

Georgia State University
ScholarWorks @ Georgia State University

Public Health Theses

School of Public Health

Spring 5-13-2016

Prioritizing Diseases, Disorders and Disabilities and the Relative Importance of Skin Cancer: A Public Health Faculty Survey

James Thomas Sandwich MD
Georgia State University

Follow this and additional works at: https://scholarworks.gsu.edu/iph_theses

Recommended Citation

Sandwich, James Thomas MD, "Prioritizing Diseases, Disorders and Disabilities and the Relative Importance of Skin Cancer: A Public Health Faculty Survey." Thesis, Georgia State University, 2016.
https://scholarworks.gsu.edu/iph_theses/467

This Thesis is brought to you for free and open access by the School of Public Health at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Public Health Theses by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

ABSTRACT

Prioritizing Diseases, Disorders and Disabilities and the Relative Importance of Skin Cancer: A Public Health Faculty Survey

By

James Thomas Sandwich, MD

April 21, 2016

INTRODUCTION: Academic faculty in public health have diverse career interests and occupy positions of considerable influence. They play an important role in setting curriculum and training the future public health workforce. However, there is little published scholarly information regarding which public health diseases, disorders, and disabilities are most important to them. Skin cancer is a major public health problem that has been declared an epidemic.

AIM: The Aim of this study is to discover which public health disorders are of highest concern and to determine the relative priority of skin cancer to public health faculty.

METHODS: The primary design of the study was that of a non-experimental opinion based survey. Subjects were faculty members of national academic, public health programs. To obtain the broadest distribution, primary and secondary faculty as defined by the ASPPH were included. A 19 question survey document was administered electronically through Qualtrics. There were 15 questions on the importance of specific disorders and five questions on skin cancer. Responses were categorized ranked and compared.

RESULTS: Obesity ranked the highest among all concerns with cardiovascular disease and cancer also receiving high priority. Cancer, diabetes, and cardiovascular disease led in secondary outcomes. Tertiary outcomes were nearly evenly split between cardiovascular disease, cancer, and mental health. Priorities varied by regions, age, gender and race. The majority placed skin cancer in the second quartile of importance and believed it to be appropriately ranked.

CONCLUSION: Public health faculty prioritize disorders similarly in spite of diverse interests with minor differences across regions and demographics. National Funding as a proxy for importance does not cleanly align with faculty priorities. Public health faculty express familiarity with skin cancer, however, do not generally considered it of highest priority compared to other disorders. Increased faculty emphasis on interventions that prevent skin cancer may improve awareness and reduce negative sequela.

PRIORITIZING DISEASES, DISORDERS AND DIABILITIES AND THE REALTIVE IMPORTANCE OF SKIN
CANCER: A PUBLIC HEALTH FACULTY SURVEY

by

JAMES T. SANDWICH

B.S., GEORGIA SOUTHWESTERN STATE UNIVERSITY
M.D., MEDICAL COLLEGE OF GEORGIA

A Thesis Submitted to the Graduate Faculty
of Georgia State University in Partial Fulfillment
of the
Requirements for the Degree

MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA
30303

APPROVAL PAGE

PRIORITIZING DISEASES, DISORDERS AND DIABILITIES AND THE REALTIVE IMPORTANCE OF SKIN
CANCER: A PUBLIC HEALTH FACULTY SURVEY

by

JAMES T. SANDWICH, MD

Approved:

Ike S Okosun, M.P.H., Ph.D., Committee Chair

John A Steward, M.P.H., Committee Member

April 21, 2016

Date

Acknowledgments

This work would not be complete without recognition of the people that offered assistance, inspiration, and encouragement. I would like to thank the faculty and staff at Georgia State for their commitment and passion to the study of public health. I appreciate the time spent in preparation and the comradery inculcated amongst peers and students. Special recognition should be given to my thesis advisors, Dr. Ike S. Okosun and John Steward for their encouragement and guidance. Dr. Lindy Parker provided guidance and resources in a timely fashion. I would like to thank my wife Linda and my children whose support for my scholarly endeavors and tolerance of many late nights should not go unnoticed. Additionally, I would like to acknowledge all of the public health faculty who took the time to participate in this survey. Lastly, a big thanks to Angelica Forero, Heather McClendon and Thomas Sandwich for their assistance in preparing this manuscript.

Author's Statement Page

In presenting this thesis as a partial fulfillment of the requirements for an advanced degree from Georgia State University, I agree that the Library of the University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote from, to copy from, or to publish this thesis may be granted by the author or, in his/her absence, by the professor under whose direction it was written, or in his/her absence, by the Associate Dean, School of Public Health. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this dissertation which involves potential financial gain will not be allowed without written permission of the author.

James T. Sandwich, MD

TABLE OF CONTENTS

ACKNOWLEDGMENTS -----	4
TABLE OF CONTENTS -----	6
LIST OF FIGURES-----	8
LIST OF TABLES - -----	9
INTRODUCTION -----	10
1.1 Background -----	10
1.2 Aims -----	11
REVIEW OF THE LITERATURE -----	12
2.1 Public Health Priorities Overview -----	12
2.2 Leading Causes of Death -----	12
2.3 Disability Adjusted Life Years -----	13
2.4 National Funding as a Proxy -----	13
2.5 Condition and Disease Categorical Funding -----	14
2.6 Skin Cancer -----	15
METHODS AND PROCEDURES -----	16
3.1 Study Design and Subjects -----	16
3.2 Procedures -----	17
3.3 Outcomes -----	17
3.4 Response Categories -----	16
RESULTS -----	19
4.1 All Outcomes -----	19
4.2 Regional Outcomes -----	19
4.3 Gender -----	20
4.4 Race/Ethnicity -----	21
4.5 Age -----	21
4.6 Skin Cancer -----	22
DISCUSSION AND CONCLUSION -----	24
5.1 Discussion of Results -----	24
5.2 Study Strengths and Limitations -----	29
5.3 Implications and Directions for Future Research -----	30
5.4 Conclusion -----	31
REFERENCES -----	33

FIGURES -----	37
Figure 1 - Geographic Regions -----	37
Figure 2 - Example of Public Health Programs Stratification by faculty number -----	37
Figure 3 – Survey Responses – All Outcomes, (Diseases, Disorders, Disabilities) -----	38
Figure 4 – Survey Responses – Outcomes Ranked -----	39
Figure 5 – Regional results – Outcomes by Regions -----	40
Figures 6 – 12 – Grouping categories – components and results -----	41
Figures 13-16 – Individual disorders by geographic region -----	45
Figure 17 – Primary outcomes by gender % -----	49
Figure 18 – Primary outcomes by race/ethnicity -----	50
Figure 19 – Primary outcomes by age -----	51
Figure 20 – Primary outcomes – age categories – pie charts -----	52
Figure 21 – Primary outcomes – age categories - pie charts -----	53
Figure 22 – Survey participants with a diagnosis of skin cancer by region -----	54
Figure 23 – Survey participants who are aware of celebrities with skin cancer by region -----	55
Figure 24 – Survey participant who have a family or friend with a history of skin cancer -----	55
Figure 25 – Ranked importance of skin cancer by region -----	56
Figure 26 – Priority of skin cancer by region -----	56
TABLES -----	57
Table 1 - States within Geographic Regions -----	57
Table 2 - List and Categories of Public Health Schools/Programs by faculty size -----	57
Table 3 – Public Health Schools and Programs –within Geographic Regions -----	59
Table 4 – Response Categories -----	61
Table 5- Gender Responses Comparison -----	62
APPENDICES -----	63
Appendix A – Survey Instrument -----	63

List of Figures

Figure 1 - Geographic Regions

Figure 2 - Example of Public Health Programs Stratification by faculty number

Figure 3 – Survey Responses – All Outcomes, (Diseases, Disorders, Disabilities)

Figure 4 – Survey Responses – Outcomes Ranked

Figure 5 – Regional results – Outcomes by Regions

Figures 6 – 12 – Grouping categories – components and results

Figures 13-16 – Individual outcomes by geographic region

Figure 17 – Primary outcomes by gender %

Figure 18 – Primary outcomes by gender- total responses

Figure 19 – Primary outcomes by race/ethnicity

Figure 20 – Primary outcomes by age

Figure 21 – Primary outcomes – age categories – pie charts

Figure 22 – Primary outcomes – age categories - pie charts

Figure 23 – Survey participants with a diagnosis of skin cancer by region

Figure 24 – Survey participants who are aware of celebrities with skin cancer by region

Figure 25 – Survey participant who have a family or friend with a history of skin cancer

Figure 26 – Ranked importance of skin cancer by region

Figure 27 – Priority of skin cancer by region

List of Tables

Table 1 - States within Geographic Regions

Table 2 – List and Categories of Public Health Schools/Programs by faculty size (stratification of schools/programs by numbers of faculty)

Table 3 – Public Health Schools and Programs –within Geographic Regions

Table 4 – Response Categories

Table 5- Gender Responses Comparison

INTRODUCTION

1.1 Background

The majority has routinely underappreciated the importance of public health until recent events have increased both its profile and esteem in the eyes of the medical community. Much of this can be attributed to the increasing role of the multidimensional profession and expansion in the academic and policy realm. Modern medicine has primarily concentrated on didactic sessions heavily weighted in reactionary healing that emphasizes diagnosis and treatment of disease. Preventive medicine and public health, while gaining in importance are still somewhat peripheral to the foci in the traditional medical education process.

1.1.1 Public health faculty

The ASPPH proclaims that public health faculty members in academic settings occupy an important position in preparing the future public health leaders by advancing education, research, practice, and advocacy (ASPPH, 2016). Through classroom curriculum, advisory influence and research prioritization, faculty members can impart guidance and experience to eager students. Many who through broader channels will continue to exert wider influence regarding national policy, curricula and funding.

Public health faculty members are an interesting group who are linked by the common overarching theme of public health, yet have diverse interests that are driven by individual experiences. Within the vast realm of public health, there are many divisions that compete for recognition. High profile problems receive broad support in the media often resulting in

political involvement and increased funding. Interestingly, there is little evidence that directly examines whether these popular issues are reflective of those that public health faculty members perceive as important. Conversely, some areas of public health, overlooked at the national level from both private and government agencies may be critically important to academic faculty.

1.1.2 Skin Cancer

Skin cancer is the most frequently diagnosed cancer in the United States and is increasing in incidence; moving some to declare the disease an epidemic (CDC, 2016b),(Skin Cancer Foundation, 2010). The most dangerous form of skin cancer is melanoma of which over 73,000 cases of invasive disease are diagnosed in the US every year (NIH, National Cancer Institute, 2016). While morbidity and mortality for most cancers have decreased over the last decade, melanoma incidence rates and morbidity a have continued to rise (Guy et al., 2015). Public health awareness and interest have increased for skin cancer due to its preventable nature and rising costs. These factors make it a good choice for interventions.

1.2 Aims

In this study, we have chosen to examine which public health disease disorders and disabilities are considered the most important to academic, public health faculty. The secondary purpose is to determine where skin cancer, a common and mostly preventable illness, is prioritized compared to other disorders.

REVIEW OF THE LITERATURE

2.1 Public Health Priorities Overview

Priorities in public health as a general topic are available through various sources and organizations. The World Health Organization, United States Surgeon General, Health Resources and Services Administration and many others offer publications on public health priorities. Much of the information is specific to reporting agencies or overly broad in scope. CDC chief, Dr. Thomas Frieden, MD reviewed public health priorities and listed winnable battles in six areas: Tobacco, Nutrition and Physical Activity and Obesity, Healthcare Associated Infections, Motor Vehicle Injuries, HIV Prevention, and Teen and Unintended Pregnancy (CDC, 2011). Opinions from prominent public health officials are useful. However, published information regarding the opinions of academic faculty on this topic is not common, in spite of their uniquely influential positions.

2.2 Leading Causes of Death

The majority of all deaths in the United States are attributed to 3 causes, with nearly 75% attributed to 10 causes (CDC - NCHS, 2016). The leading causes of death in the United States for 2014 are: cardiovascular disease 614,348, cancer 591,699, Chronic lower respiratory diseases 147,101, accidents 136,053, and stroke 133,103; followed by Alzheimer's 93,541, diabetes 76,488 and influenza and pneumonia 55,227 (CDC - NCHS, 2016).

The costs for the leading causes of death include direct and indirect costs and are useful in calculating the overall burden of disease. Estimated annual costs for heart disease

(excluding hypertension and stroke) are \$215.6 billion; cancer costs \$216.6 billion, chronic lower respiratory diseases \$106.1 billion, and stroke \$33.6 billion (NIH - NHLBI, 2013). Unintentional injury annual costs are estimated \$308 billion - \$406 billion (Seifert, 2007), (Allen, 2012).

2.3 Disability Adjusted Life Years

Disability adjusted life years (DALY'S) are a measure of the sum of the years of life lost (YLL) due to premature mortality and the years of productive life lost due to disability from a health condition or its sequela ("WHO | Metrics," 2016). This burden is thought to be a better reflection of the public health needs than how many of the population have a particular disease (Wolinetz & Rockey, 2015). The NIH's Research, Condition and Disease Categories (RCDC) publishes a system of categorization for a variety of diseases and conditions. This data is used to compare measurements of the public health burden of and funding for those conditions (NIH - RePORT, 2015). Ranking of DALY'S lost to a disease or condition in the United States places cancer, heart disease, lung disorders, injuries and mental health in the top five positions. In comparison, regarding research funding for diseases or conditions, cancer, HIV/AIDS, mental health, substance abuse and digestive diseases receive the most funds (NIH - RePORT, 2015).

2.4 National Funding as a Proxy

Funding for public health has been used as a proxy for gauging importance and establishing which areas are the most important to the public health of the nation (Waechter & Ma, 2015). Recent figures in the United States place cancer, infectious disease, HIV/AIDS and cardiovascular disease near the top for research and program funding (Office of Budget (OB), 2014b). In 2015, the NIH allotted \$5.39 billion for cancer, \$5.03 billion for infectious disease,

\$3 billion for HIV/AIDS, \$1.99 billion for cardiovascular disease, \$1.01 billion for diabetes and \$900 million into obesity research (NIH, 2016). The CDC that same year, allocated \$786.7 million for domestic HIV/AIDS prevention and research, \$404.9 million for emerging and zoonotic infectious diseases, \$352.6 million for cancer prevention and control, \$67.1 million for diabetes prevention, \$57 million for heart disease and stroke prevention, and \$12.6 million for nutrition, physical activity and obesity (CDC, 2016a).

2.5 Condition and Disease Categorical Funding

Examination of direct national expenditures reveals divisions that are interrelated that could be included in larger groups. The CDC uses larger groups according to budget activity with individual programs listed within these groups in budgeting documents (CDC, 2016a). The NIH prefers to break individual funding into 265 areas, many with considerable overlap (NIH, 2016). Consolidation of the NIH areas for cardiovascular disease (excluding stroke) could include cardiovascular (\$1.99 B), heart disease (\$1.25B), heart disease – coronary artery (\$426M), atherosclerosis (\$386M), hypertension (\$214M) for a national total of \$4.27B. Cancer also is broken into general and individual categories. Combining the areas: Cancer (\$5.39B), Breast cancer (\$674M), Lung cancer (\$349M), Pediatric cancer (\$342M), Colo-rectal cancer (\$309M), Brain cancer (\$298M), Prostate cancer (\$268M), Lymphoma (\$270M), Pancreatic cancer (\$174M), Childhood leukemia (\$165M), Ovarian cancer (\$118M), Cervical cancer (\$99M), Liver cancer (\$85M), Uterine cancer (\$52M), Neuroblastoma (\$32), Hogdkin’s disease (\$16M), and Paget’s disease (\$1M) bring the total NIH funding for cancers to \$8.64 billion. On the national level, infectious diseases received \$5.03 billion, emerging infectious diseases \$2.05 billion, \$3.0 billion for HIV/AIDS and \$250 million for sexually transmitted

diseases. When added together these disorders equate to over \$11 billion in funding (NIH, 2016).

2.6 Skin Cancer

Skin cancer has quietly become a major public health problem. Melanoma is responsible for over 9,000 deaths per year and is the most common form of cancer in young adults ages 25-29 (Bleyer, O'Leary, Barr, Ries, & (EDS), 2006),(American Cancer Society, 2016). Several studies confirm that ultraviolet (UV) light exposure has been linked to the development of both nonmelanoma and melanoma skin cancers (Manigé Fartasch, 2012). The risk of developing skin cancer is associated with lighter skin pigmentation and increased cumulative UV exposure. Cumulative ultraviolet damage from both natural sources and indoor tanning is a known risk factor for subsequent development of both nonmelanoma and melanoma skin cancers (Epstein E, 1973). A diagnosis of nonmelanoma skin cancer is highly predictive of developing subsequent skin cancer and is a marker for UV exposure (Dyer et al., 2012). These facts have given credence to the suggestion that skin cancer is a chronic disease and is chiefly preventable by behavioral interventions that reduce and minimize UV exposure in susceptible individuals. Skin cancer costs are problematic with annual treatment for skin cancer increasing 126% from \$3.6 to \$8.1 billion from 2006 -2011. NIH funding for both melanoma and nonmelanoma skin cancer is currently reported at \$244 million (Hagstrom et al., 2015).

METHODS AND PROCEDURES

3.1 Study Design and Subjects

The primary design of the study was a non-experimental opinion based survey. Subjects were faculty members of national academic, public health programs. To obtain the broadest distribution, primary and secondary faculty as defined by the ASPPH were included (ASPPH, 2015). During the 2015 Fall semester, all listed faculty from accredited public health schools and programs were invited to complete an institutional review board-approved electronic survey prioritizing public health diseases, disorders, and disabilities and skin cancer.

3.2 Procedures

A database of 160 public health schools and programs was built from the listing provided by the council of education for public health (CEPH, 2016). Faculty contacts were identified, and preliminary emails circulated to program directors to verify accuracy. A list of public health faculty and their respective contact information was compiled from program directors or publicly available lists. Schools or programs failing to respond or declining to participate were excluded. A survey instrument consisting of an introductory letter, informed consent, and 19 questions was administered via an email link to Qualtrics. The survey, available for eight weeks during the fall semester of 2015, could be accessed through desktop and mobile platforms. Two follow-up email contacts were sent to non-responders. The survey, divided into two sections, required completion in succession. The first section presented a series of 14 questions asking participants to list and prioritize specific diseases,

disorders or outcomes affecting public health in the United States. The second section posed a series of 5 questions regarding skin cancer. An open comment area allowed participants to comment or elaborate on their choices (See Appendix A).

