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DrPH Leadership Dissertation

Men's Health and Wellbeing Policy in the United States:
A Transformative Cross-National Policy Analysis

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DEDICATION

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I. Background and Problem Statement

a. Study Objective

The objective of the *National Men's Health and Wellbeing Policy in the United States* doctorate of public health dissertation is to determine the driving biomedical, behavioral, social and physical environmental factors indicating a potential need for a national men's health policy in the United States. Using a mixed-methods study design within a transformative framework, this dissertation fills a public health gap in men's health and wellbeing research and policy recommendations for the United States.

The dissertation is comprised of a weighted qualitative comparative analysis (QCA) of two national men's health policies, coupled with a quantitative analysis of men's health data within the United States. While commonly referred to as "men's health," both the policies and the subsequent United States data analyze the health of males of all ages including young boys and adolescents.

b. Background and Problem Statement

The World Health Organization's (WHO) Constitution states, "The enjoyment of the highest attainable standards of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, or social condition" (World Health Organization, 2001, p. 1). Through a cross-national analysis of men's health outcomes and policies, the *National Men's Health and Wellbeing Policy in the United States* dissertation seeks to extend that definition to include gender, as it relates to the highest attainable standard of health for men in the United States.

According to *Health, United States 2012*, 61.4 percent of men, over the age of 20, reported having uncontrolled high blood pressure, 44.7 percent of men, 75 years of age or older, have at some point in their life been told they have heart disease. Between 2007 and 2010, men were nearly twice as likely as females to have undiagnosed diabetes, with a total of 13 percent of all men over the age of 20 in the United States either currently diagnosed or undiagnosed with diabetes (National Center for Health Statistics, 2013). Furthermore,

cancer accounted for 213.6 deaths per 100,000 men, equating to over 295,000 deaths in 2008 (National Center for Health Statistics, 2012).

Accidents both intentional and unintentional also play a significant role in men's health and wellness. In 2010, 19.8 per 100,000 men died from suicide, an increase of 2.1 per 100,000 men since 2000. Additionally, 8.4 per 100,000 men died via homicide and 20.9 per 100,000 men died due to injuries related to a motor vehicle accident. In comparison, in the same timeframe, 5.0 per 100,000 women committed suicide and 2.3 per 100,000 women died from homicide (National Center for Health Statistics, 2013).

Risk factors such as physical activity and obesity are additional men's health concerns within the United States with 43.5 percent of men not meeting the aerobic activity or muscle strengthening guidelines in 2011. A lack of physical activity has contributed to 73.5 percent of men being classified as overweight, within which 34.4 percent are classified as obese (National Center for Health Statistics, 2013).

This disparity in health outcomes can be seen not only in the comparison of adult men and women, but in adolescents as well; in adolescent males 15 to 19 years of age, 18.4 per 100,000 residents die from firearm injuries in comparison to 2.3 females. Additionally, school aged boys are twice as likely to be diagnosed with attention deficit hyperactivity disorder (ADHD) than their female counterparts, and between 2005 and 2009, 18.7 percent of boys 12 to 19 years of age, versus 17 percent of girls, qualified as obese (Clarke, 2009; Heron, 2011; Kochanek, Xu, & et al., 2011; National Center for Health Statistics, 2011, 2013). Unintentional injury, homicide and suicide are three of the four leading causes of death for adolescents 10 to 24 years, leading to nearly 23,000 preventable deaths in 2010 (National Center for Injury Prevention and Control, 2012). Boys aged 15 to 24 years were eight times more likely to have deaths related to firearm injuries than girls. Disparities in health equity also begin to appear in this age group; at 73.2 per 100,000 residents, black males 15 to 24 years of age were 4.5 times more likely to die in firearm related deaths than white males of the same age (National Center for Health Statistics, 2013). In 2010, 541 girls

aged 15 to 24 were diagnosed with full-blown acquired immunodeficiency syndrome (AIDS), in comparison to 2,250 boys (National Center for Health Statistics, 2013).

Despite these gender specific disparities, awareness of the magnitude of the problem is low. Men's health initiatives in the United States are vastly underfunded in comparison to women's health initiatives, are devoid of representative empirical research, and lack a common vision and mission in the form of a national men's health policy. Facing similar men's health environments, two countries, Ireland and Australia, developed national men's health policies focused both on health equality and health equity. Both policies were rooted in evidence-based, scientific research and national data.

The *National Men's Health and Wellbeing Policy in the United States* dissertation seeks to analyze the men's health policies of Ireland and Australia, identifying the driving and restraining factors, which both led to and hindered the development of those policies, and connect these factors to the current health status of men in the United States. Health and wellbeing are affected by many factors that co-exist, interact and compound one another; a comparative analysis of these two men's health policies can inform a conceptual framework for improved men's health outcomes in the United States. Additionally, research questions and results describing the driving factors for men's health policies in Ireland and Australia provide the building blocks of a previously peer-reviewed method for structuring an analysis of men's health in the United States and for developing policy recommendations.

c. Study Questions:

Using a weighted comparative qualitative policy analysis in conjunction with a quantitative health data analysis, the *National Men's Health and Wellbeing Policy in the United States* dissertation seeks to answer the primary research question; "What are the driving biomedical, behavioral, social and physical environmental factors indicating a potential need for a national men's health policy in the United States?"

Secondary research questions include:

- What driving factors led to the development of men's health policies in Australia and Ireland?
- What restraining factors hindered the development of men's health policies in Australia and Ireland?
- How do the factors, which contributed to the successful development of men's health policies in Australia and Ireland inform men's health policy development in the United States?

The factor categories chosen for analysis: biomedical, behavioral, social and physical environmental, are consistent with the holistic approach of the *National Framework for Improving Men's Health and Wellbeing in the United States*, and the focus areas of the two case policies. Within the proposed study, biomedical factors are defined as those factors related to genetic or physiological health outcomes such as cardiovascular disease, malignant neoplasms, obesity, diabetes and depression. Behavioral factors are those factors related to specific actions such as physical activity, food choices, alcohol and drug consumption, tobacco use, and injuries resulting from risky behaviors. Cultural and political influences, such as socioeconomic status, perception of health, and access to medical services are categorized as examples of social environmental factors influencing men's health, while physical environment is comprised of the areas in which men live and work.

For the purposes of this study, gender health equality is defined as, fairness and justice in the distribution of benefits, power, resources and responsibilities between women and men (Payne, 2009; World Health Organization, 2001). Health equity is defined as, the absence of discrimination on the basis of a person's social position in opportunities, allocation of resources or benefits, and access to services (Braverman & Gruskin, 2003; Payne, 2009; World Health Organization, 2001). In short, for this study equality will look at the variations in health between men and women and equity will look at the variation in health among men themselves as a result of variables such as, race, ethnicity and socioeconomic status.

d. Significance and Leadership Implications:

In his 2009 book, *Putting Principles into Practice*, Louis Rowitz argues that public health leaders not merely manage change, but rather they envision change. Rowitz goes on to say, “public health leaders must evaluate the health status of the population, evaluate the capacity of the community to address its health priorities, and implement preventive measures to reduce the impact of or even avoid a public health crisis” (Rowitz, 2009, p. 6). When discussing the role of public health leaders should take, Rowitz goes on to caution, “It is easy to see the appeal of the view that communities should redefine themselves, re-establish traditional values, and become less dependent on government. Yet it is also easy to see that public health programs are importantly different from other programs. Whereas individuals arguably should assume more responsibility for protecting their own health, surely some type of public health system is necessary to... provide population-based services designed to help individuals shed harmful behaviors” (Rowitz, 2009, p. 208). Assuming 8,735 potential years life lost, for every 100,000 men (National Center for Health Statistics, 2012), is a public health crisis, under Rowitz’s advice a public health leader would be tasked with identifying the parts of the system, which lead to negative health outcomes as well as identifying the interventions and feedback loops, which could ultimately lead to positive health outcomes.

In similar sentiment, in Annie Michaelis’ (2002) article, *Priority Setting Ethics in Public Health*, she states, “...public health professionals should develop and utilize tools with which to deliver services fairly, and to counter prejudiced arguments that declare certain groups underserving of public assistance” (Michaelis, 2002, p. 399). She goes on to state public health problems require a sense of urgency and “can remain unaided if they lack a champion who has the resources and initiative to organize the compilation of statistics and data that are necessary for the scope of the problem to be understood” (Michaelis, 2002, p. 408). Men’s health in the United States is in need of this champion not only at the grassroots level, but also at the national level. A national vision for men’s health within the United States has the potential to improve men’s health and wellbeing while reducing negative health outcomes based on gender alone.

e. Definitions

Gender:	Self-representation as male or female. Gender is rooted in biology (i.e., sex) and shaped by environment and experience (Institute of Medicine, 2001a; Payne, 2009).
Gender Budgeting	Focusing on the gender dimensions of government budgets, both the revenue and the expenditure side (U.S. Department of Health and Human Services, 2011a).
Gender Equity	Fairness and justice in the distribution of benefits, power, resources and responsibilities between women and men (Payne, 2009; World Health Organization, 2001).
Gender Equality	Absence of discrimination on the basis of a person's sex in opportunities, allocation of resources or benefits, and access to services (Payne, 2009; World Health Organization, 2001).
Female	Individual born with female genetics/sexual traits and identifies as a female.
Health	Represents both physical and mental wellbeing, not just the absence of disease (World Health Organization, 1946).
Health Inequity	Inequities in health systematically put groups of people who are already socially disadvantaged at further disadvantage with respect to their health; health is essential to wellbeing and to overcoming other effects of social disadvantage (Braverman & Gruskin, 2003).
Mainstreaming	It is a strategy that promotes the integration of gender concerns into the formulation, monitoring and analysis of policies, programmes and projects, with the objective of ensuring that women and men achieve the highest health status (World Health Organization, 2001).
Male	Individual born with male genetics/sexual traits and identifies as a male.
Sex:	Classification of living things, generally as male or female according to their reproductive organs and functions assigned by chromosomal complement (Institute of Medicine, 2001a).
Social Determinants	Social determinants of health are the conditions in which people are born, grow, live, work and age that can contribute to or detract from the health of individuals or communities (U.S. Department of Health and Human Services, 2011b).

Syndemic Two or more afflictions, interacting synergistically, contributing to excess burden of disease in a population (Milstein, 2008).

Syndemic
Orientation A way of thinking about public health work that focuses on connections among health- related problems, considers those connections when developing health policies, and aligns with other avenues of social change to assure the conditions in which all people can be healthy (Milstein, 2008).

Abbreviations

Health-Related Quality of Life (HRQoL)
Qualitative comparative analysis (QCA)
The World Health Organization's (WHO)
Attention Deficit Hyperactivity Disorder (ADHD)
acquired immunodeficiency syndrome (AIDS)
Institutes of Medicine (IOM)
European Union (EU),
Youth Risk Behavior Surveillance System (YRBSS)
The Office of Women's Health (OWH)
Department of Health and Human Services (HHS)
Agency for Healthcare Research and Quality (AHRQ)
Centers for Disease Control and Prevention (CDC)
Food and Drug Administration (FDA)
Health Resources and Services Administration (HRSA)
Health and Retirement Study (HRS)
Asset and Health Dynamics Among the Oldest Old (AHEAD)
sex and gender based analysis (SGBA)
House Resolution (HR)
fuzzy set qualitative comparative analysis (fsQCA)
Inter-rater Reliability (IRR)

II.a Men's Health and Wellbeing Policy Literature Review

Introduction:

The goal of the Men's Health and Wellbeing Policy literature review is to provide a critical assessment of men's health in the United States and similarly industrialized countries. The literature review was conducted in two phases; review of the literature based on the topic men's health, and an in-depth review of literature based on the research questions. Nearly 150 articles, books, reports and journals, found through internet-based searches, were reviewed and organized thematically to inform the following literature review on men's health and wellbeing. Searches were conducted utilizing broad-based internet search engines, bibliographic databases such as Medline, and cross referencing citations of formative men's health literature. Literature was reviewed for relevance and timeliness, with searches specific to current men's health policy and theory, limited to publications between 1990 and 2013. Ultimately, 75 references were employed to describe the current status of men's health and men's health policy in the United States. A detailed description of key terms, and process used to inform the Men's Health and Wellbeing Literature Review can be found in Appendix A.

Section I: Gender, Health and Wellbeing

Gender, Health, and Wellbeing

Gender and its relationship to health and wellbeing is a multi-dimensional topic that spans the biological, social, political, and ethical spectrum. The health and wellbeing of men and women, as well as boys and girls across the industrialized countries of the world are, in many areas, on a positive trajectory. Life expectancy continues to rise while infant mortality decreases, and political policy focused on access to healthcare expands. Moreover, public health leaders have created a framework and vision for a future where health is not influenced by race, ethnicity, or socioeconomic status.

Yet, as strides are made in syndemic thinking and health equities, there remain large gaps in health outcomes based solely on gender (Bird & Rieker, 2008; Courtenay, 2011; Milstein,

2008). The results of current gender specific health research, within the United States, show that while measurable strides have been made in increasing life span and quality of life across both genders, disparities still exist in health resources, health communications and health outcomes (Clarke, 2009; U.S. Department of Health and Human Services, 2011b; Women and Gender Equity Knowledge Network, 2007). Despite the tendency to think gender health inequality is synonymous with women's health outcomes, health data shows men and boys lead many current morbidity and mortality health disparities (Courtenay, 2000; National Center for Health Statistics, 2011, 2012).

While over the past two decades men's health issues have received some increased attention in a handful of countries, there are few empirical studies on men's health risk factors and associated health outcomes, and even fewer inquiries into the impact of men's health policies, or the lack thereof. After decades of neglect both biologically and socially, women's health initiatives, including worldwide-integrated organizational and informational approaches, have been used to develop and institutionalize policies directed toward increasing women's health outcomes (National Conference of State Legislatures, 2011; Sebelius, 2011; Women and Gender Equity Knowledge Network, 2007). Comparatively, over the last half-century, men's health initiatives have not been as successful in producing similar results. Researchers have found that despite men having higher mortality rates in almost all leading causes of death, a lack of common vision for men's health across the spectrum of socio- or biological studies has prevented an "integrated empirical understanding of men's health from emerging" (Courtenay, McCreary, & Merighi, 2011; Smith & Robertson, 2008, p. 284).

Definition of Gender

One possibly limiting factor toward the advancement of men's health initiatives is a lack of uniformity in gender definitions and a failure to recognize gender equality as both a male and female health issue. Across countries, publications, and professional specialties, the terms gender and sex are oftentimes used interchangeably (Bird & Rieker, 2008; World Health Organization, 2001). In order to help create standardization in research and grey

literature, in 2001, the Institutes of Medicine (IOM) defined sex as “the classification of living things, generally as male or female according to their reproductive organs assigned by chromosomal complement.” Gender was then defined as, “a person’s self-representation as male or female.... Gender is rooted in biology and shaped by environment and experience” (Institute of Medicine, 2001a, p. 1). While it is generally accepted that health is influenced by biology and gender as well as behavior and environment, what is less understood, or agreed upon, is how to address these influences within policy, and to what degree. Complicating factors, within the phrases gender health equity and gender equality, gender has become synonymous with female, creating a perception that men are not disproportionately unhealthy in comparison to women (Courtenay, 2000; Mansdotter et al., 2004; Smith & Robertson, 2008).

Introduction to Men’s Health

According to *Health, United States 2012*, 44.7 percent of men, 75 years of age or older, have at some point in their life been told they have heart disease, while 61.4 percent of men, over the age of 20, reported having uncontrolled high blood pressure. Similarly, 43.5 percent of men, 18 years and older did not meet the minimum aerobic activity or muscle strengthening guidelines. Obesity, smoking and sedentary lifestyle all have significant impacts on health outcomes, including high cholesterol, diabetes and malignant neoplasms. Additionally, accidents both intentional and unintentional play a significant role in men’s health and wellness. In 2010, 19.8 per 100,000 men died from suicide, an increase of 2.1 per 100,000 men since 2000. Additionally, 8.4 per 100,000 men died via homicide and 20.9 per 100,000 men died due to injuries related to a motor vehicle accident. In comparison, in the same time frame, 5.0 per 100,000 women committed suicide and 2.3 per 100,000 women died from homicide. This disparity in health outcomes can be seen not only in the comparison of adult men and women, but in adolescents as well; in adolescents 15 to 19 years of age, 18.4 per 100,000 young men die from firearm injuries in comparison to 2.3 females. Additionally, school aged boys are twice as likely to be diagnosed with ADHD than their female counterparts, and between 2005 and 2009, 18.7 percent of boys 12 to 19 years

of age, versus 17 percent of girls, qualified as being obese (Clarke, 2009; Heron, 2011; Kochanek et al., 2011; National Center for Health Statistics, 2011, 2013).

Advancement of the men's health movement in the United States and in similarly developed countries depends on a shift in thinking, moving away from gender equality meaning female equality to health and wellness equality for both genders as part of a wider health system. In order to create this shift in gender epistemology within in the United States, there must be an understanding of men's health status, and policies focused on gender equality, around the world and domestically. Similarly, the factors that affect men's health must be understood so that an evidence-based conceptual framework can be used to improve health outcomes through policy, systems and environmental change. To advance men's health equality, men's health outcomes should be presented in comparison to women's health outcomes, but must be seen as its own driving force toward public health intervention.

Section II: Men's Health Status

Men's Health Around the World

Much like the health of all people, regardless of gender, the health outcomes of men vary greatly depending on age, race, ethnicity, and geographic location. However, a review of men's health status reports for industrialized countries around the world shows many similar patterns in men's health outcomes. The European Commission pointed to such patterns in their 2011 report *Men's Health in Europe*. Per the Commission, the report was designed to provide a "comprehensive overview of the state of men's health across the 27 Member States of the European Union, the 4 states of the European Free Trade Association... and the 3 candidate countries" (Directorate General for Health & Consumers, 2011, p. 4). Similar to the United States, two of the leading causes of premature death in the European Union (EU), were cardiovascular disease and malignant neoplasms (i.e., cancer). The report noted that cardiovascular disease accounted for an average of 36 percent of all deaths across the EU, and upwards of 60 percent of deaths in select countries. An

additional third of male deaths were attributed to malignant neoplasms (Directorate General for Health & Consumers, 2011).

Other prominent areas highlighted within the EU report included accidents, mental health, and access to services. According to the report, “men account for 95 percent of fatal workplace accidents and 76 percent of non-fatal accidents in the workplace” (Directorate General for Health & Consumers, 2011, p. 67). The report further calculated that within 15 of the countries, 141 million workdays were lost due to work accidents in 2005. Despite these high rates of morbidity and mortality, European men rated their health higher than European women, were less likely to report long-standing illnesses, or seek out preventive care (Directorate General for Health & Consumers, 2011).

Two other reports specific to men’s health status show similar trends in men’s health and wellness. In 2004, the South Eastern Health Board in Ireland released *Getting Inside Men’s Health*. Similar to the EU report, in comparison to 63 percent of women, 66 percent of surveyed Irish men rated their health as very good or excellent. However, men were disproportionately affected by all leading causes of death (Richardson, 2004). Additionally, smoking, drinking, reckless driving, and illegal drug use were all cited as risk behaviors that if reduced would result in increased positive health outcomes for men. Challenging this opportunity for behavior change were men’s perceptions of their own risk behaviors. One study cited within the report found “nine out of ten weekly binge drinkers... considered themselves to be ‘light’ or ‘moderate’ drinkers” (Richardson, 2004, p. 112). A follow up report found that Irish men are more likely than women to use illegal drugs, be victims of homicide and serious assault, and have seen a five-fold increase in obesity in men aged 25 to 44 years (Department of Health and Children, 2008).

In comparison to many other countries, at 78.7 years, Australian men have one of the highest life expectancies found in the world. However, in 2005, Australian males lost 75 percent more potential years of life than females (Australian Government Department of Health and Aging, 2010e). Men’s perception of health is also an area of concern for the Australian government; 21 percent of males (compared to 10 percent of females) surveyed

did not know what major mental health problems are, and only 45 percent (in comparison to 66 percent of females) reported depression as a major mental health problem (Australian Government Department of Health and Aging, 2010a). Outside of mental health, 59 percent of overweight males and 22 percent of obese men believed they met healthy weight guidelines. Men also reported a low awareness of the risk factors for type 2 diabetes, and the health benefits of physical activity (Australian Government Department of Health and Aging, 2010b).

It is also important to note that while overall Australian men report a longer life span than other countries, Indigenous Australian men suffer significant health and wellness deficits in comparison to non-Indigenous men, including living 11.5 fewer years (Australian Indigenous HealthInfoNet, 2013). Additionally, Indigenous Australian men suffer from higher rates of stroke, suicide, cardiovascular disease, and assault (Australian Government Department of Health and Aging, 2010c; Australian Indigenous HealthInfoNet, 2013).

Men's Health in the United States

Men's health in the United States reflects many of the same trends seen across the 27 member states of the EU, Ireland and Australia. In 2010, the average life expectancy for a United States woman was 81 years of age, ranging from 83.8 years for Hispanic women to 77 years for non-Hispanic black women. The average life expectancy for a male was 76.2 years of age, ranging from 78.5 for Hispanic men to 71.4 years for non-Hispanic black men (Centers for Disease Control and Prevention, 2012). While biological makeup may play a role in the life expectancy of men versus woman, the disparity in chronic disease morbidity and mortality rates, mental health diagnoses, as well as injury and violent death rates demonstrate men's health in the United States is influenced by more than just biology (Courtenay & Keeling, 2000). Male behavior, environment and social determinants of health also play a role in men's health outcomes.

Chronic Disease and Cancer

Chronic diseases such as heart disease, diabetes, chronic lower respiratory diseases, and chronic liver disease are long-standing leading causes of death in the United States population as a whole, driven in part by the high rate of death in men (Centers for Disease Control and Prevention, 2012) (Hoyert Ph.D. & Xu M.D., 2012). According to *Health, United States 2012*, “In 2010, age-adjusted death rates are higher for males than females for heart disease, chronic lower respiratory disease, [and] diabetes....” (National Center for Health Statistics, 2013, p. 9). Between 2007 and 2010, men were nearly twice as likely as females to have undiagnosed diabetes, in addition to the 8.5 percent of all men over 20 years of age who had a known diabetes diagnosis (National Center for Health Statistics, 2013). Additionally, results from the 2010 National Health Interview Survey show 28.1 percent of men age 45 to 64 years have two or three chronic conditions, a percentage that jumps to 45.4 percent for men 65 years or older (Ward & Schiller, 2013).

Cancer is also a leading cause of morbidity and mortality for men in the United States, accounting for 213.6 deaths per 100,000 men, equating to over 295,000 deaths in 2008 (National Center for Health Statistics, 2012). As a comparative, more men than women get cancer, more men than woman have advanced staged cancer when diagnosed and more men than women die from cancer. When comparing incidence rates, men are more likely than women to be diagnosed with lung cancer, colon cancer, stomach cancer, pancreatic cancer, Non-Hodgkin’s lymphoma and Leukemia (National Center for Health Statistics, 2012; National Center for Health Statistics, 2013; Nicholas, 2000).

Injury and Violent Deaths

Injury and violence also have major impacts on men’s health and wellbeing, according to WHO, “Injuries and violence are threats to health in every country in the world. Worldwide, more than five million people die each year as a result of some form of injury and many more remain disabled for life” (Schopper, Lormand, & Waxweiler, 2006, p. v). Within the United States, unintentional injury death, such as those related to work place deaths and homicide, are the fifth leading cause of death in the country and account for more than

140,000 deaths each year (National Center for Injury Prevention and Control, 2012). These deaths primarily occur in young adult males and account for many of the preventable years life lost to men within the country. In 2010, over 4,300 men died from fatal occupational injuries, equating to 5.8 deaths per 100,000 full-time workers, a slight increase from 5.7 per 100,000 in 2009. In contrast, .6 per 100,000, or 368 women, died in the same manner (National Center for Health Statistics, 2013).

While the rate of women who were victims of serious violent crime has seen a slight decrease, between 2010 and 2011, men saw a 27 percent increase in violent crime victimization and a 20 percent increase in serious violent crime victimization, accounting for the majority increase in violent crime victimizations (Truman & Planty, 2012). In 2010, 17.9 per 100,000 men (2.7 women) died as a result of a firearm-related injury, with 6.2 per 100,000 firearm deaths classified as homicide (National Center for Health Statistics, 2013; Planty & Truman, 2013).

