:**

1. Things that integrate into the lifestyles alongside treatment like yoga and meditation.
2. Medicine integrated into the patient's life.
3. Integrative medicine to me means medicine that is integrated into daily schedules such as vitamins



4. Integrative medicine is a type of medicine where you incorporate a treatment into one's daily life and individual needs.
5. Integrative Medicine focuses on working with patients to find ways of effectively incorporating traditional allopathic treatments into their daily lives to promote compliance. It may also seek treatments in the patient's everyday activities.
6. A common way that people feel more comfortable in using because there is more research in this type of practice and the health care professionals view your overall lifestyle and integrate medicine into your living style.
7. I don't know what IM is, but if I were to assume I would guess it's medicine you can integrate into your daily life.

#### **CATEGORY 7:**

##### **Patient/Practitioner Relationship:**

1. The relationship between a practitioner and a patient
2. Relationship between practitioner and patient

#### **CATEGORY 8:**

##### **Focuses on the Whole Physical Body:**

1. Medical assistance that looks at the entire persons body. I think a lot of alternative medicine is also integrative in nature.
2. I believe it means integral so treating the human as a whole instead of focusing a determined part or area.

#### **CATEGORY 9:**

##### **Combination of Synthetic and Natural Drugs:**

1. Using compounds that are synthetic or naturally derived to treat symptoms
2. A combination of all kinds of medication, from modern to traditional.

#### **CATEGORY 10:**

##### **Unable to Categorize:**

1. Integrative Medicine focuses on the health and wellness as opposed to just disease.
2. More then just medicine to heal
3. Family medicine
4. Integrative medicine is organized in a way that works with other practices, so it agrees.
5. Integrative medicine is medicine that is technologically improving and being integrated into the medical field.
6. Integrative Medicine I believe would be considered something prescribed by a doctor as a direct means to alleviate your symptoms.
7. IM is a form of medicine that involves helping the body heal (i.e. chiropractic doctors).
8. Helps people

## How would you define Conventional Medicine?

103 Responses out of 113 Participants-10 No Response

### CATEGORY 1:

#### Standard/Normal Care:

1. Western medicine, allopathic.
2. I would Conventional Medicine as the Biomedical model of treating patients.
3. The standard approach to care
4. Normal, regular medicine
5. 'Traditional' practices found in widespread use in healthcare today.
6. Western Medicine
7. Everyday, typical medical practices that most everyone is aware of and uses.
8. traditional western medicine
9. Traditional western medicine.
10. The standard go-to methods used on patients depending on their ailments.
11. Traditional western allopathy
12. These are the usual methods that are used to treat and heal.
13. Using modern ways to heal
14. Conventional Medicine is the traditional healthcare that is administered now.
15. Medicine used everyday.
16. Traditional medicine / techniques
17. Normal, traditional practices.
18. Modern medicine done at most hospitals.
19. Conventional medicine is tried and true medicine that has been implemented for years.
20. conventional medicine includes any of the standard procedures medicines and treatments that people normally think of when you hear medicine.
21. A treatment oriented plan of action for managing disease, often associated with "Western" medicine.

### SUBCATEGORY 1:

#### Medicine Practiced by Doctors and Pharmacists:

1. Primary doctors who give diagnoses and give referrals to specialists. Western Medicine.
2. It is modern medicine such as going to the doctor or getting a prescription from your pharmacist.
3. The typical western medicine that we see from doctors
4. Conventional medicine to me means the medicine that you think of with doctors and hospitals that is prescribed to you
5. Conventional medicine is traditional medical practice that most doctors use
6. The use of doctors and pharmaceutical medicine to heal rather than using atypical (in America) outside medication like herbs, plants, or other natural and spiritual medicine.
7. A type of medicine that is very traditional, using doctors, drugs, and therapies.
8. Medicine and care provided by certified doctors.

9. Conventional Medicine would be the standard medicine you get from Doctors to treat regular conditions (Xanax, Tylenol, Advil, etc.)
10. I think conventional medicine can include medications and treatments usually found in various doctor's offices.
11. Transitional medicine involving doctors
12. Regular medicine that you learn at an MD school
13. Conventional medicine starts with patients entering their PCP's office. Then, if the PCP cannot provide medication or thinks the patient's problems are beyond their scope of practice, he/she might refer the patient to a specialist. The specialist can then prescribe more medication, perform surgery, or look at alternative options for the patient. After the specialist completes their work, the patient goes back to their PCP for care.

## **SUBCATEGORY 2:**

### **Medicine Practiced by Health Care Professionals:**

1. Medicine recognized by healthcare professionals considered the standard of care or practice
2. Conventional Medicine include health care professionals that treat symptoms and diseases using drugs, surgery, or radiation.
3. Medical professional who treats symptoms with medicine
4. A medical professional uses medicine to treat symptoms
5. A way of practice was health care professionals use more intense medicine to fix the problem such as drugs, surgery, or radiation because it is a faster approach/results in "fixing" the health issue problem
6. Conventional Medicine is the traditional form of health care practiced in most hospitals in America. Conventional Medicine calls for physicians and other health care professionals to pinpoint the patient's medical issue and proceed with the proper treatment to relieve that illness.
7. System in which medical doctors and other healthcare professionals (such as nurses, pharmacists and therapists) treat symptoms and diseases using drugs, radiation or surgery
8. The most basic, school-taught method of treating patients.
9. A system most healthcare workers use to treat illnesses and symptoms.
10. Conventional medicine is the tradition way licensed medical professors practice medicine.

## **SUBCATEGORY 3:**

### **Medications, Surgery, and Radiation:**

1. Conventional medicine, or allopathic medicine, treats symptoms and diseases through interventions and medications.
2. Conventional medicine is treatment based on drugs, operations, or radiation.
3. Conventional medicine is what most people think of and includes prescription medicines and being in a hospital setting for treatment.
4. Western medicine. Using medications and surgery to treat illnesses.
5. A heavier focus on medicine use and surgery. In contrast to alternative medicine, someone with back pain may first receive a cortisone shot and then be

recommended for surgery if there is a physical abnormality and pain can't be resolved another way.

6. Typical Western medicine, relying heavily on medications and common practices.
7. Conventional medicine would be traditional treatments such as drugs or prescriptions.
8. Conventional medicine includes the most accepted and practiced forms of treatment, such as surgery, transplant, and antibiotics.
9. The traditional Western mindset of treating individual problems as they arise using surgery or a pure drug.
10. Conventional Medicine is the westernized idea of healthcare treatment that typically involves things such as surgery, drugs (medicine), chemotherapy, etc.
11. Conventional medicine is the usual treatment of symptoms and diseases using drugs, surgery, etc. It is known as western medicine
12. Traditional interventions designed to cure people such as medications and physical therapy.
13. Medicine that relies on medications and other (more western) approaches to treating and managing disease; is typically based in scientific research.
14. The main ways we use medicine to treat people now based on drugs surgery and such.
15. Conventional medicine is what we see everyday; when practitioners treat a disease with prescribed medicine.
16. Typical medical care using pharmaceuticals/drugs
17. The standard medicine which uses drugs, surgery, and radiation for treatment.
18. Conventional medicine is when health care providers use drugs and surgery to help patients.
19. Pharmacological based western medicine focused on curative measures

#### **SUBCATEGORY 4:**

##### **Evidence-Based Medicine:**

1. Conventional Medicine is common medicine that can be found practically anywhere and has been proven to work to some extent like cold medicines.
2. Standard medicine supported well by scientific measures
3. I would say this is the traditional and most thought-of kind of medicine that focuses on diagnosing and treating symptoms and diseases. This is entirely evidence-based and requires concrete tests to back up treatment options.
4. Classic science-based/evidence-based, biomedicine; the intent to treat a single disease or symptom as opposed to an individual as a whole.
5. More science and traditional ways of performing medicine

#### **CATEGORY 2:**

##### **Drug Treatment and Surgery**

1. Mostly prescribing drugs and other methods that directly treat/relieve the symptoms of the disease or condition.
2. Targeted medications and therapies that exclusively treat acute symptoms.
3. Pharmacological and invasive medicine. It impacts have a lot more consequences than I think we understand.

4. Using compounds that are synthetic or naturally derived to treat symptoms
5. Medicine that treats symptoms and conditions using surgery and medications.
6. Care and treatment that is founded in the biological processes of the body and is disease-oriented
7. Using generalized drugs and treating the condition a patient has.
8. Pills and surgery
9. Prescriptions and over the counter medicine
10. Using medication and surgery to treat disease.
11. To me, conventional medicine is things like pharmaceutical medications.
12. the pharmacological side of healthcare
13. Chemical adjustments made to the body to cure or reduce symptoms of disease.
14. Conventional Medicine to me could be defined as medication synthesized in labs, hospitals or by pharmaceutical companies which include injections and pills.
15. When disease is treated with drug, or surgery.
16. I would define conventional medicine as the use of prescription drugs and solely scientific based practices.
17. This may be surgery or the prescription of drugs.

### **CATEGORY 3:**

#### **Evidence-Based Treatment:**

1. The scientific side of medicine, research not involving direct patient care
2. Good, a lot of scientific research and proven treatments but can have its problems such as opioid addictions.

### **CATEGORY 4:**

#### **Do Not Know/Unsure:**

1. Don't know what this is
2. I'm not sure what Conventional Medicine is.
3. Not sure
4. Idk
5. The regular medical system? I don't know the answer.
6. NA
7. Not sure if a definition for this!
8. I am not sure
9. Not sure
10. I'm not sure

### **CATEGORY 5:**

#### **Traditional Medicine from the Perspective of Each Culture:**

1. The one kind of traditional medicine, the one I'm most familiar is traditional Chinese medicine.
2. Medicine that is practiced in a more conventional and accepted manner in all groups of a certain area/society.
3. Medicine that has become mainstream in society. This shifts with scope and culture but currently is the most relevant forms of treatment deemed by evidence base research to be effective.