3.3 Outcomes

Responses from the first section were subdivided into primary, secondary and tertiary outcomes with primary outcomes considered highest and tertiary outcomes least in importance. Primary, secondary and tertiary outcomes were ranked and grouped according to demographics (including age, gender, race and ethnicity). Age was broken down into four groups 18-39, 40-59, 60-74 and 75+. Institutions were placed into five geographic regions and three size categories (See Figures 1 and 2 and Table 1 and 2).

3.4 Response Categories

Responses were categorized broadly into 22 groups with an effort made to preserve larger individual responses. Responses that were not common or received single considerations were sorted into larger categories. Responses that were undecipherable, conflicting or too broad (for example: “disorders”) were not included (approximately 5.93% of all responses).

The top four categories: Obesity, Cardiovascular Disease, Cancer and Diabetes did not require sorting of responses. Categories requiring response sorting and grouping included: Mental Health, Chronic Disease, Substance Abuse/Addictions, Trauma/Injury, Infectious Disease/STI's, Health Disparities/Inequities, Neurological Disorders, Behavioral Health, Health Systems/Access, Pediatric/Infant Health, Environmental Health, Maternal/Reproductive Health, Lung and Respiratory Disease, Food/Nutrition, Health Education/Policy, Emergency Preparedness, Medical Errors, and Musculoskeletal Disorders (See Table 4 for details of

categorization of responses). Responses were graphed within categories to illustrate results (Figures 3 through 21).

All response were considered when comparing prioritization of diseases, disorders and disabilities. Primary outcome responses were used in comparisons of priorities for regions, gender, race/ethnicity, and age.

The skin cancer section questioned familiarity with skin cancer and the ranking and priority of skin cancer relative to other public health issues and concerns (Figures 22-26).

RESULTS

4.1 All outcomes

The participation rate was 77.95% with 99 of 127 schools of public health faculty submitting at least one survey. The Southeast contained 39 schools with 31 participating or 79.49%. The Northeast contained 28 schools with 22 participating or 79%. The Midwest contained 27 schools with 18 participating or 66.67%. The West contained 24 schools with 21 participating or 87.50%. The Southwest contained nine schools with seven participating or 77.78%.

Among all disorders, obesity ranked the highest among all concerns with cardiovascular disease and cancer also receiving high priority. Primary outcomes leaned heavily toward obesity, cardiovascular disease, and chronic disease while cancer diabetes and cardiovascular disease led secondary outcomes. Disorders who predominated in the tertiary outcome category split nearly evenly between cardiovascular disease, cancer, and mental health.

4.2 Regional Outcomes

Interesting regional differences were noted; for instance, obesity was of greatest relative concern to faculty in the Southeast, Northeast, and Southwest. While those from the Midwest found cancer and obesity to be of chief concern. Cardiovascular disease was a top priority in the West. However, all regions ranked it a high priority.

Compared to other regions, cancer received more attention proportionately from Midwestern and Western faculty. The Southwest's chief concerns were obesity and diabetes.

Faculty from the Northeastern region placed higher importance on substance abuse/addictions when compared to other regions.

The Southwestern faculty placed less emphasis on infectious and chronic disease and more concerns about diabetes and health disparities than other regions. The Southeast comparatively awarded higher status to infectious and chronic diseases, with less concern showered on substance abuse, trauma, and mental health. Conversely, the West considered trauma more noteworthy along with cancer and cardiovascular disease.

Response rates per institution varied with smaller institutions exhibiting higher participation. The southeast provided 5.84 responses per institution, the Northeast 5.36, the West 4.48, the Midwest 5.78, and the Southwest 5.85 responses per institution.

4.3 Gender

There were 252 males and 270 females who participated (16 unspecified). Both male and female faculty chose obesity as the most important public health concern. Women were more likely to choose obesity than men. Men found cardiovascular disease the second highest concern while women chose chronic disease with cardiovascular disease falling to third. Women ranked mental health fourth in importance with men finding it less concerning and placing it ninth. Men had a greater variety of responses than women, as they included a response in Respiratory disease and Musculoskeletal disorders. Some listed responses were not classified into a particular category and thereby not included in the final tabulations and figures. The figures and data associated with this section only included the primary responses. Upon evaluation of secondary and tertiary responses, the results were consistent with our data set. (See Table 5)

4.4 Race/Ethnicity

Of the 521 participants who self-identified a race 413 were white 79.27%, 27 were Black/African American 5.18%, 32 were Asian 6.14%, 25 were Other 4.80% (Native American, Pacific Islander, Other), 24 did not specify 4.61%. 3.16% identified themselves of Hispanic ethnicity.

Whites, Asians, Other race and those who reported Hispanic ethnicity found obesity to be of highest priority. Number one concerns among African Americans were chronic disease while those who failed to specify were equally divided among chronic disease and cardiovascular disease with obesity falling to second. African Americans found Health Disparities and diabetes to be important while cancer, which was second in importance to those of Hispanic ethnicity and fourth to whites, was not mentioned as a concern in primary outcomes for the African American faculty surveyed. Regarding percentage, a greater population of the Hispanic participants chose obesity as their primary concern over all other races. Similarly, the greatest percentage of respondents whose answers fall into the Health Disparities and Inequities category were African American.

4.5 Age

Age was broken down into four groups as previously listed. As the survey was computer generated and web and mobile accessible, the categories were chosen based on suggestions from research in computer technology related to brain aging and computer responses (Bailey, 2004). Of the 538 participants who provided their year of birth, 79 were between the ages of 18 to 39 (14.68%), 242 were between the ages of 40-59 (44.98%), 182 were between the ages of 60-74 (33.83%), 24 were older than 75 (4.46%), and 11 participants did not specify age

(2.04%). Obesity was the biggest concern for those between the ages of 40-59, whereas Behavioral Health was most popular to respondents from 18 to 39. Cardiovascular diseases are of greatest concern to individuals between 60-74 years old. Most of the participants that are 75 and older listed both Infectious Disease and Neurological disease as their top two concerns.

4.6 Skin Cancer

Toward the end of the survey, the respondents were asked several questions regarding skin cancer. A first-hand personal experience with skin cancer was noted in a minority of faculty members. Out of all 538 participants, 96 have or have been previously diagnosed with skin cancer (17.84%), 425 have not had skin cancer (79%), and 17 did not respond (3.16%). The greatest percentage of respondents that have or have been previously diagnosed with skin cancer were in the Southwest with 80.49%. The Southeast had 22/172 (12.79%), the Northeast 21/105 (20%), the Midwest with 12/102 (11.76%), the West with 8/96 (8.33%)

A majority of respondents noted secondary experiences with skin cancer. In response to the prompt: A friend, family member or coworker has or has had skin cancer; 353 out of 538 respondents answered yes (65.61%), 165 answered no (30.67%) and 20 participants did not respond. The NE had the greatest percentage of participants that knew someone, either a family member or friend that has had skin cancer before. In response to the prompt: Are you aware of prominent persons or celebrities who have or have had skin cancer; 232 reported yes (43.12%), 286 answered no (53.16%), and 20 participants did not respond.

The participants were also asked to rank the importance of skin cancer among all other public health concerns by placing it into public health priority quartiles (bottom quartile or lowest 25%, mid lower quartile or 26-50%, middle upper quartile or 51-75%, and upper quartile

or upper 25%). Overall, the regions agreed that skin cancer belonged in the upper middle quartile of importance as a public health issue with 34% agreeing it ranked in this category. The Southwest was the only region that ranked skin cancer in the upper quartile in importance. 24% of the survey participants said it should be in the lower middle quartile (25-49%), and 20% agreed it should be in the lowest quartile (bottom 25%). 16% believed it should be ranked in the highest quartile (top 25%), and 6% declined to answer.

The final question asked the respondents if skin cancer as a public health priority, should be ranked higher, lower or the same as it is currently ranked. Respondents across regions opined that skin cancer was appropriately ranked: values ranged from 58.5% in the Northeast and Southwest to 69.2% in the Midwest. 59.7% of faculty in the Southeast found it at the right priority level while 62% of the West agreed. Approximately 32% of survey participants from the Southwest (31.7%) and Northeast (32.2%) claimed that skin cancer should receive a higher priority than its current rank. Midwestern faculty were most likely to say skin cancer was appropriately ranked (69.2%) while more faculty from the Northeast (5.93%) reported that it should receive a lower priority.

DISCUSSION AND CONCLUSION

5.1 Discussion of Results

Less than two decades ago academic, public health practice was considered a new field that sought to bring together different worlds of pragmatic practice and academic knowledge (ASPPH, 1999). Growth in the discipline and competition for resources is placing increased responsibilities on public health faculty. In addition to research and other commitments, academic, public health faculty are called upon to perform the critical function of educating the future public health workforce. Public health workers who will need interdisciplinary knowledge and skills for a rapidly changing healthcare landscape. To evaluate needs and achieve balance to ensure directed growth in the field, public health faculty members may find the opinions of their colleagues useful.

The majority of public health faculty in the United States, who participated in this survey, selected obesity, cardiovascular disease, cancer, and diabetes as high priorities. This opinion shows congruence with national funding with some divergence. Using funding as a proxy for public health priorities when compared to the choices of public health faculty results in reprioritizing and places obesity behind cancer, cardiovascular disease, and diabetes. Infectious diseases were given lower priority among faculty when compared to high national funding. Public health faculty placed infectious diseases which included STIs and HIV/AIDS in the 8th spot.

Obesity has become a top concern and has received a large amount of exposure in the national discussion and media. Obesity as a disorder is multifaceted, containing elements of other physical ailments, as well as behavioral, environmental and cultural aspects. Obesity is a

known risk factor for many other disorders including cancer, cardiovascular disease, and diabetes; which were of high priority to public health faculty. Emphasis on obesity at the national level has increased with programs like Let's Move! and others offered through the Prevention and Public Health Fund that encourage healthy eating and increasing physical activity (Let's Move!, 2010). In spite of its lack of public funding, obesity's high priority among public health faculty may be due to its increased incidence and prevalence, association with other high priority disorders and that it is a condition which lends itself to intervention.

Given overall regional response rates, schools in the Midwest were the least likely to participate with faculty representing schools in the West the most likely to participate. The percentage of schools that participated was very high overall. However, the Southwest only contained nine schools which were 2.67 times fewer than the region with the next fewest and more than four times smaller than the largest group. Responses rates among regions and schools varied, however, response rates per region were very similar. Notably absent were responses from the faculty of Columbia, Yale and Harvard (T. H. Chan).

Racial differences were noted, however; some groups experienced disproportionate representation as compared to the general population. Blacks as a group were underrepresented while Caucasians and Asians were slightly overrepresented; the small number of participants who identified themselves of Hispanic ethnicity (3.16%) diverged with census data (17.4%) (US Census Bureau, 2014). These findings may represent a lack of diversity or under-representation of minority views and involvement among public health faculty.

Age differences regarding outcomes of choice appear to correspond to concerns that are prevalent among the age groups surveyed. Younger respondents (18-39y) tended to find

behavioral health such as exercise interventions of higher priority while those of 75 and over were more concerned with neurological dysfunction such as stroke and dementia.

The authors thought it would be interesting to ascertain familiarity with skin cancer by asking a few questions regarding personal experience and knowledge due to its high prevalence and incidence. Only one participant listed UV exposure as a concern in the first portion of the survey; listing it as a tertiary concern. Individual cancers were listed; however, skin cancer was not specifically listed. This finding is consistent with views expressed by major public health policy advocates such as the Urban Institute and the APHA, which does not include skin cancer as a preventable disease on its website (APHA, 2016b). Climate change which includes ozone depletion and environmental factors that contribute to increased UV exposure are primary topics and issues for the APHA (APHA, 2016a).

Of note is the great number of respondents in the Southwest who have a past or current medical history of skin cancer. This may be reflective of a demographic and geographic trend of fair skinned faculty members with a long history of cumulative UV exposure associated with a geographic region known to have a surplus of sunshine. Consideration must also be given to respondent bias, as those who responded may be more likely to have characteristics that predispose them to skin cancer, such as race, skin type, age, gender, activities, and hobbies. The overall number of faculty that had a personal history of skin cancer was consistent with the national average (approximately 20% will develop skin cancer in their lifetime) (Robinson JK, 2005). The majority of faculty had family or friends with a history of skin cancer which is expected due to the high percentage of respondents of Caucasian race and the high incidence of skin cancer.

Overall results of the skin cancer quartile groupings were consistent across regions. Although they were not as specific as individual rankings and shared some overlap at the divisions. It was believed that there may be some confusion when ranking the importance of skin cancer, however, none of the respondents sent questions or comments regarding the quartile divisions. The results from the Southwest appeared to show selection bias and were consistent with the large percentage of faculty members who self-reported a personal history of skin cancer. As the responses from this region were considerably less than those of other regions, the results may be less important. The Northeast had a higher percentage of respondents that thought skin cancer should be of lower or higher priority than other regions. These results may imply that faculty from the Northeast show more diversity of opinion on the ranking of skin cancer. This variability contributed to a smaller number claiming the current priority to be appropriate, however results were fairly comparative across regions.

Additionally, it appears that preventable chronic diseases continue to be chief concerns among public health faculty. Prominent organizations report that growth in per capita medical care spending in the United States is outpacing other industrial countries (OECD, 2010),(APHA, 2016b). Experts suggest that the prevalence of chronic disease is responsible, and that reversal of the trend will decrease costs (HHS - ASPE, 2015). Medical professionals recognize the value of decreasing chronic disease prevalence and have recently opined that skin cancer should be considered a chronic disease (Sutton A, Crew A, & Wysong A, 2016). These facts have given credence to the suggestion that skin cancer is a chronic disease and is chiefly preventable by behavioral interventions that reduce and minimize UV exposure in susceptible individuals.

UV exposure continues to be a problem in the US, especially among teens and college-age white females with some major colleges supporting indoor tanning among students (Pagoto et al., 2015). Many programs that are designed to combat obesity such as those that encourage active transport, bike-ability and walkability have the potential to increase lifetime UV exposure (NACDD, 2015). Skin cancer is related to behavior with an estimated 90% of non-melanoma and 86% of melanoma skin cancers associated with sun exposure and therefore a good target for behavioral interventions and educational initiatives.

Healthy People 2020, recognizing the importance and preventable nature of skin cancer has two separate objectives dedicated to skin cancer and UV light exposure. Reducing the deaths from melanoma per 100,000 from 2.7 to 2.4 and increasing the proportion of person who engage in sun safe behaviors and avoid artificial UV light exposures (ODPHP, 2016). Much of this focuses on adolescent and young adult females who are less likely to use sun protective measures and continue to use indoor tanning facilities in alarming numbers (Buller, Loescher, & Buller, 1994). The CDC has school programs that target pre-K through 12th grade, however, programs designed specifically for colleges are conspicuously missing (CDC, 2013).

Most academic, public health faculty are well aware of skin cancer, however, do not award skin cancer a position of high priority compared to other disorders. This may represent the impression that skin cancer is highly curable and not as deadly as other cancers. Rising costs have increased national attention on skin cancer with the CDC allocating \$2.1 million on skin cancer prevention and control in 2015 (Skin Cancer Foundation, 2015), (Office of Budget (OB), 2014a).

5.2 Study Strengths and Limitations

5.2.1 Study Strengths

This study is notable for being the first known to attempt to discover the opinions of public health faculty on diseases, disorders, and disabilities on a national scale. This report is the first published on priorities of public health disorders as seen through the perspective of academic faculty. The data set contains many diverse and original responses and provides interesting insight. The volume of collected data is extensive and can be used as the basis for other studies and variations.

5.2.2 Study Limitations

In addition to previously discussed limitations, there are several others that are likely. Obesity and other disorders are multidimensional with considerable overlap. Difficulties arise when attempting to create clean categories due to the diversity and overlap inherent to the public health profession. Categories can, therefore, be reworked and combined; for instance, cardiovascular disease could easily be considered and grouped as a chronic disease as could lung/respiratory disease and musculoskeletal disorders. STI's could be considered part of reproductive health and included in those results. Conversely, outcomes could be split out into individual categories as is done with Tobacco, HIV and Alzheimer's at the NIH; or HIV lumped with STI's, Viral Hepatitis and tuberculosis at the CDC (NIH, 2016),(CDC, 2016a).

Differences in the demographic composition of faculty as compared to the general population and may limit the ability to make conclusive arguments for outcomes based on race and ethnicity. Diseases, disorders, and disabilities more common to Caucasians may be over-represented in this study due to the high percentage of Caucasian respondents. Regions are

somewhat problematic as geographic areas are often blurred through the influence of technology and interconnectivity. This development is likely to become more influential in the future and results may be less useful.

Public health is a dynamic field, often with rapidly changing and emerging issues. Infectious diseases such as Ebola and Zika or environmental issues such as municipal drinking water safety easily become priorities. The lag time in publication of the results may affect accuracy as new issues displace ones in the time required to tabulate analyze and report data. Considerations that may skew results include a low participation rate and non-response bias. Some programs and schools declined to participate, several of these had large numbers of faculty and are well known leaders in public health education.

The study is descriptive in nature, and the data analysis does not provide more meaningful interpretation of the relationships between responses. The amount and type of data and time limitations preclude more extensive in depth non parametric analysis. A portion of the data that was collected was not analyzed for similar reasons.

This survey was the first in many areas, and clarity of questions and author inexperience may also affect results in unanticipated biases and matters. A small minority of participants experienced technical difficulties and were unable to access or finish the survey.

5.3 Implications and Directions for Future Research

Data was collected in areas that could be used for further analysis. For instance, further stratification of variables, including but not limited to, gender, regions, institution, age, race and degree could be undertaken. The addition of a Likert scale to amenable questions would

allow easier exploration of correlations or other statistical relationships involving survey responses.

Efforts to standardize categorization of disorders among agencies such as the NIH and CDC to decrease fragmentation would be useful. This simplification would alleviate overlap and confusion and assist in analysis. Instead of this, the survey instrument could use a rank file system utilizing NIH or CDC disorders. This list would be extensive and likely need to be scaled down which may skew results due to selection bias.

In the area of cancer, the addition of a drop down list or more directed questions to allow individual responses may offer more specific responses that may include skin cancer. This minor change may offer a better indication of the priority of skin cancer. Additionally, the absence of skin cancer prevention programs, such as 'toolkits' specifically targeted for college campuses is an area that should be explored.

Attempts to improve participation of faculty at larger institutions should be undertaken to improve data collection and strengthen the results. Repeat surveys of faculty may be used to establish and follow trends. Other improvements and shortening of the survey with more specific responses may yield data that is useful for helping determine needs of the future public health work force. These are areas that could be clarified and investigated more thoroughly in future works.