Mental Health

The 2001 IOM report, *Health and Behavior the Interplay of Biological, Behavioral and Social Influences*, makes a strong argument for the need to take mental health issues seriously as a compounding attributor to chronic disease health outcomes. They state, “depression affects about half of patients who experience myocardial infarction, predicts significantly poorer outcomes with heart disease, and roughly doubles the risk of recurrent cardiovascular events” (Institute of Medicine, 2001b, p. 66). In 2008, suicide was ranked the 10th leading cause of death in the United States, taking the lives of 36,035 individuals. Of those, men accounted for 28,450 or 79 percent of the suicide deaths, of which 91 percent were white males (National Center for Health Statistics, 2012). Additionally, the *Mental Health Surveillance Among Adults in the United States* report, notes that in 2008, 9.1 percent of adult men reported at some point receiving a diagnosis of anxiety, 11.2 percent had a diagnosis of depression, and in 2007, .8 percent received a report of schizophrenia (Centers for Disease Control and Prevention, 2011a).

Risk Factors

Mental health and how some men choose to process or display their emotions may be one reason why men also have higher rates of risk factors such as alcohol consumption, illicit drug use, violence against other men, as well as poor nutrition and physical activity (Courtenay, Will H., 2000, Directorate General for Health & Consumers, 2011). In 2011, 21.2 percent of adult males stated they were current cigarette smokers; a four percent decrease since 2000. Comparatively, 16.8 percent of women stated they were current smokers, a 4.3 percent decrease from 2000. Here, black males show the smallest overall decrease at only a 2.5 percent difference between the 2000 rate of 25.7 percent of adults who are current smokers to the 2011 rate of 23.2 percent (National Center for Health Statistics, 2013).

In addition to smoking, in 2010, 11.2 percent of men (6.8 percent of women) indicated they had used an illicit drug within the past month, 30.9 percent had binge alcohol use, and 10.1 percent of men stated they had heavy alcohol use, nearly triple the number of women (3.4 percent) (National Center for Health Statistics, 2013).

Risk factors such as physical activity and obesity are additional men's health concerns within the United States, with 43.5 percent of men not meeting the aerobic activity or muscle strengthening guidelines in 2011. A lack of physical activity has contributed to 73.5 percent of men being classified as overweight (BMI greater than 25), within which 34.4 percent are classified as obese (BMI greater than 30) (National Center for Health Statistics, 2013).

Boys and Adolescents

Young boys, adolescents and young adults also have higher rates of disease and riskier health related behaviors than girls comparable in age (National Center for Health Statistics, 2011; National Center for Health Statistics, 2012; Ghannam, Shabsigh, Hajo, Jhaveri, & Shabsigh, 2010). Analysis of the 2009 Youth Risk Behavior Surveillance System (YRBSS) found that in comparison to girls, boys were more likely to drink while driving, carry a

weapon, smoke heavily and experiment with methamphetamines and intravenous drugs (Ghannam et al., 2010). Boys also appear to be at greater risk regarding even the most fundamental health behaviors. According to *Health, United States 2011*, males 2 to 19 years of age were more likely to be ranked as obese in comparison to girls; a trend that continued when delineated by ethnicity and race for Hispanic, African American and Mexican boys. Boys 2 to 19 years of age were more likely to have untreated dental caries, a disparity that continued to grow as they entered adulthood. Additionally, boys 1 to 17 years were twice as likely as their female counterparts to have had two or more hospital stays (National Center for Health Statistics, 2012). The Health and Nutrition section of the *U.S. Census Bureau's Statistical Abstract of the United States 2012*, also shows these trends, with boys more likely to be diagnosed with asthma, ADHD, and to be in higher need for special education or early intervention services (U.S. Census Bureau, 2013).

Unintentional injury, homicide and suicide are three of the four leading causes of death for adolescents 10 to 24 years, leading to nearly 23,000 preventable deaths in 2010 (National Center for Injury Prevention and Control, 2012). Boys aged 15 to 24 years were eight times more likely to have deaths related to firearm injuries than girls. At 73.2 per 100,000 residents, black males 15 to 24 years of age were 4.5 times more likely to die in firearm related deaths than white males of the same age (National Center for Health Statistics, 2013). In 2010, 541 girls aged 15 to 24 were diagnosed with full-blown AIDS. In that same year, 2,250 boys aged 15 to 24 years of age were diagnosed with the same disease (National Center for Health Statistics, 2013).

Section III: Contributing Factors to Men's Health

It was not until May 2000, that a professional journal devoted an entire issue to men's health (Courtenay & Keeling, 2000). Within the *Journal of American College Health*, research and conceptual frameworks began to construct a theory behind the factor's influencing men's health outcomes. Masculinity, access to healthcare, resource allocation, social support systems, and social determinants of health all presented as influencing factors to how men interact with the healthcare system and how the system in turn interacts with

men (Courtenay, 2002; Courtenay & Keeling, 2000; Davies et al., 2000). At its core, the key factors influencing men's health in the 21st century are biology, behavior, and environment. Research into the biological influences on male health has been well studied and written about over the last century (Institute of Medicine, 2001a; Institute of Medicine, 2001b; Carnes MD, Morrissey MD MPH, & Geller PhD, 2008; U.S. Department of Health and Human Services, 2009; Weidner, 2000). In contrast, the behavioral and environmental interconnections and impacts on men's health are just starting to influence the men's health conversation.

Behavior

As is clearly delineated above, many health outcomes of men and boys are connected to social and health behaviors. Smoking, alcohol consumption, illicit drug use, violent behavior toward themselves and others as well as, lack of physical activity and overall nutrition are all lifestyle and risk behaviors, leading to negative health outcomes, with a preventable aspect. As discussed in *The Health of Men: Structured Inequalities and Opportunities*, "... men are more likely to engage in 30 behaviors that have been shown to increase the risk for morbidity, injury and mortality" (Williams, 2003, p. 727). While few empirical studies have been conducted explaining why some men engage in risky behaviors to the point of negative health outcomes, there has been increased attention over the years on the influence of masculinity on men's health (Capraro, 2000; Courtenay, 2000; Nicholas, 2000).

In Will H. Courtenay's constructionist theory of gender and health, men play a significant role in their own health outcomes through their displays of masculinity. From Courtenay's view, behaviors that socially demonstrate a man's power over his own health, women and other men inevitably lead to poorer health outcomes (Courtenay, 2000). "Men's denial and disregard of physical discomfort, risk and health care needs are all means of demonstrating difference from women, who are presumed to embody these 'feminine' characteristics. These behaviors serve both as proof of men's superiority over women and as proof of their ranking among 'real' men" (Courtenay, 2000, p. 1390).

Other studies, however, caution against the assumption that public health researchers understand how masculinity currently drives decision-making. Similar studies on men's health have found that gender norms and the stereotypical concepts of masculinity and how men portray their masculinity may be evolving. For example, focus groups with college age males generated discussions on a wide range of topics and feelings, including personal relationships, sexuality and peer pressure (Davies et al., 2000). How masculinity was viewed and studied 50 years ago, or even 20 years ago, may not be the same masculinity that drives decision-making in the twenty-first century. Some men's health advocates even believe that using masculinity as a basis for studying men's health can be detrimental to the overall effort; "In the last decade there has been a lot of talk about 'masculinity' as a major problem facing men's health. This approach has allowed us as a country to turn our attention away from social, economic, and political issues, which can and do affect men's health. It also hampers our efforts to support men positively..." (European Men's Health Forum, 2009, p. 14). Comparatively, how women's health is a reflection on feminine expression, or how femininity is a driving factor behind women's health related actions is rarely, if ever, discussed in current women's health literature.

Perception may be more of a driving factor than masculinity in current men's health behavior, as some men report a higher state of wellbeing or downplay illness, because their perception of health and risk is different than those of women. One significant hurdle facing public health leadership and researchers is the reconciliation of men's health data based on substantive data versus men's health data provided via self-report. Research conducted solely with self-report data, such as the Health-Related Quality of Life (HRQoL) indexes, consistently conclude that women are disadvantaged when it comes to health and wellbeing (Cherepanov et al., 2011; National Center for Health Statistics, 2013). Yet while women report higher rates of depression, death data show men are four times more likely to commit suicide than women across all ages and seven time more likely at ages 65 years and older (National Center for Health Statistics, 2013). Men may engage in higher risk activities because they perceive their overall risk to be lower. In *Dying to be Men*, Courtenay

shows this to be the case repeatedly across varying morbidity and mortality categories (Courtenay, 2011).

Environment

In certain realms of gender epistemology, men are deemed to be responsible for their own poor health outcomes, which are a result of men's violent nature, increased tendency to consume alcohol and take illegal drugs (Bird & Rieker, 2008; Courtenay, 2011; Mansdotter et al., 2004). Within these statements, there is an under appreciation for how the social and physical environment in which men exist influences those decisions. For example, a 2010 study published in the *American Journal of Public Health* found tobacco products being sold at discounted prices on military bases, while at the same time Congress was refusing to institute smoke free policies and denying disability and medical payments related to smoking illnesses (Offen, Smith, & Malone, 2010).

In the 2011 report, *Men's Health in Europe*, one significant barrier to advancing men's health is the access to health services, "The reasons for such... include cost of services, services only being available during traditional working hours, lack of flexibility in many men's working days, excess delays for appointments, rushed consultations, a perception that the [general practitioner] waiting rooms and other services are designed around the needs of women..." (Directorate General for Health & Consumers, 2011, p. 33). Access to health care is also impeded when financial coverage is inadequate. According to *Health, United States 2012*, between 2001 and 2011, the number of adults with private insurance decreased while the percent of the population covered by Medicaid and the percentage of the population with no health insurance increased. The report goes on to say, "Health insurance is a major determinant of access to health care. Among adults aged 18–44, the percentage with private coverage declined from 70% in 2001 to 61% in 2011, while the percentage with Medicaid coverage doubled from 6% to 12%" (National Center for Health Statistics, 2013). When broken down by gender, the data shows that men are less likely to be covered by either private insurance (61.4 percent of the population) in comparison to women (62.2 percent) or Medicaid (19.3 percent women covered versus 16.3 percent of

men) and were more likely to have no health insurance at all (15.6 percent women with no health coverage versus 18.8 percent men) (National Center for Health Statistics, 2013).

Not only is there a disparity in financial health insurance coverage, but in the financial investment in public health initiatives and interventions as well. A 2005 Australian report entitled *Dying for A Policy – Men’s & Boys’ Health in Australia* cites a large disparity in men’s health funding in comparison to women’s health. In 2005, female-only projects, including a women’s safety agenda, Office of Women, and a program designed to reduce smoking in women, in total were funded in excess of 120.3 million Australian dollars. In comparison, according to the author, “a search of budget papers for the Department of Family & Community Services reveals no male specific funding...” (Woods, 2005, p. 5). Similar financial influences impact gender specific programming in the United States. In 2010, the United States Congress appropriated \$33,746,000 to the Office of Women’s Health. The only funding directed specifically towards men’s health initiatives was located within the Office of Minority Health, which dedicated only \$1,000,000 to fund the National Minority Male Health Project (U.S. Department of Health and Human Services, 2011a).

Health communications for men are often found to be lacking in substance and accuracy. Oftentimes descriptions of men in the context of their own health or the health of women perpetuates the notion that men are to blame for their own health and benefit from the negative health outcomes of women. In a report on gender equity the Women and Gender Equity Knowledge Network states, “Gender inequity damages the physical and mental health of millions of girls and women across the globe and also of boys and men despite the many tangible benefits it gives men through resources, power, authority and control” (Women and Gender Equity Knowledge Network, 2007). In their book, *Gender and Health: The Effects of Constrained Choices and Social Policies*, Bird and Rieker reflect on the following statistics, “there are no large differences in men’s and women’s overall rate of major psychological disorders.... In the case of depressive disorders, women’s rates are between 50 and 100% greater than men’s....” (Bird & Rieker, 2008, p. 31). Bird and Rieker conclude that it is the unwillingness of men to seek help that results in underreporting of depression, while women face social disadvantage (Bird & Rieker, 2008).

Similarly, the 2011 *Morbidity and Mortality Weekly Review* report states, “females were more likely than males to have had suicidal thoughts in the past year but not more likely to have made suicide plans or attempted suicide” (Centers for Disease Control and Prevention, 2011b, p. 5). While the report goes on to state, self-report surveys could be a limitation of the study, they do not draw any attention to the paradox in self-report of suicidal thoughts and planning to actual death data within the male population. The report concludes, “the data presented in this report support other findings that the public health burden of suicidal thoughts and behaviors throughout the United States is much greater than the number of deaths” (Centers for Disease Control and Prevention, 2011b, p. 8), and yet fails to present data on the actual burden of years life lost for completed suicides.

Not only can the context of men’s health literature be myopic, in many public forums it is lacking altogether. A recent state public health study found Internet based communications directed to men were severely lacking (Brennan, 2011). Within the study, state health department websites were used as a proxy for public health programming to answer the question, “To what extent do state public health websites provide health communication congruent with leading men’s health concerns?” Of the 50 state health department websites reviewed, only 16 (32 percent) had web pages directed towards men’s health, in comparison to 41 (82 percent) states that had web pages directed towards women’s health. Additionally, the evidence-based communications directed toward men were half of what was directed toward women (Brennan, 2011).

Social Determinants of Health

There is not only a need for advancements of health equality (male in contrast to female), but in men’s health equity as well (men in comparison to each other). Looking back at health outcomes referenced earlier; 71.5 percent of the adult black male population has uncontrolled hypertension in comparison to 57.3 percent white males. Firearm related deaths account for 15.4 per 100,000 resident population in white men, but 73.2 per 100,000 in black men. (National Center for Health Statistics, 2013) Similarly, black men

were nearly seven times more likely to die via homicide than white men. The WHO's Commission on Social Determinants of Health recognizes that these health outcome differences are closely related to social disadvantage and write, "Without health care, many of the opportunities for fundamental health improvement are lost. With partial health-care systems, or systems with inequitable provision, opportunities for universal health as a matter of social justice are lost" (Commission on Social Determinants of Health, 2008, p. 8). In a subsequent 2009 report, WHO presents three approaches to addressing gender equality and gender equity, one of which is legislation. "Regulatory approaches at the national level might address patients' rights or create a duty for public-sector organizations to address gender equality. Such a duty would require health ministries to consider the ways in which health systems can reinforce inequality, and to work towards the promotion of gender equality" (Payne, 2009, p. km). They go on to caution... "There has also been an increasing recognition that health policy may exacerbate gender inequalities when it fails to address the needs of either men or women, and that health systems must address gender equity.... However, the consequences of not addressing gender are likely to include persistent excess mortality among men, underuse, and inefficient use, of health resources, poor user satisfaction and, for some countries, perhaps, a widening gender gap in health" (Payne, 2009, p. es).

While most studies show that lower socioeconomic status is an indicator of poorer health outcomes, the true impact of socioeconomic impact on minority men needs additional study. In his 2003 article *The Health of Men: Structured Inequalities and Opportunities*, Williams points to national data showing an inverse association between college graduation and hypertension, "A recent study of a predominantly African American population in Harlem found that although men with a college degree had the lowest level of cigarette smoking, physical inactivity, and overweight status, they had higher levels of hypertension than high school graduates. (Williams, 2003, p. 725). Williams points to the stress and psychological burdens that many African American men face as they strive to increase their socioeconomic status, including higher unemployment rates among black men when compared to equally educated white men, increased exposure or perception of discrimination, and the stress of providing income to support relatives. Without additional

empirical research and focused policy, the unintended consequences of health initiatives directed at minority men could result in poorer health outcomes.

Advocacy

The most important point to note in regards to men's health behaviors and health outcomes is there are many interconnected points resulting in a cascade from social determinants through increased risk to greater burden of illness and disease. Lack of exercise can lead to obesity, which can lead to cardiovascular disease, which can be exacerbated toward myocardial infarction (Institute of Medicine, 2001b). Similarly, in order to address the forces leading toward poor health outcomes for men, approaches must be multifaceted and conducted at both an individual and systems level. Unlike women, men tend to be poor self-advocates. As stated in Ireland's *Getting Inside Men's Health*, "Whilst men have been the predominant players in the decision-making process affecting health research and health service policy and provision, men themselves have not argued, lobbied or campaigned in the same way women have, for improvements to their health at a personal or individual level" (Richardson, 2004, p. 2).

Section IV: The Health Movements

Women's Health Movement

Disparity within the morbidity and mortality rates between men and women, such as the suicide rates, may not only be due to declining health outcomes for men, but an increase in positive health outcomes for women. Women's physical and mental health outcomes have improved as a result of a systems level and organized approach to what is now known as the women's health movement (Moller-Leimkuhler, 2003; Sebelius, 2011). The trajectory of the women's health movement in the United States could provide a blueprint to the construction of an institutionalized national men's health policy.

In the United States, The Office of Women's Health (OWH) was developed within the Department of Health and Human Services (HHS) two decades ago. The formation of the

office followed a General Accounting Office report that showed women were vastly under-represented in clinical trials and medical research (Carnes MD et al., 2008). Women's advocacy groups were able to take the momentum of disparity and turn it into long lasting political policy that has become an institution within federal and state public health. In March 2011, Secretary of Health and Human Services, Kathleen Sebelius, submitted to Congress the *Report on Activities Related to "Improving Women's Health" as Required by the Affordable Care Act*. According to Secretary Sebelius, "The Affordable Care Act codifies the establishment of an Office on Women's Health within the Office of the Secretary of HHS, as well as Offices of Women's Health within four of its agencies; the Agency for Healthcare Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the Health Resources and Services Administration (HRSA). The Affordable Care Act gives these offices, all of which were already in existence, new authority, agency location, and protection from termination or reorganization without the direct approval of Congress" (Sebelius, 2011, p. iii).

This increased security in the status of the OWH, was the next step in HHS' 26-year strategic priority to improve women's health. Sebelius (2011) states, "HHS improves women's health through the administration of over 300 programs in research, education, training, direct clinical service delivery and policy development" (p. 1). Through these programs the OWH reports serving over 1 million women and girls directly and promoting education and prevention messaging through 31.6 million web sessions each year (Department of Health and Human Services, 2011). Political analysis shows that this policy is strong and functional (Brennan, 2012). Legislators have shown an interest in supporting the framework of women's health policy, have provided the OWH with economic and personnel resources, provided political backing, and have given it a platform from which to support states and local government with resources (National Conference of State Legislatures, 2011; Sebelius, 2011; U.S. Department of Health and Human Services, 2009).

The Men's Health Movement

The women's health movement has had many champions including grassroots advocacy groups, physicians, researchers, as well as local, state and federal governments. Only now is the men's health movement slowly beginning to gain support at the medical and grass roots level as well. In 2010, the American Public Health Association developed a Men's Health Caucus and quickly followed it up with the *2011 – 2012 National Policy Agenda* (Men's Health Caucus, 2011). Recognition that men's health does not occur within a silo is also starting to come to light. Most importantly, many countries are in the process of developing gender equality policies, which specifically recognize men's health issues, and two countries have developed policies specific to addressing men's health outcomes.

Two driving factors pushing the men's health movement along include a potential return on investment and a growing recognition that men's health is part of a system that also impacts women's health. The Joint Center for Political and Economic Studies (2009), demonstrated this point in their report, *The Economic Burden of Health Inequalities in the United States*. The report showed, "between 2003 and 2006 the combined cost of health inequalities and premature death in the United States was 1.24 trillion" (Joint Center for Political and Economic Studies, 2009, p. 1). They go on to say, "eliminating health disparities for minorities would have reduced direct medical expenditures by \$229.4 billion for the years 2003 – 2006..." and, "eliminating health inequalities for minorities would have reduced indirect costs associated with illness and premature death by more than one trillion dollars between 2003 and 2006" (Joint Center for Political and Economic Studies, 2009, p. 1). While disability and disease within the patriarch of the family can be financially stressful, the death of a husband can result in poverty and premature mortality in widows (Sevak, Weir, & Willis, 2003/2004). Using data from the Health and Retirement Study (HRS) and the study of Asset and Health Dynamics Among the Oldest Old (AHEAD), Sevak found widowhood was associated with an increased likelihood of falling into poverty following a husband's death, with the increased risk being strongly correlated with the length of widowhood. The longer a woman was a widow, the greater the chance of living in poverty (Sevak et al., 2003/2004). Interestingly, the study also found that women who

were particularly at risk for poverty were women who were widowed in their fifties, these women were not able to access the same social security benefits as an older female and were more likely to have been poor prior to becoming a widow (Sevak et al., 2003/2004). It could be hypothesized that the financial situation of a younger woman and her husband prior to becoming a widow, may have also contributed to her widowhood status.

Section V: Men's Health Policy

Men's Health Policy Around the World

In November 1999, the IOM formed the Committee on Understanding the Biology of Sex and Gender Differences. Within their report, *Does Sex Matter?*, the committee found that in order to truly move the science of gender and health forward there must be a realization that, “barriers to the advancement of knowledge about sex differences and illness exist and must be eliminated” (Institute of Medicine, 2001a, p. 3). Elimination of barriers can occur in many different ways. WHO categorizes approaches to gender health equity into three major groups: regulatory, organizational and informational (Payne, 2009). Policy changes through legislation, and law revisions would be considered a regulatory approach, while developing tools such as gender budgeting, or gender impact assessments, are categorized as organizational approaches. More typically, approaches to gender health equity have fallen within the realm of informational documents on gender specific data and reports on gender equality (Payne, 2009). However, countries such as Canada, England, Ireland and Australia have begun to make inroads toward true health equality.

In 2009, the European Men's Health Forum published a report reviewing the progress towards men's health policy in 11 countries. By 2013, four of those countries: Ireland, Australia, England, and Canada, had continued to advance men's health initiatives either through regulatory or organizational approaches. In 2000, Canada established *The Health Canada Gender-Based Analysis Policy*, followed by the 2010, *Health Portfolio Sex and Gender-Based Analysis Policy* (Canada, 2013). According to Health Canada, sex and gender based analysis (SGBA) is applied to all policies under the overarching Health Portfolio. The SGBA policy states, “Evidence demonstrates that biological, economical and social differences

between women and men contribute to differences in health risks, health services use, health system interaction and health outcomes. In order to ensure that the initiatives and activities of the Health Portfolio lead to sound science, ensure gender equality and are effective and efficient, it is incumbent upon the Portfolio to integrate SGBA throughout the development, implementation and evaluation of its research, programs and policies” (Canada, 2013, p. 1). *The Health Canada Gender-Based Analysis Policy*, and similar *Gender Equality Duty Code of Practice* in England, set the stage for health policies directed specifically to men’s health in Australia and Ireland.

Australia’s road to a formalized men’s health policy took more than a decade to travel. Beginning in 1999 with a call to action by the Commonwealth Minister for Health, to a multi-part comprehensive policy published in 2010 (Australian Government Department of Health and Aging, 2010d; Directorate General for Health & Consumers, 2011). The Australian *National Male Health Policy* is built on a foundation of four policy assumptions, “The health of Australian males is important, there are health inequalities between males and females, not all male population groups have the same health, [and] health is holistic” (Australian Government Department of Health and Aging, 2010e, p. 7). Following the introduction to the policy and the conceptual framework, the policy is split into focus areas such as healthy workers, healthy minds and reports focused on the Indigenous Australian male population.

In 2001, Ireland’s National Health Strategy, *Quality and Fairness*, called for what resulted in the *National Men’s Health Policy 2008 – 2013*. According to the authors of the policy, “This significant step has enabled men’s health in Ireland to be greatly strengthened in recent years by research, advocacy work and a variety of grassroots projects...” (Department of Health and Children, 2008, p. 1). Ireland’s policy is built around 10 strategic aims and 40 recommendations based around scientific research and health outcome data, as summarized in the 2004 report *Getting Inside Men’s Health*. Strategic aims include “promote an increased focus on men’s health research in Ireland... develop more holistic and gendered focus on health and personal development... [and] build social capital within communities for men” (Department of Health and Children, 2008, p. 8).

Men's Health Policy in the United States

In contrast to the acknowledgment that men's health is an issue worthy of national policy in countries of similar economic and health outcome status, the United States has failed to make any significant advances toward a similar initiative. However, there have been attempts to begin the process through national legislation. In 2009, two members of the 111th Congress, Congressmen Baron Hill and Tim Murphy, introduced House Resolution (HR) 2115, *the Men and Families Health Care Act of 2009*, which would establish an Office of Men's Health within the DHHS. This bill was not the first of its kind; each of the six previous sessions of Congress had also submitted a similar bill, however, HR 4653, HR 632, HR 1734, HR 5624, HR 457, HR 1440 as well as HR 2115, all met the same ultimate fate of not being passed, many not even making their way out of committee (Civic Impulse, 2009). Similarly a small advance in national men's health, the 2007 development of a Congressional Men's Health Caucus, was quickly disbanded with the next congressional year (Congressional Aid, 2011).

Scott William of the United States Men's Health Network, notes that a reasonable next step in the men's health policy development would be to do exactly what these legislations attempted and create an Office of Men's Health, "this office would mirror the work of the existing Office of Women's Health, which has helped to save thousands of women's lives and has improved the lives of many more. An Office of Men's Health would be a resource center for health information, best practices, messaging, and to reach men where they live, work, play and pray" (European Men's Health Forum, 2009, p. 72).