**CATEGORY 6:**

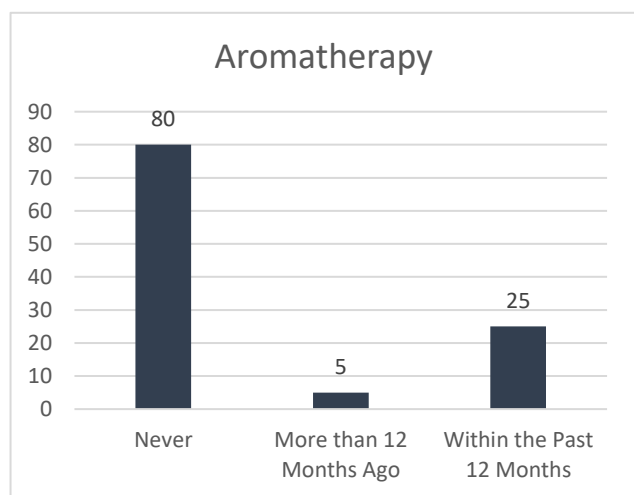
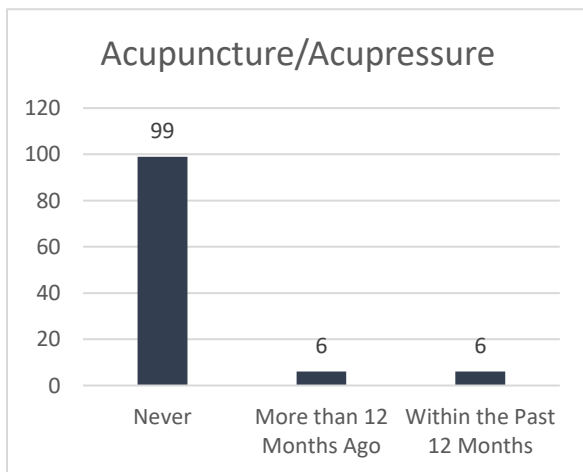
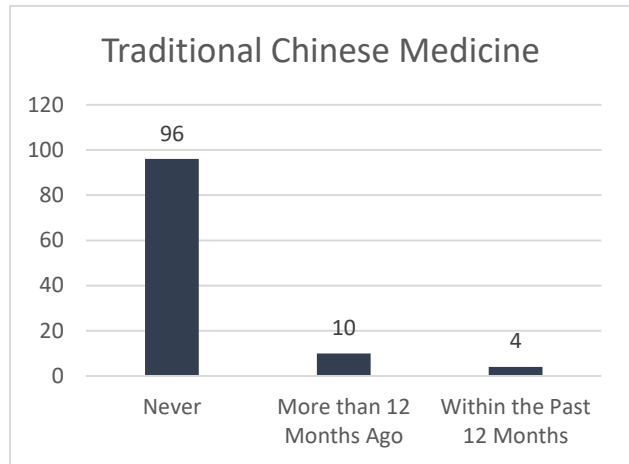
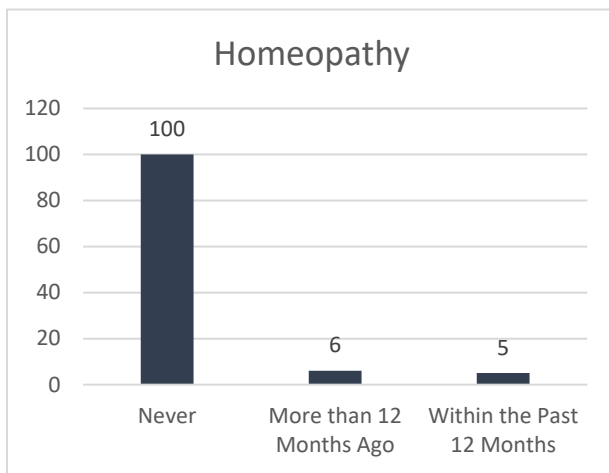
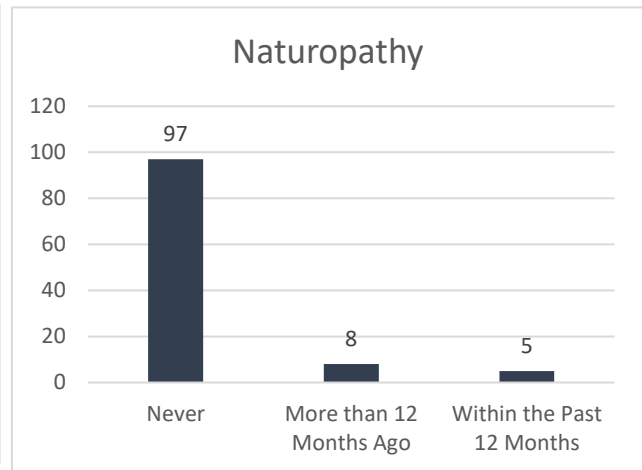
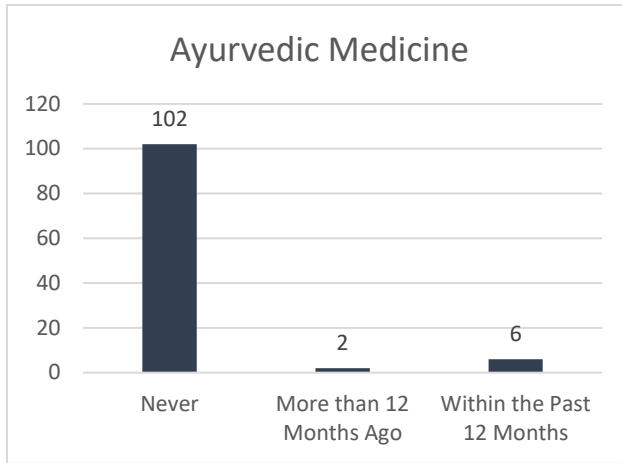
**Simply Treating Disease**

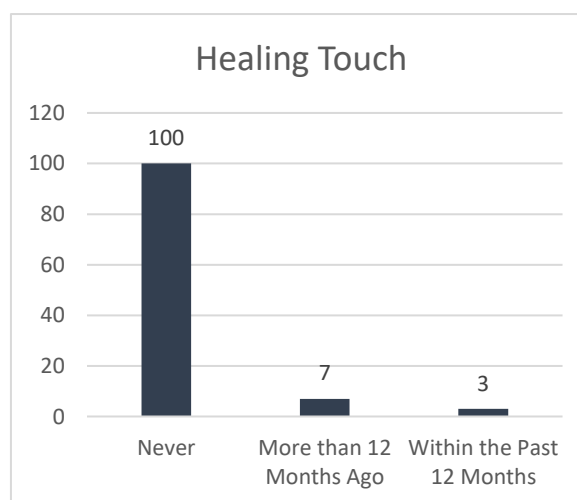
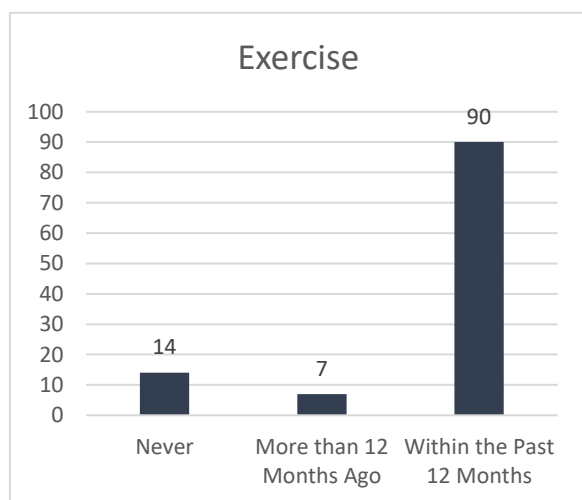
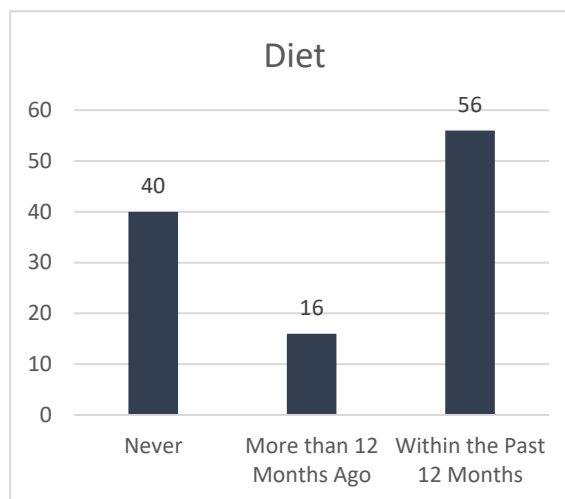
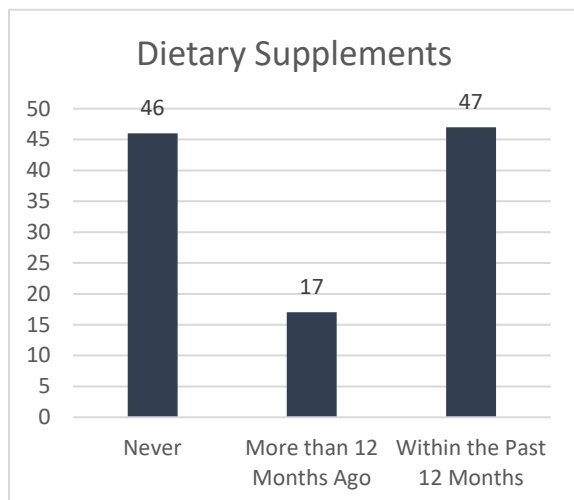
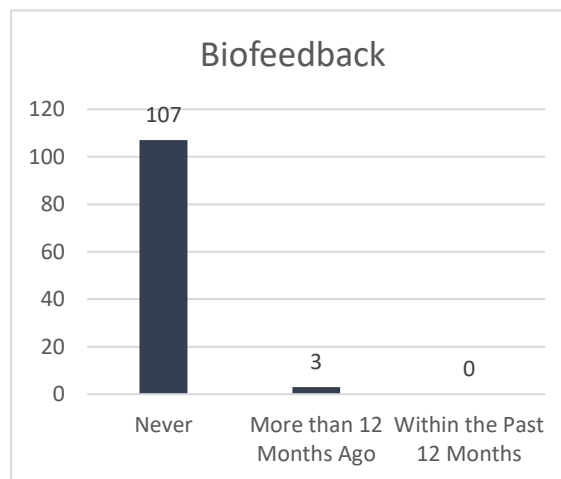
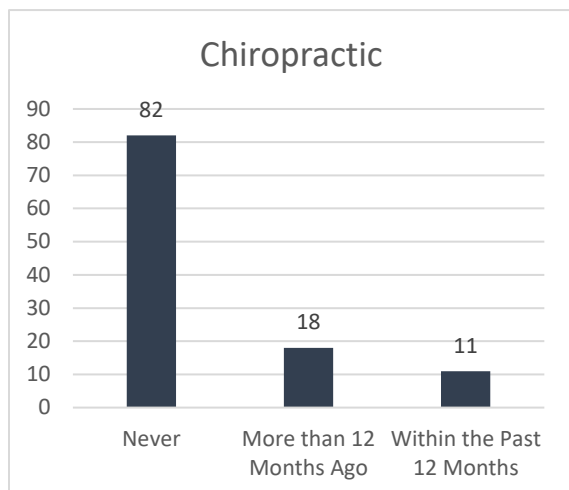
1. The treatment of disease.
2. The diagnosis and treatment of humans