5.4 Conclusion

Public Health academic faculty in the United States are a diverse group with varied interests. In spite of minor differences across regions and demographics, a large portion finds the disorders of obesity, cancer, cardiovascular disease and diabetes to be of greatest

importance. Preventative health interventions as part of a comprehensive approach to decrease chronic diseases and disorders are necessary to have a greater impact on the overall health of current and future generations.

Skin cancer is chiefly a preventable chronic disease, and although public health faculties are aware of its existence, it is not routinely considered an area of high priority. With increased emphasis on obesity and programs that encourage outdoor activity, it is important, that public health plays an important and vocal role in suggesting interventions and education initiatives particularly to college age young adults to help reduce the incidence of this costly chronic disease. Increased awareness of the associated costs, morbidity and mortality of skin cancer among public health faculty may improve public awareness through academic channels. Faculty through positions of power may exert influence unintentionally which in turn may impact future directions and funding in the public health arena. It is important, therefore, to have insight into the opinions of faculty to prepare the future public health workforce and balance the nation's future public health needs. Future studies in this area should be continued and refined to assist in guiding academic faculty in this process.

Disclosures - The author is a Dermatologist in private practice and a member of the National Council of the Skin Cancer Foundation.

REFERENCES

- Allen, B. B. (2012, January 19). 10 Leading Causes of Death and What They Cost the U.S. Economy. Retrieved April 30, 2016, from <http://my.xfinity.com/blogs/finance/2012/01/19/10-leading-causes-of-death-and-what-they-cost-the-u-s-economy/>
- American Cancer Society. (2016). American Cancer Society. Cancer Facts & Figures 2016. Atlanta: American Cancer Society; 2016. Retrieved April 24, 2016, from about:blank
- APHA. (2016a). Climate Change. Retrieved April 24, 2016, from <http://www.apha.org/topics-and-issues/climate-change>
- APHA. (2016b). Topics & Issues - All topics. Retrieved April 27, 2016, from <http://www.apha.org/topics-and-issues>
- ASPPH. (1999). ASPPH | Demonstrating Excellence in Academic Public Health Practice. Retrieved April 26, 2016, from <http://www.aspph.org/educate/models/demonstrating-excellence-in-academic-public-health-practice/>
- ASPPH. (2015). Association of Schools and Programs of Public Health (2015). Faculty Section: General Data Element Definitions. Retrieved April 24, 2016, from <https://data.aspph.org/index.cfm>
- Bailey, R. W. (2004). Segmenting adult Web users into meaningful age categories, U.S. Government Usability University Presentation. Retrieved April 24, 2016, from http://dnserrorassist.att.net/search/?q=http%3A//www.aarp.org_/articles/research/oww/university/Bailey_AgeCategories4.ppt&r=&t=0
- Bleyer, W., O'Leary, M., Barr, R., Ries, L., & (EDS). (2006). Cancer Epidemiology in Older Adolescents and Young Adults 15 to 29 Years of Age INCLUDING SEER INCIDENCE AND SURVIVAL: 1975-2000. Retrieved April 25, 2016, from http://seer.cancer.gov/archive/publications/aya/aya_mono_complete.pdf
- Buller, M. K., Loescher, L. J., & Buller, D. B. (1994). "Sunshine and skin health": A curriculum for skin cancer prevention education. *Journal of Cancer Education*, 9(3), 155–162. <http://doi.org/10.1080/08858199409528299>
- CDC. (2011, September 20). CDC - Public Health Priorities Video - Health Official Packet - STLT Gateway. Retrieved April 24, 2016, from <http://www.cdc.gov/stltpublichealth/hop/publicHealthPriorities/>
- CDC. (2013). CDC - Guidelines for School Programs to Prevent Skin Cancer. Retrieved May 3, 2016, from http://www.cdc.gov/cancer/skin/what_cdc_is_doing/guidelines.htm

- CDC. (2016a). CDC - FY 2015 full year CR operating plan. Retrieved April 24, 2016, from <http://www.cdc.gov/budget/documents/fy2015/fy-2015-cdc-operating-plan.pdf>
- CDC. (2016b, March 30). CDC - Skin Cancer. Retrieved April 24, 2016, from <http://www.cdc.gov/cancer/skin/index.htm>
- CDC - NCHS. (2016, April 27). FastStats -Deaths and Mortality. Retrieved April 30, 2016, from <http://www.cdc.gov/nchs/fastats/deaths.htm>
- CEPH. (2016). Accredited Schools & Programs | Council on Education for Public Health. Retrieved April 24, 2016, from <http://ceph.org/accredited/>
- Dyer, R. K., Weinstock, M. A., Cohen, T. S. D., Rizzo, A. E., Bingham, S. F., & VATTC Trial Group. (2012). Predictors of basal cell carcinoma in high-risk patients in the VATTC (VA Topical Tretinoin Chemoprevention) trial. *The Journal of Investigative Dermatology*, 132(11), 2544–2551. <http://doi.org/10.1038/jid.2012.227>
- Epstein E. (1973). Value of follow-up after treatment of basal cell carcinoma. *Archives of Dermatology*, 108(6), 798–800. <http://doi.org/10.1001/archderm.1973.01620270024004>
- Guy, G. P., Thomas, C. C., Thompson, T., Watson, M., Massetti, G. M., & Richardson, L. C. (2015, June 5). Vital Signs: Melanoma Incidence and Mortality Trends and Projections — United States, 1982–2030. Retrieved April 24, 2016, from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6421a6.htm>
- Hagstrom, E. L., Patel, S., Karimkhani, C., Boyers, L. N., Williams, H. C., Hay, R. J., ... Dellavalle, R. P. (2015). Comparing cutaneous research funded by the US National Institutes of Health (NIH) with the US skin disease burden. *Journal of the American Academy of Dermatology*, 73(3), 383–391.e1. <http://doi.org/10.1016/j.jaad.2015.04.039>
- HHS - ASPE. (2015, November 22). Prevention Makes Common “Cent.” Retrieved May 3, 2016, from <https://aspe.hhs.gov/legacy-page/prevention-makes-common-cent-142526>
- Let’s Move! (2010, February 9). Learn The Facts | Let’s Move! Retrieved April 24, 2016, from <http://www.letsmove.gov/learn-facts/epidemic-childhood-obesity/>
- Manigé Fartasch, T. L. D. (2012). The relationship between occupational sun exposure and non-melanoma skin cancer: Clinical basics, epidemiology, occupational disease evaluation, and prevention. *Deutsches Ärzteblatt International*, 109(43), 715–20. <http://doi.org/10.3238/arztebl.2012.0715>

- NACDD. (2015). National Association of Chronic Disease Directors (2015) Prevention and Public Health Fund: Community Health Investments: Division of Community Health. Community Transformation Grants' Rural Impact – Iowa, Community Transformational Grants' Active Living Impact Middlesex County, MA. Retrieved April 24, 2016, from http://c.ymcdn.com/sites/www.chronicdisease.org/resource/resmgr/community_success/pphf_community_investment_in.pdf
- NIH. (2016). NIH Categorical Spending -NIH Research Portfolio Online Reporting Tools (RePORT). Retrieved April 24, 2016, from https://report.nih.gov/categorical_spending.aspx
- NIH - NHLBI. (2013). Disease Statistics, NHLBI Fact Book, Fiscal Year 2012. Retrieved April 30, 2016, from <http://www.nhlbi.nih.gov/about/documents/factbook/2012/chapter4>
- NIH - RePORT. (2015, June 24). NIH Disease Burden -NIH Research Portfolio Online Reporting Tools (RePORT). Retrieved April 25, 2016, from https://report.nih.gov/info_disease_burden.aspx
- NIH, National Cancer Institute. (2016, April 15). Melanoma of the Skin - SEER Stat Fact Sheets. Retrieved April 24, 2016, from <http://seer.cancer.gov/statfacts/html/melan.html>
- ODPHP. (2016, April 21). Cancer | Healthy People 2020. Retrieved April 24, 2016, from <https://www.healthypeople.gov/2020/topics-objectives/topic/cancer/objectives>
- OECD. (2010). *OECD Health Data 2010*. OECD Publishing. Retrieved from http://www.oecd-ilibrary.org/social-issues-migration-health/data/oecd-health-statistics/oecd-health-data_data-00350-en
- Office of Budget (OB), A. S. for F. R. (ASFR). (2014a, June 4). FY2015 Budget in Brief - CDC [Text]. Retrieved April 24, 2016, from <http://www.hhs.gov/about/budget/fy2015/budget-in-brief/cdc/index.html>
- Office of Budget (OB), A. S. for F. R. (ASFR). (2014b, June 4). FY2015 Budget in Brief - NIH [Text]. Retrieved April 24, 2016, from <http://www.hhs.gov/about/budget/fy2015/budget-in-brief/nih/index.html>
- Pagoto, S. L., Lemon, S. C., Oleski, J. L., Scully, J. M., Olendzki, G.-F., Evans, M. M., ... Hillhouse, J. J. (2015). Availability of tanning beds on US college campuses. *JAMA Dermatology*, *151*(1), 59–63. <http://doi.org/10.1001/jamadermatol.2014.3590>
- Robinson JK. (2005). Sun Exposure, Sun Protection, and Vitamin D. *JAMA*, *294*(12), 1541–1543. <http://doi.org/10.1001/jama.294.12.1541>
- Seifert, J. (2007). Incidence and economic burden of injuries in the United States. *Journal of Epidemiology and Community Health*, *61*(10), 926. <http://doi.org/10.1136/jech.2007.059717>

- Skin Cancer Foundation. (2010, March 19). New Research Reveals Nonmelanoma Skin Cancer has Become an Epidemic - SkinCancer.org. Retrieved April 24, 2016, from <http://www.skincancer.org/media-and-press/Press-Release-2010/new-research-reveals-nonmelanoma-skin-cancer-has-become-an-epidemic>
- Skin Cancer Foundation. (2015, March 6). The Rising Costs of Skin Cancer - SkinCancer.org. Retrieved April 24, 2016, from <http://www.skincancer.org/publications/sun-and-skin-news/winter-2015-32-1/costs>
- Sutton A, Crew A, & Wysong A. (2016). Redefinition of skin cancer as a chronic disease. *JAMA Dermatology*, 152(3), 255–256. <http://doi.org/10.1001/jamadermatol.2015.4215>
- US Census Bureau. (2014, July 1). UNITED STATES QuickFacts from the US Census Bureau. Retrieved April 24, 2016, from <http://www.census.gov/quickfacts/table/PST045215/00>
- Waechter, R., & Ma, V. (2015). Sexual Violence in America: Public Funding and Social Priority. *American Journal of Public Health*, 105(12), 2430–2437.
- WHO | Metrics: Disability-Adjusted Life Year (DALY). (2016). Retrieved April 29, 2016, from http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/
- Wolinetz, C., & Rockey, S. (2015, June 19). Burden of Disease and NIH Funding Priorities | NIH Extramural Nexus. Retrieved from <https://nexus.od.nih.gov/all/2015/06/19/burden-of-disease-and-nih-funding-priorities/>

FIGURES

Figure 1 – Geographic Regions

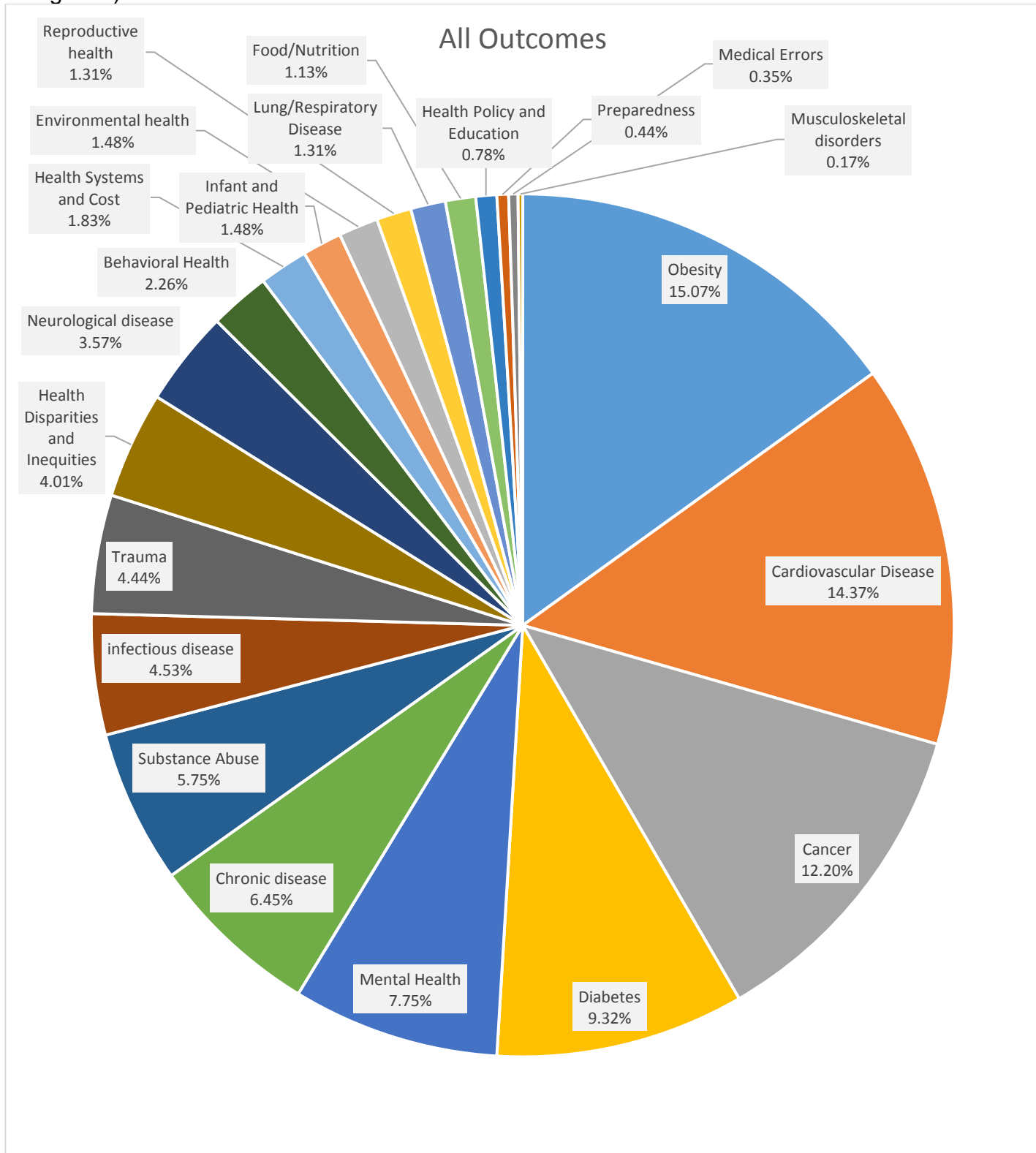


Figure 2 – Example of School Size – Dependent on the numbers of faculty (for a complete list see Table 2)

Small (<25)	Midsize (25-74)	Large (>75)
A.T. Still University (2)	Boston University (49)	Brown University (139)
Armstrong State University (4)	Case Western Reserve University (34)	George Washington University (140)
Baylor University (23)	Columbia University (31)	University of California Berkley (148)
Benedictine University (5)	Consortium of Eastern Ohio (42)	University of Michigan (183)
Brigham Young University (18)	CUNY School of Public Health (38)	University of Minnesota (23)

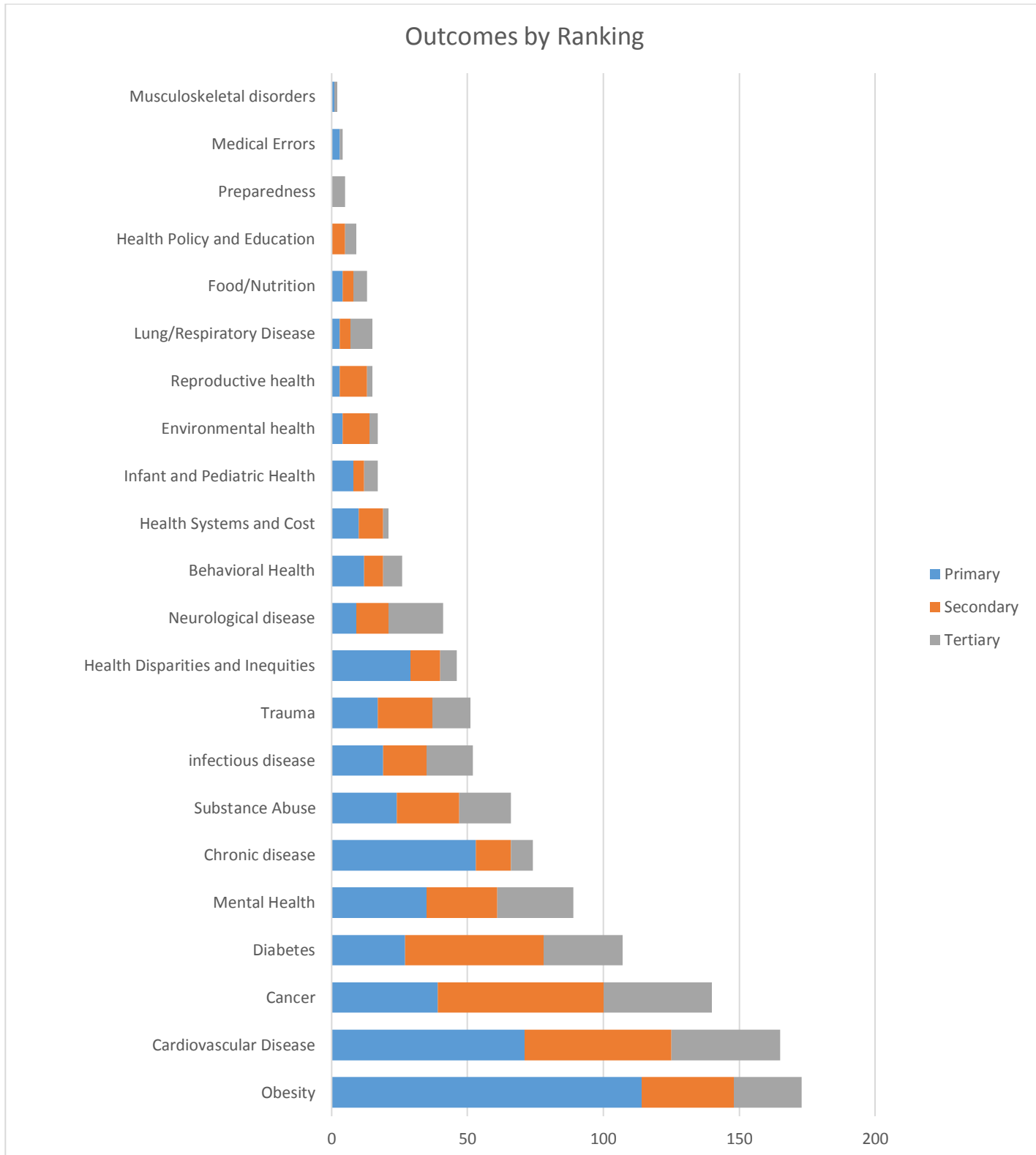
Survey Responses – All Outcomes (Diseases, Disorders, Disabilities)