Section VI: The Future of Men's Health

While gender-based health policy can't influence biological factors, which may lead to increased morbidity and shorter life span for one gender over another, it can strive to address disparities through resource allocation. WHO's *Madrid Statement* strongly supports gender mainstreaming as the most effective strategy toward creating gender equity. Gender equity is a "strategy that promotes the integration of gender concerns into

the formulation, monitoring and analysis of policies, programmes and projects with the objective of ensuring that women and men achieve the highest health status” (World Health Organization, 2001, p. 2).

Despite a philosophical understanding of how men’s health outcomes are dependent on a number of biological, behavioral, and environmental factors, there remains a need for a comprehensive evidence base, which is able to influence policy and financial support. In his 2008 article, *Men’s health promotion: a new frontier in Australia and the UK?* Smith argues, “despite a rhetoric of a holistic approach to health promotion, many health professionals, in their daily practice when working with men, continue to be driven by a biomedical model that gives precedence to issues of physicality as if they are independent of social context” (Smith & Robertson, 2008, p. 287). Similar behaviors can be seen in public health leaders and policy makers both in the United States and abroad. While public health strategic plans focus on health inequalities, inequities and reducing health disparities, there remains no formalized men’s health policy in the United States.

In Healthy People 2020, the United States seeks to “achieve health equity, eliminate disparities and improve the health of all groups” (U.S. Department of Health and Human Services, 2011b, p. 1). In order to accomplish this goal, disparities must be assessed using data and empirical studies rather than conjecture and limited historical context. In order to advance the health of both men and women, both must be considered equally worthy of positive health outcomes, and be seen as working in partnership. While it has taken years from idea to implementation for the two standing men’s health policies, there is a growing recognition that this tactic is the most effective. The EU noted, “It would appear from our analysis that, although individual countries have developed health policies and strategies aimed at improving their population’s health, a ‘one size fits all’ approach is evident, which would seem to be to the detriment of both men and women” (Directorate General for Health & Consumers, 2011, p. 93). Investigating policies focused specifically on men, and the driving forces which allowed men’s health to be valued on a national level, would be beneficial to any country seeking to improve men’s health outcomes.

II.b Conceptual and Analytical Framework

Two conceptual frameworks, the normative theory (Mansdotter et al., 2004), and the *National Framework from Improving Men's Health and Wellbeing in the United States* (Brennan, 2013) provide the foundation for operationalizing the *National Men's Health and Wellbeing Policy in the United States* study.

Normative Theory

In the article, *Women, men and public health – how the choice of normative theory affects resource allocation*, Mansdotter presents the normative theory of facts plus values equals conclusions in the context of gender and health (Figure 2.1). Mansdotter explains how current women's health policies and fiscal support are developed and justified through normative theories such as "justice as fairness" and welfare economics. For example, the fact that globally women have higher morbidity rates, compounded with the impression that women are socially repressed, leading to the conclusion that funding and advocacy should be female focused (Mansdotter et al., 2004).

Figure 2.1 Normative Theory (Mansdotter, Lindholm, & Ohman, 2004)

Facts + Values = Conclusions

As Mansdotter presents, the normative theory is used widely to justify the financial support of women's health interventions and policies (Mansdotter et al., 2004). Likewise, through the lens of the normative theory, the *National Men's Health and Wellbeing Policy in the United States* study demonstrates how analyzing the development of men's health policies from two other countries, Australia and Ireland, argues for the development of a men's health policy in the United States.

If:

Men have inequitable health outcomes in Australia + Australian's value men's health = Australian National Men's Health Policy

and likewise,

Men have inequitable health outcomes in Ireland + the Irish value men's health = Ireland's National Men's Health Policy

Then,

If men have inequitable health outcomes in the United States + American's value men's health = then there should be a National Policy in the United States.

The normative theory also explains how even though the male culture may be perceived and expressed differently in varying countries it is possible to come to the same conclusion if the facts and values are similar.

National Framework for Improving Men's Health and Wellbeing in the United States

While the normative theory provides the justification for how a cross-national policy analysis can guide policy development in similarly situated counties, the *National Framework for Improving Men's Health and Wellbeing in the United States* demonstrates how policy fits within the men's health system of wellbeing.

Developed as a result of the literature review constructed from the *Men's Health and Wellbeing in the United States Dissertation Proposal*, the *National Framework for Improving Men's Health and Wellbeing in the United States* visually demonstrates how the study will link biomedical, behavioral, and environmental factors (i.e., the facts) to the conclusion of policy for the result of improved men's health outcomes.

The first step in constructing a men's health conceptual framework was to determine if a new conceptual framework was needed or if existing models accurately explain the phenomena of men's health in the United States. An extensive literature review for men's health conceptual frameworks, men's health policy and gender health conceptual frameworks found several frameworks designed to address gender-specific health outcomes. These conceptual frameworks included the conceptual framework of constrained choices, from the book *Gender and Health: The Effects of Constrained Choices and Social Policies* (Bird & Rieker, 2008), and the Theory of Gender and Power (Wingood & Diclemente, 2009). The Theory of Gender and Power, predominantly focuses on the

inequities women face in comparison to men, “...gender-based inequities and disparities in expectations that arise from each of the three structures (division of labor, division of power, and structure of cathexis) generate different exposures and risk factors that influence women’s risk for disease.... Consequently, public health and social and behavioral science interventions targeting these exposures and risk factors can reduce women’s risk of disease” (Wingood & Diclemente, 2009, p. 313). Comparatively the conceptual framework of Constrained Choices attempts to take a more neutral point of view:

Constrained choice provides a comprehensive social framework for considering the influence of multiple levels of social factors, including individual agency or choice on gender difference in health. Specifically, it incorporates contextual effects at the levels of family, community, and social policy in ways that extend beyond models of gender inequality and inequity. Further, our framework also facilitates the broader integration of social and biological processes to achieve a better understanding of differences in men’s and women’s health (Bird & Rieker, 2008, p. 58).

However, per the literature review, the constrained choices framework is missing key elements influencing men’s health outcomes. Bird and Rieker readily admit that their model lacks elements such as access to medical care, limiting the framework’s external forces to social policy and community actions (Bird & Rieker, 2008). Omissions of certain external environmental forces, such as access to health insurance and medical care can underestimate the effect medical providers and socioeconomic status can have on health outcomes. In his book *Dying to be men: psychological, environmental, and biobehavioral directions in promoting the health of men and boys*, Courtney suggests a men’s health conceptual framework should “... take into account the dynamic intersection of various health determinants, such as those among biological functioning, environmental pollution, psychological well-being, social and cultural norms, genetic predisposition, institutional policies, political climates, and economic disparities. Contemporary approaches to men’s health must recognize the interrelationships among such factors, and must examine how they systematically foster and undermine the physical and mental health of men and boys” (Courtenay, 2011, p. 349).

Only two frameworks, Australia’s *Conceptual Framework for Male Health and Wellbeing* (Figures 2.2 and 2.3), and Ireland’s *Conceptual Framework for Men’s Health* (Figure 2.4)

begin to fit Courtenay's vision for a men's health specific framework, which acknowledges the systems-level dynamics of men's health.

Australia's Conceptual Framework for Male Health and Wellbeing

Figure 2.2 presents Australia's *Conceptual Framework for Health and Wellbeing* (Australian Institute of Health and Welfare, 2006), which expands into figure 2.3 the *Conceptual Framework for Male Health and Wellbeing* (Australian Institute of Health and Welfare, 2011). According to *Australia's health 2006* the conceptual framework for *Australia's health* "shows that Australia's levels of health and wellbeing, including disease and disability, are influenced by a complex interplay between health determinants, interventions and resources, including systems. Health determinants can be socioeconomic, environmental, behavioural (such as alcohol use or physical activity), biomedical (such as blood cholesterol or blood pressure) and genetic factors" (Australian Institute of Health and Welfare, 2006, p. 5). The men's health conceptual framework presented in *The Health of Australia's Males*, expands upon this concept to show the interplay between policies, biological make-up, and health and wellbeing (Australian Institute of Health and Welfare, 2011).

Figure 2.2 Conceptual Framework For *Australia's Health* (Australian Institute of Health and Welfare, 2006)

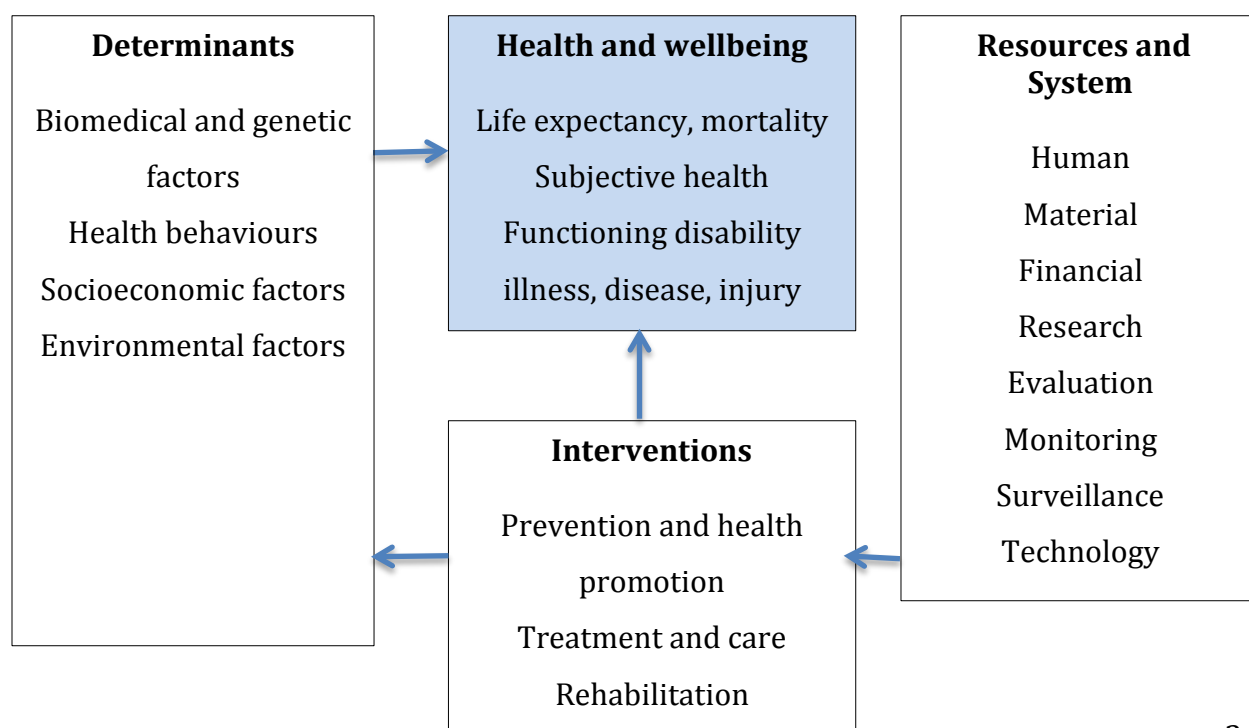
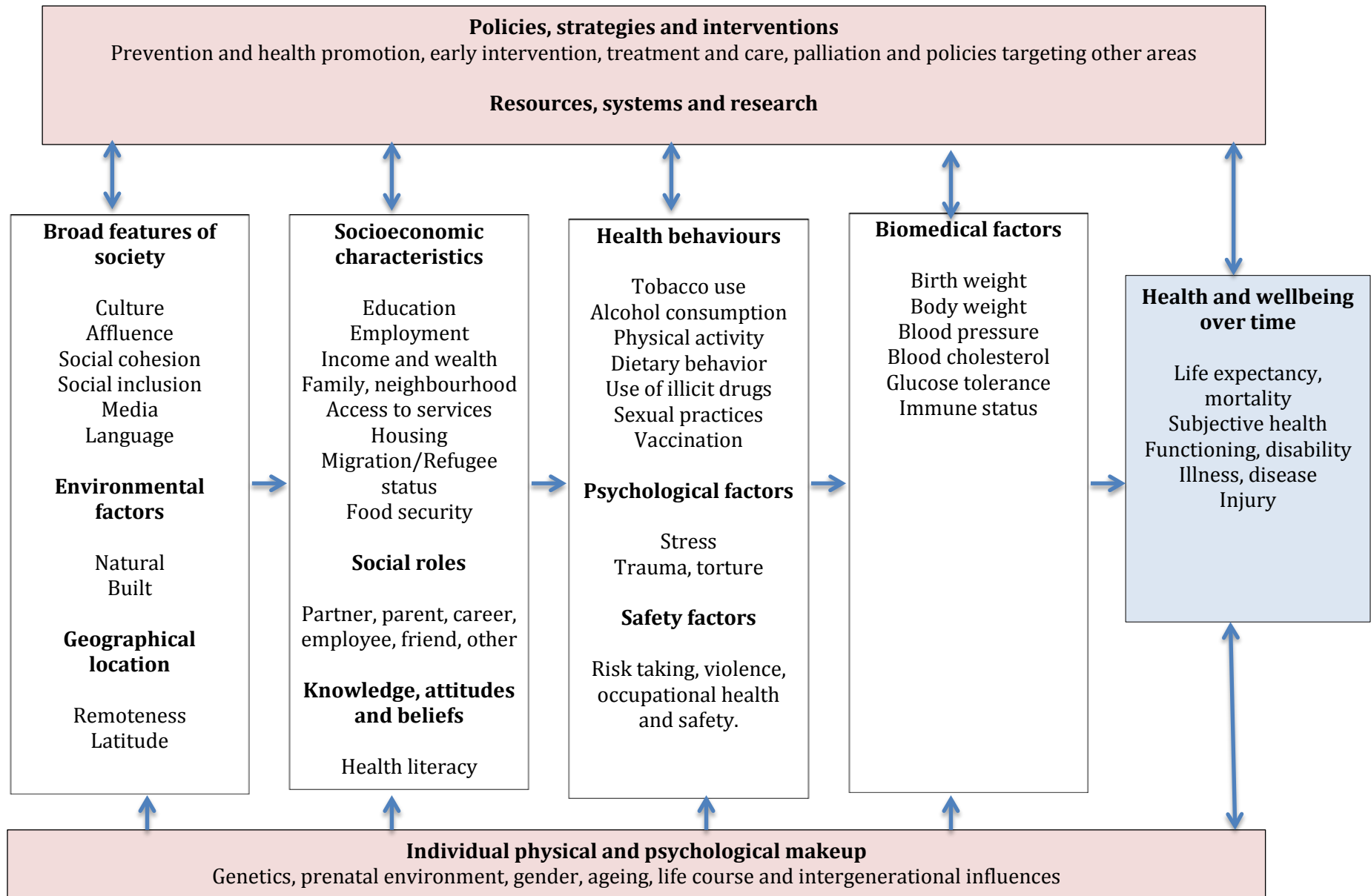


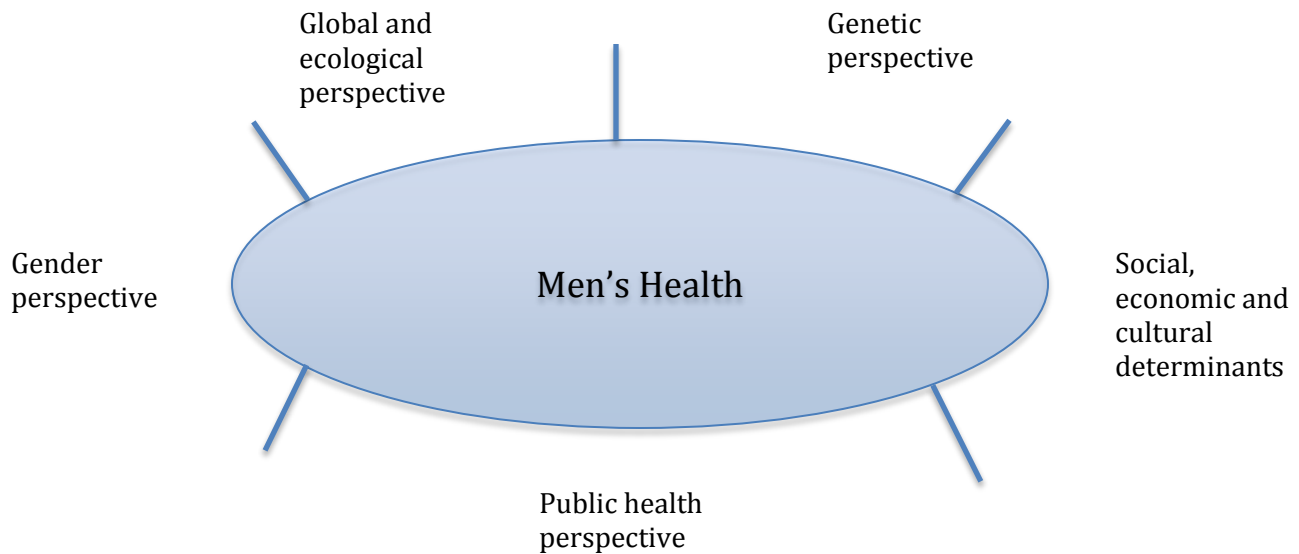
Figure 2.3 *Conceptual Framework for male health and wellbeing* (Australian Institute of Health and Welfare, 2011)



Ireland's Conceptual Framework for Men's Health

Figure 2.4 shows how Ireland broadened their *Factors that Influence Health* framework to represent the specialized needs and perspectives of men. Published within the report *Getting Inside Men's Health*, the framework is described as such: "It is vital that men's health is understood in the context of the broader determinants of health, and within a broad conceptual framework. The focus must be on the differences in men's health status and health outcomes, which arise in particular as consequences of age, social class, education, employment status, the effects of marginalisation, and from the construction of masculinities" (Richardson, 2004, p. 5).

Figure 2.4 *Conceptual Framework for Men's Health* (Richardson, 2004)



National Framework for Improving Men's Health and Wellbeing in the United States

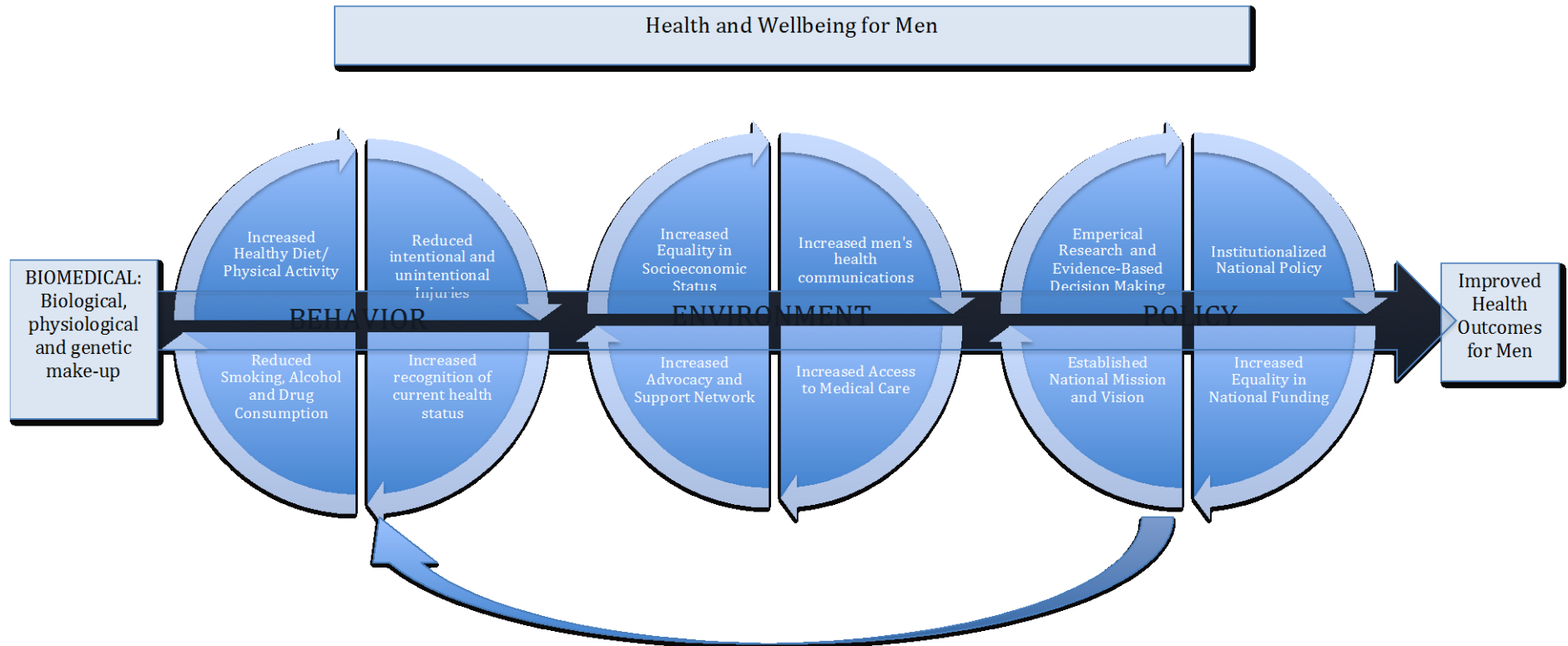
Following an extensive literature review on men's health and an analysis of the above conceptual frameworks, four key categories were identified as influencing men's health and wellbeing outcomes in the United States: biomedical, behavior, environment, and policy. The *National Framework for Improving Men's Health and Wellbeing in the United States* (figure 2.5) demonstrates how these factors represent systems unto themselves and are part of a global men's health system.

Both the Irish and the Australian frameworks highlight genetics and biology as a starting point in men's health outcomes. At its most basic level, biology determines the sex of an individual, while genetics can play a role in blood pressure, cholesterol levels, cancer occurrence, mental health, and susceptibility to disease (Institute of Medicine, 2001a, 2001b) (Carnes MD et al., 2008; U.S. Department of Health and Human Services, 2009) (Weidner, 2000). This part of the system, while important to acknowledge, is the least susceptible to public health influence.

The *National Framework for Improving Men's Health and Wellbeing in the United States* (Brennan, 2013) and the Australian model are more detailed in highlighting portions, which can be influenced by public health intervention. Within the United States model developed for this study, each circle represents a system impacting men's health, with subsections highlighted for importance. Within the *National Men's Health and Wellbeing Policy in the United States* study, the categories of biomedical, behavior and environment are analyzed for the factors driving towards integration of the final category of policy.

Refinement to the *National Framework for Improving Men's Health and Wellbeing in the United States* may be needed following the mixed method analysis of the study data, to more accurately highlight the strongest driving factors within each category.

Figure 2.5 *National Framework for Improving Men's Health and Wellbeing in the United States* (Brennan, 2013)



III. Study Design, Data, and Methods

Within a transformative framework, the *National Men's Health and Wellbeing Policy in the United States* study utilized a four-step exploratory sequential mixed methods design as detailed in Creswell and Clark's 2011 book, *Designing and Conducting Mixed Methods Research*. According to Creswell and Clark, the purpose of a transformative design is to "conduct research that is change oriented and seeks to advance social justice causes by identifying power imbalances and empowering individuals and/or communities...." (Creswell & Clark, 2011, ch. 3, ebook loc. 1162 of 5680). The transformative lens does not change the mechanics of the mixed methods design, but informs the topics under selection and the recommendations made at the conclusion. Feminist research approaches have successfully utilized the transformative framework in the past (feminist lens transformative variant), as have studies on equality within the lesbian, gay, and transgender population, and socioeconomic status (socioeconomic class lens transformative variant). There have been additional calls to utilize the practice more within mixed methods research focused on social issues (Creswell & Clark, 2011; Sweetman, Badiie, & Creswell, 2010). This study used the transformative lens with a men's health equality perspective, establishing a men's health lens transformative variant.

The *National Men's Health and Wellbeing Policy in the United States* study began with a cross-national qualitative comparative analysis (QCA) of two national men's health policies. The results of the QCA informed the variable selection in an analysis of the *Health, United States 2013* report to answer the overarching research question: "What are the leading biomedical, behavioral and environmental factors indicating a potential need for a men's health policy in the United States?"

Through the mixed method design, an in-depth understanding of the driving and restraining factors associated with the development of a national men's health policy allowed for a focused, empirically based, review of men's health in the United States. As can be seen within the *National Framework for Men's Health and Wellbeing in the United States* (figure 2.5), the focus areas for analysis were: biomedical, behavioral and social and

physical environment. These categories are in alignment with the focus areas of the literature review and two conceptual frameworks associated with the case policies. Within this study, biomedical factors were defined as those factors related to genetic or physiological health outcomes such as cardiovascular disease, malignant neoplasms, obesity, diabetes and depression. Behavioral factors are factors related to specific actions such as physical activity, alcohol consumption, tobacco use, and eating habits. Behavior also encompassed the risk factors that lead to both intentional and unintentional injury, such as suicide, homicide, and work related deaths. Environmental factors are those factors that men have less direct control over, but impact their daily life and perception of health and included both the social and physical environment within which men live and work. Health literacy, advocacy work, socioeconomic status and access to health services, are examples of factors tied to the environmental category.

b. Study Methods and Data:

The study progressed using the following four steps, (1) design and implement the weighted QCA study, (2) build on weighted QCA results, (3) design and implement the quantitative study, and (4) interpret and connect the weighted QCA and quantitative results.