**CATEGORY 7:**

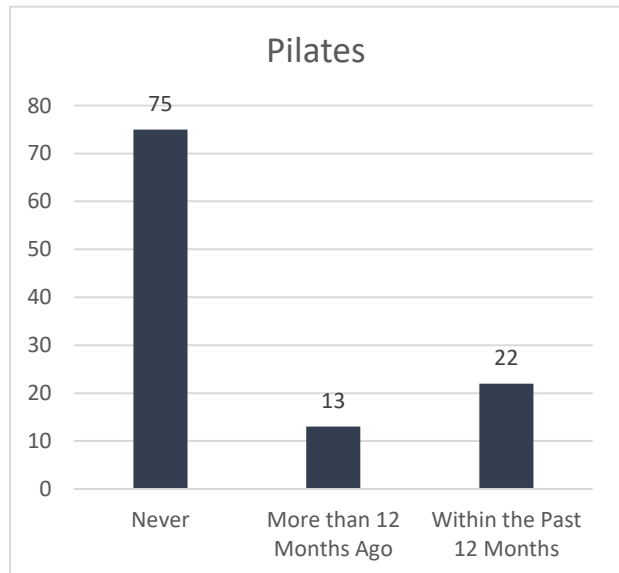
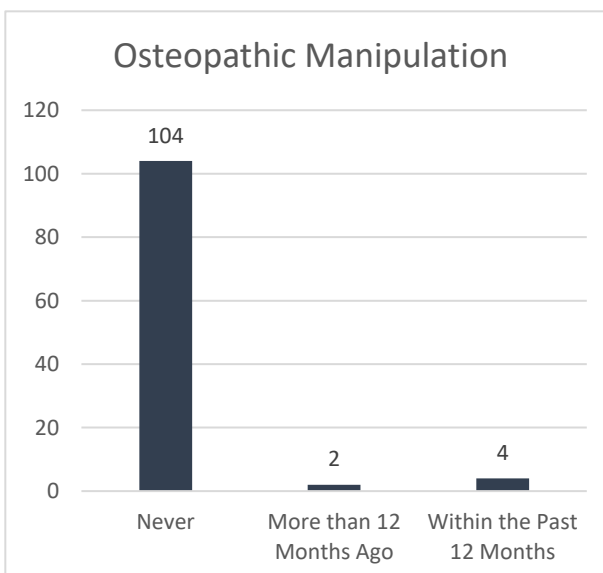
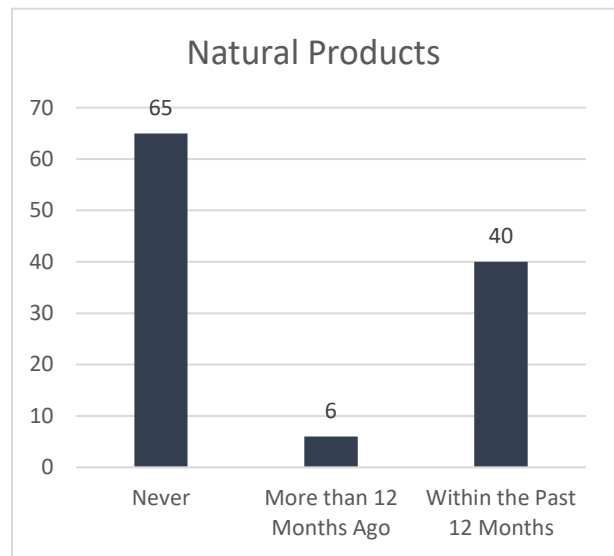
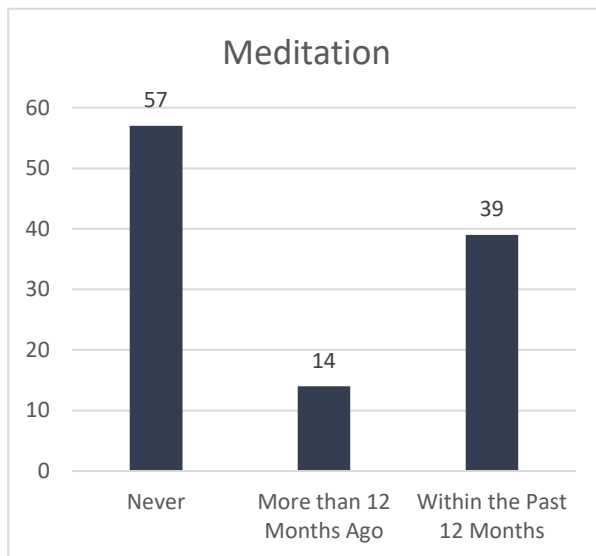
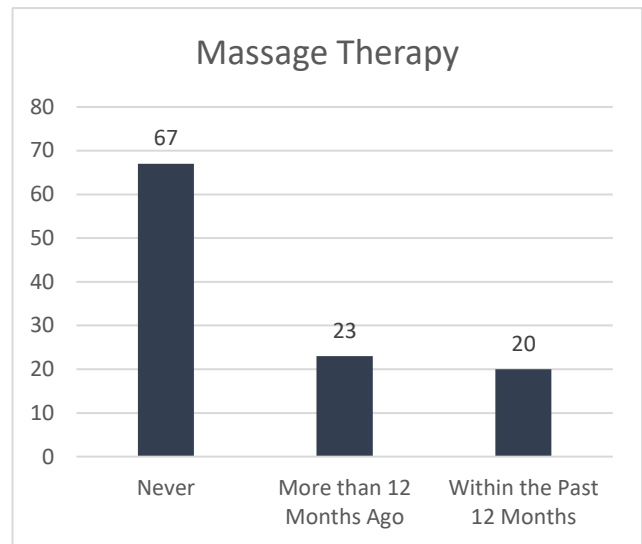
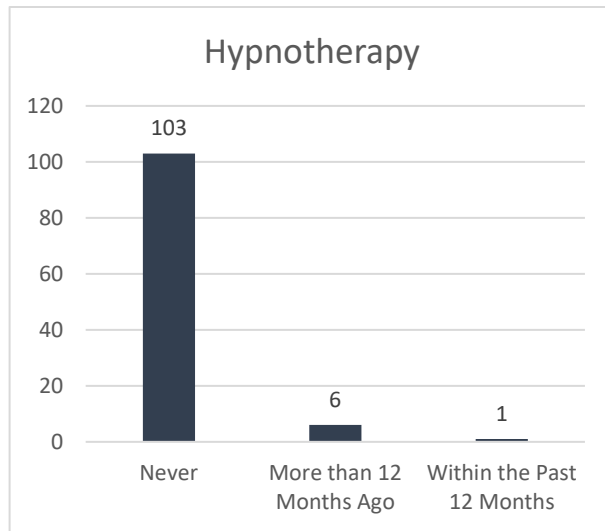
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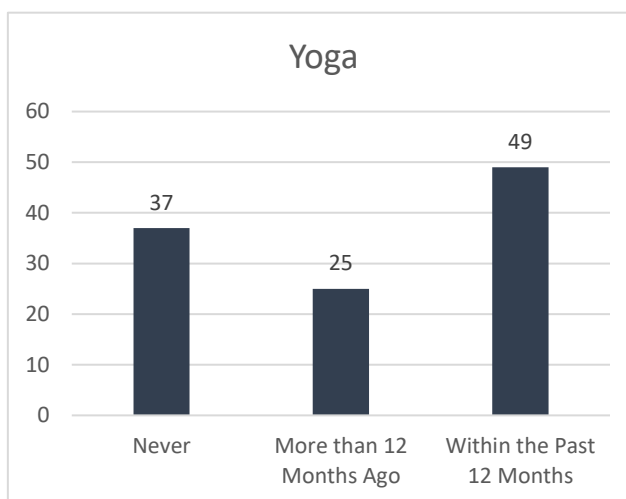
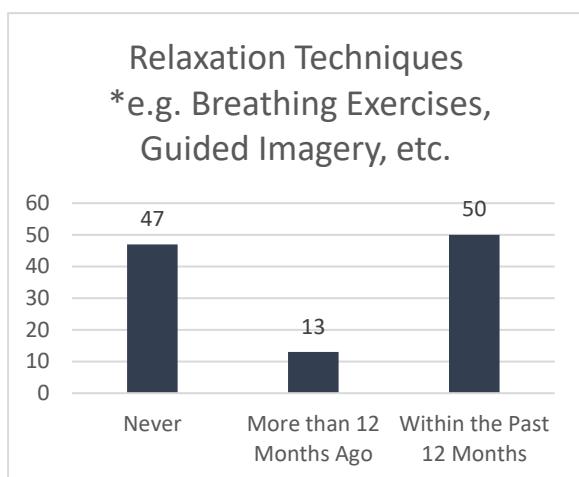
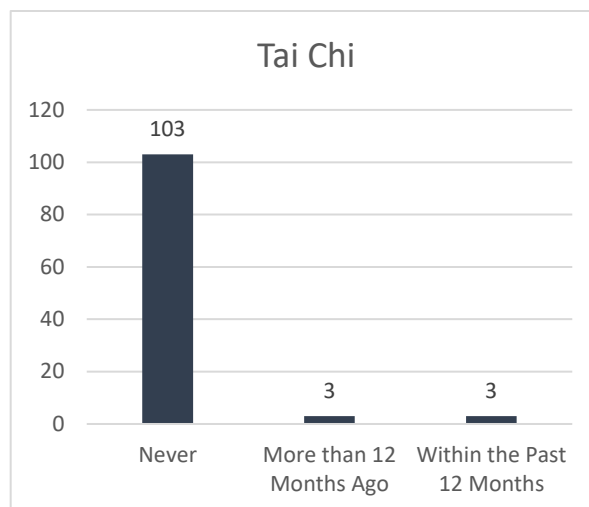
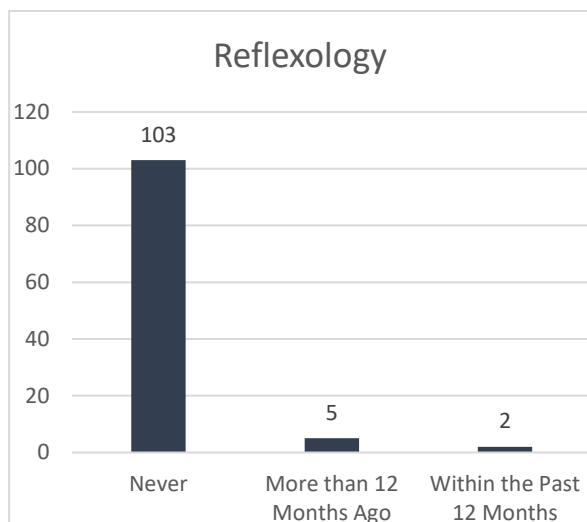
1. Straight forward approach
2. Helps people











**Interview 1**  
**March 24, 2020**  
**Female**

I=Interviewer

P=Participant

I: So, can you tell me what you are currently studying at UConn?

P: So, I'm a second semester senior and I'm studying Allied Health Science, with a Health Science Concentration, and I'm taking Spanish.

I: Do you have a minor?

P: No

I: What are your plans after you graduate?

P: I'm going to medical school and I'm starting in August.

I: Congratulations! Where are you going to school?

P: I'm starting the next cycle and I'm still deciding, but I have a couple of options: American, Arizona. I'm still waiting to hear back from NYU, but we'll see.

I: Were you involved in any health-related clubs on campus?

P: Uh, I'm part of a bio fraternity on campus. It's called ABE: Alpha Beta Epsilon. It's for a lot of biology, science, and healthcare majors. So, uh, I have done research. That's not really a club.

I: I would like to hear about your research as well.

P: Um, I did research in the Allied Health Science Department. I studied the effects of social media on weight gain. So, it wasn't a lot of pipetting and stuff like in labs. It was more social interactions and interviewing pregnant women and inputting data. And then, what else. Uh, I am part of the premedical society. I do a lot of medical mission work. It's not really a club. It's called Medlife. I went on service trips to Spanish speaking countries like Peru and Portugal. I shadowed doctors. These aren't clubs. They are like medical experiences.

I: Could you tell me a little bit more about your research experience?