Figure 3: This figure contains the percentages of each category of all outcomes (22 categories)



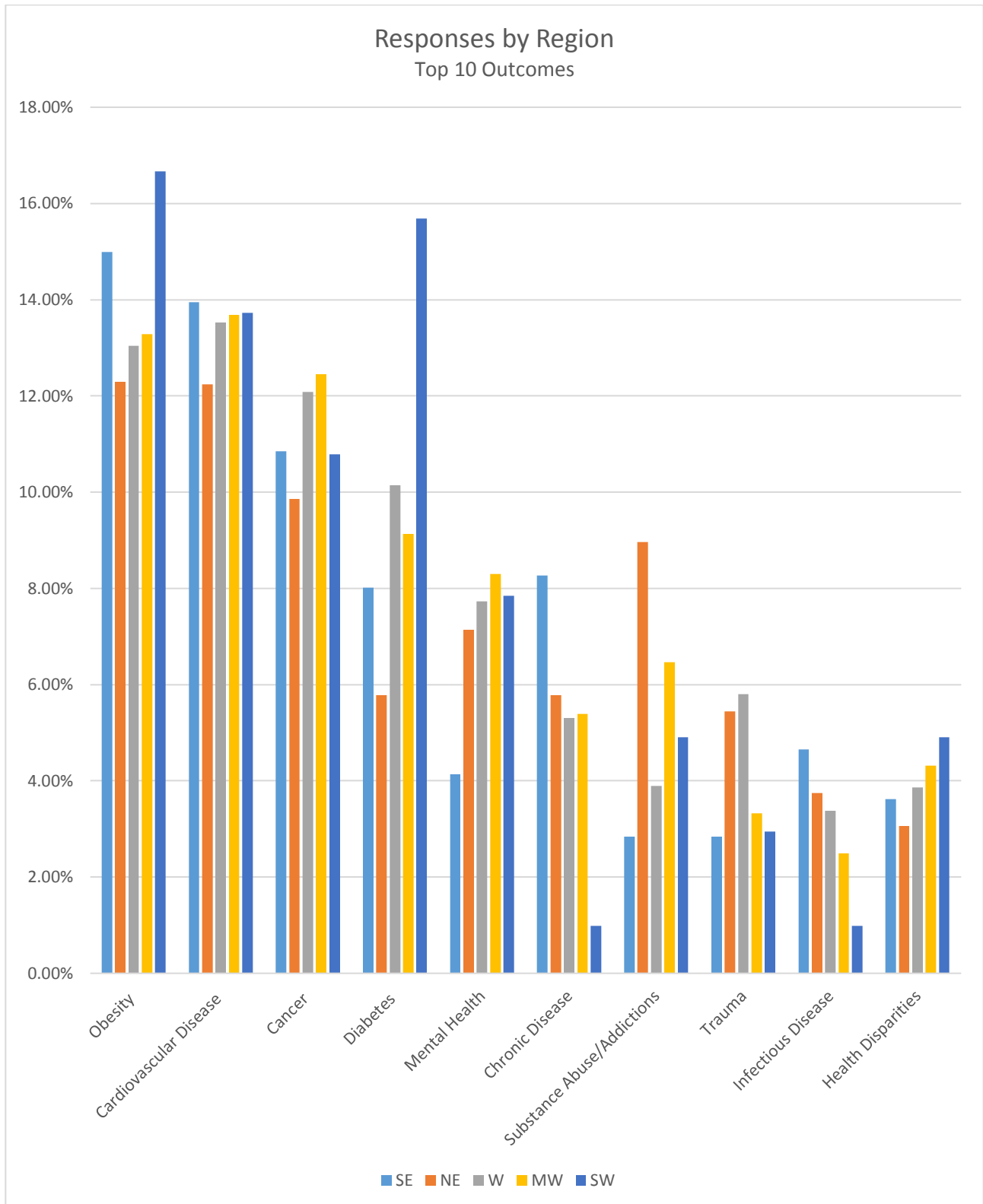
Survey Responses – Outcomes Ranked

Figure 4: Shown are the total number of responses per category (22 categories) ranked in order.



Regional results – Outcomes by Regions

Figure 5: Graph showing regional responses for the top 10 outcomes



Grouping Categories – Components and results

Figures 6-12: Responses to the question: In your opinion what are the most important health outcomes (diseases, disabilities, or disorders) currently affecting public health in the United States? Categories include similar individual responses and frequency of appearance