Step 1: Design and Implement the Weighted Qualitative Comparative Analysis Study:

Within the first step, design and implement the weighted QCA study, a cross-national weighted qualitative comparative policy analysis of men's health policies designed and implemented in Australia and Ireland were used to answer the first set of secondary research questions:

“What driving factors led to the development of men's health policies in Australia and Ireland?”

“What restraining factors hindered the development of men's health policies in Australia and Ireland?”

While more heavily utilized over the last decade, QCA has been a known and supported method of policy research and analysis for more than four decades (Cyr & deLeon, 1975;

Rihoux, Rezsóhazy, & Bol, 2011). An article published in *Policy Analysis* in December 1975 argues, "...comparative policy studies are extremely valuable for the instruction of future practical decision makers and analysis as well as for the academic insights they provide" (Cyr & deLeon, 1975, p. 6). The article goes on to say, "...from the broadest perspective, comparative analysis raises the possibility of much richer insights concerning the influence of cultural milieu, political completion, and government structures themselves on the characteristics of public policy.... [Additionally], there is the possibility of gaining specific policy payoffs from the study of analogous programs in other countries" (Cyr & deLeon, 1975, p. 6).

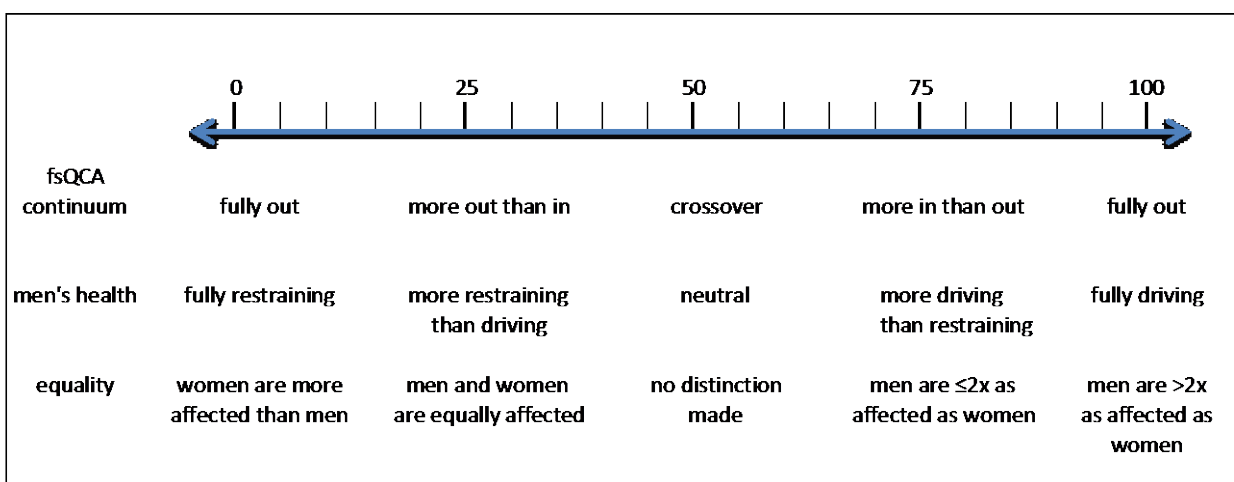
While not as common as other traditional qualitative methods, neither is QCA unique to the field of research analysis. In 2011, Rihoux, Rezsóhazy and Bol conducted a review of QCA techniques and empirical applications. Within their review they were able to identify 143 published empirical studies using a QCA application, 80 of which were for policy design analysis, and 47 on policy implementation. Of the total, 79 were cross-national analyses (Rihoux et al., 2011). QCA provides a technique, which allows for the systematic comparison of a small number of cases, with a large number of variables (i.e., factors). Through a combination of qualitative and quantitative techniques QCA allows for a holistic perspective, which is also transparent and replicable (Rihoux & Ragin, 2009). Within their article *Qualitative Comparative Analysis and Health Inequalities: Investigating Reasons for Differential Progress and Narrowing Local Gaps in Mortality*, Blackman and Dunstan conclude, "QCA is an attractive type of analysis for people who develop policy and strategy because it points to attributes and important combinations in ways that can be acted upon.... QCA offers a possible strategy for isolating the key drivers of change in their combinations, capturing the importance of both interventions and context case by case, rather than estimating the effects of individuals averaged across all cases" (Blackman & Dunstan, 2010, p. 370).

While the Ragin standard, or "crisp," QCA is based on the Boolean truth table; to assess the force of a variable, weights were applied to each in order to determine the strength of the driving or restraining force. The fuzzy set qualitative comparative analysis (fsQCA)

methodology allows for a weighted continuum to be added to the standard QCA technique, and was used as a framework for the weighting of men's health and wellness factors (Ragin, 2009). Within the *National Men's Health and Wellbeing Policy in the United States* study, placing weights to variables was not used for a traditional quantitative analysis of variables rather the weights allowed for a more complete synthesis of the qualitative data. Applying weights to variables assisted in a comprehensive understanding of the policy excerpt's syntax, and allowed for a visualization of a variable's force.

The four-value fsQCA continuum typically spans the interval of 0 to 1, where 0 represents a coding of "fully out," while 1 equates to "fully in." The values of .33 and .67 represent "more out than in" and "more in than out" respectively (Ragin, 2009). For this study the continuum was elongated to 0 through 100, for easier visualization purposes during analysis. Additionally, translations were applied to articulate when a force was deemed to be restraining or driving. Additionally, a neutral point was included, and force weights were evenly spaced between 0 and 100. Figure 3.1 demonstrates how the continuum was constructed and where the traditional fsQCA language was adjusted to fit the needs of the men's health and wellness study.

Figure 3.1: *National Men's Health and Wellbeing Policy in the United States* study fsQCA continuum



Within the *National Men's Health and Wellbeing Policy in the United States* study, cases were made up of two men's health policies, the *National Men's Health Policy 2008 – 2013*:

Working with Men in Ireland to Achieve Optimum Health and Wellbeing, and the *National Male Health Policy: Building on the Strengths of Australian Males*. The men's health policy from Ireland is comprised of two main documents, the research leading up to the policy development and the policy implementation guidance. The Australian policy is broken into a series of smaller reports looking at men's health overall and in subcategories including healthy routines and health of the Indigenous population. After an extensive search for countries with national men's health policies, Australia and Ireland were the only two countries identified as having implemented stand-alone policies focused directly on men.

For analysis, each policy document was loaded into a mixed methods data management and analysis software system. Policies were reviewed for language indicating variable's identified as having health inequalities or inequities. Excerpts were extracted from uploaded documents; variables were then categorized and descriptively coded. Each variable was applied a weight in accordance to the fsQCA method described above.

Once imported into the mixed methods software, and in alignment with the stated research questions, variables were categorized as biomedical, behavioral or environmental, and then coded accordingly. As show in figure 3.1, the fsQCA was broken into five weighted values: 0, 25, 50, 75 and 100. For items that were categorized as biomedical or behavioral, the fsQCA values were be broken into two major sections analyzing for both health equality between both genders, and health equity within subpopulations of men. In order to clarify the variables for health equality from health equity, a fourth category was created for health equity, and further delineated into subpopulations. For the purposes of the men's health and wellness study, gender health equality is defined as, fairness and justice in the distribution of benefits, power, resources and responsibilities between women and men (Payne, 2009; World Health Organization, 2001). Health equity is defined as, the absence of discrimination on the basis of a person's social position in opportunities, allocation of resources or benefits, and access to services (Braverman & Gruskin, 2003; Payne, 2009; World Health Organization, 2001). In short, health equality looked at the variations in health between men and women, and health equity looked at the variation in health among men as a result of race, ethnicity, age, sexual orientation, physical environment, and

socioeconomic status. This distinction strengthened the policy analysis in the area of minority health.

In order to standardize the weighting process, a weighting/syntax tool was created. Figure 3.2 shows how variables categorized as biomedical or behavioral were assigned fsQCA values, where 0 and 25 were considered restraining factors when men were equally or less impacted by the variable, while 75 and 100 were categorized as driving factors when men were more impacted. Similarly, variables categorized as environmental were assigned weights depending on how the policy described the impact of the variable. The weight of 50 was used as a crossover/neutral point, to allow variables to be documented and counted for frequency even if a driving or restraining distinction was not made. Health equity variables were only analyzed within a neutral or driving range, as the negation value of ‘the majority of men are affected by the variable’ would not be classified as a health equity issue.

Figure 3.2: *National Men’s Health and Wellbeing Policy in the United States* fsQCA weighting system

Health Equality	
100	Men are more than twice as affected as women
75	Men are up to twice as affected as women
50	No health equality distinction made
25	Men are equally as affected as women
0	Women are more affected than men
Health Equity	
100	A subpopulation of men are more than twice as affected as other men
75	A subpopulation of men are up to twice as affected as other men
50	No health equity issue was discussed or distinction made
For codes relating to environmental factors will be valued as driving or restraining as such:	
100	Strong driving factor
75	More driving than restraining
50	No driving or restraining distinction made
25	More restraining than driving
0	Strongly restraining factor

Through weighted analysis the driving and restraining factors associated with each policy allowed for an objective comparison as well as informed the selection of variables within the United States focused quantitative analysis section of the study.

A variable coding manual, Appendix B, was developed and applied by three policy coders during a pilot testing and revision period. Policy coders were made up of the primary investigator and two secondary coders. All three coders had master's degrees in public health or social work; more than five years professional experience in public health, and each have public health research training and proficiency.

Following the pilot coding period, a list of 200 primary and secondary codes were broken into the four categories: Biomedical, Behavioral, Environmental, and Health Equity. Health Equity codes were further categorized by subpopulations such as indigenous males, males in low socioeconomic classes, gay, bisexual or transgender men, and men living in rural environments. As needed, additional primary and secondary codes were added to the system, to add specificity to the driving or restraining force. Figure 3.3 shows a subset of categories, primary and secondary codes.

Table 3.3: *National Men's Health and Wellbeing Policy in the United States* selected codes

Category	Primary Code	Secondary Code
Biomedical	Heart Disease	Hypertension
Biomedical	Mortality	Life Expectancy
Biomedical	Stroke	
Behavioral	Alcohol Consumption	Binge Drinking
Behavioral	Injury	Self Harm
Behavioral	Injury	Work Related
Behavioral	Suicide	
Behavioral	Tobacco Use	
Environmental	Access	Physician Access
Environmental	Advocacy	Advocacy: Grass Roots
Environmental	Risk Perception	
Health Equity	Indigenous	Mortality Rates
Health Equity	Rural Geography	Healthcare Access

Pearson's correlation coefficient was used to calculate inter-rater reliability (IRR) for both code selection and code weighting. Using the final coding manual, 86 percent agreement was reached among coders in code selection and 96 percent for code weighting. Each policy document was coded by a primary and secondary coder. The primary coder reviewed each document creating excerpts, coding variables and weighting them in accordance to the

code weighting system. The secondary coder, subsequently reviewed documents for missed excerpts, per the coding manual, and documented any disagreements in code weights. Secondary coders added a notation when any change was made within the excerpt. Changes made by secondary coders included: changing the weight of a code; adding additional codes to an excerpt; and creating and coding new excerpts within a policy document. Changes made by secondary coders contained a specialized code, so the primary investigator could identify, review and resolve any differences of opinion on code weighting.

Step Two: Build On The Weighted Qualitative Comparative Analysis Results

As part of step two, build on the weighted QCA results, each variable was analyzed for correlation to the outcome of a national men's health policy. Variables were analyzed using qualitative analysis tools looking for themes both within and across the case study countries. Following initial extraction of all excerpts and weighted codes, data cleaning and reduction was conducted. Codes with duplicative names were merged, for example, any variables coded 'cardiovascular disease' were merged into the variables coded 'heart disease.' Additionally, codes with duplicative themes, such as 'nutrition' and 'unhealthy eating' were merged into a code labeled with both variables (i.e., nutrition/unhealthy eating). Finally, variables coded only one time between the two cases were removed from analysis.

Following data cleaning and reduction, variables were analyzed for frequency per document, country and category. Variables were also analyzed for the number of times documented, the average weight, and the median weight. Finally, variables were reviewed for proportion per category. Reviewing the number of times a variable was mentioned in conjunction with the average weight of the variable, applied syntax to the overall theme of driving and restraining forces. A variable mentioned two times with an average driving weight of 100 was not deemed as driving of a force, or pervasive within the policies, as a variable mentioned 30 times with an average weight of 75.

Through the analysis of themes, code frequency, pervasiveness and force, variables were categorized by the number of times coded followed by average weight. Using this method of analysis, and as demonstrated within the data analysis results, variables were selected to cross analyze with data from the United States, influencing a significant portion of the third step of the study, design and implement the quantitative study.

Step Three: Study, Design, and Implement the Quantitative Study:

Health, United States, an annual analysis of health trends in the United States offers quantitative data similar to data referenced within both national policies used for the weighted QCA, including morbidity, mortality, health risk factors, and healthcare access (National Center for Health Statistics, 2014, p.iii). *Health, United States 2013* is made up of “135 Trend Tables organized around four major subject areas: health status and determinants, health care utilization, health care resources, and health care expenditures” (National Center for Health Statistics, 2014, p. iii). According to the report, “*Health, United States* consolidates the most current data on the health of the population of the United States, the availability and use of health resources, and health care expenditures” (National Center for Health Statistics, 2014, p. 385). The report lists each government, global and private data source utilized and provides general strengths and weaknesses of different data collection systems such as the National Health Interview Survey and the Youth Behavior Survey (National Center for Health Statistics, 2014).

Data from *Health, United States 2013*, is readily available through the CDC’s website via Excel spreadsheets. Two examples of how the *Health, United States 2013* data are presented can be seen in Appendix C. As demonstrated in the results section, variables identified as leading drivers to health policy in the initial two case study analyses were selected for comparison with United States men’s health data. At this point in the study, the United States was considered the third case study for comparison.

The methods used for calculating age adjusted rates, relative standard errors, birth rates, death rates and potential years life lost are described in detail within the *Health, United*

States 2013 Appendix II (p. 431). For the *National Men's Health and Wellbeing Policy in the United States* study, and in concurrence with other CDC reports, age adjusted rates were used when possible to calculate relative risk comparing morbidity and mortality across gender, geographic area, socioeconomic class and race subgroups (Murphy, 2013, p. 3).

Step Four: Interpret and Connect the Weighted Qualitative Comparative Analysis and Quantitative Results:

The fourth, and final step, of the exploratory sequential mixed methods design was to interpret and connect the qualitative and quantitative results and answer the overarching research question, "What are the driving biomedical, behavioral, and environmental factors indicating a potential need for a national men's health policy in the United States?" The connection of the two conceptual frameworks, the normative theory and the *National Framework for Improving Men's Health and Wellbeing in the United States*, to the three case studies (i.e., Ireland, Australia and the United States) was crucial within this step. The key driving factors, which influenced policy development in Ireland and Australia were analyzed with the understanding that both countries used the facts of male health inequality or inequity, along with a value of men's health to conclude that men's health policy was necessary to improve men's health outcomes. In Step Three, these driving variables were used to select similar United States variables. Data from the United States was then analyzed for similar driving factors in the form of inequalities or inequities. Similarities in case studies enhances the generalizability that despite differences in country gender and political culture, men's health data in the United States can be deemed as potentially driving toward a men's health policy.

IV. Results

Ireland and Australia: Weighted Qualitative Comparative Analysis

Driving Factors

Following the completion of a finalized coding manual, establishment of an IRR above 80 percent for both code application and weight, as well as the resolution of any coding differences between two coders; 16 policy-related documents were reviewed from Ireland and Australia. From the 16 policy-related documents, 606 excerpts were extracted, and 200

variables were coded and weighted. Following data cleaning and merging of similar themes, a total of 172 variables, coded a combined 1190 times remained. Of those variables, 149 were labeled as driving factors, 13 as restraining and 10 as neutral. As can be seen in figure 4.1, Health Equity variables made up 34 percent of the total coding, Environmental variables represented 28 percent, Behavioral were 22 percent and Biomedical were 16 percent of the total codes within the policy documents.

Figure 4.1: Variable Proportion per Category; Australia and Ireland aggregated

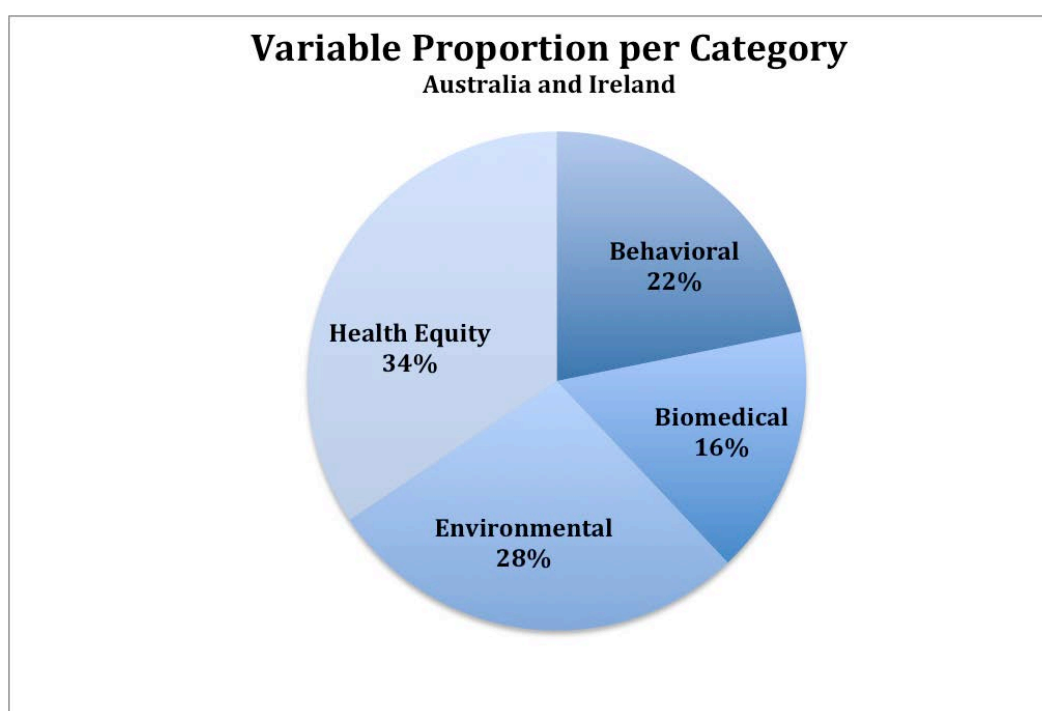


Table 4.1 shows the number and proportion of each category by country and in total. Codes applied to the Ireland policy documents made up 43 percent of the total codes, while Australia codes were 57 percent of the total. In Ireland, codes were more heavily aggregated in Social and Physical Environment related variables, with Australian policy codes focused more heavily on Health Equity variables.

Table 4.1 Distribution of Codes within each Category per Country

Category	Ireland	Australia	Number of Codes
Health Equity	102 (13%)	273 (27%)	375 (34%)
Social and Physical Environment	188 (24%)	113 (11%)	301 (28%)
Behavioral	116 (15%)	122 (12%)	238 (22%)
Biomedical	60 (8%)	116 (11%)	176 (16%)
Total	466 (43%)	624 (57%)	1090 (100%)

Similarities between both case studies were seen within the behavioral category, where alcohol consumption, health literacy and non-help seeking were variables coded more than 10 times for each country. The biomedical variables, mortality and mental health, were both variables coded more than 10 times for both policies. Results show cancer and chronic disease variables were more prominent within Australia's policy than Ireland's policy, while environmental variables were more prominently displayed in Ireland's policy. Within the social and physical environment category, health messaging was a common variable of concern for both policies, whereas access to health care was predominantly coded within Australia and issues surrounding terminology and connections to women's health policies were listed within Ireland's policy. As mentioned before, the Australian policy focused heavily on health equity issues, where the Aboriginal and Torres Strait Islander males face many health inequities when compared to their male counterparts. Rural geography was also predominantly a concern within Australia, whereas both countries listed health equity issues related to young men and men in low socioeconomic classes as populations of concern.

Aggregated case study data was reviewed for both the number of times a variable was documented (i.e., the count) and the average weight applied to the variable. Variables were considered driving with an average weight over 50, and restraining with an average weight under 50. When displayed visually both via tables and figures, data is delineated by the code count followed by the mean code weight, demonstrating the importance of a variable not only by its driving weight, but by the number of times mentioned within the policies.

Table 4.2 shows after aggregating both policy code data, the variable Health Equity was coded 174 times with an average weight of 76, and four subpopulations of men, including indigenous men, younger men, men living in rural environments, and men with low socioeconomic status, were coded over 30 times each and all have driving forces with average weights above 50.

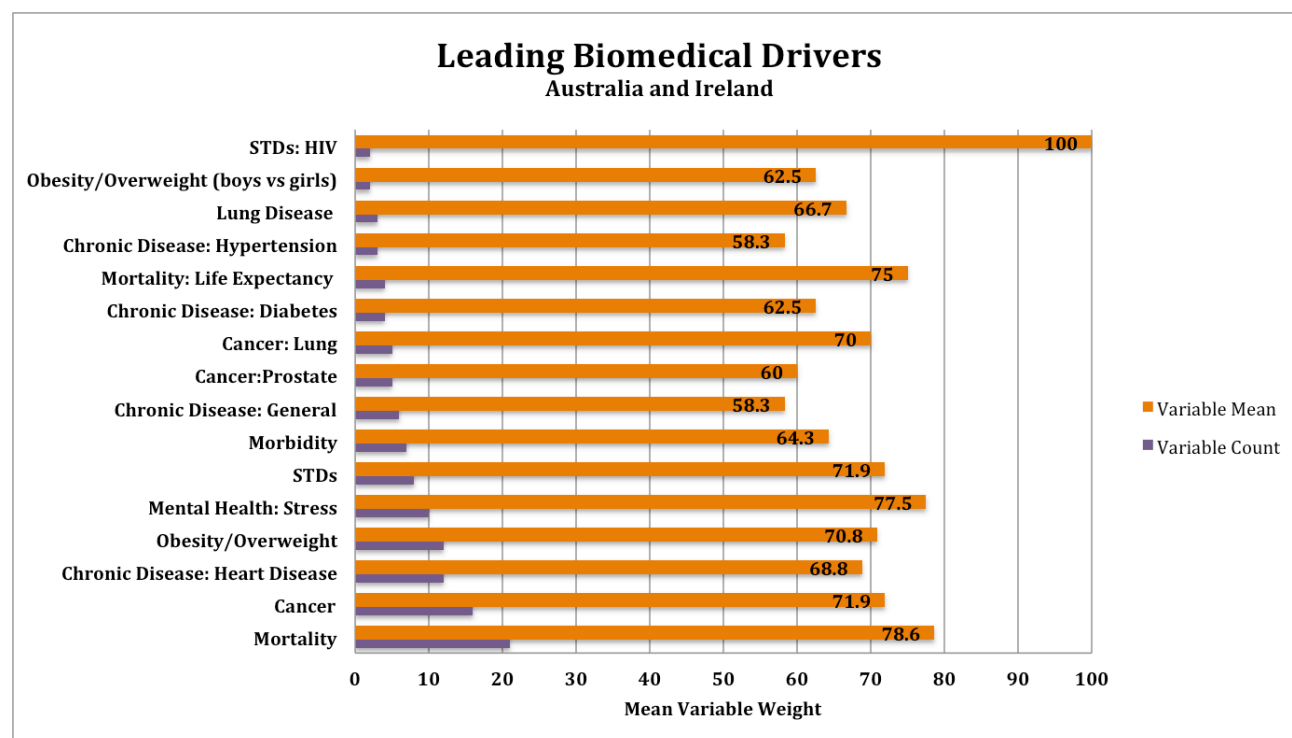
Table 4.2: Aggregated Leading Driving Forces for Ireland and Australia by Variable Count and Mean Variable Weight

Category	Leading Variables	Variable Count	Mean Variable Weight
Health Equity	Health Equity: General	174	76.1
Health Equity	Indigenous Population	40	76.3
Health Equity	Younger Age	34	80.1
Health Equity	Socioeconomic Status	33	78
Health Equity	Rural Geography	31	73.4
Environmental	Health Messaging	30	61.7
Behavioral	Alcohol Consumption	29	64.7
Behavioral	Non-Help Seeking	25	65
Environmental	Men's Health Research	23	73.9
Behavioral	Health Literacy	22	61.4
Environmental	Healthcare Access	22	71.6
Environmental	Increased Attention to Men's Health	22	77.3
Biomedical	Mortality Rates	21	78.6
Behavioral	Injury	20	67.5
Behavioral	Tobacco Use	16	64.1
Biomedical	Cancer	16	71.9
Behavioral	Substance Abuse	15	80
Behavioral	Violence	14	63.2
Behavioral	Suicide	13	71.2
Health Equity	Older Age	13	78.8
Health Equity	Gay, Bisexual, Transgender Men	13	80.8
Biomedical	Heart Disease	12	68.8
Environmental	Men's Health Advocacy	12	68.8
Biomedical	Obesity/Overweight	12	70.8
Environmental	Men's Health Messaging: Masculinity Issue	11	54.5
Behavioral	Risky Sexual Behavior	11	61.4
Environmental	Healthcare Access: Physicians Offices	11	77.3
Behavioral	Nutrition/Unhealthy Eating Habits	10	65
Biomedical	Stress	10	77.5

Other leading variables included alcohol consumption, mortality rates, injury rates, tobacco use and substance abuse. Each of these codes were documented more than ten times between the two policies and had weights correlated with the development of a men's health policy.