P: Uh, I honestly don't like research. It was fun, but my PI... it like counted as credits for me... but like my PI was so nice. It was just a lot of redundancy because I had to sort data a lot and I was just a research trainee so I was the bottom level. I did a lot of annoying work. It was like a team of graduate students working towards their masters and PHDs and like yeah.

I: You didn't get much hands-on or in the field experience then?

P: Yeah, I had a lot of experience with uh like sorting data and like I got to talk to potential pregnant women, but it was very like planned out because of IRB and stuff.

I: I understand that.

P: yeah consent forms.

I: Now, did you take any courses related to pre-health but maybe not a part of your pre-health track?

P: I really feel like since I am Allied Health a lot of the Allied Health courses are structured like that. Um, health and wellness for life, I took infectious disease, I took current issues in health, I took public issues in health – which was more applications in health – which I like more than bio and Orgo and that kind of stuff. I also took medical terminology – basically all of my allied health classes weren't super sciency and were more implicating what I learned for health to help the community.

I: What about that did you like better than some of you premed courses as you said?

P: So like, for format of the class they were a lot more different. More open conversation and discussion, more expressive and creative projects, like presentations, like groupwork, compared to like bio and Orgo which is a lot of going to lectures, doing homework, taking exams. So, like I like that social aspect of things.

I: Have you ever taken Illness and Curing on campus?

P: Uh, I'm taking patient and healer.

I: What was that experience like?

P: I love that class. I am in it right now. Um, so it's with Dr. Sandford, I don't know if you are familiar with him (nod yes from interviewer), but basically, he is so sweet. It's a lot of groupwork. We learn something and then it's a lot of application in class of what we've learned.

I: So you like some of the more application aspects of these courses beyond memorizing.

P: Yeah, and like doing your own research about the topic. For example, like for health. for current issues in health, my group had the topic of vaccine education and we had to do a lot of self-research. Which was interesting because when we came together as a group, we shared a lot of different information about the same topic, like from more perspectives.

I: So do you think that any of these courses fall along the lines of Complementary and alternative medicine? Or maybe integrative medicine?

P: Maybe Allied Health would be Integrative medicine. Like, not even all of them, like health and wellness for life, like talks about a lot of exercise. Like My Fitness – allied health fitness class – talks a lot about diet and eating patterns and balanced diet. Which is an important aspect of our health. Which I feel like when people think about health, they think about the Bio classes and Orgo classes.

I: So, how would you define complementary and alternative medicine?

P: Um, I would say it is like holistic healing but in like through new research methods, not quit like traditional medicine. It is more like preventative medicine and less of a person is sick and then they health the person.

I: How do you think that differs from integrative and conventional medicine?

P: Conventional medicine is like going to the doctors and getting prescribed medicine, is what I think, um. But like integrative is like a little bit of both. That compares to alternative medicine that is more like a self-help. I feel like more comes from you to start it and keep up with it. Because, you can say that you want to go to therapy and change your diet , but like keeping up with it is the hard part.

I: So, where do you feel like you got some of these thoughts toward alternative medicine?

P: Probably my allied health classes. Like I knew that they existed, but I never really labeled them or grouped them together. I always just thought of them as living a healthy life.

I: So do you think that integrative medicine is less or more effective than conventional medicine?

P: I feel like it depends on the situation, but I feel like most often it could be more helpful in long-term preventatively speaking. While conventional medicine is more like you have a broken leg. It is more emergency and trauma related and not as effective per-se.

I: Would you be interested in taking further courses in complementary and alternative medicine?

P: I definitely would if I was at UConn longer. But even I feel like in medical school I will learn more about them. So, I am definitely more interested in them, because I feel like it is more modern and with a changing world it is more effective and would reach more people. So, it would make people happier.

I: Would you be more interested in CAM courses for an elective or more if it was a requirement for a degree?

P: Um, sometimes when people hear the word requirement, I feel like it deters them away from taking the course because it seems just like oh another thing that they have to take. So um I think that maybe an elective or a related cognate or a suggested course. Like, I don't know what your major is, but for allied health they have like classes within our major that we have the option to

take. It's called like A3 or something. Like so those may be a better category for those to go under instead of a major requirement.

I: Thank you, I will look more into how AH structures that. I'm interested in how different departments also share information between different pre-health students.

P: yeah, like that is really important! So like I am a dual degree in CLAS and CANR, so um, it's a little confusing because there is a lot of overlap, but it is not the same. So there is a lot of- I can take a lot of gen-eds for CLAS and more health – there's not a lot of options between the colleges.

I: I am in both colleges as well and see very little communication as well.

P: Oh really? What's your major?

I: I'm a dual degree in Environmental health in CAHNR and Spirituality, Culture and health in CLAS. So, for the makeup of some of these courses are you interested in more in the social aspect or more of the science-based background of these approaches?

P: Maybe a mixture of both. But probably social. But I feel like the best way to be effective is a dual combination.

----CUTS OUT---- Due to environmental car noise

P: If I had to start college all over again, I would have chosen different majors and planned and everything, but maybe reaching out to freshmen and FYE courses would be effective because like I'm an orientation leader so I like got to experience all the different majors and colleges. So, I would take it as like a minor or a major. But I like, don't think I would just take Complementary medicine as the only measure. I would definitely use it as a double major or minor.

I: So, how would you like that to look? What courses would you like to makeup such as major?

P: So, like I really like pamphlets and I like getting my research on things. So I would first start out with that. I would talk to my advisor and register for the classes that I would have to take. But for like classes – the titles and what the classes teach...

I: Yeah, so would you like a tailored premedical major that includes the prerequisites for medical school, as well as provides courses on complementary and alternative medicine?

P: yeah, because you would be getting both areas.

I: Could you tell me some of the complementary therapies that you have tried or maybe have been exposed to.

P: So chiropractic therapy, I used meditation, like exercise, diet. Like, uh, therapy.

I: What did you use some of these for?

P: For example, when I was little, I had to go to the Chiropractor because I had a twitch, so they had to crack my bones and make it better. But like I never really used it in my adult life. But like diet and exercise I find myself coming back to them a lot because they are always an option. Because like for therapy and going to the chiropractor and stuff you have to schedule it. Like your health insurance. There's a lot more barriers.

I: For some of the therapies you do always have the option to do, for example diet, do you ever find difficulty in determining what is correct to do? Such as what should I eat to stay healthy?

P: Yeah, sometimes they are like Keto diet and others are like no don't eat gluten. Like, there is a lot of conflicting data. I feel like there are so many different types.

I: So have you found any of your premedical courses to address some of these issues?

P: Um, I would say more allied health or Orgo or chem, like those courses.

I: Um, is there anything you would personally wish to improve about the premedical education at UConn? Anything over your four years that you found could change?

P: Generally speaking, UConn offers so many things. But like it gets really overwhelming because there are so many things. Like I wasn't aware of so many things until it was too late and that like frustrated me a lot. Finding a way to share all of the options that you have earlier in your career rather than later. Like classes or different majors you can take. Like for example, if I was a freshman or if I had time left, I would major or minor in Global health. Like there's a program for that! But I wasn't aware until it was too late.

I: So something along the lines of introducing that in orientation.

P: For sure.

I: You said you would change so many of your actions throughout your time at UConn. Could you expand a bit more on that?

P: Yeah. So, I originally came into UConn. I was Allied Health standard plan and I had a minor in Spanish. But like I didn't really understand what a minor would do versus a major. But like a lot of people have majors and minors. I didn't switch it, but I thought it would be more helpful to me if I majored in Spanish because I would take more classes and obviously learn more things. But like I wish I knew because I would've started my Spanish major earlier because I could've gone abroad for like a summer. So like a lot of resulting decisions could have been made a lot more doable because I would've had time to plan. You know what I mean? Like, for my research too, I was a junior and maybe if I decided, or knew, how to get more involved in research I would've gotten more involved in research and done a research project that I was more interested in than what I did. Not that it was bad or anything, but like, it wasn't my favorite.

I: How did you learn about the research experience that you did?

P: I emailed my advisor and honestly, I have used my adviser so much. Like I didn't know how to get involved or talk to like the pre-med office. So I was there like all the time.

I: Did you find your advisor to be more accessible than the premed office was?

P: yeah, cause like in your major there's like maybe only 100 people but for like the premed office – I don't really know how big it is – but they may have a bigger audience. It could be more catered to allied health.

I: Was there anything else that you could've changed to your health experiences.

P: Like I could've taken more healthcare administration and business courses and like I feel like I had a preconception when I came in and like that it would be all science, because I wanted to go to med school. But there are like so many more areas that like I could've went to go to med school. Not that I don't like allied health or Spanish, but like there are so many options that I could've considered because I thought I couldn't because they weren't sciency enough?

I: My final question is, what would you like to see more of at UConn for other pre-health students to have options?

P: Like the Health and Wellness office at UConn, they do a lot of things. And like student health and wellness – there are so many sub areas- within student health – like there are dietitians and stuff that students can go to help them create a meal plan or figure out how much to workout. So, it's not that we don't have a lot. Like we need to teach people about all the stuff that we have. Which can be like a little overwhelming because we have a lot and just like spitting out options, to especially like freshman during orientation, that would like be really stressful. So maybe like slowly introduce them these things through the year or through like FYE programs.

I: So have a kind of one-year FYE?

P: So I lived in a learning community my freshman year so I had FYE all year. So a lot of stuff that I learned came from my FYE class. Like, I lived in public health house, so like its super catered to healthcare. But like a lot of information exists about teaching.

I: How else would you like it to look then to change?

P: Maybe more contacts from your advisor or contacts from your department because like I know the smaller majors and colleges have an easier time of doing this because they have less students so they can make it really individualized. But maybe just sending chain emails, no I mean mass emails, from our like advisors to give all of us options or internships to apply to. Especially emails because we all have them and we all look at them. It's not like something you have to follow on Instagram or twitter.



I: Anything else would you like to share about health education or CAM at UConn then?

P: Not really.

I: Ok great, well that's all of the questions that I have for you today. I may follow up with a couple questions by email. But I think that's it.

P: Awesome, good luck with your research.

I: Thank you and thank you for participating.

P: Of course.

I: Have a nice day.

P: You too.

**Interview 2**  
**March 26, 2020**  
**Female**

I=Interviewer

P=Participant

I: Can you tell me what you are studying at UConn?

P: So I'm in Allied Health Sciences major at UConn. My minor's in anthropology. My ultimate goal eventually is to get into medical school and I'll be applying this cycle hopefully.

I: That's exciting. Where are you applying to?

P: I don't know yet. I know for sure that UConn Med 'cause I live in Farmington so that's the obvious choice. Other than that I'm not exactly sure.

I: Do you have a concentration in allied health?

P: Yes, my concentration's Health Sciences.

I: Could you tell me some of the courses that you're taking for the Health Sciences concentration and for anthropology?

P: So for Allied Health Sciences some of my most recent courses had been 4242 in Allied Health and it's called counseling and teaching for the health profession. I'm also taking currently management in health profession, so it's a lot about insurance and budgeting all that. In terms of anthropology currently trying to get into medical anthropology that will be a course I want to take in the future. And then for now it's a lot of gen ed or requirements within the major so right now I'm currently taking human evolution.

I: And have you completed all of your medical school prerequisites at this point?

P: Yeah.