Figure 6

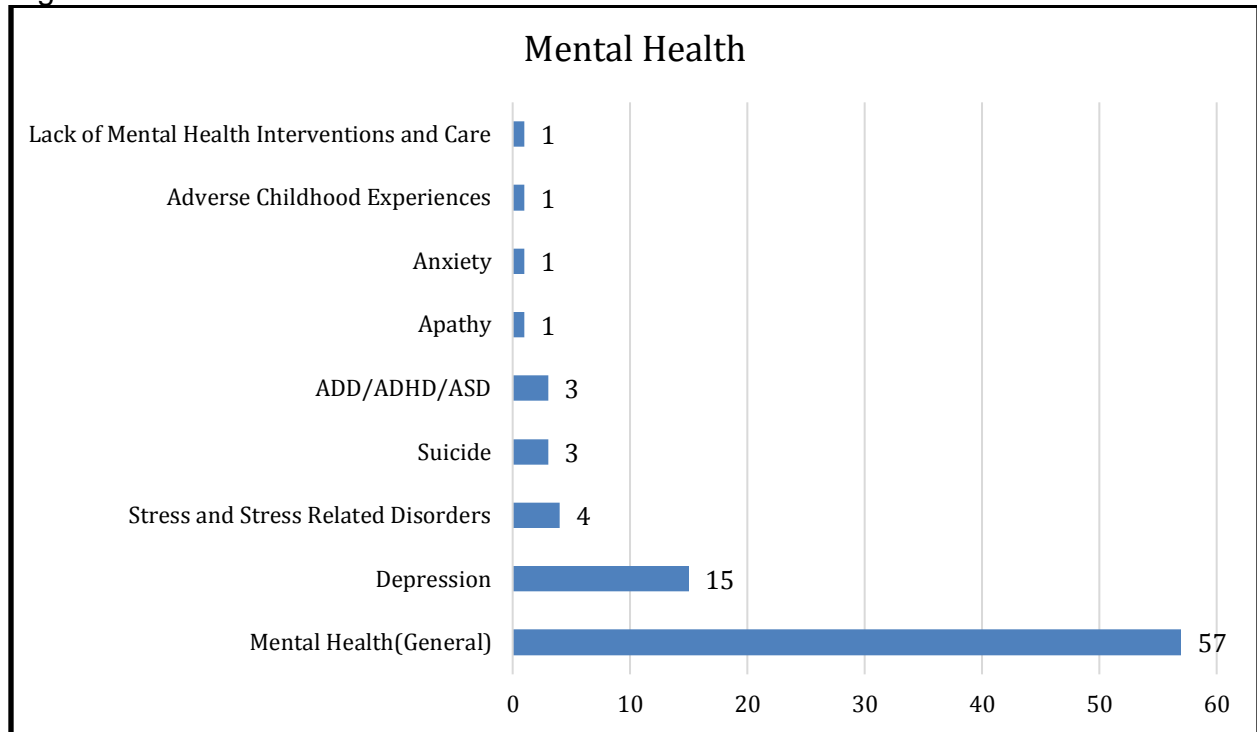


Figure 7

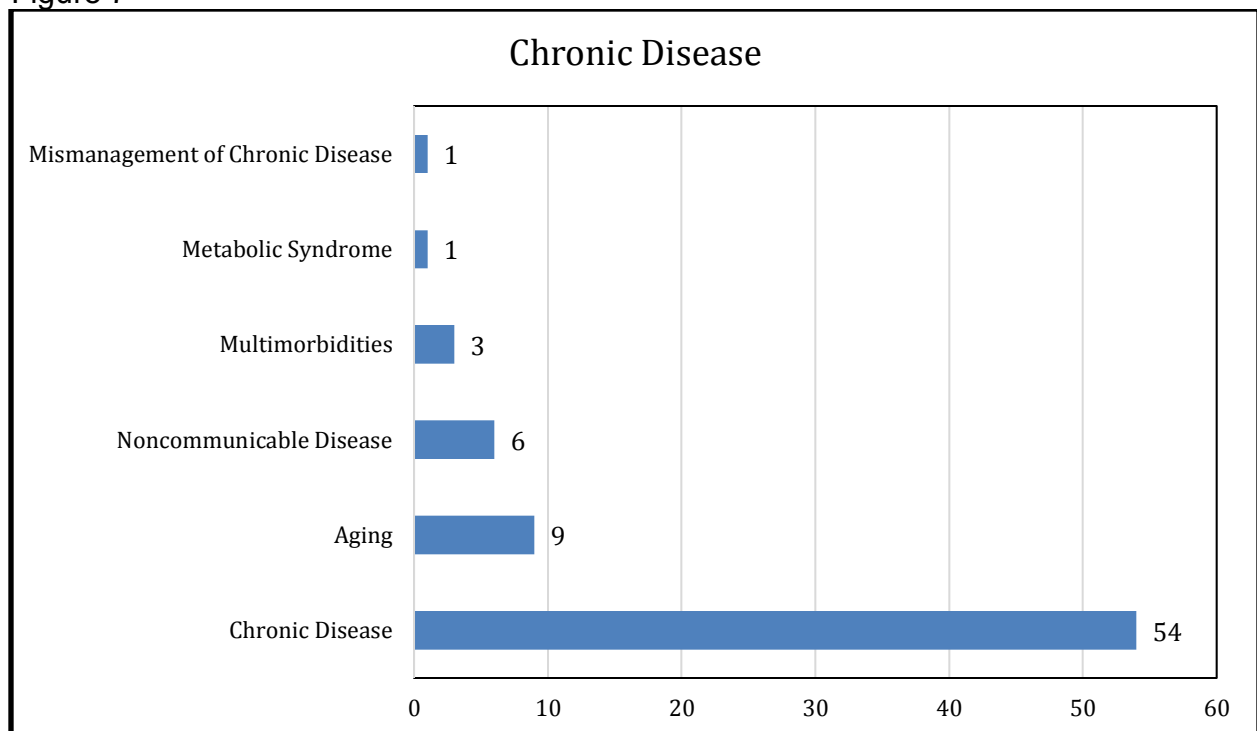


Figure 8

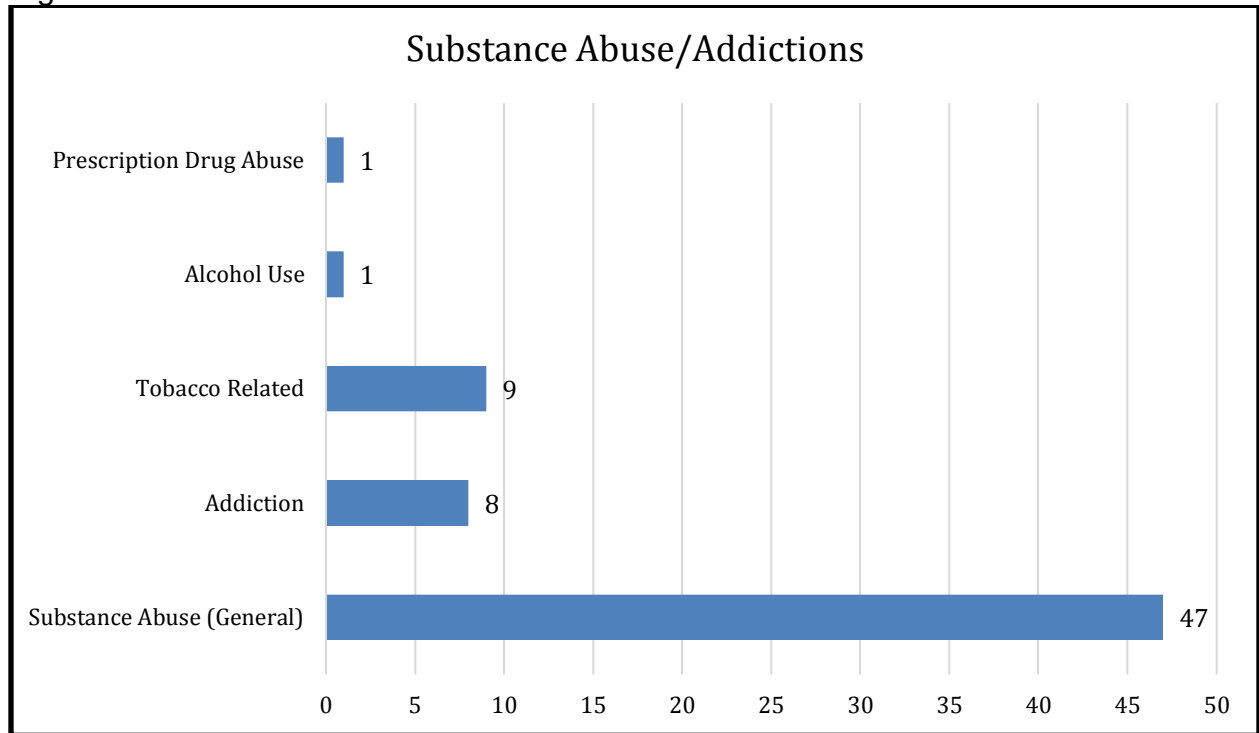


Figure 9

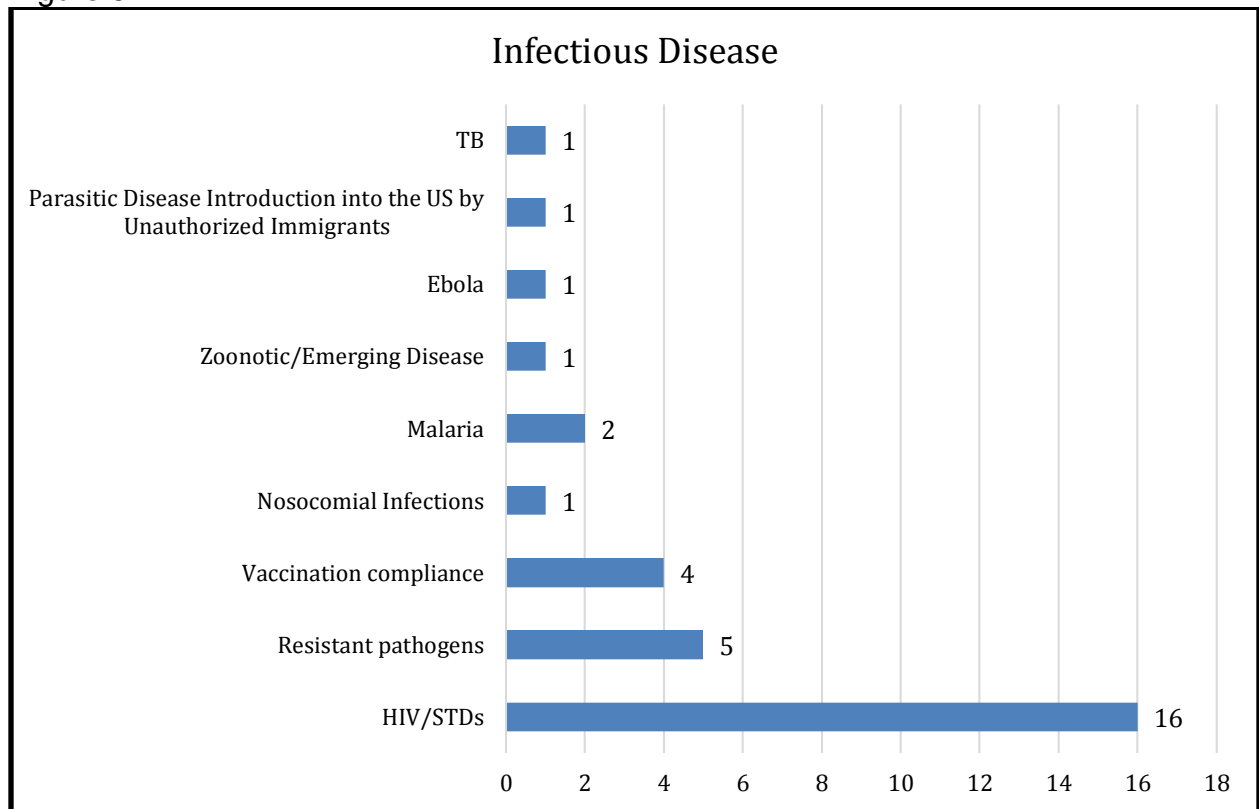


Figure 10

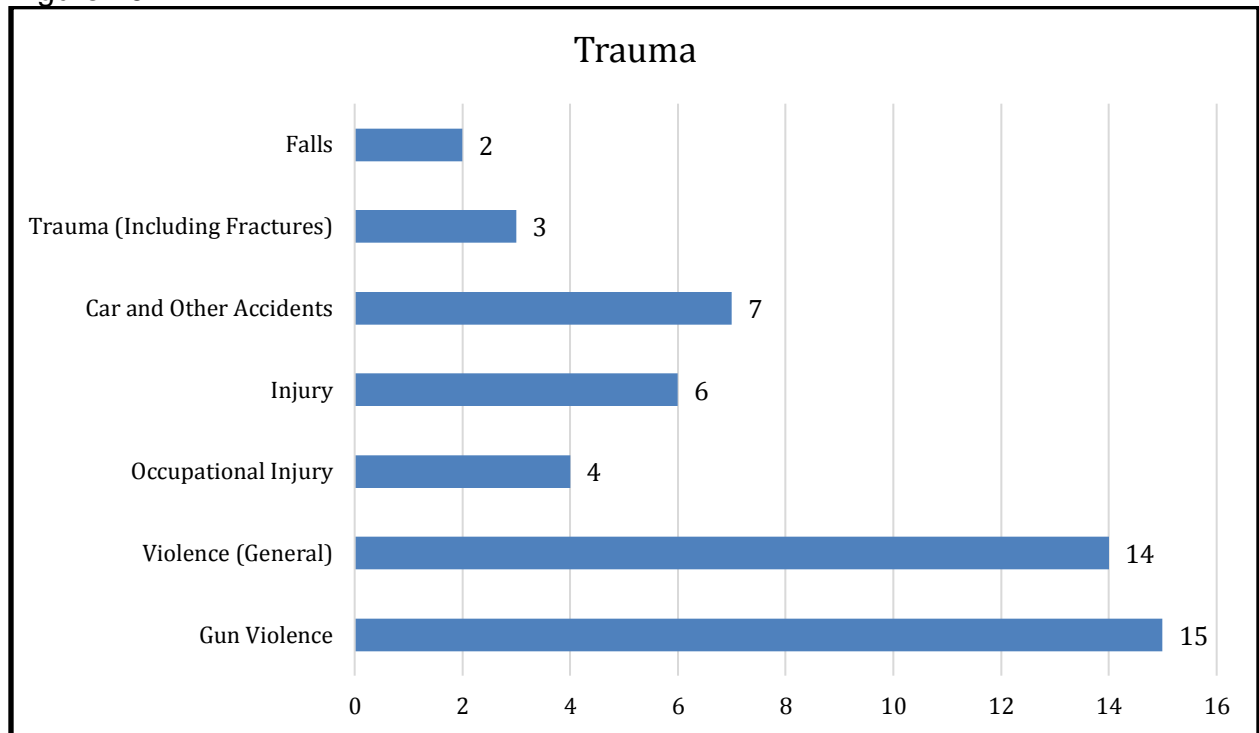


Figure 11

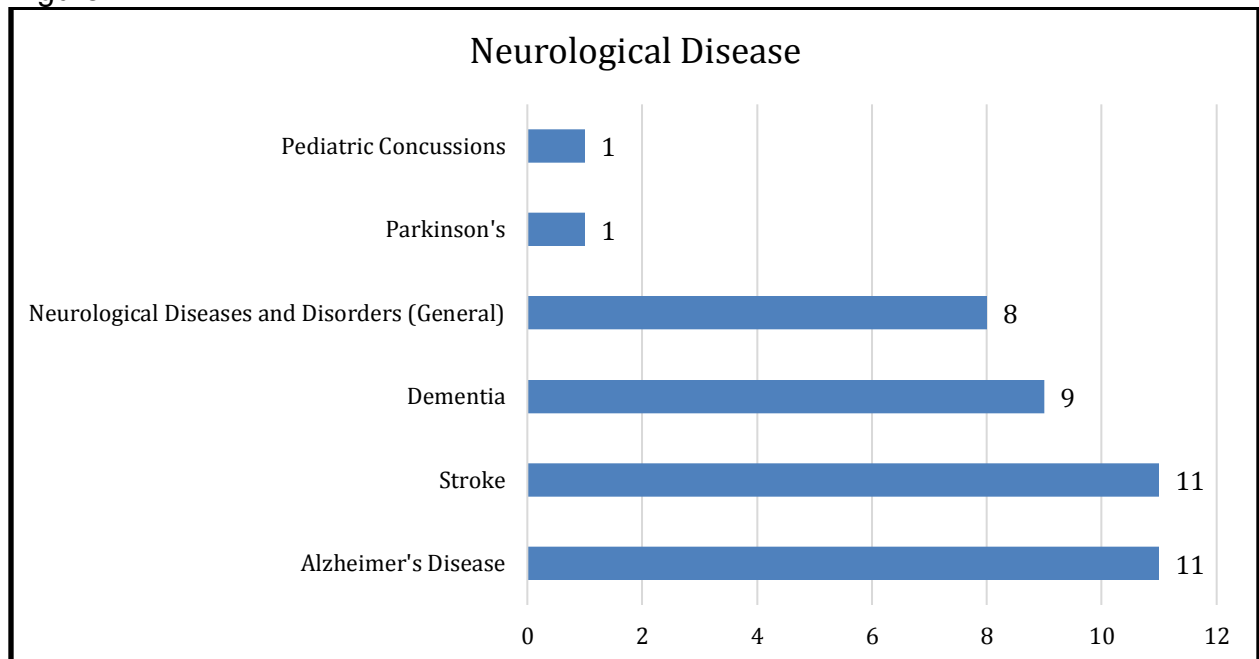
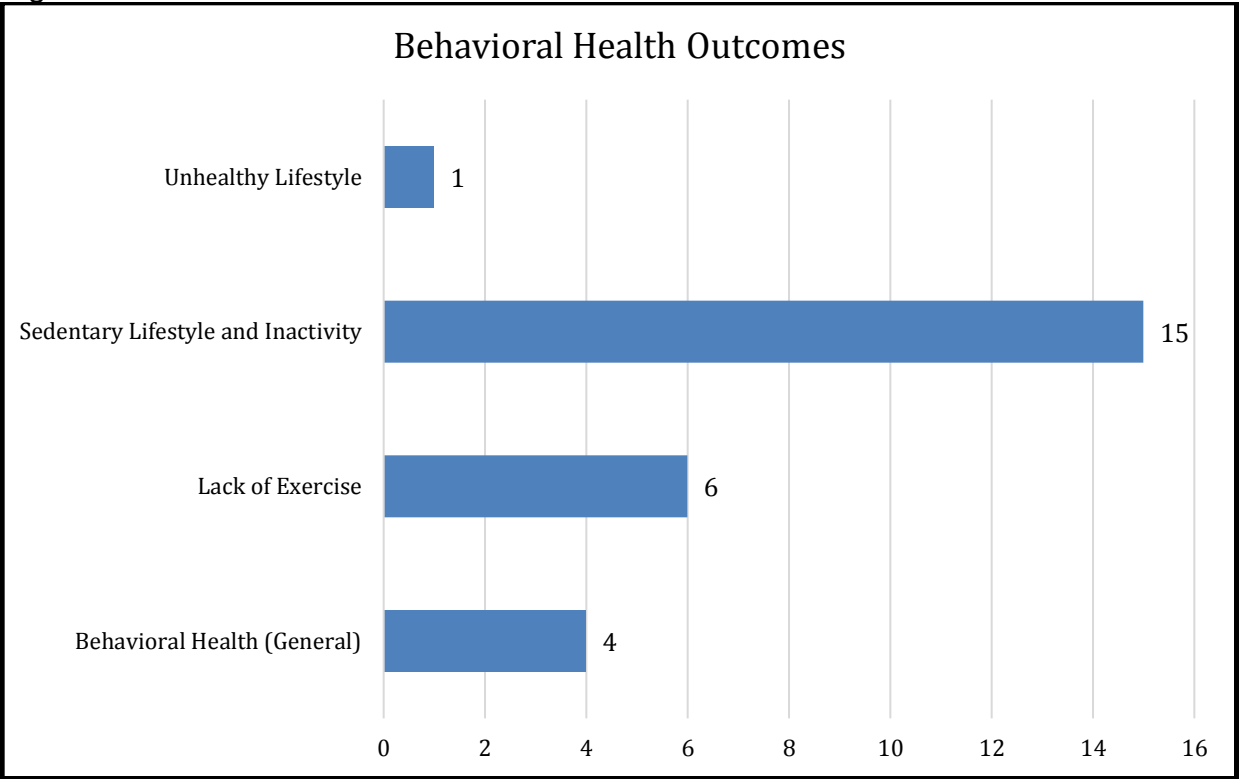


Figure 12



Individual Disorders by Region - % (Top 10)

Figures 13 -16: Graphs showing % of total responses for the outcome matched to regions