Analysis by category provides additional insight into factors that drove each country toward a national men's health policy. As seen in figure 4.2, leading biomedical drivers included mortality rates, cancer rates, stress related mental health issues, heart disease and obesity related variables. In several instances, subcategories demonstrate a strong driver towards men's health policy. For example, STDs in general were mentioned a total of eight times with a driving force of 71.9, yet when HIV was broken into a subcategory this exhibited as a very strong driving factor as a result of large inequalities between males and females in both incidence and prevalence of disease.

Figure 4.2: Aggregated leading biomedical drivers to men's health policy by variable mean and count: Australia and Ireland



Coded nearly 30 times between both policies, alcohol consumption, both the disparity between men and women as well as young males and females, was a leading behavioral driver within the Behavioral category. The Australian health policy document, *Healthy Limits*, notes, “52 percent of 18–24 year old males and 37 percent of females in the same age group are drinking alcohol at levels that put them at increased risk of an alcohol-related harm” (Australian Government Department of Health and Aging, 2010f, p. 5). In turn Ireland also noted,

The most recent evidence in Ireland confirms that 30% of males compared to 22% of females consumed more than the recommended weekly limits for alcohol (Kelleher et al, 2003), and that overall, men drink about three times as much alcohol as women (Ramstedt and Hope, 2003). However, it is a pattern of excess drinking that is of particular concern.... Despite the fact that Irish men drink on just 40% of the occasions of Italian men, they are over four times more likely to binge drink when they do drink. This does suggest as Ramstedt and Hope point out that binge drinking is the norm for Irish men (Richardson, N., 2004, p. 16).

Figure 4.3 illustrates in addition to the concern over male alcohol consumption, other behavioral factors such as health literacy, injury, violence and suicide represented leading behavioral drivers to men’s health policy.

Per figure 4.4, both social and physical environmental factors such as health messaging and access to healthcare, were coded over 20 times each and had driving weights. Access to care appears in several capacities to drive toward policy. Access to physician practices, access to care as a result of cost, and access to care as a result of employment, were all driving factors. Australia’s health policy document, *Access to Health Services*, reports, “Barriers in the health care system, such as the cost of health care and services being closed outside normal working hours, are highlighted as the reason for reduced help-seeking” (Australian Government Department of Health and Aging, 2010g, p.4). Advocacy related variables, such as political support and grassroots efforts, also represented leading drivers within the Social and Physical Environment category.

Figure 4.3: Aggregated leading behavioral drivers to men's health policy by variable mean and count: Australia and Ireland

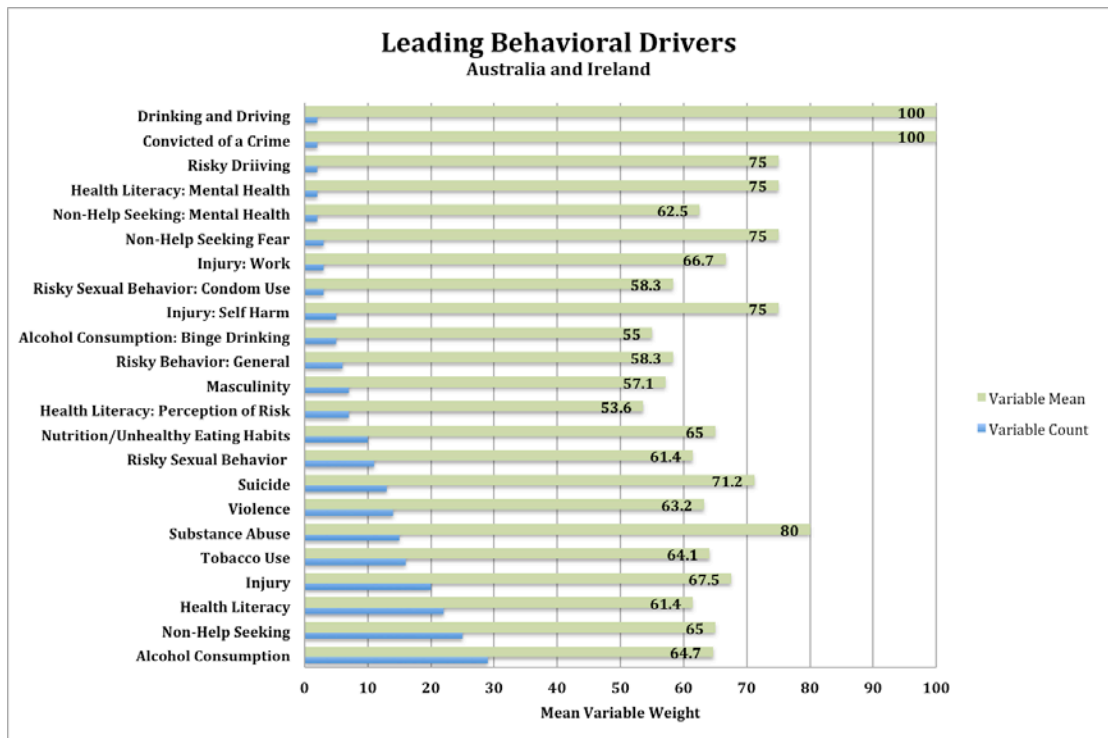


Figure 4.4: Aggregated leading social and physical environmental drivers to men's health policy by variable mean and count: Australia and Ireland

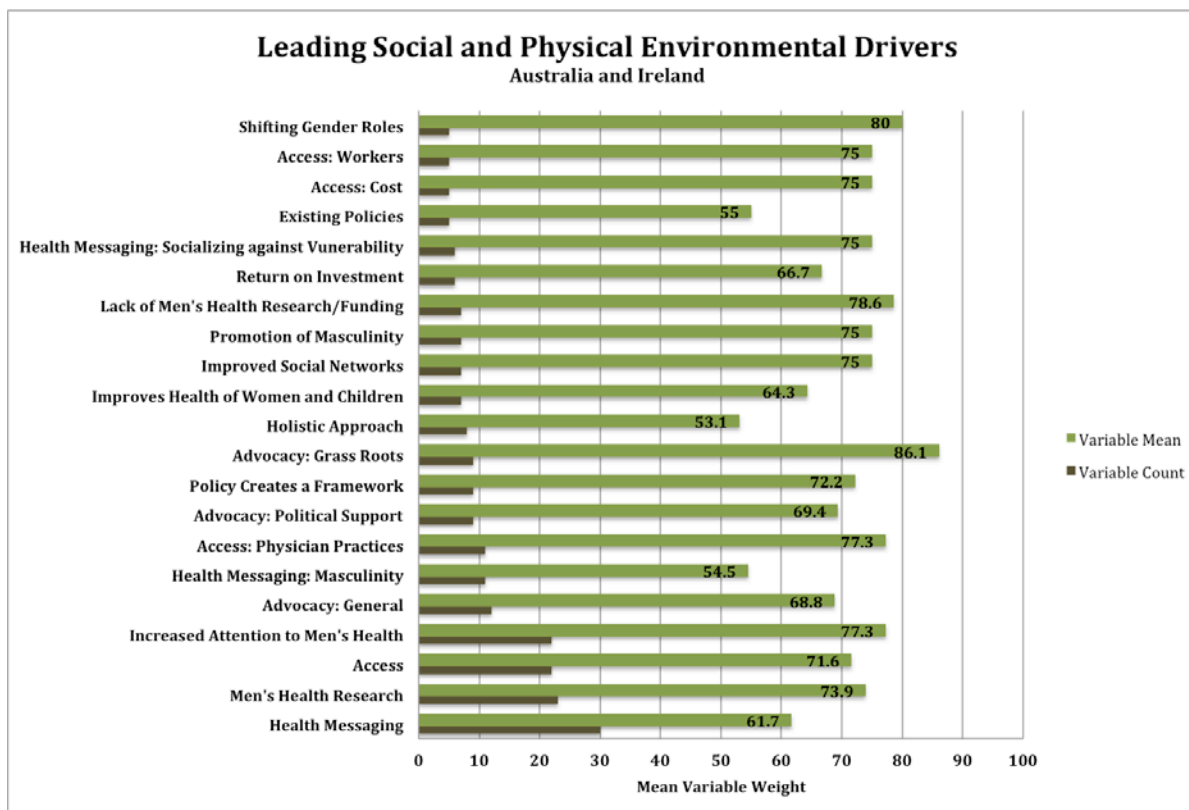
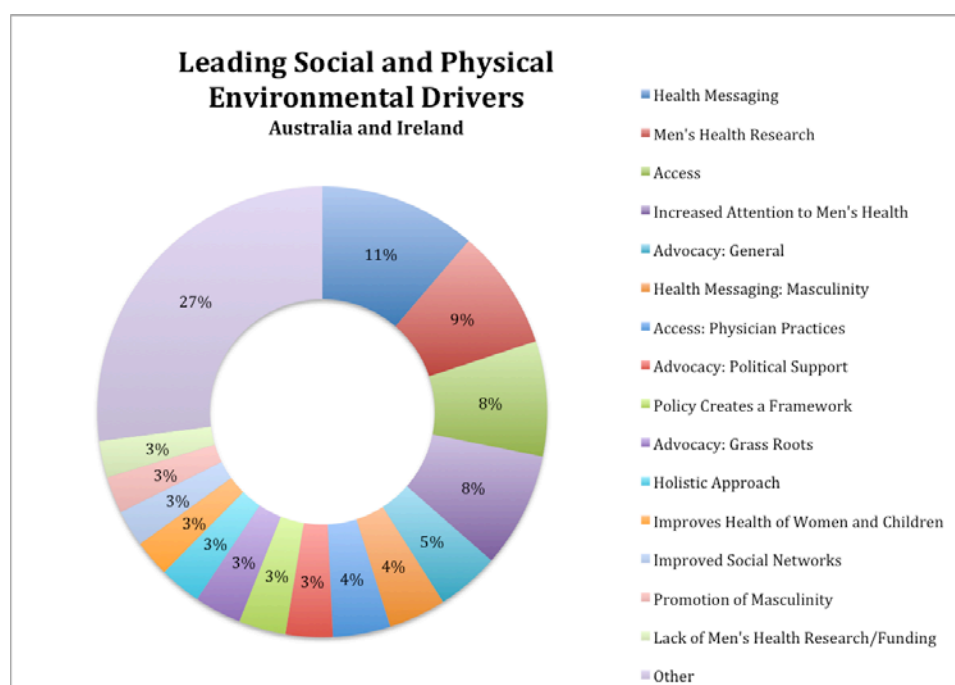


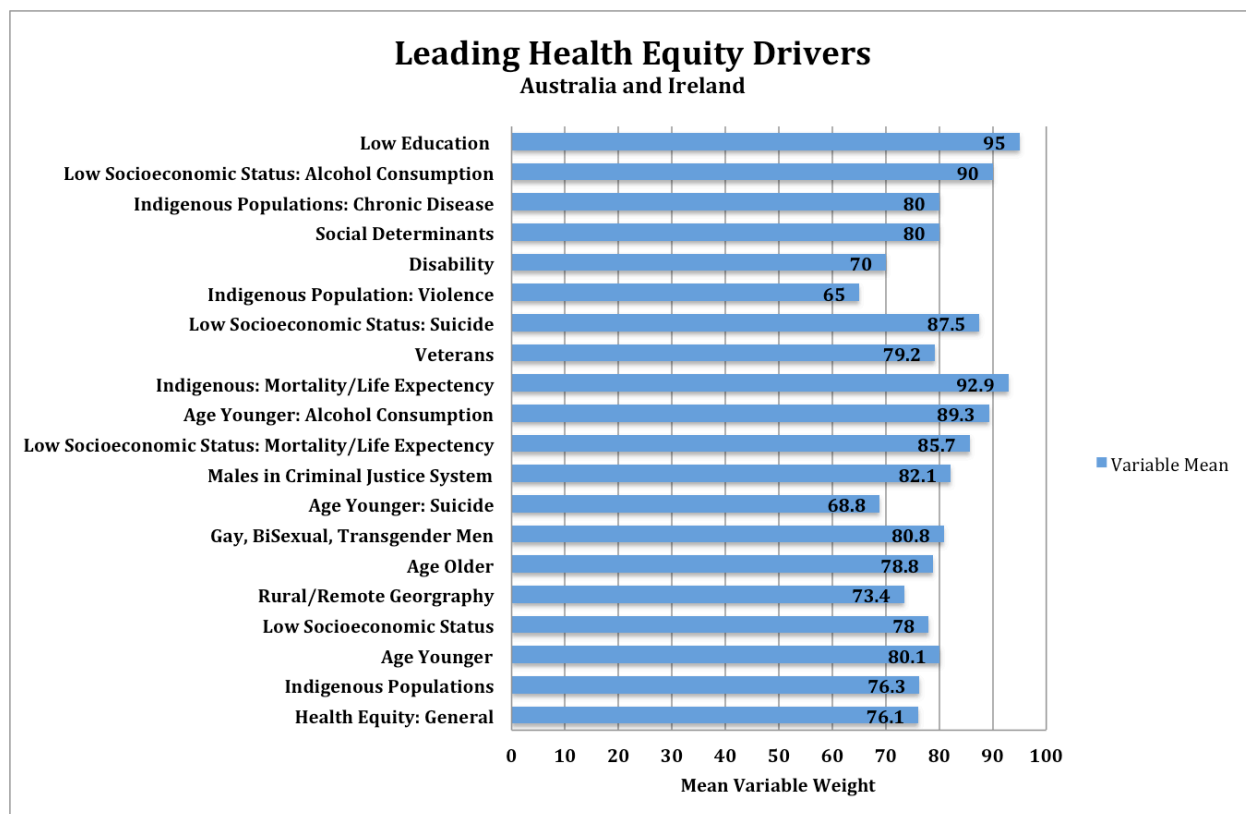
Figure 4.5 shows that the variables labeled as leading driving factors only made up 73 percent of the total Social and Physical Environmental codes, an additional 27 percent of coding represented variables mentioned throughout the documents between two to four times. These codes included variables such as barriers to access as a result of no health insurance and the need to develop a men's health mission and vision.

Figure 4.5: Aggregated leading social and physical environmental drivers to men's health policy by variable count: Australia and Ireland



Drivers within the Health Equity category were focused on indigenous populations, both younger and older men, men of low socioeconomic status, men living in rural environments, and gay, bisexual and transgender men. Issues of concern within these populations included, suicide rates, alcohol consumption, and life span. Each of the variables listed within figure 4.6 had a count of 10 or higher between both case studies. Secondary codes routinely matched codes seen within the health equality tables. Mortality rates, morbidity of chronic disease, suicide rates and alcohol consumption were all variables with disproportionate affects on subpopulations of men.

Figure 4.6: Aggregated leading health equity drivers to men's health policy by variable mean: Australia and Ireland



Restraining Factors:

Qualitative analysis shows the leading restraining factors prohibiting the development of a men's health policy are primarily associated with social environmental factors. Table 4.3 lists environmental factors such as the assumption that health equality means women's health, and health messaging blaming men for their poor health outcomes, as restraining policy makers from implementing a national men's health policy. As a result of data showing women self-report depression and anxiety at higher rates than men, factors associated with mental health were also coded as restraining factors. Women's health related factors such as domestic violence and the perception that men's health policy could divert attention and funding from women's health issues were also identified as restraining.

Table 4.3: Aggregated Leading Restraining Variables for Ireland and Australia by Variable Count and Mean Variable Weight

Category	Leading Restraining Variables	Variable Count	Mean Variable Weight
Biomedical	Mental Health	24	44.8
Behavioral	Lack of Physical Activity	15	46.7
Biomedical	Mental Health: Depression	9	27.8
Biomedical	Mental Health: Anxiety	7	21.4
Environmental	Health Messaging: Men Responsible for Poor Outcomes	6	37.5
Environmental	Terminology: Health Equality	6	33.3
Behavioral	Violence: Domestic Violence	5	10
Environmental	Not a Target Population	5	30
Environmental	Stroke	4	31.3
Environmental	Competition with Women's Health Resources	4	43.8
Environmental	Terminology: Women's Health	4	37.5

Factors mentioned, but not identified as driving or restraining, included cholesterol levels, reproductive issues and erectile dysfunction.

Analysis and synthesis of weighted QCA data from men's health policies in Australia and Ireland show leading factors driving men's health policies coming from each of the four identified categories, Biomedical, Behavioral, Social and Physical Environment and Health Equity. Leading driving factors include morbidity and mortality variables associated with years life lost, heart disease, cancer, sexually transmitted diseases, substance abuse, and both intentional and unintentional injury. They also include risk behaviors, such as tobacco use, alcohol consumption, substance abuse, and unhealthy eating habits. Finally, access to healthcare both through behavioral and environmental influences drove both countries to develop a men's health policy. Issues related to health equity were pervasive throughout both policies within each of these variables.

Using the leading driving factors towards men's health policy in Australia and Ireland, displayed in table 4.2 and figures 4.2 through 4.6, as guides for areas to review men's health in the United States, 74 of the 135 data tables from *Health, United States 2013* were

analyzed for inequalities and inequities to men's health outcomes. After each statistic calculated or reported from *Health, United States* is the corresponding data table.

The United States: Quantitative Results

Biomedical

Biomedical Mortality: life expectancy and potential years life lost

In 2010, Australia, Ireland and the United States had similar differences in male to female life expectancy with men living 4.5 years less than women in Australia and Ireland and 4.8 fewer years in the United States. In 2010, men in the United States had an average life expectancy of 76.2 years and women had an average life expectancy of 81.0 years (table 17). While men overall have seen an increase in life expectancy from 74.1 years to 76.2 years from 2000 to 2010, not all men had the same life expectancy. In 2010, African American men lived 4.7 fewer years than white men, with African American men living to an average age of 71.8 years in comparison to the 76.5 years of white men (table 18).

The leading causes of death in the United States have remained consistent over the past decade, with heart disease being the leading cause of mortality for men and women as well as blacks and whites in 2010. Cerebrovascular diseases, malignant neoplasms, chronic lower respiratory diseases, diabetes mellitus, human immunodeficiency virus (HIV), unintentional injury and suicide are other leading causes of death.

For nearly all-leading causes of death, other than cerebrovascular disease and Alzheimer's, men experience a higher rate of potential years life lost. In aggregate, men lost 8,329.5 years of life in 2010, and women lost 4,994.0 years to all leading causes of death. In comparison to women, men lost four times the number of years due to homicide, 3.7 times the number of years related to suicide and 2.3 times the number of years related to injury (table 21). Consistent with potential years life lost, age adjusted death rates per 100,000 population show men are more than twice as likely as women to die from chronic liver disease (2.1), HIV (2.7), and unintentional injury (2.0) including motor vehicle-related

injuries (2.5). Men are also 3.7 times more likely to die from homicide than women and four times more likely to die from suicide (table 20).

While not delineated by gender, data indicates blacks are 4.5 times more likely to die from HIV, and 3.3 times more likely to die from homicide than the population as a whole. When compared specifically to the white population, blacks are 8.3 times more likely to die from HIV and 5.4 times more likely to die from homicide. Blacks are also twice as likely as whites to die from diabetes mellitus (table 20).

Disparities in death rates can be seen within many age groups as well. At all ages, males have higher death rates than females for all causes of death. In 2010, males aged 15 years to 24 years and males 25 to 34 years of age had a 2.7 and 2.2 times higher death rate than their female counterparts respectively (97.6 vs 36.4 per 100,000 and 141.5 vs 64 per 100,000). Additionally, black males have double the death rate of white males during the first year of life, an inequity that continues at slightly lower rates up to 85 years of age (table 25).

Biomedical Mortality: disease specific

Heart disease, malignant neoplasms, and sexually transmitted diseases (STDs) were all identified as factors driving toward men's health policy in both Ireland and Australia. Australia's main policy document, *National Male Health Policy: Building on the Strengths of Australian Males*, states, "In 2005, males experienced higher rates of premature death (as measured by Potential Years of Life Lost), and lost 75 per cent more potential years of life than females. The major contributors to potential years of life lost for Australian males are coronary heart disease, lung cancer and other heart diseases, all of which are largely preventable, and suicide. Land transport accidents, which also have scope for prevention, are also a major contributor to years of life lost for Australian males" (Australian Government on Department of Health and Aging, 2010c, p.10).

Similarly, men in the United States also have higher mortality rates for heart disease, cancer, and both intentional and unintentional injury. In 2010, males of all ages had higher

death rates related to heart disease in comparison to women. Table 4.4 shows that between the ages of 15 to 64 years, men have double the rates of death due to heart disease when compared to women.

Table 4.4: 2010 death rates for diseases of the heart by gender: deaths per 100,000 resident population.

Age	Male	Female	Risk Ratio
All ages, age-adjusted	225.1	143.3	1.6
All ages, crude	202.5	184.9	1.1
Under 1 year	9.8	6.8	1.4
1-4 years	1.1	0.9	1.2
5-14 years	0.5	0.4	1.3
15-24 years	3.2	1.5	2.1
25-34 years	10.7	4.9	2.2
35-44 years	36.0	15.6	2.3
45-54 years	117.8	46.5	2.5
55-64 years	269.5	109.3	2.5
65-74 years	553.0	284.2	1.9
75-84 years	1,475.7	952.7	1.5
85 years and over	4,833.6	4,020.3	1.2

Additionally, black or African American males between the ages of 45 and 84 years of age have higher death rates in comparison to their white peers. In 2010, 143.3 per 100,000 women died of heart disease, 222.9 white males died and 280.6 per 100,000 black males died from heart disease (table 26).

Similar to deaths related to heart disease, malignant neoplasms are a leading cause of death in the United States. In 2010, 1.4 times as many men died from a malignant neoplasm than women. Young men aged 15 to 24 years were 1.6 times more likely to die from malignant neoplasms than females of the same age. Males aged 85 years and older were 1.8 times more likely to die from malignant neoplasms (table 28).

Men 55 years of age and older were more likely than females to die from malignant neoplasms related to the trachea, bronchus, and lung, with men aged 55 to 64 years being 1.6 times more likely to die than women, and men 85 years and older 1.9 times more likely to die from lung and related cancers. The most significant difference between black and white males occurred between ages 45 and 55 years, with black males dying at 1.6 times the rate of white males from malignant neoplasms of the trachea, bronchus and lung (table 29).

Large health inequalities and inequities can be seen in death rates related to HIV. According to 2010 age-adjusted data, males overall were 2.7 times more likely to die from deaths related to HIV than women. As age increased so did the disparity between men and women with men 55 years to 74 years being greater than three times at risk and males older than 75 years of age being more than four times as likely to die from HIV than women.

Disparity between men and women continued when delineated against race, with Hispanic males being more than four times as likely to die from HIV and black males being twice as likely to die from HIV as their female counterparts (table 31).

In 2010, 16.5 per 100,000 black men died in HIV related deaths in comparison to 2.3 per 100,000 white men. In the same year, 17.1 black men aged 25 through 44 years per 100,000 residents, died in HIV related deaths in comparison to 2.5 per 100,000 white males, a difference of 6.8 (table 31).

Biomedical Morbidity: disease specific

HIV morbidity data shows similar disparity results. In 2011, 49,273 individuals were diagnosed with HIV in the United States, of those 38,825 (or 78.8 percent) were males and 10,257 were females. Of those males, 12,041 (31 percent) were white, 16,447 (42.4 percent) were black or African American.