I: Are there any other courses that you've taken from pre-health maybe not the standard prerequisites for medical school but other courses related to health or health care?

P: So, I would say that comes mostly from my allied health major like the counseling and teaching class and then the management class just because I think there's another side to health care that's not as emphasized which is like the aspect that's not anatomy/Phys related and like human body related so I find that stuff very interesting. So that's kind of why I chose major to be honest.

I: So your plan is to go into medical school after college?

P: Yes.

I: What are some of the areas that you are interested in studying specifically or are interested in specializing in?

P: So I'm kind-of torn between Pediatrics and just primary care in general because there's a huge need for primary care doctors and I'm - going a little bit object-like I'm very passionate about mental health advocacy and all that and so I feel like I could do them in both areas of specialty. So it's I guess it's more just like if I were to do my clinicals it would depend on what I find interesting.

I: Could you tell me a little bit more about your interest in mental health advocacy?

P: Sure, so I think like from my background as an immigrant in as a first Gen mental health isn't studied as much and it's all about the physical symptoms. So a lot of what happens mentally can also lead to physical symptoms but it comes in so late at that point it may be too late to do, to take action. So as someone who's going into the medical profession I think it's important for someone to be culturally aware and to understand that these kinds of things can happen and to try to take steps to sort of find that early instead of delaying and I think that that's been a problem with a lot of my friends like myself included various things/times were like it's not socially acceptable to have those kinds of problems. Like when people say "mental" in my language it's like your actually borderline insane crazy like that sort of stereotyping but mental health is a different word. And like it took me awhile to figure out what that meant. So yeah.

I: So something along the lines of building more of a dialogue is what you're talking about.

P: Yeah.

I: So what kind of areas are you interested in beyond like building that dialogue to help create more mental health resources?

P: I still haven't like found an area that I'm very interested in. It's more of like advocacy in general. But like I would like to specifically target underrepresented areas and people that are like or like backgrounds where they don't have as much of an understanding about it. So that's kind of where I want to go but I don't know how or like the details yet, but yeah.

I: No that's fantastic and having that focus right now is also like fantastic. Can you tell me some of the healthcare clubs or health related clubs that you are part of on campus?

P: So on campus...

I: It could also be off-campus as well.

P: Alright because a lot of my activities come from off campus. I don't really do anything on campus that health care related. But off campus I'm a volunteer Bristol hospital. I work in the cancer center. In terms... I was a CNA for a while... I'm still am CNA but I worked at a nursing home for six-seven months. Besides like shadowing physicians and stuff I shadowed a

pediatrician, a PCP, so it was a pretty interesting experience. Like most of my work on campus is more volunteer like non clinical related stuff and I'm trying to be a crisis counselor like I have my training in a couple weeks.

I: Oh that's exciting.

P: Yeah.

I: That's online?

P: Yeah.

I: That's good. I know even a lot of the mcat test dates have been cancelled which is crazy right now.

P: Yeah, I'm taking mine April 25th and I don't know if it's going to be cancelled or not but yeah it's kind of frustrating 'cause I'm in that zone where I want to study but I also don't want to use up all my resources and then find out it's been cancelled so it's a little bit shaky.

I: Everyone's in an "I don't know mode."

P: Yeah.

I: Could you tell me some of the other clubs that you're involved in on campus or like the groups you're involved in that might not be healthcare related?

P: So, I, I find myself really interested in teaching as well. So I do a lot of – so I'm a [voice recording issue] instructor. So I guess that's health care related. But I like to teach people and I'm also involved in the honors programs so I do a lot of advocacy work in terms of having people learn about diversity and multiculturalism because I think that's important. Like people think that they know but they really don't. So I mean I myself could learn a lot more but I think it's taking that step to do that. I'm also an RA so I have to tell my residents hey don't do this don't do that. Just being open minded and all that. Oh also I was just going to ask, do you mind if I leave a little earlier than expected? I think I have to go out like 11:30.

I: Sure and we probably won't ... we might get to that time but we might end a little bit earlier but thank you for letting me know so I could speed up some of the questions.

P: Sure no problem thank you.

I: Also I think you put - did you say that you're involved in research on campus?

P: Yes, I did.

I: Could you tell me a little bit about that?

P: So I currently research with the “Corey String [?] Institute. We focus on heat exertion and heat injuries that result like with high school students and so it happens a lot when they exercise and they get overheated and you have people fainting-those sort of symptoms. So a lot of the trials come from the heat lab where it's they set the conditions of humidity and high heat to simulate the environment during their competition or whatever it is. So we're trying to look at those effects how we can combat those effects. So it's a pretty interesting research.

I: How did you get involved in that?

P: So doctor Casa actually came the second semester of my freshman year to one of these like Teale talks that we had and there are only three people so I just happened to be there and I joined in. And then – like there was actually supposed to be more people but I don't know what happened- so I ended up just talking and I thought his research was interesting so I just decided to join. 'cause I thought it could be a way to tie in like my interest in the medical field.

I: What do you think about when you hear the term complementary and alternative medicine?

P: So the first thing I think of is instead of the traditional use of medication there's another alternative like acupuncture, meditation, diet, exercise... I think of those things and then how in our country today we're very medicalized. Like we're on that track to medicalization where everything has to be ... has to have some sort of pharmaceutical solution when it may not be the case. Like it may just be as simple as so you're living in an environment that causes this or you have to change this in your lifestyle or something. So that's what I think.

I: How do you compare that to conventional medicine? I know you started to refer to Pharmaceuticals a little bit. But could you expand on that more?

P: So with conventional medicine I feel like doctors resort to excessive use of medication and it may-or sometimes there's been cases where medicine has been immediately prescribed just 'cause the patient fits that sort of mold in their mind. So even though each person is different it may not be necessary that that person use medication. So I think it's like kind of leaning on to that individualized medicine which is more of alternative medicine and then the traditional medicine view is like a one size fits all thing.

I: And how would you define individualized medicine?

P: I think it's . . . I think individualized medicine is very tailored very personal to someone. So if they, depending on their lifestyle choices, their genetics, environmental factors, so based on that a doctor would prescribe-whether they have to prescribe or before you prescribe-analyze their background. Do all of that and then maybe lifestyle changes and if absolutely necessary prescribe. Yeah, so I think individualized medicine is very tailored to one person.

I: So have you personally used any complementary and alternative medicine?

P: No, not that I know of. Yeah, I haven't done anything of that sort. A lot of the doctors that I've seen kind of stuck to the mold and I think it's because alternative medicine isn't as it's not as “in”.

It's also because...I mean I try my best as a CNA, ask people, talk to people, see about what's going on first before I'm immediately work out the problem. So yeah so, it's definitely something I tried to do but it's all up to like there's not much I can do now when I don't have the qualifications.

I: Have you used any complementary and alternative medicine forms?

P: So yeah, I mean if there's issues like change in weight or something I usually don't chalked or anything. I just go follow a diet and meditating. All those sorts of things. So, I try not to rely on medicine. Even when I'm sick. Usually I just kind of let my body do its function with my immune system. [Inaudible comment]

I: Have you ever seen any kind of alternative practitioner before? Maybe a- such as like a - chiropractor or a massage therapist?

P: No.

I: So what potential uses can you see for complementary and alternative medicine?

P: I think it would be useful for people that have very unique conditions but also people that don't fit the mold. So I guess unique people and someone who may not want to use medicine. SO someone who doesn't- either just because of their physical limitations or just their beliefs- So I think that would be a good way to use alternative medicine.

I: So would you be- I'm just gonna review a definition of integrative medicine from Duke University and it's basically a lot of what you've been talking. It's the patient being at the center and just addressing that full range of physical, emotional, mental, social, spiritual, and environmental influences to a person's health. And it's kind of puts together some of these pharmaceutical interventions along with mental health interventions and lifestyle changes but an evidence based format. And it has a lot to do with self-care and prevention. So given that definition of integrative medicine would you be interested in taking courses related to integrative medicine?

P: For sure yeah.

I: Would you rather do it as kind of an elective course or would you be interested in actually having like a degree in integrative medicine?

P: I think a degree would be good and then it gives people an option. 'cause I feel like with a degree you have option to take it as an elective or as major.

I: If you had the opportunity to create such a degree, what would be some of the courses or some of the areas that you'd be interested in exploring?

P: I know given I might be a little biased – but given my advocacy, my passion, to be advocate with mental health I think I would more courses in mental health because I think people

understand people know what mental health is but they don't know wasn't it is. It's very like- what's the word- it's like one of those things that everyone knows but they don't know the full extent of it. So I think that that would be helpful. Having/discussing other ways to treat people besides medical/besides Pharmaceuticals.

I: Are there any specific types of specific complementary and alternative medicine that you would want to take courses in, such as acupuncture or things like?

P: I feel like I'd want a more generalized view. I don't know if I would be interested in a specific course per-se. Just because I feel like that would be more into like a specific concentration or like a specific expertise sort of thing. But I kind of want to be like, not an expert in everything, but have a general generalized view of everything. I feel like it'd be really hard to know everything in full detail.

I: If you had the option for such a degree would you prefer to have a Bachelor of Arts that had a little bit more of the social Sciences in it or more of a Bachelor of Science with a more rigorous evidence-based look at some of these therapies... or a combination of course too?

P: I think probably both just 'cause I feel like there's both; both of them are really important.

I: So, through your experience going through the pre medical and pre health tracks at UConn is there anything that you wish you could improve of either the allied health or the pre medical tracks?

P: I would say a lot of it comes from having more less hard science courses and more social science. So more of the public health aspect of it I think would be something that could be added. And in terms of allied health I would actually say the opposite it could be more hard science. So that that's kind of why did both because it has both. Mix them together for people who don't have that opportunity there. I think that would be helpful. For someone that's just allied health or someone that's just premed.

I: So are you aware of any complementary and alternative medicine courses on campus?

P: No.

I: If you wanted to get more information about some of those courses what would be the best way to do that?

P: I would say my advisor. Yeah, I, I would probably go with my advisor.

I: Do you use social media or emails just like some of the mass emails through the premed office to help you with any of those decisions to take certain courses?

P: Yeah, sometimes I do. Sometimes I kind of just go down to the depths of my emails.

I: Do you find that there's too many emails that are sent through UConn?

P: Yeah, for sure. Especially in the Daily Digest. Sometimes it comes out and it's literally the same thing every day. I feel like they should do a twice a week- once a week- thing.

I: Now if you were to get more information from your advisor would you just want this to be verbal or would having something like pamphlets on some of this information help you make some more decisions?

P: I think I personally would like it verbal just because I would I could probably take my notes on it myself. I feel like if I was given a pamphlet it, I probably wouldn't use it.

I: So is there anything else that you would like to change or improve in health care education at UConn in general?

P: Not that I can think of, no.

I: Well then, I think that's all the questions that I have for you today unless you have anymore questions or any more thoughts you'd like to share.

P: No.

I: Great. Well this has been very informative thank you for participating in this research it's been a pleasure.

P: No problem, thank you.

I: Alright have a nice day.

P: You too. Bye bye.



**Interview 3**  
**March 26, 2020**  
**Male**

I=Interviewer

P=Participant

I: So can you tell me a little bit about what you're currently studying at UConn?