Figure 13

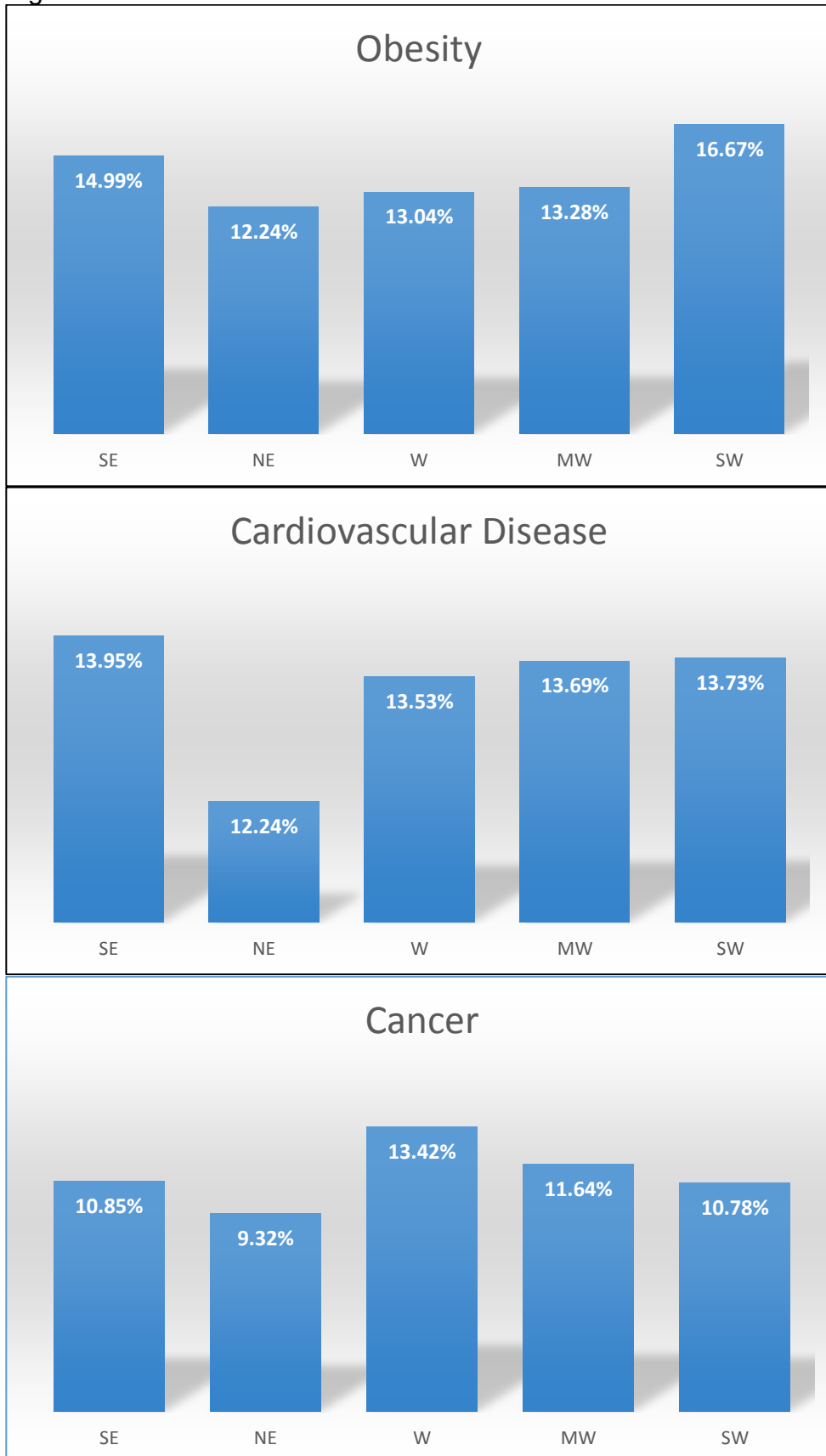


Figure 14

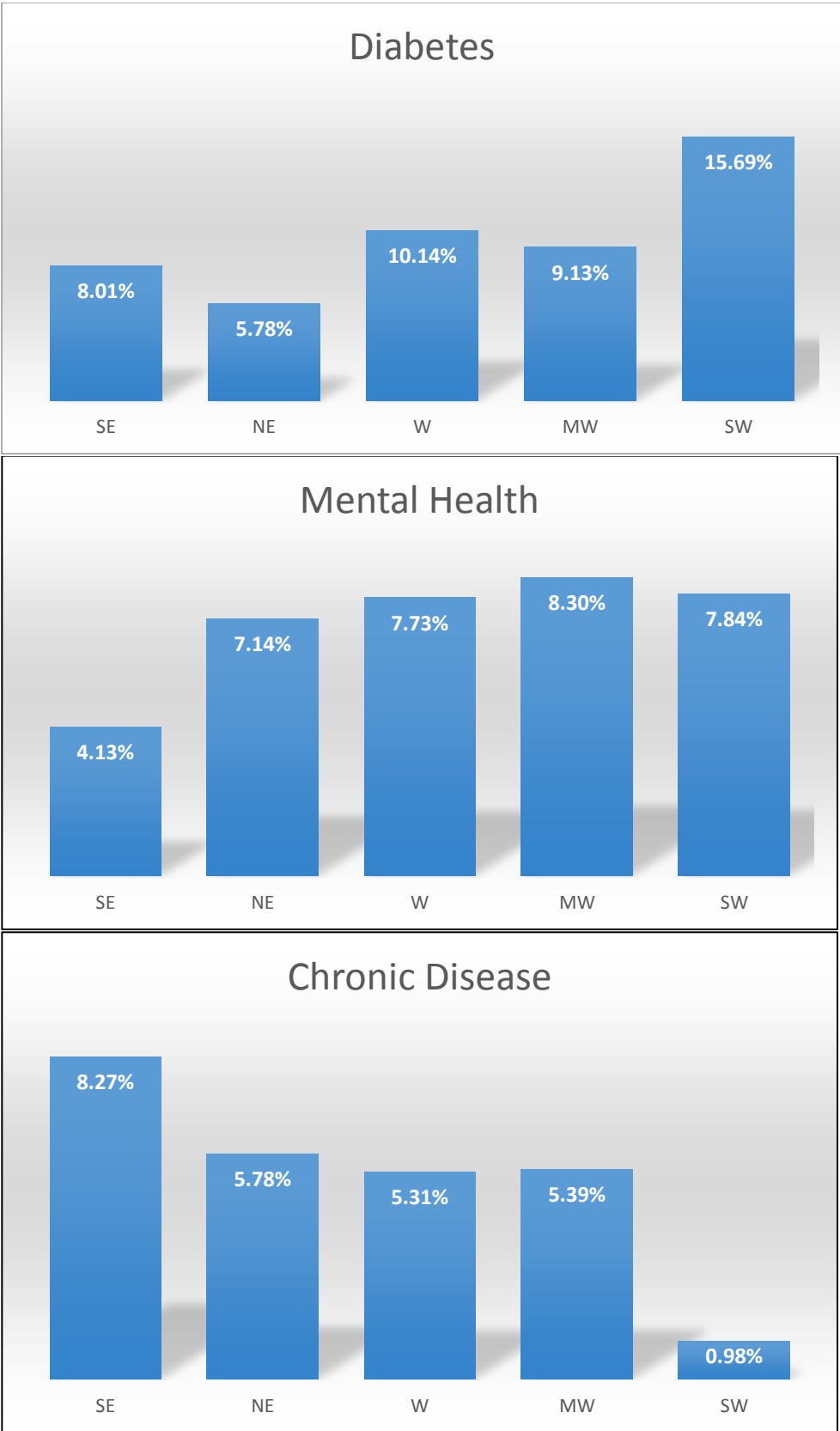


Figure 15

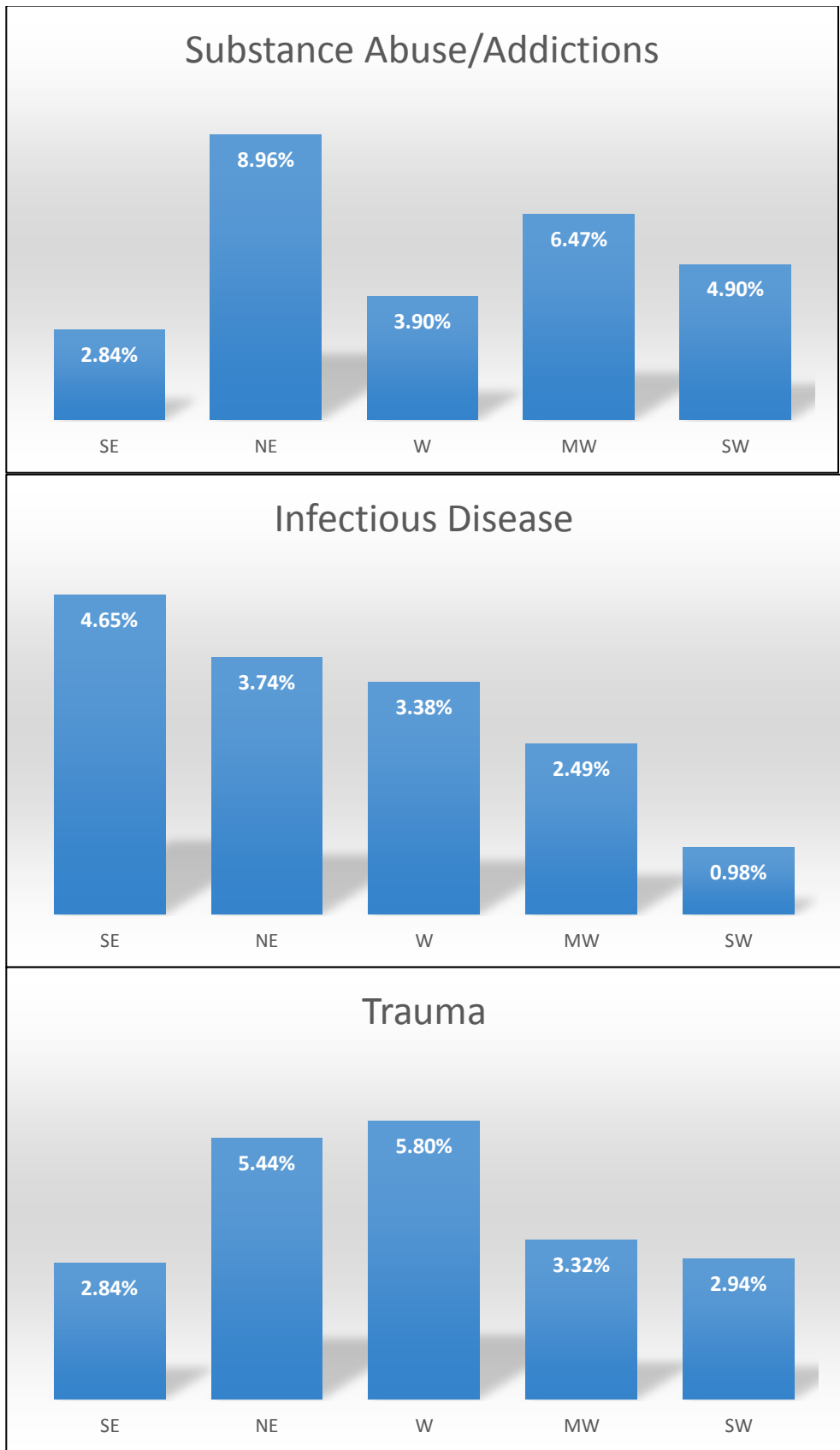
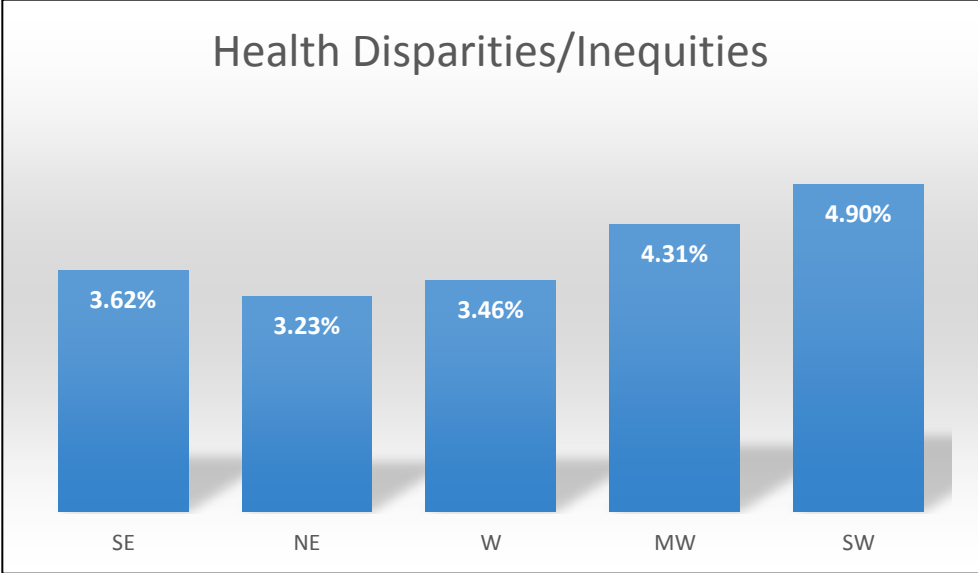
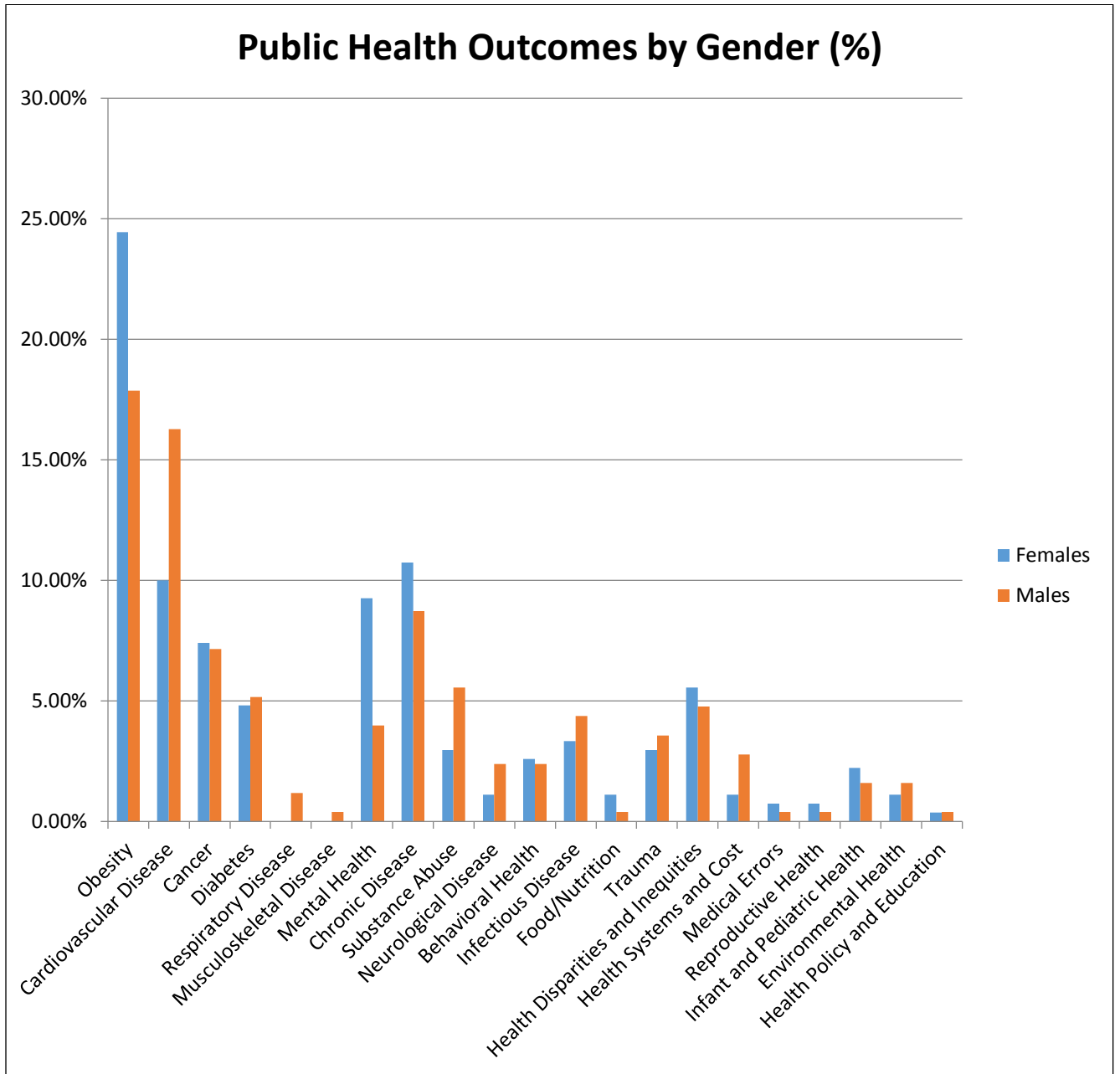


Figure 16



Primary Outcomes by Gender %

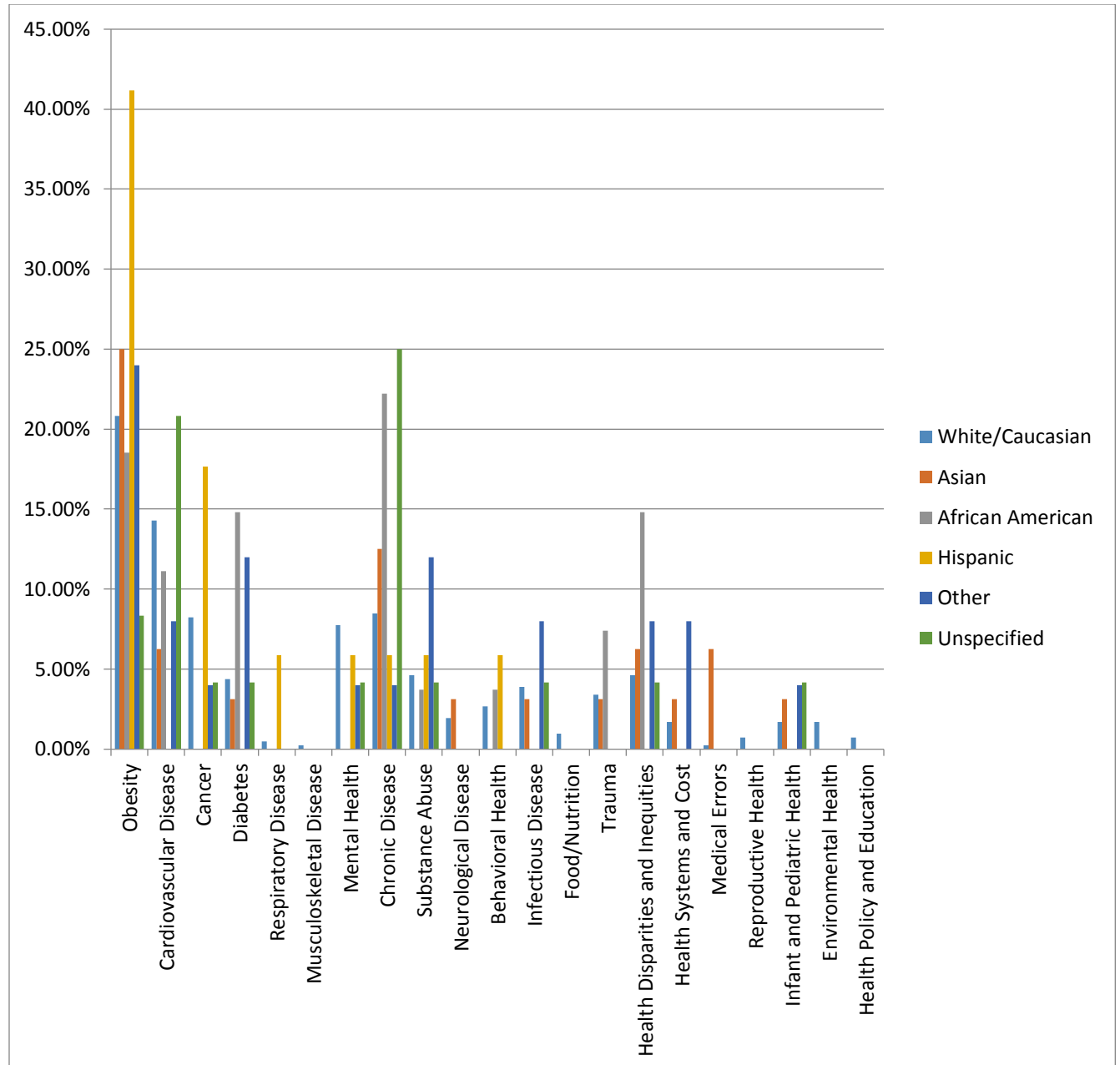
Figure 17



Female (n= 250) Male (n= 230)

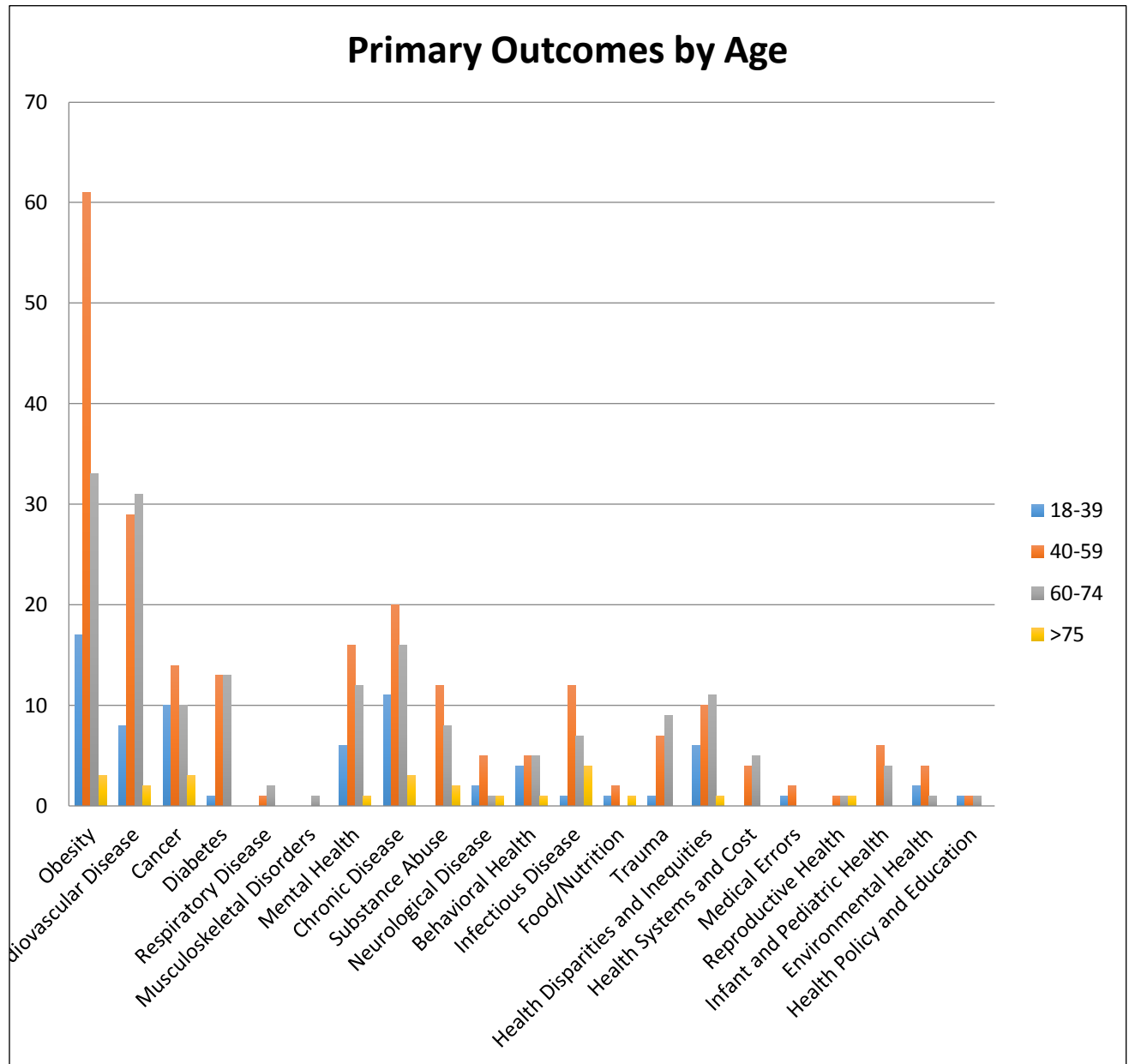
Primary Outcomes by Race/Ethnicity %

Figure 18 – Total % of primary outcomes as selected by race/ethnicity



Primary Outcomes by Age

Figure 19 – Total of primary outcomes as selected by age (raw numbers)



Primary Outcomes – Age Categories - %

Figure 20: Pie charts showing % of age groups selecting a primary outcome as most important

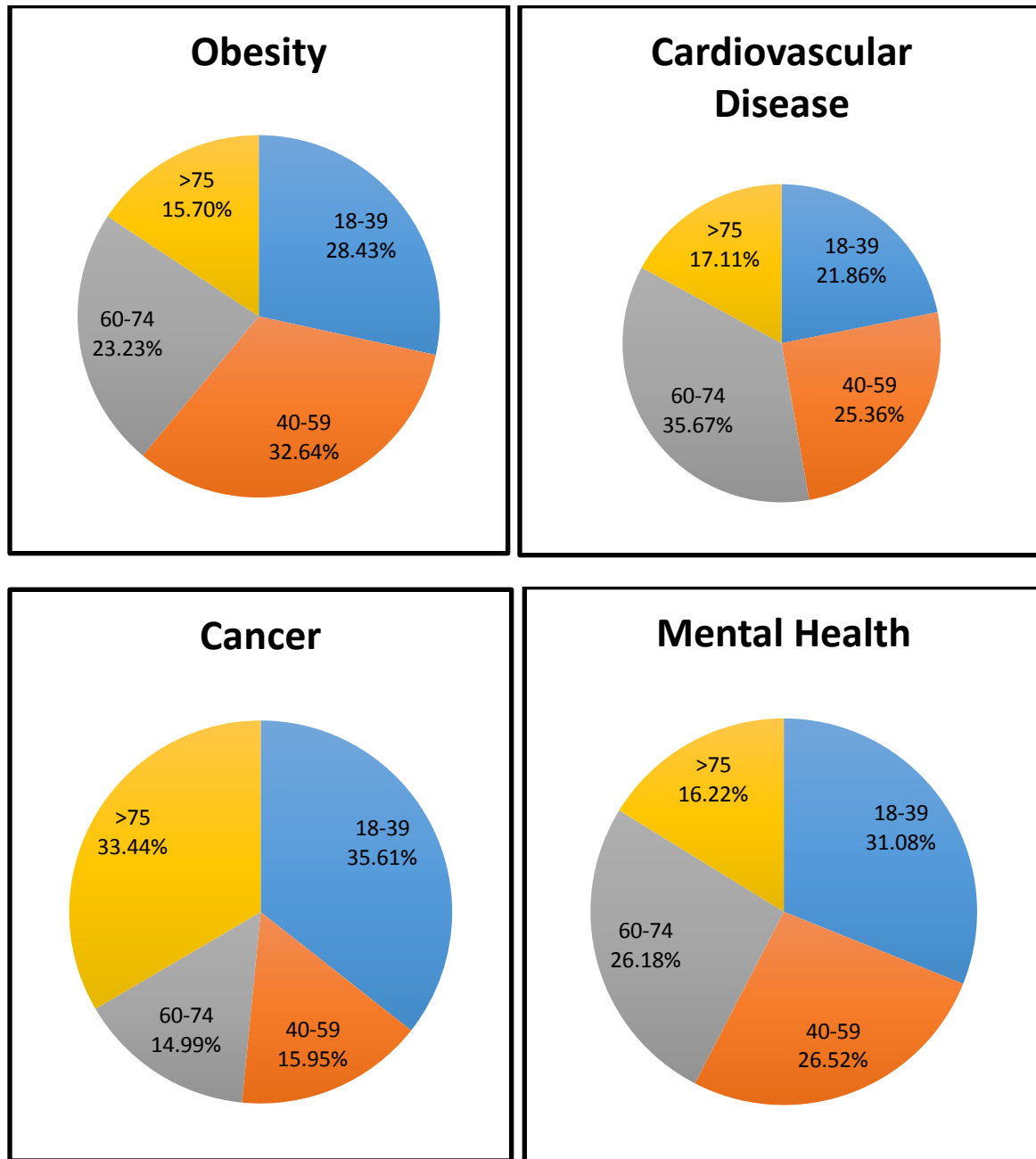
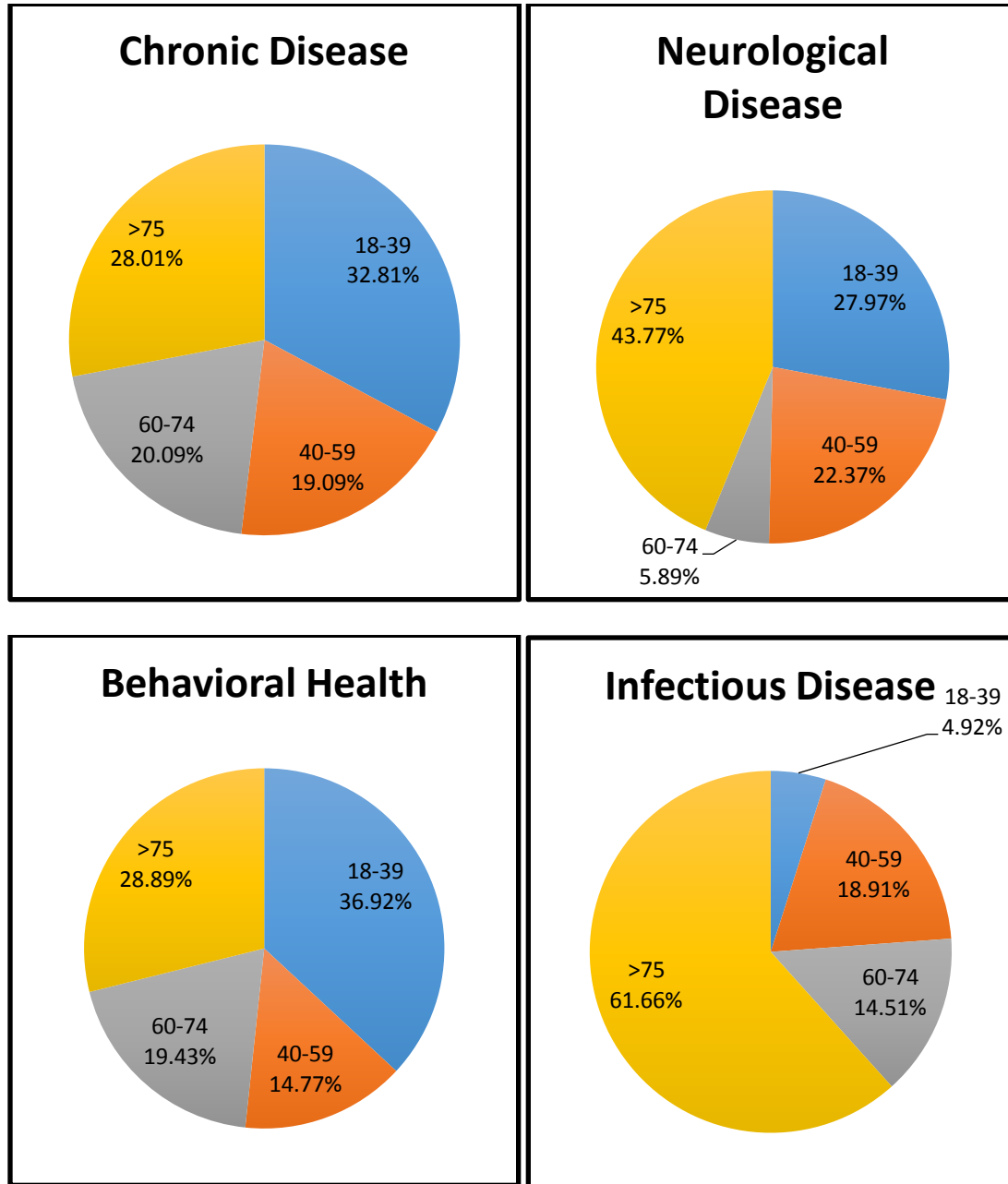