When asked, 18.1 percent of males reported having two to three chronic disease conditions (table 45). Between 2011 and 2013, males 18 years of age or older, reported a higher rate

of heart disease, 12.1 percent versus 9.7 percent of females. By age 75 years, 43.5 percent of men reported being told they have heart disease (table 44).

Between 2009 and 2012, men and women had similar rates of hypertension, however, of those reporting having high blood pressure or taking antihypertensive medications, men were 1.4 times more likely to have uncontrolled hypertension than women. Younger men were more likely to have hypertension than young women, with men 20 to 34 years of age having a 1.5 times higher rate than women of similar age. Similarly, men between the ages of 20 and 64 years of age were more likely to have uncontrolled hypertension than women, with men 20 to 34 years of age having 1.8 times greater risk of being uncontrolled than women of a similar age.

While men 65 to 74 years of age were 7.7 times more likely to be diagnosed with hypertension than men 20 to 34 years of age, the younger men were 2.4 times more likely to have uncontrolled hypertension. Similarly, men 45 to 65 years of age were 3.3 times more likely to have hypertension than men 20 to 44 years of age, but men 20 to 44 years of age were 1.4 times more likely to have uncontrolled hypertension (table 65). Disease control and awareness is also an area of concern for diabetic men. From 2007 to 2010, men were twice as likely as women to have undiagnosed diabetes (table 46).

At 1.3 relative risk, men are only slightly more likely to develop cancer than women when looking at all cancer diagnoses. Men are 1.4 times more likely than women to develop lung cancer, and black males are 1.3 times more likely than white males to develop lung cancer. Similarly, black males are 1.3 times more likely to develop colon cancer and 1.6 times more likely to develop prostate cancer than white males (table 42).

Fewer black males survive five years for all cancer sites in comparison to peer males. In 2011, 64.4 percent of black males survived five-years post cancer diagnosis compared to 69.9 percent of white males. 54.2 percent of black males survived five years post colon cancer diagnosis, compared to 67.5 percent of white males (table 43).

Behavioral

Behavioral Mortality: risk behaviors

Both intentional and unintentional injuries are leading causes of death for men in the United States. Men of all ages are more than twice as likely as women to die from motor vehicle related injuries. Young men 15 to 24 years of age are 2.3 times more likely than girls of the same age to die from injuries related to a motor vehicle accident. Men 20 to 34 years of age are three times more likely than women of the same age to die from a motor vehicle related injury (table 33).

Substance abuse was also identified as a leading factor toward health policy. While in the United States the gender gap has decreased slightly from 2000 to 2010, men have remained more likely to die from drug poisonings than women. In 2010, 15.0 per 100,000 men died as a result of a drug poisoning compared to 9.6 per 100,000 women. When comparing boys and girls 15 years of age and younger, data tables show boys were 1.5 times more likely to die in a drug related death (table 32). Additionally, in 2010, white males were 1.7 times more likely to die from a drug poisoning than black males.

Similar statistics can be seen in opioid related deaths, with males being 1.5 times more likely to die from opioid related deaths than women. Males 15 years and younger are 2.0 times more likely than peer females, and males 15 to 24 years of age are 2.7 times more likely to die from an opioid related death than females of the same age. Additionally, white males were 3.5 times more likely to die from opioid related deaths than black males (table 32).

Men of all ages are more likely to die as a result of suicide than females. Table 4.5 shows, when adjusting for age, males are more than four times likely to die of suicide than females. Young males aged 15 to 24 years are 4.3 times more likely to die of suicide than females of the same age. This increases to 4.7 for males 20 to 24 years of age. Men 65 years and over are 6.9 times more likely to die of suicide than females, increasing dramatically to 14.3 times for men 85 years and over. As demonstrated in table 4.6, white males are 2.4 times more likely to die of suicide than black males (table 35).

Table 4.5: 2010, Death rates per 100,000 resident population for suicide by gender (Health, United States 2013, table 35)

Age	Male	Female	Risk Ratio
All ages, age-adjusted	19.8	5.0	4.0
All ages, crude	19.9	5.2	3.8
5-14 years	0.9	0.4	2.3
15-24 years	16.9	3.9	4.3
15-19 years	11.7	3.1	3.8
20-24 years	22.2	4.7	4.7
25-44 years	23.6	6.4	3.7
25-34 years	22.5	5.3	4.2
35-44 years	24.6	7.5	3.3
45-64 years	29.2	8.6	3.4
45-54 years	30.4	9.0	3.4
55-64 years	27.7	8.0	3.5
65 years and over	29.0	4.2	6.9
65-74 years	23.9	4.8	5.0
75-84 years	32.3	3.7	8.7
85 years and over	47.3	3.3	14.3

Table 4.6: 2010, Death rates per 100,000 resident male population for suicide by race (Health, United States 2013, table 35)

Age	White Males	Black Males	Risk Ratio
All ages, age-adjusted	22.0	9.1	2.4
All ages, crude	22.6	8.7	2.6
15-24 years	18.3	11.1	1.6
25-44 years	26.2	14.5	1.8
45-64 years	33.0	9.5	3.5
65 years and over	31.7	8.3	3.8
65-74 years	26.3	7.6	3.5
75-84 years	34.9	9.9	3.5
85 years and over	50.8		

Males of all ages are also more likely to die in deaths related to homicide than women. Young men 15 years to 24 years are more than six times as likely to die in a homicide related death than women. In 2010, 8.4 per 100,000 males of all ages, died via homicide.

Men aged 25 to 34 died at a rate of 17.3 per 100,000. Within this same age group, 8.3 per 100,000 white males aged 25 to 34 years died as a result of homicide in comparison to 76.1 per 100,000 black males, meaning young black men 25 to 34 years of age are 9.2 times more likely to die from homicide than white males. Black males 15 to 24 years are 9.5 times more likely to die in a homicide related death than black females (table 34).

Similarly, men of all ages are more likely to die from firearm-related injuries than females at a risk ratio of 6.6. Boys aged five to 14 years of age are 3.7 times more likely to die in a firearm related death than females of the same age. Young men 15 to 24 years of age are 8.6 times more likely, increasing to 9.1 times more likely in 20 to 24 year olds. Men 65 years and older are 11 times more likely than females to die from firearms, increasing to 24.9 times more likely for men 85 years and older. Black males are twice as likely as white males to die in firearm related deaths. Whereas, black males 15 to 24 years of age are 4.5 times more likely to die from a firearm than white males (table 36).

Behavioral Morbidity: risk behaviors

Risky behaviors such as cigarette smoking, substance abuse, alcohol intake, and lack of exercise are strongly correlated with poor health outcomes in relation to heart disease, cancer, and injury (Courtenay, 2002, Institute of Medicine, 2001b). Age adjusted data from 18 years and over, shows that in 2012, 20 percent of male survey respondents stated they were current smokers in comparison to 15.9 percent of women. Breaking down the male population by age shows men 18 to 24 years of age are 1.9 times more likely to be current smokers than men who were 65 years or older. Males 25 to 34 years of age were 2.6 times more likely to smoke than men 65 years or older. Black males 65 years of age or older are 1.7 times more likely to smoke than white males (table 56). Males with no high school diploma are 1.4 times more likely to currently smoke than their female counter parts. Males with only a high school diploma are 3.5 times more likely to smoke than those with bachelor degrees (table 56).

From 2010 to 2012 men who lived in nonmicropolitan geography were 1.6 times more likely to be current smokers than men in large metropolitan areas. Men in large

metropolitan areas were 1.5 times more likely to be current smokers than women, and men in nonmicropolitan areas were 1.2 times more likely to be current smokers than women (table 59).

In 2012, males 12 years of age and older and over were 1.6 times more likely to use illicit drugs than women, 1.2 times more likely to use marijuana and 4.3 times more likely to use non-prescription psychotherapeutic drugs within a month of the survey. When just looking at males 12 to 17 years of age, they were 1.4 times more likely to use illicit drugs and 2.2 times more likely to use nonprescription psychotherapeutics than their female counterparts within a month of the survey (table 60).

In 2012, men self-reported they were 1.1 times more likely to be heavy drinkers, which equates to 14 drinks in a week for men and seven drinks in a week for a woman. Men were 2.1 times more likely to have had five drinks on at least one day in the past year and 3.3 times more likely to have had five or more drinks on 12 or more days in the last year. Males 18 to 24 years of age were 3.3 times more likely than males 65 to 74 years of age to have five or more drinks in a day on at least 12 days within the last year. White males were 1.6 times more likely to have five drinks or more dinks on 12 or more days in a year than black males (table 63).

Health, United States 2013 tables show, between 2010 and 2011, 17,483,000 men had visits to the emergency department primarily related to injury, equating to 1,164.5 per 10,000 persons age adjusted. Up until the age of 65, men are more likely to have emergency department visits related to unintentional injuries than women. Between 18 and 65 years of age men were more likely to visit the emergency department related to intentional injuries in comparison to women. Boys under the age of 18 years were 1.5 times more likely to have injuries related to falls or cut or pierce. They were also 2.2 times more likely to have been struck by or against objects or persons, than girls of the same age. Young men aged 18 to 24 years were twice as likely to have an emergency room visit related to any injury in comparison to men 45 to 64 years of age (table 88).

Men 18 to 24 years were 1.5 times more likely to have an intentional injury than women of the same age. Young men 18 to 24 years were 1.8 times as likely to have an intentional injury in comparison to men 25 to 44 and 4.7 times more likely than men 45 to 64 years of age. Between 2010 and 2011, males aged 18 to 24 years had 403,000 emergency department visits related to intentional injuries (table 88).

Weight, nutrition and physical activity were factors seen as driving health policy in Ireland and Australia. Comparatively, between 2009 and 2012, females in the United States aged 20 years and older were more likely to be a healthy weight than men, with 32.6 percent reporting a healthy weight versus 26.1 percent of men. White females were 1.4 times more likely to be a healthy weight than white males, and women aged 35 years to 44 years of age were 1.7 times more likely to be a healthy weight than men of the same age. The exception to this, and across the board, were African American women, who were less likely to have a healthy weight and were more likely to be overweight and obese than their female or male counterparts (table 69).

While men were more likely than women to meet both aerobic activity and muscle strengthening guidelines, in 2012, only 24.6 percent of men met the aerobic activity and muscle strengthening guidelines. 50.8 percent of men met neither the aerobic activity or strengthening guidelines. This percentage increased to 61.3 percent for men 75 years of age and older (table 68).

Behavioral Access: health literacy

Despite many of these statistics showing disparity between men and women's health outcomes, less than 10 percent of males were likely to rate their health as fair or poor (9.2 percent of men, 9.9 percent of women). African Americans, non-gender specific, were 1.7 times more likely to rate their health as fair to poor in comparison to their white counterparts. Socioeconomic status was more predictive of health rating; individuals who were below 100 percent of the federal poverty level were 5.5 times more likely to rate their health as fair to poor in comparison to individuals at 400 percent or above the federal poverty level (table 52).

In 2012, men were 1.8 times more likely to have had no health visits to a physician or emergency department within the last 12 months than women. Nearly 21 percent of men reported no health visits in comparison to 11 percent of women, 10 percent of men and 15 percent of women reported having 10 or more health visits (table 78).

In 2010, men aged 18 to 44 years had 151,000 physician office visits in comparison to women's 323,000. Comparatively, when looking at visits to physician offices, hospital outpatient offices, and emergency departments, men had 205,000 visits in comparison to women's 415,000 (table 89).

Environmental

Environmental: mortality

Comparing the leading social and physical environmental factors, such as shifting gender roles, increasing research into men's health needs and moving men's health messaging away from solely masculinity related topics, is more difficult to compare in quantitative health data. However, data related to occupational deaths and health access related to insurance can provide environmental comparative measures in the United States.

In 2011, 4,693 people died in the United States as a result of a fatal occupational injury. Men represented 4,308 of those deaths, or 5.7 per 100,000 full-time equivalent employees, while women represented 385, or .7, of the deaths. Men are 8.1 times more likely to die as a result of an occupational injury than women in the United States. The majority of occupational deaths occur in workers who are non-Hispanic and white (table 38).

Environmental Access: healthcare coverage

While women were more likely to report delaying healthcare due to cost, 12.1 percent of men reported delaying care due to cost and were twice as likely to report having no health insurance or not having a healthcare visit in the last 12 months (table 75, table 125).

Females were 1.2 times more likely to have Medicaid than men. Divorced or widowed women were 1.9 times more likely to have Medicaid than men, and never married women

were 1.5 times more likely (table 124). For adults 18 to 64 years of age, men were 1.7 times less likely to have a usual source of healthcare, meaning they reported the emergency department as their usual source, than women, with 24.4 percent of men interviewed reporting they had no health insurance in between 2011 and 2012 (table 73).

V. Discussion

Overview

The *National Men's Health and Wellbeing Policy in the United States* study is the first empirical men's health and wellbeing study conducted in the United States using the transformative lens from a men's health perspective, as well as the first study to use the qualitative comparative policy analysis technique to analyze national men's health policies in comparison to men's health in the United States. Finally, the *National Men's Health and Wellbeing Policy in the United States* study is the first study to offer a comprehensive conceptual framework focusing on men's health in the United States; addressing men's health across the spectrum of biomedical, behavior, social and physical environment needs as well as highlighting the health disparities of subpopulations.

Communicating the current health status of men in the United States through empirical study, rather than conjecture and assumption based on past health practices, allows public health policy leaders to be more acutely aware of populations in need, and enhances their ability to make evidence based public health decisions. Comparison of men and women's health data is a reinforcement of the need for women's health policy, and an acknowledgement of the success the women's health movement has had on improving health outcomes (Moller-Leimkuhler, 2003; Sebelius, 2011). Showing that men are at least equally impacted by biomedical, behavioral and environmental factors resulting in poor health outcomes demonstrates that similar actions may benefit men's health in the United States. Additionally, by showing that the factors which drove other countries toward a national men's health policy exist in the United States to a similar degree, provides additional evidence that national policy may be an effective tool to addressing men's health in the United States.

Normative Lens

Using the Normative Lens of facts plus values equals conclusions (figure 2.1) (Mansdotter et al., 2004), the *National Men's Health and Wellbeing Policy in the United States* study demonstrates how analyzing the development of men's health policies from two other countries, Australia and Ireland, establishes an evidence based solution for addressing men's health and wellbeing in the United States. Results of this study show Ireland and Australia identified specific factors leading to the development a men's health policy. Using a weighted QCA accompanied by a quantitative review of health data in the United States, the *National Men's Health and Wellbeing Policy in the United States* study shows that the driving factors toward men's health policy in Ireland and Australia are mirrored in the United States and are linked to four main categories: Biomedical, Behavioral, Social and Physical Environment and Health Equity.

Biomedical

Both Australia and Ireland identified the continued gap in life span between men and women as evidence of systemic problems in men's health. Mortality issues were also strong driving factors toward men's health policy, specifically those centered on chronic diseases, such as heart disease, and malignant neoplasms. Similarly, men in the United States between the ages 15 and 64 years of age were more than twice as likely to die from diseases of the heart. Malignant neoplasms continue to be leading causes of death for both men and women in the United States, with disparities in death rates advancing with age and appearing in the area of lung cancer.

The morbidity and mortality rates associated with STDs and HIV were also driving factors for both countries. HIV weights as a strong driving factor in the United States with men of all ages being more than twice as likely to acquire and die from the disease.

Morbidity of hypertension also ranked high among the case studies. While in the United States there are not large disparities in hypertension diagnosis, men are more likely to have uncontrolled hypertension than women.

Behavioral

Behavioral factors tied to both intentional and unintentional injury appear to be strong driving factors indicating a need for men's health policy in the United States. Male suicide rates as well as rates of violence were two driving behavioral factors identified within the initial case policies. The Australian policy document *Healthy Minds* states, "...male suicides continue to outnumber female suicides, accounting for over three-quarters (77 per cent) of all suicide deaths in 2007. Suicide is the tenth leading cause of death among males and represents 2.1 per cent of all deaths for males" (Australian Government Department of Health and Aging, 2010a, p. 5). In the United States, men of all ages are four times as likely to die from suicide than women, with men 65 years and older having almost a seven times higher rate of suicide in comparison to women. In 2010, suicide claimed the lives of more than 30,000 men in the United States (National Center for Health Statistics, 2014).

Similarly, males in the United States are at far higher risk of homicide than women. Young men are six times more likely to die from homicide than young women. Ireland's policy acknowledges that many of these factors build upon each other, violence may increase as a result of alcohol consumption and both alcohol consumption and violence may be outlets for depression (Richardson, 2004, p.36, p.104). In the United States, disparity begins with the definition of heavy drinker, where women are allotted seven drinks a week, while men are allotted 14 drinks per week before being considered a heavy drinker. Men were three times as likely to have consumed at least five drinks on 12 or more days within the past 12 months (National Center for Health Statistics, 2014).

Social and Physical Environment

Health messaging, or the lack thereof, was documented as being one of the leading environmental driving factors correlated with a national men's health policy. The policy document *Getting Inside Men's Health* notes, "While the National Taskforce on Suicide documents an extensive set of recommendations for tackling suicide in Ireland, it appears to overlook the issue of suicide as a highly gendered phenomenon that underpins the stark male/female differences in completed suicides" (Richardson, 2004, p. 8). Messaging which

is incomplete, messaging that gears blame to men for their health behaviors, and messaging focused on masculinity rather than health issues, were all cited as reasons for implementing men's health policies (Australian Government Department of Health and Aging, 2010e, Richardson, 2004).

Access to healthcare was a strong driving factor to men's health policy. Data from *Health, United States 2013*, indicates that men in the United States also face access issues related to health insurance, and cost, resulting in nearly a quarter of men surveyed reporting they had no health insurance, and 20 percent reporting they had no health care visits in 2012 (National Center for Health Statistics, 2014).

Health Equity

Health equity issues were strong driving factors in Australia where the Aboriginal and Torres Strait Islander males face many health inequities when compared to their counterparts. The policy document, *Healthy Minds*, demonstrates another disparity in suicide rates, "In 2007, suicide was the sixth leading cause of death among Aboriginal and Torres Strait Islander Australians, with 3.7 per cent of all deaths in this group being due to suicide. The rate of suicide in the Aboriginal and Torres Strait Islander population is almost three times greater than the proportion of deaths that are due to suicide in the non-Indigenous population (3.7 per cent compared to 1.3 per cent)" (Australian Government Department of Health and Aging, 2010a, p. 5).

Additionally, in many instances the policy from Ireland pointed to health inequities among younger men, men of lower socioeconomic status and men who lived in rural geographical areas. Similarly, over the course of nearly every identified variable within the United States health equity issues presented. The *National Men's Health and Wellbeing Policy in the United States* study demonstrates that disparities cannot be assumed; health inequalities and inequities come in every gender, age, race and ethnicity. Ireland's report, *Getting Inside Men's Health*, acknowledged the same challenge in addressing men's health without empirical research. Several studies leading up policy development showed how without empirical research, assumptions on cause and effect of men's health outcomes could be

wrong. One study found that “Men in the 40 – 59 year age category, more well-off men and men with more formal education were significantly more likely in the past year to have driven having had two or more alcoholic drinks” (Richardson, 2004, p. 66).

In the United States, white men suffer disproportionate death rates in relationship to suicide and opioid deaths. Young men have increased rates of alcohol consumption, motor vehicle accidents and uncontrolled hypertension. African American men, however, suffer the poorest health outcomes across nearly every other variable. To name a few, African American men are at greater risk of disease and death related to heart disease, diabetes, HIV, colon cancer, and homicide.

Restraining Factors

Neither of the two initial case studies were implemented without the challenge of addressing restraining factors, which hindered policy makers and the public from accepting the need for a men’s health policy. Issues related to women’s health were the primary restraining theme in both Australia and Ireland. The misconception that health equality inherently meant equality for women, or the fear that an increased focus on men’s health would result in decreased focus, and funding, for women’s health were primary barriers to formalizing a men’s health policy.

Ireland’s *Getting Inside Men’s Health*, described and addressed the issue as such, “A valuable reference point will obviously be to learn from the existing model for women’s health, and to consult with The Women’s Health Council” (Richardson, 2004, p. 9). It goes on to say, “It can also be divisive, by inviting competition between lobbyists for men’s and women’s groups, as to which sex is the bigger victim, or which gets the best resources. It is perhaps more constructive to examine ways in which the study of men’s health can be integrated with women’s health or, with a more integrated policy on gender and health. A gendered approach to health would allow for the development of gender specific policies and initiatives that would enable in particular, more marginalised and vulnerable men and women to be offered more appropriate and effective health care” (Richardson, 2004, p. 32).

Australia's health policy makes the same argument for benchmarking men's health with that of women's health,

Gender equity does not mean competition between males and females for health services or resources. Gender equity means that the health system recognises that males and females are different, and responds in ways that make it easier for males and females to have the care they need. Gender equity means that males and females are given equal opportunity to realise good health. A gender equity approach recognises that gender is a determinant of health and that good health is not just due to the biological differences of being male or female. It is also due to the different social circumstances of people's lives that mean that some men fare better in some areas of health than some women, but worse in others. In managing their health, males and females face different challenges in getting the health information they need and in accessing services (Australian Government Department of Health and Aging 10e, 2010, p. 13).

Both countries provide a sound method to help the United States address this potential restraining factor in a way that demonstrates how policy for each gender ultimately supports and enhances the health of both genders.

Conceptual Framework

The National Framework for Improving Men's Health and Wellbeing in the United States, designed following the Men's Health and Wellbeing Literature Review, created a systems view of men's health and wellbeing placing men's health in four main categories: Biomedical, Behavioral, Environmental and Policy. Analysis of the national men's health policies published in Ireland and Australia, in conjunction with quantitative analysis of men's health data in the United States, allows for empirically based modifications to be made to the conceptual framework (figure 5.1).

The first significant update to *The National Framework for Improving Men's Health and Wellbeing in the United States* is to include health equity as a key aspect toward improving men's health outcomes. With this change is recognition that health policy is a tool to affecting each of the components within the conceptual framework, but should not be a category within itself. Figure 5.1 shows the updated *The National Framework for Improving*

Men's Health and Wellbeing in the United States (2014), where the four priority categories for men's health improvement match those identified within the *National Men's Health and Wellbeing Policy in the United States* study: Biomedical, Behavioral, Environmental, and Equity. Subcategories within each of these are made up of variables identified within the study as leading drivers toward men's health policy and can be impacted by public health intervention. As empirical data presents, the subcategories can be easily updated to show new men's health priority areas.

The first national framework for improving health outcomes for men in the United States provides a blueprint for policy makers in the United States to begin making decisions on how to impact the wellbeing of more than half the population.

Health Policy

In conjunction with a conceptual framework, health policy at a national level provides an evidence-based, empirically supported standard, which can be implemented throughout the United States. The syndemic complexities of men's health, as they are related to biology, behavior, environment, race, age and ethnicity, require a syndemic solution; one which layers and weaves interventions together to create sustainable impact on men's health outcomes. In order to address heart disease within the African American male population, understanding of how biology impacts the pharmaceutical needs of the African American population is needed, along with an understanding of the barriers African American men face to accessing medical intervention.

Health policy is not the cure to all men's health ailments, nor was it for women's health. Women continue to suffer high morbidity and mortality rates as a result of heart disease, malignant neoplasms, substance abuse and obesity. National health policy draws attention and economic support to a national issue in need of national attention. The Office of Women's Health is the embodiment of women's health policy in the United States and achieved a level of institutionalization at the national level that is needed as a guide for men's health policy development and implementation in the United States.