P: So, I am a freshman right now. Obviously second semester freshman at Storrs. I came in as a molecular cell biology major. And then I took some anthropology courses and I'm doing an individualized major now in healthcare and society, as well as my major molecular and cellular biology major. SO I'm a double major. The individualized major focuses on really how different cultures view health and how we can contribute their health care systems and vice versa. So I'm planning on taking courses in like um...yeah like global health courses. Things like anthropology and healthcare course anthropology, introduction Epidemiology, courses like that. SO that's really what I'm studying. As for this semester I'm taking a peer practicum course which is like to become a unit facilitator next year, next semester I should say. I'm also taking Anthropology 3340E, which is culture and conservation, with professor Quimet. I'm also taking let's see, philosophy 1175 ethics and healthcare, psychology 1103, and then molecular cell biology 2210, so cell biology. So basic overview.

I: Could you tell me a little bit about the courses that you've chosen for your individualized major?

P: Yeah sure. Let me pull up my plan of study here to get an exact idea. Yeah, so basically the courses for the individualized major are going to be medical anthropology, introduction to global health, health care management, healthcare industry analysis, health law and policy, clinical and social issues in healthcare, Epidemiology, and the sociology of health.

I: Those are like some really great courses that you've chosen. I've taken quite a few of them and they are very good. At the end of the interview I have some suggestions too, related to more of the cultural aspect.

P: Yeah, I'd love to hear them. Yeah.

I: So, you are also on track to go to medical school too, is that correct?

P: Yeah, I am.

I: So, could you tell me a little bit about how that relates to some of the choices you've made in your education at this point.

P: Yeah, so I mean I know I wanted to become a physician since like medical field I would say since like high school, beginning of high school. I started volunteering at the local hospital. I was like you know being able to have a tangible impact on people's lives, my passion for science,

working some sort of team-like healthcare team. I mean incorporating all those aspects I just felt like I could really do well in healthcare. So that's why I chose healthcare and being a physician specifically. But in terms of how I've been guided for courses - I picked molecular cell biology because I was really passionate about cell biology and I find it really fascinating. I picked individualized major on top of that because I realized that even today, right as a physician in the future I'm going to be treating a lot of different kinds of patients. Especially as a physician in this country. So it's important to understand where they come from culturally, what their backgrounds are, why they may view a certain treatment differently than how I view a certain treatment. And it's just overall important to get a broader perspective of health care and focus on- not only the scientific aspect of medicine which is very important-but also the social aspect of everything is equally as important.

I: So are you part of any like health related clubs or even just like clubs in general on campus?

P: Yeah, so I'm a senator for undergraduate student government, um in terms of health related clubs. So I do kidney disease spreading awareness program which is very good in like impoverished areas and we basically set up kidney screenings because obviously kidney disease is one of the leading causes of death in this country and so we'd like to give them for free to individuals and help them improve their health. I'm also part of the special program medicine board. So that's the board for the program I'm apart of. We just work to build community spirit in the program but also help students pick classes and stuff. Those are really the two big health related clubs. Other than I'm also part of cube [or Q] which is like kids in UConn helping in education. So we meet with kids on a monthly basis. Um, yeah that's really it. Also I really like \ running too.

I: That's fantastic. And did I see in your survey that we were involved in research as well?

P: Yeah, so right now doing research with Dr. Connor in physiology and neurobiology department. It's pretty...well it's physiology and neurobiology, so for research we're studying a specific disease in the brain called hydrocephalus. It's when your ventricles enlarge somewhere and cerebral spinal fluid isn't draining properly. So we're studying how the stem cells are affected by developing hydrocephalus using different models. So I'm particularly in looking at the influence of a model and injecting influenza in mice beforehand and if they give birth how are the pups, how are the baby mice affected, by affected by how are the stem cells affected by the influenza that they then develop and the hydrocephalus that they then develop.

I: Very cool. And are there any other things that you're involved in that might be somewhat health related outside of UConn?

P: Well I do volunteer at; I do volunteer in summers at the hospital. I'm not sure I'm going to do that this summer. But I'm also an EMT so I work for Waterford ambulance. I obviously just respond to calls and so people call for so something that requires medical assistance. So that's something I also do, I guess. It's pretty much on the health related side for now. Try to find some opportunities for this summer but not sure what yet exactly. We'll see.

I: Especially right now who knows.

P: Yeah who knows what's going to happen.

I: So what do you think about when you hear complementary and alternative medicine?

P: Yes, so I think of complementary alternative medicine- so in my mind I instantly-I don't know why-but it flips to cultures in the eastern hemisphere. Which, you know, I mean my parents are from India and I have ancestors from India right. And they use forms of medicine, a.) that really focus on treating the whole body rather than on specific elements. Uh, I guess it's also a focus of osteopathic medicine here now. But Secondly, I think is also using the natural resources available around around them to treat diseases rather than Pharmaceuticals and then drugs that are generated in a laboratory. That's the way I see it.

I: And how would you compare that to more conventional medicine?

P: So yeah I think more conventional medicine really relies on scientific research done over long periods of time that look at the molecular level, at the molecular level you know how certain chemicals affect certain parts of the body in certain diseases, and from that developing certain drugs in a laboratory that then treat certain ailments at the molecular level.

I: So where do you think you got some of your ideas about complementary and alternative medicine? I know you talked a little bit about maybe your family a little bit.

P: I think it comes out of my family. I mean I guess my first real exposure to it was um you know I get really severe allergies to eggs and we went for an ayurvedic treatment, which is a form of complementary and medicine. I think. And then he showed us some things that he's he's done back home in India because he came to US for a little talk or whatever. And so we went to him and so he said there's treatments that I used to treat people back in India that have an allergy, to have certain allergies to foods, and he was using a plant based remedy do that. So that was my first real exposure to complementary medicine in person. Other than that I think it's just been hearing a little bit about it in interviews, learning about it as I've gotten more interested in medicine here and there. Honestly, I don't know too much about it. But I don't know, I think it's really just come from interacting with my parents and my ancestors and my grandparents who use it a lot more and rely a lot more on natural treatments, natural remedies, and then I feel like people now do.

I: Do you find that there's any kind of barrier to between conventional and alternative medicine?

P: I wouldn't call it a barrier. It's more of a cultural shift that's changed. See, I think that my my grandparents rely a lot on alternative medicine because they see that certain things work for them and they're really passionate about it. And I feel like now when people bring up alternative medicine, especially people of my age, the thing is that oh how could I plan to treat that disease. Where's the scientific proof behind that? If I was looking for proofs and reasons. SO that I think forms like some sort of barrier. But you know, sometimes natural remedies I must say they work a lot better than than conventional therapies. I mean I get a sinus infection every year because I have bad sinuses and something as simple as just putting hot steam my face really helps more

than antibiotics can at times. So I think you know to breakdown the barrier, people have to realize that these natural treatments and these aurdvedic treatments, sometimes you know they they do they do work just because of their simplicity. They don't always need scientific proof behind everything for something just to work. You know, because it's been working for generations.

I: What other alternative therapies have you been exposed to?

P: Alright, so I mean alternative and natural... I don't know about alternative therapies but so there's a lot of natural therapies. So like I said for like the sinus infections I use steam before to clean up the sinus passages and to moisten the mucus in the area. I've used the neti pot, I don't know if you are familiar with that. It is to drain the sinuses as well. Those are the two big ones for me personally. I'm trying to think what else. I alongside that, I do take obviously conventional medication approaches to treat those things. I've noticed that the combination of the two is really the most effective. If I was only use steam or the neti pot I don't think my sinus infection would clear as fast as if I used the antibiotics but the antibiotics work a lot more effectively if I use it in conjunction with this steam and the neti pot. So that is what I would say.

I: So would you be interested in taking more courses on integrative medicine?

P: I think so. I think you know. I think the unfortunate thing is that's something that's dwindling in terms of its acceptance-in at least in the Western Hemisphere for sure- is as modern medicine now sort of again is um is utilized more. But I think again that I would definitely be interested in because like I said my entire major is understanding how different cultures view medicine and there's definitely cultures around the world that still really rely on alternative medicine and those kinds of therapies so I would definitely be interested in more courses on it.

I: Um, now I know you have an individualized major, but say would you want these courses to be like more in elective form or would you be interested as it being its own kind of degree offered at UConn?

P: That would be interesting. I think we'd have to look at the student population and see how many would be interested in taking some more courses on alternative medicine. I would start with the electives because I think it is like- Like I would personally choose electives because they can fit in well with certain plans of study, especially students who are interested in prehealth. So then if there's obviously a very strong showing for them then maybe I would maybe move it towards a major as well. But I personally would like to see it more as an elective. Just because think I could fit it in with my plan of study and I'm not sure if I want to focus entirely on alternative medicine. More like just get an understanding of it.

I: Are you aware of any integrative or alternative medicine courses offered at UConn?

P: I'm not honestly. I was hoping that one of the individualized major courses I've chosen would cover it. Like medical anthropology or something. But I'm not sure of anything specifically devoted to it.

I: Um and you know to get more information out there, what avenue do you really get your information from? Like emails or...

P: From UConn or like news outlets or...

I: From UConn related to like your education.

P: Yes, I'd say definitely daily digest. That gives me my UConn news in general. Academic advisors have been pretty helpful and my individualized major advisor has also been very helpful in helping me shape this plan out. Everything- honestly the biggest influence has been the courses I have taken up to this point have sort of help me - and the experiences too obviously- have helped shape my understanding: OK this is medicine right but I want to develop a deep understanding of it through taking anthropology courses - understanding the study of cultures. I want to study cultures now after taking it ANTHRO 1000 and anthropology culture and conservation-the upper level anthropology course. And that's how I understand: OK during my individualized major I want to take more anthropology courses-there's those focus on how other cultures view medicine. But it's been a combination of talking to my academic advisor, my individualized major advisor, and also using the experiences that I've had in my courses at UConn to shape how I want the future of my educational career to look.

I: And if you could create a course what topics would you be interested?

P: In learning about anything or specifically alternate medicine related?

I: Anything related to health in some way. If you can connect it to health you can talk about that.

P: I would say leadership in health is big. Like i said I'm asking healthcare relies a lot on the leadership team right and from nurses, physicians, creating a course that really breaks down that leadership structure and looks at ways that are efficient in treating patients in ways that have not so so efficient. Treating patients- constructing that constructing that sort of I guess- just teaching students about the different leadership strategies first of all, but also leadership that has been effective in the health care professions so that they can then go on to be health care professionals that work effectively in in a team team setting. I've always been passionate about leadership, about medicine, and I think combining the two would be pretty cool.

I: And if there's anything that you could improve on the pre medical/pre health education front at UConn what would it be as you've come to experience so far?

P: Yeah, so I'm fortunate enough to be in this program, especially related to medicine. So I have conditional acceptance and so do some other kids right that are going to medical school on the same program that I'm in. So, I mean you know one thing I really appreciate about this program is that it's not very competitive and I think that like that feel like there's always this thing with the pre-Meds at any school where you like you have to get straight A's, you have to get you have to do the research, you have to do abcd, but like I think I would just like to change that that ideology and make it a little less competitive and make sure just realize that you can major in what you're interested in. You don't have to be an MCB major PNB major. You know, as long as

you get the requirements, as you're well rounded person, you can go far in life. Making sure to understand that I think is very important and I think like you mentioned to having a wider variety of courses available to students in health care. Obviously there's Epidemiology, obviously there's global health, medical anthropology, but I mean there's things that could be added to it-including alternative medicine-which I think students would be very interested in. So I would add that as well to the prehealth curriculum.