Figure 21: % of age groups selecting a primary outcome as most important



Skin Cancer Responses

Figure 22: Survey participants with Skin Cancer diagnosis by region

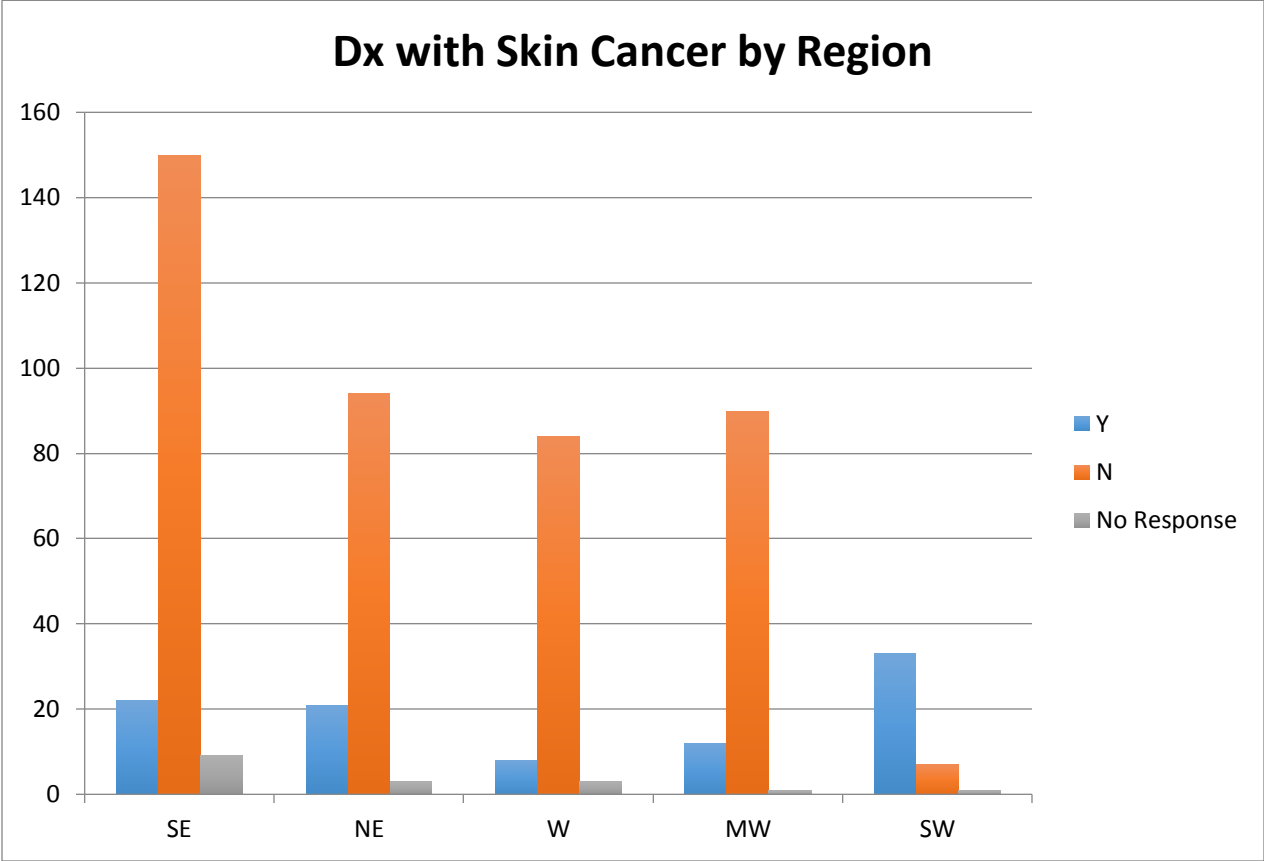


Figure 23: Survey participants aware of celebrities with skin cancer

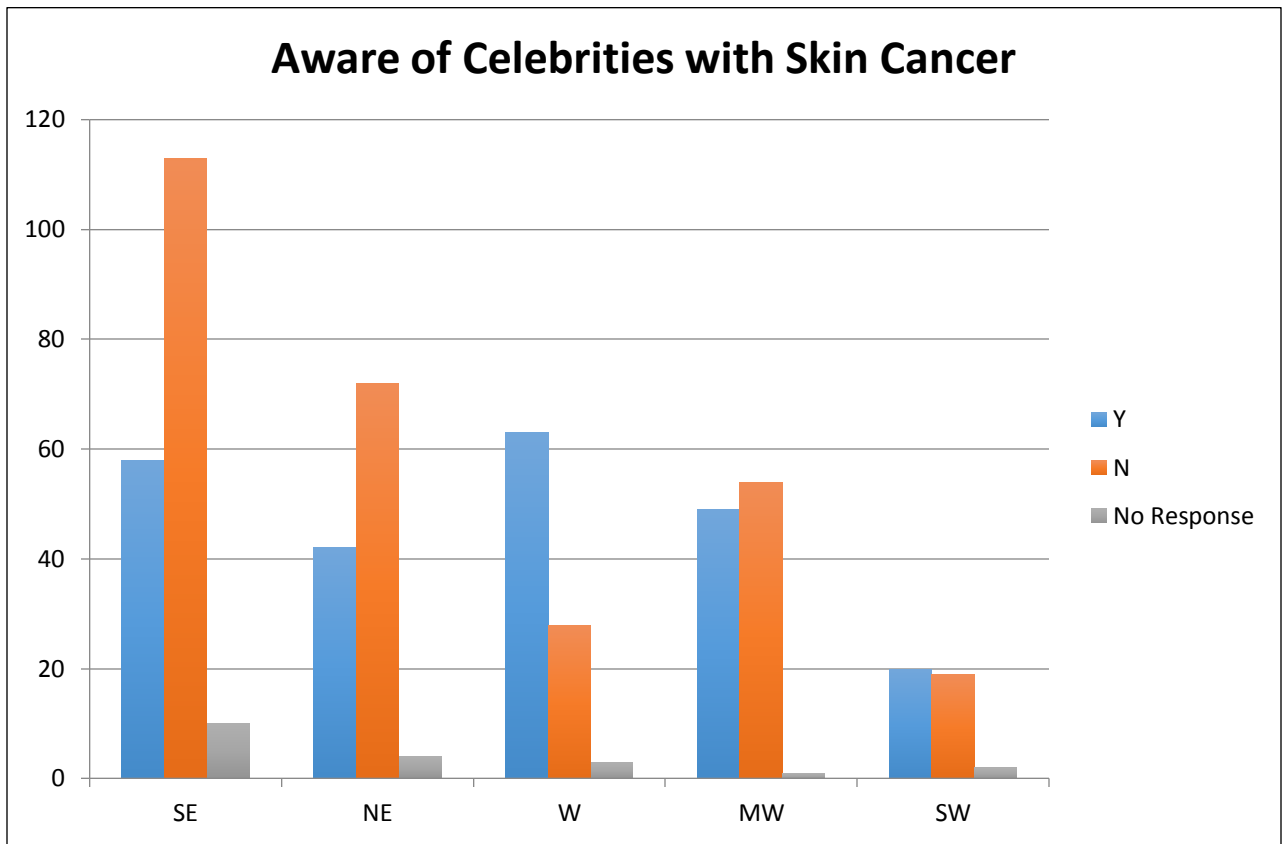


Figure 24: Survey participants with family or friends with skin cancer

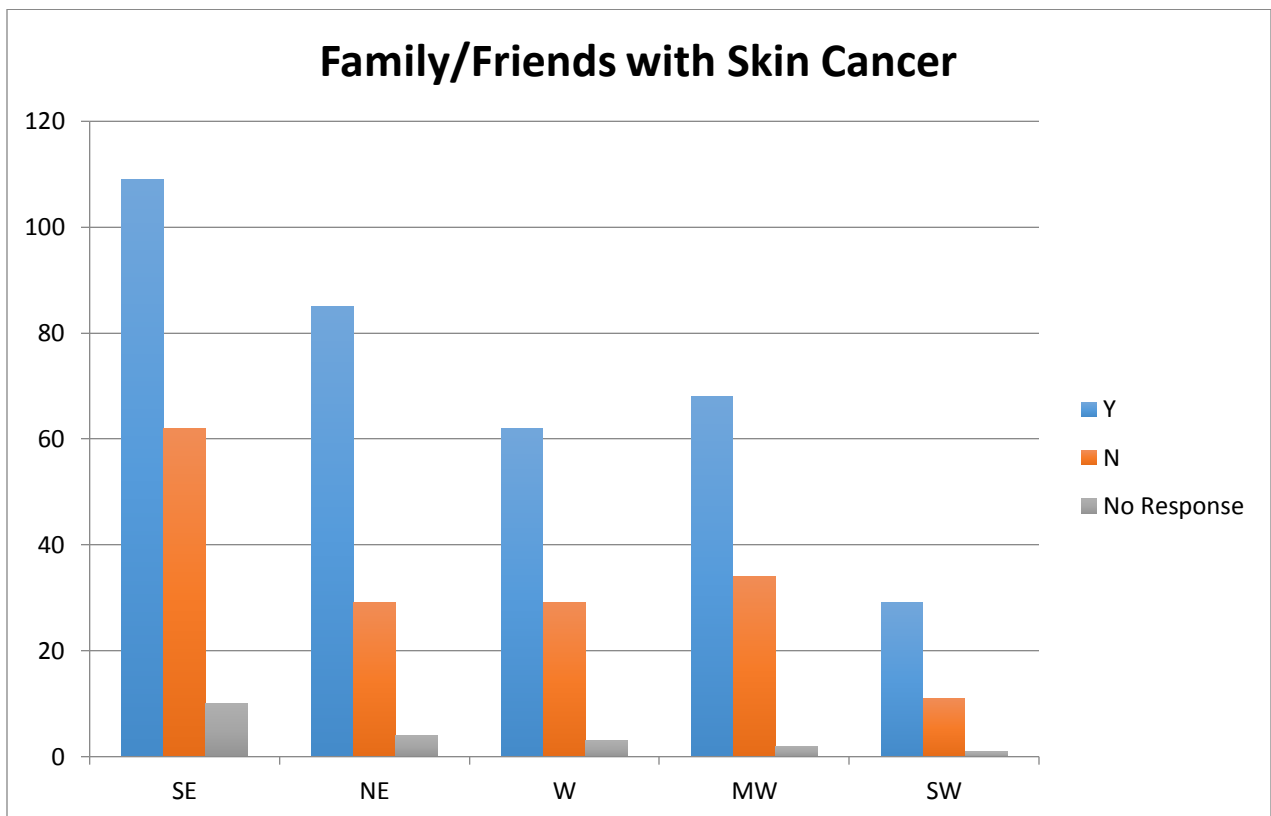


Figure 25: Ranked importance of skin cancer by region

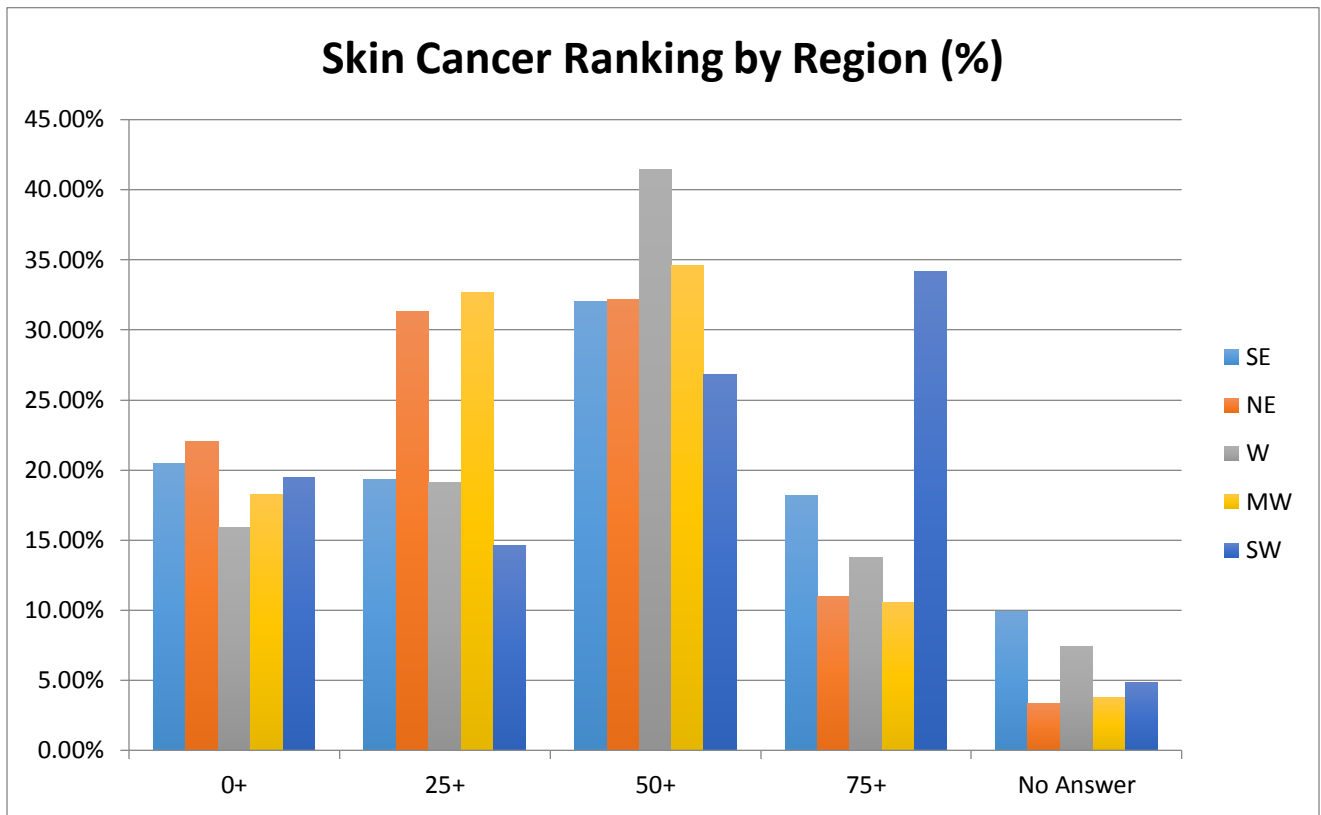
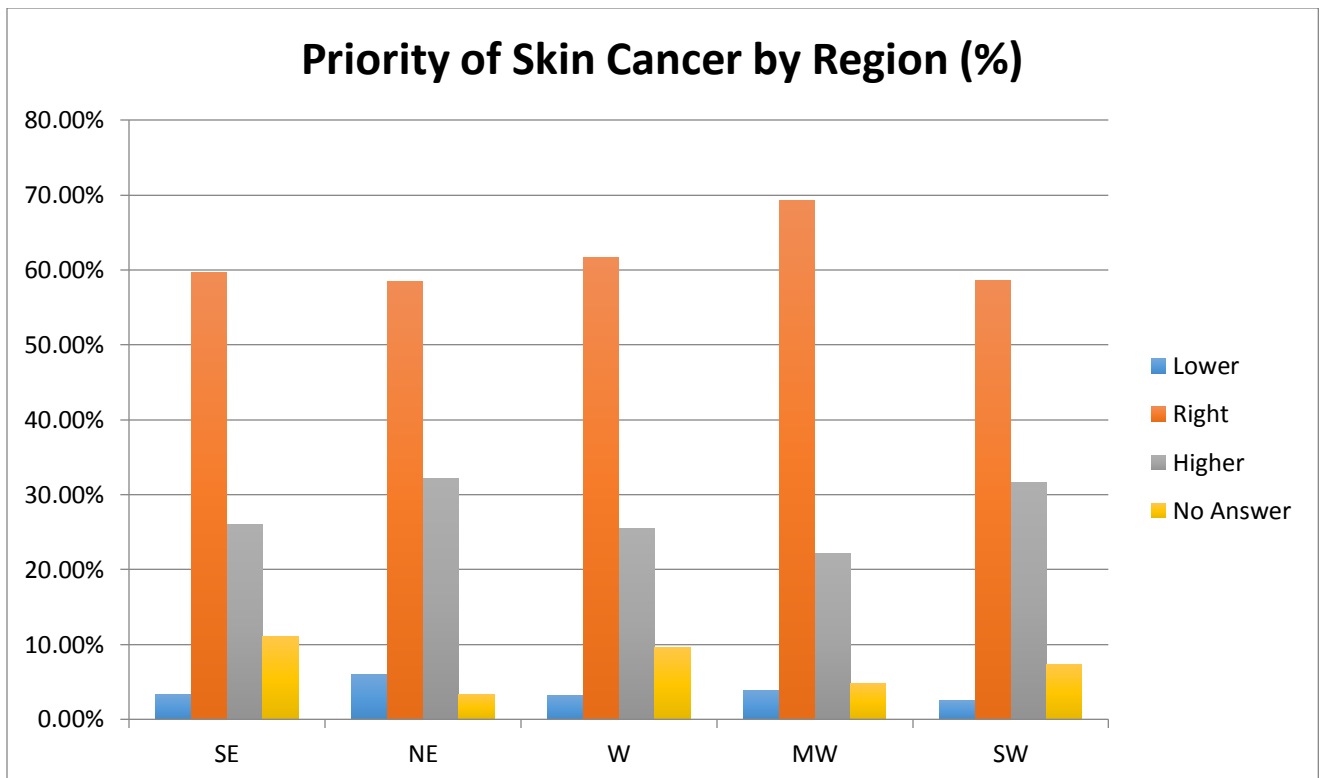