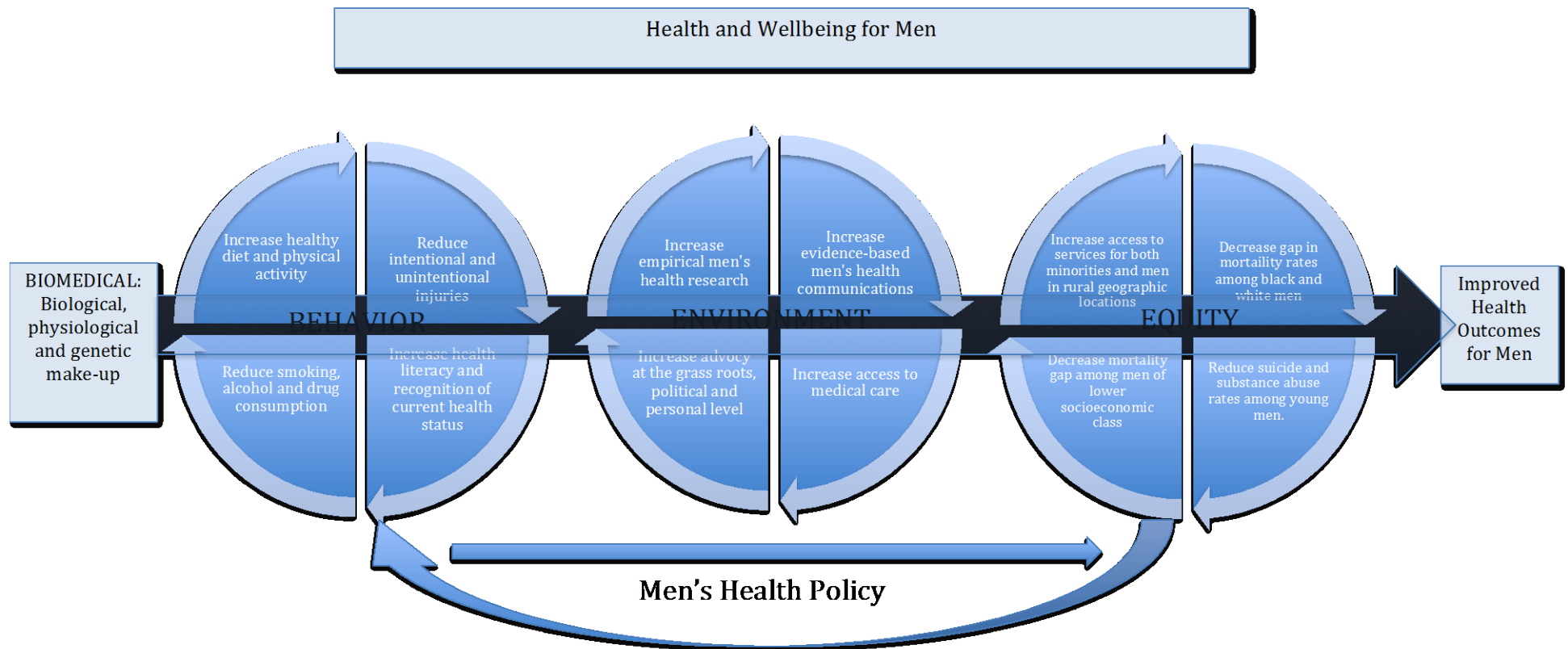
Future Studies

The policies of Ireland and Australia were heavily constructed around both qualitative and quantitative empirical studies conducted with men in each country. The *National Men's Health and Wellbeing Policy in the United States* provides evidence that men's health in the United States is in need of immediate attention at the national level, and provides a framework for how to begin addressing the health needs of men. Conducting qualitative studies with men and their networks throughout the country would further develop interventions and education directed specifically at men.

Additionally, increasing the number of surveys, which have the capability to delineate the health of men based on race, ethnicity, socioeconomic status, age and geography, would allow for a more complete understanding of disparities within men's health, further allowing for focused interventions.

Finally, increasing the integration and analysis of both direct and self-report data within men's health research is necessary. Men appear to be unreliable historians of their own health, often rating their health above fair and poor, despite high levels of chronic and infectious disease, violence, and substance abuse within their community. Integration of these data sets will provide a deeper understanding of the barriers facing men as they achieve improved health outcomes.

Figure 5.1 *National Framework for Improving Men's Health and Wellbeing in the United States* (Brennan, 2014)



Validity Limitations

There are a couple limiting factors and validity considerations to be addressed and taken into consideration within the *National Men's Health and Wellbeing Policy within the United States* study. The case studies are limited to the two countries with men's health policies, and the documents under review are limited to those documents available as public record; any factors leading to the development of the men's health policy not listed within the documents under analysis were not taken into consideration. This includes political climates, which may influence policy development. Some of these issues have been mitigated by using two comparison countries that are both considered industrialized, but are made-up of different population demographics and political histories, yet ultimately came to the same conclusion based on the health of men within their counties.

The appendices within *Health, United States, 2013*, clearly define the limitations of the document by stating, "all data collection systems are subject to error, and records may be incomplete or contain inaccurate information..." (National Center for Health Statistics, 2014, p. 385). Additionally, not all driving factors identified within the case studies may be available within this one quantitative data based document. The case policies were designed around years of both quantitative and qualitative data collection. *Health, United States*, was most useful in identifying driving biomedical and behavioral factors. Additional research or surveys may need to be completed to fully compare environmental factors. Additionally, not all variables are broken down by gender and race, limiting the ability to fully assess health equity variables.

The final limitation to note is the use of the transformative lens as an overarching framework for the study design. While all researchers should allow the data to drive the conclusions, selecting a transformative lens as part of the framework indicates the researcher believes the topic to be a social justice issue from the beginning. It has also been noted a potential limitation of the transformative lens is, "...many researchers working on transformative studies are part of a privileged class in a privileged nation of the United States" (Sweetman et al., 2010, p. 452). In order to address this limitation it should be

clearly noted the results of the *Men's Health and Wellbeing Policy in the United States* study are meant to be specific to the United States, using data from other similarly developed countries. While the transformative lens is designed to, ..."incorporate intent to advocate for an improvement in human interests and society through addressing issues of power and social relationships" (Sweetman et al., 2010, p. 441), there is no intent to advocate for fewer resources or interventions for other populations, in order to create equality.

VI. Conclusion

Men are disproportionately affected by nearly all of the leading causes of morbidity and mortality in the United States in comparison to women. Additionally, subpopulations of men, particularly African American men, young men and men of low socioeconomic classes, are at even greater risk for poor health outcomes than their male peers. Yet with comparison has come a sense of competition rather than the acknowledgement of health and wellbeing as a system where population health must encompass the total population, and where the health of one group can have long-term impacts on another.

The gender health dispute has the potential to be an endless loop: women are more likely to suffer from chronic diseases than men, while men are more likely to die from them. Women are more likely to contemplate suicide; men are more likely to commit suicide. Women are more likely to be victims of domestic violence; men are more likely to be victims of violent acts. Men are less likely to have insurance, while women are more likely to be dependents on insurance policies. Comparisons of health data demonstrate disparity in health outcomes as well as public health resources. However, comparisons can also restrain policy development, if a sense of competition isn't ameliorated with a sense of collaboration. If comparison to women's health restrains action directed towards men's health, there must be a threshold where public health action is deemed not only necessary, but imperative when it comes to men's health outcomes. Men's mortality rates from HIV, suicide, homicide and substance abuse surpass the rates of other diseases or conditions, which are the subject of national public health action (e.g., influenza vaccinations), yet there seems to be a lack of urgency when it comes to addressing the needs of men.

Research conducted in Ireland during policy development noted, “...it appears that many Irish men can pass through their 20s, 30s and perhaps 40s without ever really being conscious or proactive about their health. Sadly, it seems to require the experience of a health crisis, in relation to either oneself or someone close, to act as a ‘wake-up call’ to an increased health-consciousness” (Richardson, 2004, p.95). Conceptually, this sentiment is emulated in public health policy in the United States. Men in the United States are facing a health crisis, requiring public health leaders and policy makers to hear the ‘wake-up call’ that men are dying from preventable diseases and injuries every day at astonishing rates.

In 2010, 22.5 per 100,000 white males aged 25 to 34 died from suicide. In that same year, 17.3 per 100,000 black men aged 25 to 34 years old died from homicide (National Center for Health Statistics, 2014). The epistemology surrounding men’s health, which supports a concept labeling masculinity as a reason for poor health outcomes, must transition to one that acknowledges the many barriers men face to achieving optimal health and wellness. If suicide and homicide were considered an infectious disease within the communities where men live, the intervention would be clear: identify the root cause and begin addressing it with empirical data, evidence-based action, clear communication and public policy.

With a conceptual framework from which to base decisions and funding allocations, the United States has the potential to make great impacts on improving health indicators, by focusing on populations most affected. In order to truly begin making an impact on the health of the population, there must be evidence-based decisions made regarding who is at the most risk for poor health outcomes and has a need for immediate intervention. Men’s health and women’s health are closely intertwined, and valuing one to the point of negating the other, will ultimately result in the deterioration of both.

Leadership Implications

The implications of the *Men’s Health and Wellbeing Policy in the United States* are there is a gap in leadership advocating for men’s health in the United States, and the gap must be filled in order to meet the standard that all people have the fundamental right to be

healthy, and well, within their communities regardless of gender. The opportunity to add men's health to the public health lexicon presented with the development of the Patient Protection and Affordable Care Act (ACA) signed by President Barack Obama in 2010. While ACA may improve men's health as a byproduct of increasing access to affordable healthcare, it is clear that men's health was not considered a priority during policy development. The most basic of searches through ACA shows the word 'men' is mentioned only twice, the first in reference to women's health "...provide information to women and health care providers on those areas in which differences between men and women exist" (Patient Protection and Affordable Care Act, 2010, p. 418). The second instance is simply a mention of men as part of the population (along with women and children) a primary care provider serves. The words: male, boy, boys, or men's are not written into ACA at all. Women, however, were clearly a priority among policy developers who referenced women 79 times within the policy, in addition to the 67 instances of the word 'women's' (Patient Protection and Affordable Care Act, 2010).

It has been proposed that gender mainstreaming within health policy is one way to address health disparity (World Health Organization, 2001). While gender mainstreaming within health policy should theoretically result in a balanced health and wellness system, the perception that health equality is predominantly a women's health issue, indicates there is a need for overt, deliberate action specific to increasing men's health outcomes. Males and females of all ages have unique needs within the health system. Not acknowledging these unique needs, or only acknowledging the needs of one gender, can contribute to unequal health outcomes between males and females and between diverse groups of males. Fortunately, the United States has three empirically developed models to refer to when addressing the specific needs of men's health: Ireland's *National Men's Health Policy 2008 – 2013*, Australia's *National Male Health Policy*, and the United States' ACA directing women's health policies.

Although previously established within the Public Health Service Act, section 3509 of ACA, *Improving Women's Health*, further institutionalized women's health policy across governmental agencies in the form of both political and fiscal support. As noted in the

Report to Congress, *Report on Activities Related to 'Improving Women's Health' As Required by the Affordable Care Act*, "The Affordable Care Act codifies the establishment of an Office on Women's Health within the Office of the Secretary of HHS as well as Offices of Women's Health within four of its agencies: the Agency for Healthcare Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the Health Resources and Services Administration (HRSA). The Affordable Care Act gives these offices, all of which were already in existence, new authority, agency location, and protection from termination or reorganization without the direct approval of Congress" (U.S. Department of Health and Human Services, 2013a, p.iii). ACA also codifies a position to head the Office of Women's Health to ensure it is a priority within HHS (U.S. Department of Health and Human Services., 2013a). Partnering leadership, agency mission integration and fiscal support has resulted in hundreds of women's health programs integrated across the private and public spectrum, working with thousands of women with the common mission to improve health outcomes (U.S. Department of Health and Human Services, 2013a).

At the forefront of this effort is the Office of Women's Health (OWH) within HHS. According to the *2014 – 2016 Office of Women's Health Strategic Plan*, the mission of the HHS OWH is to provide "national leadership and coordination to improve the health of women and girls through policy, education, and model programs" (U.S. Department of Health and Human Services, 2013b, p.1). The first goal of OWH is to "Inform and Advance Policies..." including to "Lead, coordinate, or strengthen federal, state, regional, and local partnerships to impact national policy as it relates to women and girls" (U.S. Department of Health and Human Services, 2013b, p.1).

According to the semi-annual OWH ACA report, "HHS is the U.S. government's principal agency for protecting the health of all Americans and providing essential human services" (U.S. Department of Health and Human Services., 2013a, p. 1). However, it is unclear how HHS is ensuring that men are provided with all essential human services, or even similar levels of human services as women. A website site on HHS titled, *Are there any HHS programs for men's health?* states, "In recent years there has been an emphasis on women's

health issues, but men have health issues also” (U.S. Department of Health and Human Services, 2014a). Another HHS website under Federal Occupational Health is entitled, *Man Up. Take Control of Your Health*, and tells men to “spin the wheel of manliness” to “learn tips and tricks to take control of your health” (U.S. Department of Health and Human Services, 2014b). Introducing the website is the statement, “Men face unique health challenges, and one of the most dangerous is their reluctance to seek health care” (U.S. Department of Health and Human Services, 2014b). Incomplete messaging and health messaging that is blaming in tone, were social environment factors driving men’s health policy in Ireland and Australia. With just a few examples from national government websites, the same type of messaging is observable in the United States. Messaging of this type promulgates the idea that men are at fault for their own poor health outcomes and if they would only ‘man up’ they would be healthier.

Public health leadership and coordination across national, state and local agencies focused on men’s health is needed to improve the health and wellbeing of men within the United States. In order to accomplish a sustainable level of public health initiative, men’s health must be: explicitly incorporated into national health policy, established as a priority of HHS, provided fiscal resources, and the subject of empirical research, program design and evaluation.

In order to create the same level of policy institutionalization as women’s health, an Office of Men’s Health (OMH) within HHS is needed to develop a mission and vision where men, boys and their families, are able to lead safe and healthy lives with disregard to race, ethnicity, socioeconomic status, sexual orientation or age. From a policy development standpoint an OMH has the potential benefit of being modeled after the OWH, where policy language, fiscal allocations, and program evaluation have been in place for more than a decade. According to the weighted qualitative results of the *Men’s Health and Wellbeing Policy in the United States*, the leading restraining factors of implementing a men’s health policy in the form of an OMH in the United States could be the assumption that health equality means women’s health and the belief that men’s health policy could divert attention and funding away from women’s health issues. Men and women’s health experts

have the opportunity to develop language establishing an OMH, which would closely mirror that of the OWH and require a collaborative integrated approach. Both Ireland and Australia were able to justify the need to men's health policies based on the health of men in their countries along with the impact men's health had on the female population. Importantly they were able to show that subpopulations of men were suffering disproportionately poor health outcomes to their male peers and develop an environment, which valued creating positive public health change.

Public health leaders in the United States have the opportunity to advance upon the health frameworks already in existence, combine them with the health needs of men in the United States, and build upon them to develop a health system that values and prioritizes men's health as part of core public health. To allow the men's health crisis to continue to go unanswered with national public health intervention is to undervalue not only the health of men, but the health of their families and the communities they live in.

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Appendix A: Literature Review Overview

The goal of the Men's Health and Wellbeing Policy in the United States literature review was to provide a critical assessment of men's health in the United States and similarly industrialized countries. The literature review was conducted in two phases; review of the literature based on the topic men's health, and a more through review of literature based on the research questions.

Research into the topic of men's health and wellbeing began in 2005 and the research question, "What are the leading causes for the plateau of survivorship years in young adult cancer survivors?" Figures A.1 and A.2 show the progression of research from this topic, which ultimately showed that much of the plateau resided with young male survivors, into the dissertation questions presented in the proceeding proposal. Figure A.1 shows how phase one of the literature review provided a detailed historic view of gender and health, why gender became synonymous with female health, and the influences on public health resource allocations. Figure A.2 shows the key terms used to fully inform the current status of men's health and men's health policy.

Figure A.1

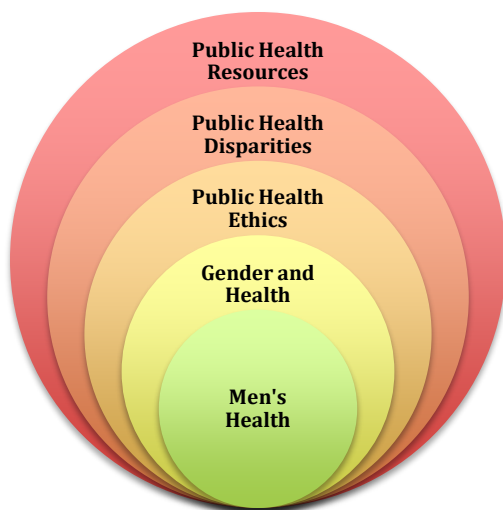
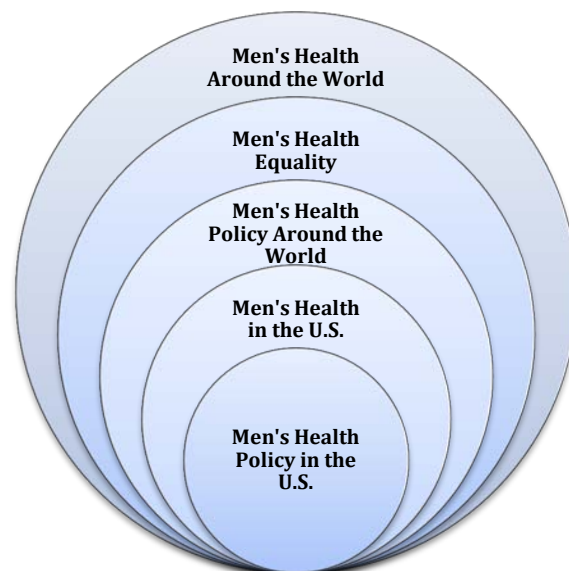


Figure A.2



Nearly 150 articles, books, reports and journals, found through internet-based searches were reviewed and organized thematically to inform the development of the dissertation questions and literature review on men's health and wellbeing. The foundation of resources was built upon initially during DrPH coursework such as public health ethics, and women's policy analysis. More systematic searches were conducted utilizing broad-based internet search engines, bibliographic databases such as Medline, and cross referencing citations of formative men's health literature. Internet search engines, such as Google, were key to finding seminal documents on gender and health, health disparities and policy documents posted to government websites. These were easily located using key terms such as men's health policy, men's health disparity and health in the United States. Bibliographic databases, such as Medline, were used to search for current empirical research and conceptual frameworks related to gender and health, and men's health. Literature was reviewed for relevance and timeliness, with searches specific to current men's health policy and theory limited to publications between 1990 and 2013. Specific topics, such as injury and violence, were sought out to provide a comprehensive review of men's health. All references were logged and thematically coded in the bibliographic software EndNote. Ultimately, 75 references were employed to describe the current status of men's health and men's health policy in the United States.

Key Terms

Men's Health
Women's Health
Gender and Health
Health Equity
Health Equality
Men's Health Policy
Masculinity and Health
Men's Health Policy in Australia
Men's Health Policy in Ireland
Men's Health Policy in the United States
Health in the United States

Appendix B:
Men's Health and Wellbeing in the United States Dissertation
Coding Document
March 2014

Introduction and Research Questions:

The *National Men's Health and Wellbeing Policy in the United States* study utilizes a mixed-methods study design using a fuzzy-set qualitative comparative analysis (fsQCA). A fsQCA is a way to code and weight qualitative data. The *National Men's Health and Wellbeing Policy in the United States* study is analyzing the men's health policies of Ireland and Australia.

The *National Men's Health and Wellbeing Policy in the United States* study seeks to answer the primary research question: "What are the driving biomedical, behavioral and environmental factors indicating a potential need for a national men's health policy in the United States?"

Secondary research questions include:

- What driving factors led to the development of men's health policies in Australia and Ireland?
- What restraining factors hindered the development of men's health policies in Australia and Ireland?
- How do the factors, which contributed to the successful development of men's health policies in Australia and Ireland inform men's health policy development in the United States?

Role of the Coder:

There will be three data coders for this study, the primary investigator, and two secondary coders conducting quality assurance. Each document will be coded by the primary investigator and one secondary coder. Coding will begin after an initial pilot phase where a subset of documents are coded by each coder to identify primary and secondary variables, which should be added to the code tree. Each coder will independently take a series of coding tests to calculate inter-rater reliability (IRR). IRR will be calculated for both assigning and weighting codes. Once IRR calculates above 80 percent for both application and weighting, study coding will begin.

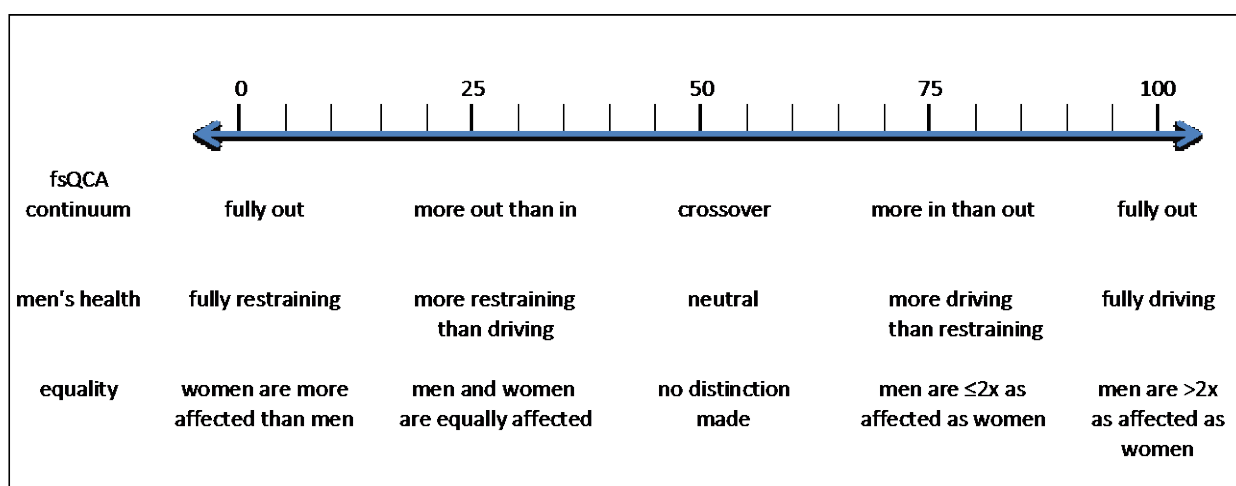
Data Coding Software:

A web-based qualitative and mixed methods analysis system called Dedoose is being used for data coding and analysis. A primary and a secondary coder will code each document. Prior to coding, each coder should review the Dedoose resource videos and user guide located at: <http://www.dedoose.com/resources/>. Coders should pay special attention to the Code Tree section of the user guide, as well as the Excerpting and Coding section.

Data Coding:

Once imported into Dedoose, documents are reviewed for health equality variables categorized as biomedical, behavioral or environmental, as well as health equity variables. Each variable is then weighted in accordance to the fsQCA continuum.

Code Continuum



For items that are categorized as biomedical or behavioral, the fsQCA values will be broken into two major sections analyzing for both health equality between both genders, and health equity within subpopulations of men.

For the purposes of the men's health and wellbeing study, gender health equality is defined as, fairness and justice in the distribution of benefits, power, resources and responsibilities between women and men (Payne, 2009; World Health Organization, 2001). Similarly, health equity is defined as, the absence of discrimination on the basis of a person's social position in opportunities, allocation of resources or benefits, and access to services (Braverman & Gruskin, 2003; Payne, 2009; World Health Organization, 2001). In short,

health **equality** will look at the variations in health between men and women and **equity** will look at the variation in health among men themselves as a result of race, ethnicity and socioeconomic status. This distinction strengthens the policy analysis in the area of minority health.

In order to standardize the weighting process, a weighting/syntax tool has been created. Each variable categorized as biomedical or behavioral will be assigned fsQCA values, where 0 and 25 will be considered restraining factors when men are equally or less impacted by the variable, while 75 and 100 will be categorized as driving factors when men are more impacted. Similarly, codes categorized as environmental will be assigned weights depending on how the policy describes the impact of the variable. The weight of 50 will be used as a crossover/neutral point, to allow for variables to be documented and counted even if a driving or restraining distinction is not made. Health equity codes will only be analyzed within a neutral or driving range, as the negation value of ‘the majority of men are affected by the variable’ would not be classified as a health equity issue.

National Men’s Health and Wellbeing Policy in the United States fsQCA weighting system

Health Equality

- 100 Men are more than twice as affected as women
- 75 Men are up to twice as affected as women
- 50 No health equality distinction made
- 25 Men are equally as affected as women
- 0 Women are more affected than men

Health Equity

- 100 A subpopulation of men are more than twice as affected as other men
- 75 A subpopulation of men are up to twice as affected as other men
- 50 No health equity issue was discussed or distinction made

For codes relating to environmental factors will be valued as driving or restraining as such:

- 100 Strong driving factor
- 75 More driving than restraining
- 50 No driving or restraining distinction made
- 25 More restraining than driving
- 0 Strongly restraining factor

Through weighted analysis the driving and restraining factors associated with each policy allows for an objective comparison as well as informs the selection of factors and associated variables within the United States focused quantitative analysis section of the study.

Data Coding:

Excerpt from Ireland's *Getting Inside Men's Health* from Ireland:

"In the 25-34 year age group the male rate of admission [to a psychiatric hospital] is one and a half times that of the female rate... and men are twice as likely as women to have used illegal drugs" (Richardson, 2004, p. 19).

Category	Primary Code	Secondary Code	Weight
Biomedical	Mental Health		75
Behavioral	Substance Abuse		100

Explanation:

This excerpt would be categorized as 'Biomedical', with a code of 'Mental Health', with a weight of 75 indicated this was a driving force, because men were up to twice as affected as women. A second code of 'Substance Abuse' was categorized as Behavioral and weighted at 100 as a result of men being twice as likely as women to have used illegal drugs.