I: Now are you on a fast track to UConn health?

P: No, it is still eight years: 4 undergrad, 4 medical school. Some students actually end up staying at UConn undergrad a little bit longer to finish up a degree or doing some other work before matriculating to the Med school. But very few go early- I don't think you're even allowed to go early. So it's just eight years.

I: But you are accepted into the UConn med school.

P: Yep, yep! So it's like conditional acceptance so you like need a 3.6 GPA and get like 80% percentile on the mcats. You apply in high school to the program.

I: Well is there anything else that we haven't touched on that you'd like to share at this point?

P: I don't think so? So I mean I guess a question I have for you is how you got interested in this research? It's really cool stuff.

I: Well I was part of the individualized major program. I began in environmental health, first. I was on track to actually become a veterinarian before that and wasn't quite my thing I wanted to expand a little. I figured it's undergrad why not. But environmental health wasn't quite what I wanted. I was interested in more of the toxicology and also even like mental health around people's environments and like the social and cultural environment. So I kind of created this individualized major in spirituality, culture, and health 'cause that kind of took a little bit of everything and yeah that's what started my interest in getting people on pre-health tracks interested in learning about some more broader aspects to health. And yeah, I'm hoping to go to medical school in a few years too but being nontraditional I'm still a little bit farther away from that point. But yeah so.

P: Good for you it's pretty cool stuff, not gonna lie. It's pretty interesting.

I: Same with your individualized major, it sounds fantastic.

P: Do you have any recommendations for it like you were mentioning earlier?

I: Yes, I'm trying to think of off top of my head. Illness and curing is one course that touches on a lot of different alternative medicine and a lot of the courses that you've taken I have taken and they are very good. If you were interested in more of human rights, less health related, but there are some aspects to health in it. I'm forgetting the name of the professor. But It's something along the lines of indigenous Australia and Human Rights. That's very good. If you're interested,

I can send you an email of some recommendations for classes that you may have already included in your individualized major but may be interesting to look at as well.

P: Yeah, I would love that. You have my email address, right?

I: Yes.

P: Yeah, that's all I have honestly. I mean thanks for your help. I'm trying to shape my education and make it in line with my goals and they seem related to stuff you've studied and that would be very helpful.

I: Of course. And if you're interested in any of this research afterwards, I would be happy to share it.

P: Of course of course. Good luck with everything on your senior thesis and all.

I: Thank you and stay well.

P: Yes, thank you. Take care.

I: Bye.

P: Bye.

**Interview 4**  
**April 4, 2020**  
**Female**

I=Interviewer

P=Participant

I: And OK. What are you currently studying at UConn?

P: I'm studying, uh I'm in the diagnostic genetic Sciences program. Usually I just tell people genetics though, cause that's easy enough to understand.

I: How does that differ from genetics?

P: It's like diagnostics, so it would be in a lab at a hospital or it could be, I could work, in a research setting after college. It's... at the end I get a certification from the American society in clinical pathology. Though it's kind of, it's it's a more intensive program than like biology in terms of genetics and then I can go and get a career that needs that certification for like bio and stuff like.

I: So are you a prehealth student at UConn.

P: Yes. So I identify as a prehealth student. I'm not pre-med. I'm pre-genetic counseling is kind of what I call it. Because I just identify like with pre health because I do need to go on to grad school to do what I want to do in the future.

I: What is the graduate program that you're looking to go into?

P: Its genetic counseling, so it's a Master's program. It differs depending on the school but it can be anywhere from 21 to 28 months.

I: So can you describe some of the courses that you have taken for your genetic counseling degree?

P: Yeah, so for my undergrad degree I've taken... do you want me to say the name or like you want me to describe like what I do in the class?

I: You can describe names of some of the courses that you've taken and you don't have to go very in depth about it.

P: I've taken an immunology class. Um right now I'm taking a genetic ethics class. I'm also taking like technology classes to learn about different technologies within like genetics, cytogenetics, microbiology, pretty like sciency courses.

I: Are you part of any pre health clubs on campus?



P: I'm not part of any pre health clubs. I am on the pre-med/pre-dent/pre-health listserv and I have reached out to people in the pre-Health advisors before.

I: Are you part of any other clubs or research on campus?

P: I am part of the gymnastics club and that would be gymnastics like you UConn gymnastics club, not the club sport because they are two different things. I'm also a resident assistant in Buckley/Shippee in the honors learning community.

I: I actually lived in Buckley my first year, in the quads so that was fun.

P: So, yeah, we actually we got rid of the quads so now they're just like group study areas, so.

I: Oh thank God. Those were so cramped. Um, so are you part of any other clubs um in addition to that? Or have you partaken in any other clubs on campus maybe not this semester but in other semesters?

P: Yeah, um my first year - I'm actually... I'm a sophomore technically so I haven't had like that much time. But my 1st year I was part of the residence hall association in my building and I represented UConn at the national presidents Hall meeting. So I think that was probably like a big part of something that I did. So yeah and I was vice president in my hall.

I: Could you tell me a little bit more about that bioethics course in genetics?

P: Yes so, it's kind of looks at how like what are some of the big topics that genetics is involved in right now. So we go over like a lot of things just because like genetics like you hear it in the news like all the time. It can have a profound impact like wherever. We.... what are some of the topics that we've gone over. Right now we're going over like animal care and use. So how how to use animals in the lab in research. We do case studies where you have to like defend a side or like someone has to say one side someone has to say the other side. Testing like which genetic like which genes should you be reporting on or not and like what impact reporting on certain genes could have. I think this applies to like my future career definitely because as it the significance of someone's test reports to someone and it can be really confusing. Especially to people who don't have a background in genetics.

I: I'm now going to like transition to talk a little bit more about complementary and alternative medicine. So what do you think about when you hear that term complementary and alternative medicine?

P: Honestly, I don't really know that much about complementary and alternative medicine. I saw like it in the listserv and I figured it was probably important to get people who didn't know about it also. I guess whenever I hear of alternative, I'm a little bit like skeptical just as someone from like the scientific community. We're probably always going to be skeptical of things. So I was kind of skeptical cause you hear like alternative medicine and your just like not sure if it's going to work or not. But definitely like going through the, going through like the questions I think like

some of the things I probably already did but didn't consider as like complementary or alternative like medicine. Or like things that you would do that could fall into that group.

I: Do you want to talk a little bit more about that?

P: Yeah, so definitely like going through I'm like a huge like yoga and Pilates person. So I was like oh that counts? Yeah, I guess like I do believe in like deep breathing and like how that can like calm someone down. Definitely stuff like that. Like connecting your mind to like audience. Like those aspects. I didn't didn't know that that could be like included at all, so yeah.

I: Um, so how do you think that compares to integrative medicine?

P: When I think of integrative medicine I probably think of – as like someone with a genetics background- I think about like personalized medicine and like talking to everyone and seeing like what might be the best course for this person. Taking everything into account. So that would be like mental well-being. It could be the genetics, um if they have like a certain cancer like genetics might play a role or certain disease might even have like a genetic background to it. It could be how they respond to a certain therapy whether they like it or not. I think that's been shown that if someone likes the treatment more it might be more effective. Stuff like that. And then also definitely like outlook on life could have a role in like treatment. So.

I: Now how would you compare that to conventional medicine?

P: Conventional medicine I think is more like [pause for thought]. It's a hard because I'm still learning the definitions of these things, but conventional medicine I guess like in my mind it's like oh you have this condition then you're going to do this treatment and it's very like one like one size fits all without taking like a lot of factors into consideration. So I guess that's what I would say for it.

I: Would you be interested in taking courses on complementary and alternative medicine?

P: I probably wouldn't be opposed. I take courses- I don't really have that much room for courses in my schedule, but definitely I've been looking into taking more like courses like electives as a time goes on because I do have like free spaces. Or like I'll be at 11 credits and then I need to add like three more or something like that. So I - I would be open to it but it definitely depends on like what the course is about and like if I was interested in the course and then how I would be able to apply it to my future like career aspirations. And definitely if it was in like if it was in my course schedule or if it was offered as an option as like an elective that could count towards my degree, I would probably be more open to taking it.

I: So, more as an elective within your own major than as a separate elective? Something that would count towards those credits is something you would be more interested in?

P: Again, yeah because if it was something that I was interested in and then it could also double as like a class that could fill a requirement it would definitely make me more interested in taking

it. But I think at the end of the day it also like depends what the class is like on, a little bit about like who's teaching, stuff like that.

I: Would you ever consider a major or a minor in complementary and alternative medicine?

P: I-it honestly depends at this point in time. I probably wouldn't just because I don't have room to add on like a minor, but if I knew about it like freshman year and it was an option like I would probably consider, consider it, I guess.

I: So if you could go back to being a freshman and you could kind of create some of these courses to fit into your major what would they be on- what kind of topics would you be interested in?

P: In terms of like complementary and alternative...

I: Yeah, anything that has some connection to health and how you can apply it towards your current interests in medicine.

P: I think maybe like a counseling class where you talk about like different methods of counseling within medicine. I know there are some classes but it's kind of hard- I'm, I'm just not sure it would apply to like everyone who is going into medicine and I think like maybe there could be more specialized or like even more like more broad classes. Like if they included more like different types of pre-health majors into those classes that could be beneficial. And I would like consider taking that probably so yeah.

I: What are some of the classes that are offered-if you know the titles of them?

P: I know that there's patient and healers. I think that's a class. I don't think-I know that class is very hard to get into first of all. So that's definitely something that makes me not want to or like even be able to probably take the class because now I'm not-and my major wouldn't be designated as one of the majors that like could get in and I would probably have to go through pre-health advisors to try to get a permission number for it. So there's just like added things that are like stopping me from taking one of those classes.

I: Are there any other topics that you're interested in more specific to complementary and alternative medicine?

P: Um, do you have any like example topics?

I: Yeah, like for example if you were interested in um more of the mental health aspect of treatment maybe health psychology would be an interesting topic to look at how yoga can contribute to um decreasing someone stress around treatment, or something along those lines.

P: Yeah, I think [pause]. So wait can you repeat the question then?

I: Yeah, are there any topics in complementary and alternative medicine that you're interested in learning more about it? It doesn't have to necessarily be a class. Just, yoga or something like that.

P: Yeah definitely like dealing with certain like conditions or just like I think it would be really beneficial to have a class where like you would be able to empathize or sympathize with people who get like really scary diagnosis because I think that's really important for people in the pre health field to have empathy or sympathy for people who are their caring for. Or prescribing medicine. Like I think something really bad about like the healthcare field is that some like I know for doctors' offices like did max on average that you see a doctor is like 30 minutes and I don't you really think that's a good thing. Like I get that there's a lot of people to treat but I think that it's really important to like just focus one on one with like whoever you're treating. And I think that's it's not the doctor's fault. It's more like a system fault and I think like I would be interested in like trying to change that kind of. Or like a topic that could cover talking with patients or like making them feel heard and stuff like that.