Figure 26: Priority ranking of skin cancer by region



TABLES

Table 1: Geographic Regions: States

Southeast	Northeast	West	Midwest	Southwest
Alabama	Connecticut	Alaska	Illinois	Arizona
Arkansas	Delaware	California	Indiana	Oklahoma
Florida	Maine	Colorado	Iowa	New Mexico
Georgia	Maryland	Hawaii	Kansas	Texas
Kentucky	Massachusetts	Idaho	Michigan	
Louisiana	New Hampshire	Montana	Minnesota	
Mississippi	New Jersey	Nevada	Missouri	
North Carolina	New York	Oregon	Nebraska	
South Carolina	Pennsylvania	Utah	North Dakota	
Tennessee	Rhode Island	Washington	Ohio	
Virginia	Vermont	Wyoming	South Dakota	
West Virginia			Wisconsin	

Table 2: List and categories of Public Health Schools/Programs (number of faculty members)

Small (<25)	Midsize (25-74)	Large (≥75)
A.T. Still University (2)	Boston University (49)	Brown University (139)
Armstrong State University (4)	Case Western Reserve University (34)	George Washington University (140)
Baylor University (23)	Columbia University (31)	University of California Berkley (148)
Benedictine University (5)	Consortium of Eastern Ohio (42)	University of Michigan (183)
Brigham Young University (18)	CUNY School of Public Health (38)	University of Minnesota (23)
California State University-Fresno (12)	Dartmouth (69)	University of Pittsburgh (189)
California State University-Fullerton (19)	Drexel University (41)	University of South Carolina (128)
Charles R. Drew University (9)	Emory University (29)	University of Texas Health Science Center at Houston (168)
Claremont Graduate University (6)	FL International University (51)	University of Washington (290)
DePaul University (4)	Georgia Southern University (39)	George Mason University (92)
Des Moines University (5)	Georgia State University (38)	University of South Florida (78)
East Carolina University (19)	Harvard University (65)	
East Stroudsburg University (10)	IUPUI (40)	
East Tennessee State University (21)	Kansas State University (55)	
Eastern Kentucky University (20)	Morehouse School of Medicine (28)	
Eastern Virginia Medical School- Old Dominion (16)	Mount Sinai Icahn School of Medicine (28)	
Florida A&M University (15)	Northeastern University (27)	
Florida State University (8)	Nova Southeastern University (49)	
Georgia Regents University (7)	Ohio State University (27)	
Idaho State University (2)	Oregon Health & Science University- Portland State University (62)	
Indiana University (3)	St. Louis University (27)	
Indiana University Bloomington (12)	Texas A&M (31)	
Louisiana State University (22)	Tulane University (28)	
Meharry Medical College (9)	Uniformed Services University of the Health Sciences (54)	
Mercer University (6)	University of North Texas Health Science Center (42)	
Missouri State University (3)	University of Alabama at Birmingham (44)	
Montclair State University (19)	University of Arizona (63)	
Morgan State University (20)	University of California Irvine (33)	
National University (10)	University of Cincinnati (32)	
New Mexico State University (5)	University of Colorado (72)	
New York Medical College (23)	University of Connecticut (37)	
Northern Illinois University (10)	University of Miami (33)	
Northwest Ohio Consortium for Public Health (6)	University of New Mexico (70)	
Northwestern University (19)	University of North Texas (42)	

Table 2 (Continued)

Small (<25)	Midsized (25-74)	Large (≥75)
Oregon State University (19)	University of Oklahoma (46)	
Ponce Health Sciences University (14)	University of Pennsylvania (36)	
Rutgers University (19)	University of Southern California (47)	
San Diego State University (16)	University of Texas Medical Branch at Galveston (27)	
Southern Connecticut State University (7)	University of Virginia (68)	
Stony Brook University (12)	University of Wisconsin-Madison (43)	
SUNY Downstate Medical Center (8)	Washington University in St. Louis (43)	
Temple University (16)	Wayne State University (31)	
Tennessee State University (10)		
Thomas Jefferson University (10)		
Touro University-California (13)		
Tufts University (17)		
University of Alaska-Anchorage (6)		
University at Buffalo-SUNY (22)		
University of California-Davis (16)		
University of California-Northridge (16)		
University of Hawaii (21)		
University of Illinois at Urbana-Champaign (8)		
University of Kansas School of Medicine (18)		
University of Maryland at Baltimore (18)		
University of Missouri-Columbia (15)		
University of Montana (9)		
University of Nevada-Las Vegas (7)		
University of Nevada-Reno (17)		
University of New England (15)		
University of New Hampshire (17)		
University of North Carolina at Charlotte (17)		
University of North Carolina at Greensboro (14)		
University of North Florida (8)		
University of Rochester (20)		
University of San Francisco (9)		
University of Tennessee-Knoxville (18)		
University of Wisconsin-La Crosse (9)		
Vanderbilt University (14)		
Virginia Commonwealth University (12)		
Virginia Tech (7)		
West Chester University (18)		
Western Kentucky University (10)		
Westminster College (3)		
Wright State University (8)		

Table 3: Public Health Schools and Programs within Geographic Regions - ** denotes non participation

<u>Southeast</u>	Ponce Health Sciences University**
Armstrong Atlantic University	Tennessee State University**
East Carolina University**	Tulane University
Eastern Kentucky University	Uniformed Services Univ. of Health Sciences
East Tennessee State University	University of Alabama at Birmingham
Eastern Virginia Medical School-Old Dominion	University of North Carolina at Charlotte
Emory University**	University of North Carolina at Greensboro
Florida A&M University**	University of Maryland
Florida International University	University of Maryland at Baltimore
Florida State University**	University of Miami
George Mason University	University of North Florida
George Washington University	University of South Carolina
Georgia Regents University	University of South Florida
Georgia Southern University	University of Southern Mississippi**
Georgia State University	University of Tennessee
Louisiana State University	University of Virginia
Meharry Medical College	Vanderbilt University
Mercer University	Virginia Commonwealth University
Morehouse School of Medicine	Virginia Tech
Morgan State University	Western Kentucky University
Nova Southeastern University	
<hr/>	
<u>Northeast</u>	<u>Midwest</u>
Boston University	A.T. Still University**
Brown University	Benedictine University
Columbia University	Case Western Reserve University
CUNY School of Public Health	Consortium of Eastern Ohio
Dartmouth College	DePaul University**
Drexel University	Des Moines University**
East Stroudsburg University	Indiana University**
Harvard University**	Indiana University-Bloomington**
Johns Hopkins University**	Indiana Univ. Purdue Univ. Indianapolis
Mount Sinai Icahn School of Medicine	Kansas State University
Montclair State University	Kent State University
New York Medical College	Missouri State University
Northeastern University**	Northern Illinois University**
Rutgers University	Northwest Ohio Consortium for Public Health
Southern Connecticut State University	Northwestern University
Stony Brook University	Ohio State University
SUNY Downstate Medical Center	St. Louis University
Temple University	University of Cincinnati
Thomas Jefferson University**	University of Illinois at Urbana-Champaign
Tufts University	University of Kansas**
University at Buffalo- SUNY	University of Michigan
University of Pittsburgh	University of Minnesota
University of Rochester	University of Missouri- Columbia
Yale University	University of Wisconsin-La Crosse
	University of Wisconsin-Madison
	Wayne State University

Table 3: (continued) - Public Health Schools and Programs within Geographic Regions - ** denotes non participation

Southwest

Baylor University
New Mexico State University
Texas A&M
University of Arizona
University of New Mexico
University of North Texas**
University of Oklahoma
University of Texas Medical Branch at Galveston
Univ. of Texas Health Science Center-Houston**

West

Brigham Young University
California State University-Fresno
California State University-Fullerton
California State University-Northridge
Charles R. Drew Univ. of Med and Science**
Claremont Graduate University
Idaho State University
National University
Oregon State University
Oregon Health & Science Univ.(Portland State)
Oregon State University
San Diego State University
Touro University California
University of Alaska- Anchorage
University of Arizona
University of California Berkley
University of California Davis
University of California Irvine
University of Colorado
University of Hawaii
University of Montana**
University of Nevada- Las Vegas
University of Nevada- Reno
University of San Francisco
University of Southern California
University of Southern California**
University of Washington

Table 4: Response Categories

1. Obesity
2. Cardiovascular Disease
3. Cancer
4. Diabetes
5. Mental Health included: mental health, apathy, depression, stress, anxiety, PTSD, suicide, ADD/ADHD/ASD and lack of mental health interventions.
6. Chronic Diseases: chronic diseases/conditions/disabilities, diseases of aging, chronic non-communicable diseases, multi-morbidity, multi-system illness, metabolic syndrome, co-morbidities and mismanagement of chronic diseases.
7. Substance Abuse/Addictions: tobacco use including smoking, prescription and illicit drug abuse and alcohol.
8. Infectious disease/STI's: dominated by HIV with resistant pathogens, zoonotic, parasitic, Ebola and vaccine compliance also mentioned.
9. Trauma/Injuries and Violence: gun violence, unintentional injury, and accidents including fractures, falls, occupational injuries and vehicle crashes.
10. Health Inequities/Disparities: health disparities, health inequities, racial health disparities, social inequities.
11. Neurologic Disorders: primary neurologic diseases, dementias, stroke, Parkinson's and post-traumatic brain injury/concussions.
12. Behavioral Health: sedentary lifestyle, lack of exercise, unhealthy lifestyle, behavioral health/characteristics, fitness.
13. Health system/Access to care: access/cost, lack of health insurance, health system.
14. Pediatric/Infant Health: developmental disabilities, child health, premature birth, infant mortality, birth defects.
15. Environmental Health: clean water, UV exposure, overpopulation, climate change, occupational health/disease, disorders related to persistent organic chemicals.
16. Maternal/Reproductive Health: maternal health, unintended pregnancy, reproductive health.
17. Lung and Respiratory Disease: asthma, COPD, acute lung injury and other lung and respiratory diseases.
18. Food/Nutrition: poor nutrition, food insecurity, poor diet, hunger, unhealthy eating.
19. Health Policy and Education
20. Emergency Preparedness
21. Medical Errors
22. Musculoskeletal Disorders

Gender Responses Comparison (total number of responses)

Table 5

Primary Outcomes	Females	Males	Not Specified
Obesity	66	45	3
Cardiovascular Disease	27	41	3
Cancer	20	18	1
Diabetes	13	13	1
Respiratory Disease	0	3	0
Musculoskeletal Disease	0	1	0
Mental Health	25	10	0
Chronic Disease	29	22	2
Substance Abuse	8	14	0
Neurological Disease	3	6	0
Behavioral Health	7	6	2
Infectious Disease	9	11	0
Food/Nutrition	3	1	0
Trauma	8	9	0
Health Disparities and Inequities	15	12	1
Health Systems and Cost	3	7	0
Medical Errors	2	1	0
Reproductive Health	2	1	0
Infant and Pediatric Health	6	4	0
Environmental Health	3	4	0
Health Policy and Education	1	1	1
TOTALS	250	230	14

Public Health Faculty Survey - Regarding Public Health Priorities

Q1 Consent to Participate in a Research Study PUBLIC HEALTH PRIORITIES: A SURVEY OF FACULTY PERSPECTIVES Dr. James Sandwich, Dr. Ike Okosun and John Steward, MPH of the Georgia State University School of Public Health invite you to participate in a research study about the opinions of public health faculty regarding the relative importance of diseases, disabilities and disorders of public health significance. We hope to better understand which of these concerns are most important to public health academic faculty. As thought leaders and stakeholders with substantial influence on the dissemination of knowledge, determination of curricula, research direction and policy formation, your opinions are very important. If you agree to be part of the research study, you will be asked to complete a computer survey that will follow this introduction and consent. We expect this survey to take 5 to 10 minutes to complete. We hope you will help us in our efforts in collecting this data. Upon completion of the study, we are planning on releasing the survey data and would be happy to provide the results to any respondent who is interested. It may be informative to know what opinions your peers and colleagues share. No personal information will be shared with any parties. Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose to not answer an individual question or you may skip any part of the survey. If you have questions about this research study, you can contact James T. Sandwich, MD, @ jsandwich2@student.gsu.edu or 770 460-8988 ext 5 or Ike Okosun, PhD, MPH, Georgia State University, School of Public Health, One Park Place, Suite 700, Atlanta, GA 30303, (404) 413-1138, iokosun@gsu.edu. By checking the yes box and submitting the survey, you are consenting to participate in this research survey. If you do not wish to participate, ignore or close this browser window/email. Thank you for your time and consideration.

I consent to participation in this survey

- Yes
 - No
-

Section 1 – General Information and Priorities

1. What year were you born?

(computer generated drop down list)

2. What is your race or ethnicity?

White/Caucasian

African American

Hispanic

Asian

Native American

Pacific Islander

Other

3. What is your gender?

Male

Female

4. What is your highest terminal degree?

Master

PhD

MD

JD

DrPH

ScD

Other (please list) _____

5. If your highest terminal degree is a Masters, is it an MPH?

Yes (1)

No (2)

6. What year was your terminal degree awarded?

(computer generated drop down list)

7. In which subject was your terminal degree conferred?

8. On average how many public health courses do you plan to teach this academic year (including your current semester courses)?
_____ core public health classes taught each year

9. What academic institution are you affiliated with? (Please add the name of the city if it useful in identification of the school or program of public health.)

10. Which of the following best describes your faculty appointment?

- Primary public health faculty (full-time university faculty with 100% appointments to the school of public health. Primary faculty can include those who have appointments in a department or division of the school or in a research or service center that is housed within the school or controlled by the dean. Primary faculty in a school may hold any category of faculty classification and academic title that is appropriate within that context, but teaching and mentoring students must be a fundamental component of primary faculty's expectations. Full-time research-track faculty who contribute to teaching and mentoring students constitute primary faculty.)
- Secondary public health faculty (not full-time employees OR university faculty with less than 100% appointments to the school of public health are considered secondary faculty. Adjunct faculty whose primary appointment is elsewhere (e.g., at a local health department) are not eligible to count as primary faculty, regardless of their level of commitment to the program, nor are individuals whose appointment at the university is less than full-time. Any faculty with 100% appointments to the school of public health but does not participate in teaching and mentoring students (e.g. full-time research-track faculty who do NOT contribute to teaching and mentoring students) constitute secondary faculty. Secondary faculty are typically referred to as adjunct, part-time and secondary faculty on university campuses.)

11. What is your primary workload (faculty function)?

- Teaching, Research, and Service (Includes faculty who perform at least two of these functions.)
- Teaching Only
- Service Only
- Research Only
- Other (Includes administrative faculty and others not otherwise classified.)

12. What public health topic is your primary career focus? (Please be as specific as possible. DO NOT identify a broad discipline (e.g., epidemiology).

13. What health outcomes (diseases, disabilities, or disorders) are most often included in your research? (Specific outcomes are requested, if possible; however, also indicate if you research systems, methodologies, concepts, etc. without considering specific outcomes.)

14. In your opinion what are the most important health outcomes (diseases, disabilities, or disorders) currently affecting public health in the United States? (You may list as many as you feel are of importance, but please list them in rank order from most important to least important.)

Section 2 - Skin Cancer Many people in public health recognize skin cancer as a concern. We would like to know of your experience and beliefs. Skin cancer includes carcinoma and melanoma and afflicts people of all races, ages, and gender. Please answer the following statements

1. I have or have been diagnosed with skin cancer.

Yes

No

2. A friend, family member or coworker has or has had skin cancer.

Yes

No

3. Are you aware of prominent persons or celebrities who have or have had skin cancer

Yes

No

4. Where does skin cancer rank as a public health concern in comparison to other public health issues/concerns?

It's importance ranks in the top 25% of public health diseases/disorders/concerns

It's importance ranks in the top half but not the top 25% of public health diseases/disorders/concerns

It's importance ranks in the bottom half but not in the lowest 25% of public health diseases/disorders/concerns

It's importance ranks in the lower 25% of public health diseases/disorders/concerns

5. Should skin cancer be a higher public health priority than it is currently in the United States?

Skin cancer should be a higher priority than it is currently.

The current priority for skin cancer is about right.

Skin cancer should be a lower priority than it is currently.

Open comment box regarding skin cancer. Please feel free to offer comments or insight regarding skin cancer as a public health concern.