I: Now have you had any experience with complementary and alternative medicine? Any kind of therapies that you've used personally?

P: I guess like I remember at the end of the thing like yoga or Pilates. I definitely use like deep breathing techniques if I ever get stressed. I don't know if anything else would be probably categorized into complementary and alternative medicine, but yeah.

I: Where did you learn about some of the deep breathing techniques that you use?

P: I have probably through like friends. I have a couple friends who are like super into yoga and like it's just always been like a thing. Like oh like you're stressed like let's just like take a moment like I learned this and like let's just like take a moment and do this together. And so that's probably where like I learned how to do those techniques on my own. So yeah.

I: Do you have anything that you wish to improve about pre health education at UConn? I know you're specifically in genetics, but even through your experience?

P: I think- in terms of pre health - I think maybe like broadening the spectrum. Like 'cause as someone who identifies as pre-health I don't know if many people would like hearing about genetic counseling. Not a lot of people know about it, first of all, so I don't know if people would necessarily categorize me into prehealth upon first like hearing about-like oh I'm like thinking about doing genetic counseling in the future. I don't think people would necessarily put me in that category but I definitely like self-identify with it because I need to get a lot of prerequisites, I need to get counseling work, I need to get like shadowing in before I can even go on to Graduate School. Like it's it's not the same as like like a science like Masters or like a graduate program like that. It's definitely very different and I would definitely categorize it into pre-health. I think like broadening the spectrum for that and just like having more openness to including people in prehealth. And also like building up an empathy for patients. I think that's like really important. I kind of want to change how like or I want to see like a new wave of doctors that come in that are just like more empathetic and more sympathetic to patients in the future and I think that's also very important, so yeah.

I: What were some of that inclusivity look like between pre-health topics at UConn-different majors and things?

P: I think maybe like- See I don't know if it's possible but like maybe a fair for people. Like for like prehealth to put on to like see who falls within-or like even in networking-like a networking event where people meet and they talk about like what type of prehealth they are. Like raise awareness that there's other other types of prehealth that maybe people didn't think about. I know my sister is pre occupational therapy and she she already got into Masters school. So like she's going that route. So that's another one that like people don't usually think about and people don't know about what occupational therapy is, as well like they think it's like the same as like physical therapy. Which is like very very different. So I think maybe like a networking event could probably help or more networking events. Possibly like a fair. Right like people can sign up and they don't necessarily like- I don't know that I have enough time to like devote to be within like a premed club, but like an event where even people who are like a listserv could sign up to like join for a day and like network. I think that could be helpful.

I: And how would you start more training in empathy for pre-health students?

P: I think that one's like very hard. I would say a more more like volunteer experience probably in settings where empathy is like a huge aspect of being a volunteer in a certain place. For example, I recently started as a crisis counselor for the crisis text line and that takes like a huge amount of empathy or sympathy for what someone else is going through and try to understand like what they're going through to help calm them down and get them out of their crisis situation. And I think that that should be a larger focus. Like. And I think that it's kind of going in that way. Like you need to have like clinical hours or volunteer hours to in order to apply to Med school and I think that's like a good thing. Just I think maybe more focused work specifically within like working with people and like a certain crisis could help build empathy or something.

I: Um, is there anything else that you want to share about improving health care education at UConn?

P: I don't think.

I: Well that's all the questions I have. Um unless there's any lingering thoughts that you're thinking about or anything you want share.

P: No I think I'm good.

I: Well thank you so much. I find your major to be fascinating and I didn't even know that that was an option at UConn.

P: Yeah, it's pretty small.

I: There's so many opportunities at UConn and continually being surprised by what is out there so yeah.

P: Right.

I: Alright thank you so much and stay well and all this craziness right now.

P: Alright you too.

I: Alright bye.

P: Bye.

**Interview 5**  
**April 9, 2020**  
**Female**

I=Interviewer  
P=Participant

I: Do you have any questions before we begin?

P: No.

I: So, what are you currently studying at UConn?

P: So I'm a freshman at UConn studying elementary education as a major and minor in HDFS.

I: Are you doing anything in pre-health?

P: No, I'm kind of thinking changing my major but I'm not sure yet. So I'm kinda still exploring stuff, so yeah.

I: So have you been using any resources through the pre-medical/pre-dental office at all?

P: No. I've been using like my friends who's been in like the pre-health programs. But I haven't went to like offices for a professional to guide me.

I: Have you taken any courses somewhat related to pre-health?

P: Like bio?

I: Like more along the lines of, well yeah like bio, or courses like health psychology; anything that can fall within the purview of medicine.

P: I took on PSYC 1100. I'm taking Chem next semester. I think these courses are kind of related.

I: Definitely, yeah. Um I know you're exploring, but what are some of your ideas related to your career pursuits?

P: I think more like this a psychology track or counselor 'cause I'm into more kids, so I probably would do like school counselor or like psychology or something like that related to kids. Something like that.

I: Um and is there any specific area of psychology that you're interested in?

P: I think just in general psychology.

I: What clubs are you involved in on campus or research?

P: Clubs, um I'm in UCTV- nothing related to prehealth but. I am in Chinese undergrad student Association and the VSA which is Vietnamese student association. Um because I want to major in elementary education right now, I'm in cube, which is like a mentoring program for middle schoolers. That's it.

I: Are there any clubs that you're interested in joining and haven't yet?

P: I wanted to do jump start. Um I think I just want to join some clubs that uh if I want to continue my major in elementary education right now. Like something related to that. Yeah.

I: Have you taken any courses on bioethics or patient centered care?

P: No.

I: Yes some of these questions may not apply at this point since you haven't taken many courses yet so sorry if I ask things and you're like, I think I answered that already.

P: It's fine, it's fine!

I: So what do you think about when you hear the term complementary and alternative medicine?

P: I think as, like with an Asian background I would say Chinese medicine- like traditional Chinese medicine -is the first thing that popped up in my mind. Like massage therapy, tai chi, yeah these are the first things that pop-up and I think about that.

I: Do you, or have you, ever used any of these alternative therapies?

P: Yes, the traditional Chinese medicine I used to have them when I was little but yeah.

I: Could you expand on what you used traditional Chinese medicine for?

P: I remember when I was little, I think I have there like in this skin issue and then we went to like Dad's in Chinatown for like a Chinese medicine clinic and then they give me some medicines. It wasn't helpful honestly back when my parents just told me go there and take a look, OK and that was it, yeah. And then the taste wasn't that good but-

I: Was it herbal?

P: Yeah. I think so. I don't... yeah yeah yeah.

I: So what do you think about when you hear the term integrative medicine?



P: Integrative medicine? I think it's more how the medicine in an American is like. Cause I've been in China before and how the doctors and medicine in China are like and I see a difference. Like American is more integrative I would say.

I: Could you expand on that little bit more?

P: It's like in China if you go to see a doctor, they're gonna use like Chinese medicine for you and here if you go see a doctor or in Pediatrics they wouldn't recommend like Chinese medicine as a first choice for you, so yeah.

I: So then how does that compare to conventional medicine?

P: Could you explain conventional medicine?

I: So, I usually think of conventional medicine like going to the Pediatrics office, or going to see a doctor who specializes in something, you know some of those American ideas of how we set up medicine here.

P: I think . . . wait hold-up. They have more, like back to they are more combined different medicines for the patients other than just picking one method I would say. Combining different methods.

I: So would you be interested in taking courses on complementary and alternative medicine?

P: Yes, if UConn, yes, I'll definitely.

I: Are you aware of any courses that are offered at UConn?

P: No.

I: So would you be interested in taking those courses more as an elective?

P: Yes, as an elective so far is, I don't want to change my major so far. I just want to get the feel of the courses.

I: Would you be potentially interested in ever taking a minor or major related to complementary and alternative medicine?

P: Um yeah, if it's a minor I'd definitely consider it.

I: If you could create that minor what types of subjects would you be interested in taking?

P: I think it will go back how the traditional medicine. I know now how traditional medicine has no one learned that anymore, so it's like a cold fuel[?] I would say. I want more people to be aware of that so I would think that would be a cool subject as a minor.

I: So it would be a minor specifically in traditional Chinese?

P: Yeah.

I: Are there any other areas of complementary and alternative medicine that you're interested in learning more about?

P: Um, I think Chinese traditional Chinese medicine is pretty broad already so I think there's a lot involved already so.

I: I know you're not in the pre-health track yet and you're looking at it but if you could improve anything education in prehealth education at UConn what would that look like?

P: I'm pretty sure right now at UConn that have traditional Chinese medicine or anything related to that course. I will say adding or creating some course similar to that that other people like me will interested in or like how you said having a minor or a major as that will definitely help.

I: So is there anything else that you'd like to share about expanding health education in the medical field at UConn?

P: I don't know much, so I will say no for so far.

I: All right last question- where do you get most of your information about taking courses at UConn?

P: Advisors and friends probably for elective. Yeah that's it. Mostly my advisors. I'm sorry.

I: No go ahead. [Pause]. So do you use any of the social media platforms or the daily digest to get more information on any courses?

P: I mean recently the Covid-19 the one credit course that I heard from on daily digest but other like regular semester courses I talk about about with my advisor and that's where I heard from.

I: Would it be helpful to get any additional information form of say packets or like pamphlets from your advisor to help with choosing more courses related to pre-health.

P: Yes, uh yeah it would definitely help.

I: Is there anything else that you'd like to share?

P: I will say a fun fact about me. At my house the cupping therapy-we own one of these. So like we know how to do it.

I: That's fantastic! Do you want to talk a little bit about that? I'd love to hear about it.

P: Because I think I don't know how this whole thing works but like my parents will love it because it will like relax their back and stuff. So like I wish I could help out cause we have the whole set and just cup it on their back and then it's kind of satisfying. But yeah, it's cool how we have that whole set at home. We could do it at home rather than we like have to go to a clinic and do it, so yeah.

I: And is it a dry cupping?

P: Yeah. Like one of the glass cups.

I: Yeah, like you put heat in the cup and then it

P: Yeah yeah yeah yeah yeah.

I: I've seen - I haven't done cutting myself cupping myself – but I've seen where they actually move blood into the cup too, I think. I think it's called wet cupping. But I'm not totally sure about that. But yeah, so what do you use it for mostly?

P: Mostly 'cause some of my parents are like older and they have like back issues so they need to like stretch their back or something they would just use that cupping therapy.

I: Do they find it helps?

P: Yes, they do find it helps but I never tried it so I don't understand how it helps. It's a bunch of pain, so I don't know. My parents definitely say it helps them.

I: That's very cool. That's on my list of things to try at some point.

P: Yeah.

I: But that is all that I have for questions for you today.

P: OK.

I: Your answers have been really helpful for looking at improving more information to freshmen in the beginning stages when they're making decisions about pre-health so thank you so much for that. Did it pause?

P: Yeah it says poor connection. Sorry I can't see you right now.

I: Sorry about that. I know I'm having some issues with Wi-Fi here at my house so. Covid has changed things a little bit.

P: \*laughs. Yeah.

I: Well thank you so much and I will be sure to contact you about the raffle in the next few weeks.

P: OK great. OK thank you.

I: Alright stay well. Bye.

P: Bye.