Excerpt from Ireland's *National Men's Health Policy 2008-2013*,

"...men in Ireland identified reduction in stress as their top requirement for improving general health" (Department of Health and Children, 2008, p. 91).

Category	Primary Code	Secondary Code	Weight
Biomedical	Mental Health	Stress	100

Explanation:

This extract would be categorized as 'Biomedical' with a primary code of 'Mental Health' and secondary code of 'Stress'. Both 'Mental Health' and 'Stress' will be weighed at 100, due to men identifying these variables as a 'top requirement.' The weight of the secondary code is automatically the weight of the primary code.

Excerpt:

The publication of this National Men's Health Policy is a significant and important step in promoting optimum health and well being for all men in Ireland. The case for an increased focus on men's health is compelling. Men die, on average, almost five years younger than women do and have higher death rates at all ages, and for all leading causes of death.

Category	Primary Code	Secondary Code	Weight
Biomedical	Mortality		75

Explanation:

Men were identified as having higher death rates, however no specific difference in rates was mentioned.

Excerpt:

Yet, on average, Australian males have a shorter life expectancy than Australian females, and some population groups of males, particularly Aboriginal and Torres Strait Islander males, have significantly shorter life expectancies than others.

Category	Primary Code	Secondary Code	Weight
Biomedical	Mortality		75
Health Equity	Indigenous	Mortality	100

Explanation:

Two types of disparities were mentioned: men versus women and men versus a subpopulation of men. Wording is vague on the exact disparity level of men in comparison to women, therefore it receives a weight of 75. The text states that the disparity of all men in comparison to Aboriginal and Torres Strait men is 'significant' indicating a strong driving factor and therefore a weight of 100.

Excerpt:

The survey found that males were more than twice as likely as females to have substance use disorders (7 per cent compared to 3 per cent). On the other hand, females were more likely than males to have experienced anxiety disorders (18 per cent compared to 11 per cent) and affective (depressive) disorders (7 per cent compared to 5 per cent).

Category	Primary Code	Secondary Code	Weight
Behavioral	Substance Abuse		100
Biomedical	Mental Health	Anxiety	0
Biomedical	Mental Health	Depression	0

Explanation:

Men are more than twice as likely as females to have a substance abuse disorder therefore this codes as Behavioral, Substance Abuse at a weight of 100. However, it is noted that women are more likely than men to have anxiety and depression, both of these variables fall under Mental Health and will be weighted at a zero.

Excerpt

However, male suicides continue to outnumber female suicides, accounting for over three-quarters (77 per cent) of all suicide deaths in 2007.

Category	Primary Code	Secondary Code	Weight
Behavioral	Suicide		100

Explanation:

The variable suicide is listed under the category 'Behavioral' primary code 'suicide.' At 77 percent versus the remaining 33 percent, men are more than twice as likely to commit suicide indicating a weight of 100.

Data Coding:

Secondary coders review documents, which have already been coded by a primary coder. Secondary coders can add excerpts that the primary coder missed, and change weights. When codes are added, the secondary coder must also add the code that has their name and change (e.g., Jen Add). When a weight is changed the change code should be added (e.g., Jen Change). The primary investigator will review all additions and changes to determine if they are in compliance with the coding document.

Men's Health and Wellbeing in the United States Code Book

Category	Primary Code	Secondary Code
Behavioral	drop out of school	
Behavioral	alcohol consumption	
Behavioral	alcohol consumption	binge drinking
Behavioral	convicted of a crime	
Behavioral	drinking and driving	
Behavioral	general risky behavior	
Behavioral	health literacy	
Behavioral	health literacy	mental health literacy
Behavioral	health literacy	perception of risk or health
Behavioral	injury	
Behavioral	injury	motor vehicle
Behavioral	injury	self harm
Behavioral	injury	work
Behavioral	lack of physical activity	
Behavioral	masculinity	
Behavioral	non-help seeking	
Behavioral	non-help seeking	Infertility/ED
Behavioral	non-help seeking	Fear
Behavioral	Non-help seeking	Mental health
Behavioral	nutrition/unhealthy eating habits	
Behavioral	risky driving	
Behavioral	risky sexual behavior	
Behavioral	risky sexual behavior	condom use
Behavioral	substance abuse	
Behavioral	suicide	
Behavioral	tobacco use	
Behavioral	violence	
Behavioral	violence	domestic violence

Biomedical	Disability	
Biomedical	Erectile Dysfunction	
Biomedical	STDs	
Biomedical	STDs	HIV
Biomedical	STDs	syphilis
Biomedical	cancer	
Biomedical	cancer	colorectal
Biomedical	cancer	lung
Biomedical	cancer	prostate cancer/disease
Biomedical	chronic disease general	
Biomedical	diabetes	
Biomedical	heart disease	
Biomedical	heart disease	cholesterol
Biomedical	heart disease	hypertension
Biomedical	lung disease	
Biomedical	mental health	
Biomedical	mental health	anxiety
Biomedical	mental health	depression
Biomedical	mental health	stress
Biomedical	morbidity	
Biomedical	mortality	
Biomedical	mortality	life expectancy
Biomedical	mortality	young men vs young women
Biomedical	mortality	potential life years
Biomedical	obesity/overweight	
Biomedical	obesity/overweight	overweight boys vs girls
Biomedical	reproductive/infertility	
Biomedical	stroke	

Health Equity	Health Equity: General	
Health Equity	HE: Mortality	
Health Equity	LGBT	
Health Equity	LGBT	STDs (HIV)
Health Equity	LGBT	anxiety
Health Equity	LGBT	depression
Health Equity	LGBT	help seeking
Health Equity	LGBT	risky sexual practices
Health Equity	LGBT	suicide
Health Equity	age: older	
Health Equity	age: older	cancer
Health Equity	age: older	cardiovascular
Health Equity	age: older	dementia
Health Equity	age: older	disability
Health Equity	age: older	erectile dysfunction
Health Equity	age: older	falls
Health Equity	age: older	obese/overweight
Health Equity	age: older	palliative care needs
Health Equity	age: younger	
Health Equity	age: younger	STDs
Health Equity	age: younger	access to healthcare
Health Equity	age: younger	alcohol consumption
Health Equity	age: younger	health literacy: risk perception
Health Equity	age: younger	help seeking
Health Equity	age: younger	physical activity
Health Equity	age: younger	riskier behaviors
Health Equity	age: younger	risky sexual behavior
Health Equity	age: younger	stress
Health Equity	age: younger	substance abuse
Health Equity	age: younger	suicide
Health Equity	age: younger	violence
Health Equity	disability	
Health Equity	disability	alcohol consumption
Health Equity	disability	chronic disease: heart disease
Health Equity	disability	depression
Health Equity	disability	lack of physical activity
Health Equity	disability	obesity/overweight
Health Equity	disability	unhealthy eating/nutrition
Health Equity	immigrants	
Health Equity	immigrants	cancer
Health Equity	immigrants	lung
Health Equity	immigrants	chronic disease
Health Equity	immigrants	obesity/overweight

Health Equity	immigrants	unhealthy eating/nutrition
Health Equity	indigenous	
Health Equity	indigenous	STDs
Health Equity	indigenous	alcohol consumption
Health Equity	indigenous	cancer
Health Equity	indigenous	prostate cancer
Health Equity	indigenous	chronic disease
Health Equity	indigenous	disability
Health Equity	indigenous	drinking and driving
Health Equity	indigenous	education
Health Equity	indigenous	health literacy (ability to self assess)
Health Equity	indigenous	hospitalizations
Health Equity	indigenous	lack of physical activity
Health Equity	indigenous	life expectancy
Health Equity	indigenous	mental health
Health Equity	indigenous	mortality/life expectancy
Health Equity	indigenous	obese/overweight
Health Equity	indigenous	other health conditions (other chronic)
Health Equity	indigenous	reproductive health
Health Equity	indigenous	risky driving
Health Equity	indigenous	social isolation
Health Equity	indigenous	substance abuse
Health Equity	indigenous	suicide
Health Equity	indigenous	tobacco use
Health Equity	indigenous	unhealthy eating/nutrition
Health Equity	indigenous	violence
Health Equity	low education	
Health Equity	low education	alcohol consumption
Health Equity	low education	health literacy
Health Equity	low education	poor physical activity and nutrition
Health Equity	low education	report poor health
Health Equity	low education	risk behaviors
Health Equity	low education	stress
Health Equity	males in criminal justice system	
Health Equity	males in criminal justice system	STDs (Hep C)
Health Equity	males in criminal justice system	drug use
Health Equity	males in criminal justice system	suicide
Health Equity	non-fathers	
Health Equity	non-fathers	risk behaviors
Health Equity	rural/remote	
Health Equity	rural/remote	STDs/Sexual Health
Health Equity	rural/remote	access to health services
Health Equity	rural/remote	alcohol consumption

Health Equity	rural/remote	cancer
Health Equity	rural/remote	prostate cancer
Health Equity	rural/remote	chronic disease
Health Equity	rural/remote	depression
Health Equity	rural/remote	disability
Health Equity	rural/remote	drug use
Health Equity	rural/remote	erectile dysfunction treatment
Health Equity	rural/remote	health literacy
Health Equity	rural/remote	injury
Health Equity	rural/remote	lack of physical activity
Health Equity	rural/remote	mortality/life expectancy
Health Equity	rural/remote	obese/overweight
Health Equity	rural/remote	preventive health services
Health Equity	rural/remote	risky sexual behavior (condom use)
Health Equity	rural/remote	suicide
Health Equity	rural/remote	tobacco use
Health Equity	rural/remote	unhealthy eating/nutrition
Health Equity	rural/remote	violence
Health Equity	social determinants	
Health Equity	socially isolated males	
Health Equity	socioeconomic	
Health Equity	socioeconomic	STDs/Sexual Risk Factor
Health Equity	socioeconomic	alcohol consumption
Health Equity	socioeconomic	alcohol consumption
Health Equity	socioeconomic	cancer
Health Equity	socioeconomic	prostate cancer
Health Equity	socioeconomic	chronic disease: diabetes and heart disease
Health Equity	socioeconomic	drug use
Health Equity	socioeconomic	health literacy
Health Equity	socioeconomic	injury
Health Equity	socioeconomic	mortality/life expectancy
Health Equity	socioeconomic	obese/overweight
Health Equity	socioeconomic	risk behaviors
Health Equity	socioeconomic	suicide
Health Equity	socioeconomic	tobacco use
Health Equity	unmarried	
Health Equity	unmarried	poorer health
Health Equity	unmarried	veterans
Health Equity	unmarried	anxiety
Health Equity	unmarried	depression
Health Equity	unmarried	suicide

Environmental	Return on Investment (ROI)	
Environmental	Return on Investment (ROI)	ROI: loss of productivity
Environmental	access	
Environmental	access	access: cost
Environmental	access	access: lack of insurance
Environmental	access	access: physician practices
Environmental	access	access: rural geography
Environmental	access	access: workers
Environmental	advocacy: general	
Environmental	advocacy	advocacy: grass roots work
Environmental	advocacy	advocacy: political support
Environmental	competition with women's health issues/resources	
Environmental	create optimal health	
Environmental	develop men's health mission and agenda	
Environmental	diversity in men's health needs	
Environmental	economy	
Environmental	existing polices	
Environmental	existing polices	data collection on men's representation in policy
Environmental	general environmental	
Environmental	health messaging	
Environmental	health messaging	labeling of masculinity as issue
Environmental	health messaging	men responsible for poor outcomes
Environmental	health messaging	socialized against vulnerability
Environmental	holistic approach	
Environmental	hospital admission rates	
Environmental	hospital admission rates	psychiatric hospital
Environmental	improved social networks	
Environmental	improves health of women and children	
Environmental	increased attention to men's health	
Environmental	increased attention to men's health	increase men's attention to their own health
Environmental	increased funding	
Environmental	lack of strategy	
Environmental	lack of understand what is men's health	
Environmental	men's health research	
Environmental	men's health research	increase research or funding
Environmental	men's health research	lack of research
Environmental	not identified as a target population	

Environmental	policy creates a framework	
Environmental	promotion of masculinity	
Environmental	protection from sexual abuse/awareness of	
Environmental	representation of men in current policies	
Environmental	risk perception	
Environmental	risk perception	marginalized problems
Environmental	risk perception	social bias - men depression
Environmental	shifting gender roles	
Environmental	terminology	
Environmental	terminology	sex versus gender
Environmental	terminology	terminology: synonymous with women's health
Environmental	work environment: toxic substances	

Appendix C: Health, United States 2013, example tables used for quantitative analysis

Table 35 (page 1 of 3). Death rates for suicide, by sex, race, Hispanic origin, and age: United States, selected years 1950–2010

Updated data when available, Excel, PDF, and more data years: <http://www.cdc.gov/nchs/hus/contents2013.htm#035>.

[Data are based on death certificates]

Sex, race, Hispanic origin, and age	1950 ^{1,2}	1960 ^{1,2}	1970 ²	1980 ²	1990 ²	2000 ³	2009 ³	2010 ³
All persons								
Deaths per 100,000 resident population								
All ages, age-adjusted ⁴	13.2	12.5	13.1	12.2	12.5	10.4	11.8	12.1
All ages, crude	11.4	10.6	11.6	11.9	12.4	10.4	12.0	12.4
Under 1 year	...	...	...	...	...	...	...	...
1–4 years	...	...	...	...	...	...	...	...
5–14 years	0.2	0.3	0.3	0.4	0.8	0.7	0.6	0.7
15–24 years	4.5	5.2	8.8	12.3	13.2	10.2	10.0	10.5
15–19 years	2.7	3.6	5.9	8.5	11.1	8.0	7.5	7.5
20–24 years	6.2	7.1	12.2	16.1	15.1	12.5	12.6	13.6
25–44 years	11.6	12.2	15.4	15.6	15.2	13.4	14.6	15.0
25–34 years	9.1	10.0	14.1	16.0	15.2	12.0	13.1	14.0
35–44 years	14.3	14.2	16.9	15.4	15.3	14.5	16.1	16.0
45–64 years	23.5	22.0	20.6	15.9	15.3	13.5	17.9	18.6
45–54 years	20.9	20.7	20.0	15.9	14.8	14.4	19.2	19.6
55–64 years	26.8	23.7	21.4	15.9	16.0	12.1	16.4	17.5
65 years and over	30.0	24.5	20.8	17.6	20.5	15.2	14.8	14.9
65–74 years	29.6	23.0	20.8	16.9	17.9	12.5	13.7	13.7
75–84 years	31.1	27.9	21.2	19.1	24.9	17.6	15.8	15.7
85 years and over	28.8	26.0	19.0	19.2	22.2	19.6	16.4	17.6
Male								
All ages, age-adjusted ⁴	21.2	20.0	19.8	19.9	21.5	17.7	19.2	19.8
All ages, crude	17.8	16.5	16.8	18.6	20.4	17.1	19.3	19.9
Under 1 year	...	...	...	...	...	...	...	...
1–4 years	...	...	...	...	...	...	...	...
5–14 years	0.3	0.4	0.5	0.6	1.1	1.2	0.8	0.9
15–24 years	6.5	8.2	13.5	20.2	22.0	17.1	16.1	16.9
15–19 years	3.5	5.6	8.8	13.8	18.1	13.0	11.6	11.7
20–24 years	9.3	11.5	19.3	26.8	25.7	21.4	20.8	22.2
25–44 years	17.2	17.9	20.9	24.0	24.4	21.3	23.0	23.6
25–34 years	13.4	14.7	19.8	25.0	24.8	19.6	21.0	22.5
35–44 years	21.3	21.0	22.1	22.5	23.9	22.8	24.9	24.6
45–64 years	37.1	34.4	30.0	23.7	24.3	21.3	27.9	29.2
45–54 years	32.0	31.6	27.9	22.9	23.2	22.4	29.3	30.4
55–64 years	43.6	38.1	32.7	24.5	25.7	19.4	26.1	27.7
65 years and over	52.8	44.0	38.4	35.0	41.6	31.1	29.1	29.0
65–74 years	50.5	39.6	36.0	30.4	32.2	22.7	24.3	23.9
75–84 years	58.3	52.5	42.8	42.3	56.1	38.6	32.9	32.3
85 years and over	58.3	57.4	42.4	50.6	65.9	57.5	44.0	47.3
Female								
All ages, age-adjusted ⁴	5.6	5.6	7.4	5.7	4.8	4.0	4.9	5.0
All ages, crude	5.1	4.9	6.6	5.5	4.8	4.0	5.0	5.2
Under 1 year	...	...	...	...	...	...	...	...
1–4 years	...	...	...	...	...	...	...	...
5–14 years	0.1	0.1	0.2	0.2	0.4	0.3	0.5	0.4
15–24 years	2.6	2.2	4.2	4.3	3.9	3.0	3.6	3.9
15–19 years	1.8	1.6	2.9	3.0	3.7	2.7	3.2	3.1
20–24 years	3.3	2.9	5.7	5.5	4.1	3.2	4.1	4.7
25–44 years	6.2	6.6	10.2	7.7	6.2	5.4	6.2	6.4
25–34 years	4.9	5.5	8.6	7.1	5.6	4.3	5.1	5.3
35–44 years	7.5	7.7	11.9	8.5	6.8	6.4	7.4	7.5
45–64 years	9.9	10.2	12.0	8.9	7.1	6.2	8.5	8.6
45–54 years	9.9	10.2	12.6	9.4	6.9	6.7	9.3	9.0
55–64 years	9.9	10.2	11.4	8.4	7.3	5.4	7.4	8.0
65 years and over	9.4	8.4	8.1	6.1	6.4	4.0	4.0	4.2
65–74 years	10.1	8.4	9.0	6.5	6.7	4.0	4.6	4.8
75–84 years	8.1	8.9	7.0	5.5	6.3	4.0	3.6	3.7
85 years and over	8.2	6.0	5.9	5.5	5.4	4.2	3.2	3.3
White male ⁵								
All ages, age-adjusted ⁴	22.3	21.1	20.8	20.9	22.8	19.1	21.4	22.0
All ages, crude	19.0	17.6	18.0	19.9	22.0	18.8	21.9	22.6
15–24 years	6.6	8.6	13.9	21.4	23.2	17.9	17.6	18.3
25–44 years	17.9	18.5	21.5	24.6	25.4	22.9	25.7	26.2
45–64 years	39.3	36.5	31.9	25.0	26.0	23.2	31.4	33.0
65 years and over	55.8	46.7	41.1	37.2	44.2	33.3	31.5	31.7
65–74 years	53.2	42.0	38.7	32.5	34.2	24.3	26.6	26.3
75–84 years	61.9	55.7	45.5	45.5	60.2	41.1	35.3	34.9
85 years and over	61.9	61.3	45.8	52.8	70.3	61.6	46.9	50.8

See footnotes at end of table.

Table 34 (page 1 of 4). Death rates for homicide, by sex, race, Hispanic origin, and age: United States, selected years 1950–2010

Updated data when available, Excel, PDF, and more data years: <http://www.cdc.gov/nchs/hus/contents2013.htm#034>.

[Data are based on death certificates]

<i>Sex, race, Hispanic origin, and age</i>	<i>1950^{1,2}</i>	<i>1960^{1,2}</i>	<i>1970²</i>	<i>1980²</i>	<i>1990²</i>	<i>2000³</i>	<i>2009³</i>	<i>2010³</i>
Deaths per 100,000 resident population								
All persons								
All ages, age-adjusted ⁴	5.1	5.0	8.8	10.4	9.4	5.9	5.5	5.3
All ages, crude	5.0	4.6	8.1	10.6	9.9	6.0	5.5	5.3
Under 1 year	4.4	4.8	4.3	5.9	8.4	9.2	7.9	7.9
1–14 years	0.6	0.6	1.1	1.5	1.8	1.3	1.2	1.1
1–4 years	0.6	0.7	1.9	2.5	2.5	2.3	2.3	2.4
5–14 years	0.5	0.5	0.9	1.2	1.5	0.9	0.7	0.6
15–24 years	5.8	5.6	11.3	15.4	19.7	12.6	11.2	10.7
15–19 years	3.9	3.9	7.7	10.5	16.9	9.5	8.6	8.3
20–24 years	8.5	7.7	15.6	20.2	22.2	16.0	13.8	13.2
25–44 years	8.9	8.5	14.9	17.5	14.7	8.7	8.5	8.2
25–34 years	9.3	9.2	16.2	19.3	17.4	10.4	10.4	10.4
35–44 years	8.4	7.8	13.5	14.9	11.6	7.1	6.7	6.0
45–64 years	5.0	5.3	8.7	9.0	6.3	4.0	3.8	3.8
45–54 years	5.9	6.1	10.0	11.0	7.5	4.7	4.6	4.4
55–64 years	3.9	4.1	7.1	7.0	5.0	3.0	2.9	2.9
65 years and over	3.0	2.7	4.6	5.5	4.0	2.4	2.2	2.0
65–74 years	3.2	2.8	4.9	5.7	3.8	2.4	2.2	2.1
75–84 years	2.5	2.3	4.0	5.2	4.3	2.4	2.0	1.9
85 years and over	2.3	2.4	4.2	5.3	4.6	2.4	2.3	2.0
Male								
All ages, age-adjusted ⁴	7.9	7.5	14.3	16.6	14.8	9.0	8.6	8.4
All ages, crude	7.7	6.8	13.1	17.1	15.9	9.3	8.7	8.4
Under 1 year	4.5	4.7	4.5	6.3	8.8	10.4	9.0	8.8
1–14 years	0.6	0.6	1.2	1.6	2.0	1.5	1.3	1.4
1–4 years	0.5	0.7	1.9	2.7	2.7	2.5	2.3	2.8
5–14 years	0.6	0.5	1.0	1.2	1.7	1.1	0.9	0.8
15–24 years	8.6	8.4	18.2	24.0	32.5	20.9	18.8	18.2
15–19 years	5.5	5.7	12.1	15.9	27.8	15.5	14.5	14.0
20–24 years	13.5	11.8	25.6	32.2	36.9	26.7	23.4	22.6
25–44 years	13.8	12.8	24.4	28.9	23.5	13.3	13.6	13.3
25–34 years	14.4	13.9	26.8	31.9	27.7	16.7	17.0	17.3
35–44 years	13.2	11.7	21.7	24.5	18.6	10.3	10.3	9.2
45–64 years	8.1	8.1	14.8	15.2	10.2	6.0	5.7	5.6
45–54 years	9.5	9.4	16.8	18.4	11.9	6.9	6.8	6.7
55–64 years	6.3	6.4	12.1	11.8	8.0	4.6	4.2	4.3
65 years and over	4.8	4.3	7.7	8.8	5.8	3.3	3.0	2.6
65–74 years	5.2	4.6	8.5	9.2	5.8	3.4	3.2	2.9
75–84 years	3.9	3.7	5.9	8.1	5.7	3.2	2.6	2.1
85 years and over	2.5	3.6	7.4	7.5	6.7	3.3	3.1	2.2
Female								
All ages, age-adjusted ⁴	2.4	2.6	3.7	4.4	4.0	2.8	2.4	2.3
All ages, crude	2.4	2.4	3.4	4.5	4.2	2.8	2.4	2.2
Under 1 year	4.2	4.9	4.1	5.6	8.0	7.9	6.8	6.9
1–14 years	0.6	0.5	1.0	1.4	1.6	1.1	1.1	0.9
1–4 years	0.7	0.7	1.9	2.2	2.3	2.1	2.4	1.9
5–14 years	0.5	0.4	0.7	1.1	1.2	0.7	0.5	0.5
15–24 years	3.0	2.8	4.6	6.6	6.2	3.9	3.1	2.9
15–19 years	2.4	1.9	3.2	4.9	5.4	3.1	2.5	2.3
20–24 years	3.7	3.8	6.2	8.2	7.0	4.7	3.7	3.4
25–44 years	4.2	4.3	5.8	6.4	6.0	4.0	3.4	3.1
25–34 years	4.5	4.6	6.0	6.9	7.1	4.1	3.7	3.3
35–44 years	3.8	4.0	5.7	5.7	4.8	4.0	3.1	2.9
45–64 years	1.9	2.5	3.1	3.4	2.8	2.1	2.1	2.0
45–54 years	2.3	2.9	3.7	4.1	3.2	2.5	2.4	2.3
55–64 years	1.4	2.0	2.5	2.8	2.3	1.6	1.6	1.7
65 years and over	1.4	1.3	2.3	3.3	2.8	1.8	1.6	1.6
65–74 years	1.3	1.3	2.2	3.0	2.2	1.6	1.5	1.4
75–84 years	1.4	1.3	2.7	3.5	3.4	2.0	1.5	1.8
85 years and over	2.1	1.6	2.5	4.3	3.8	2.0	2.0	2.0

See footnotes at end of table.

Table 35 (page 2 of 3). Death rates for suicide, by sex, race, Hispanic origin, and age: United States, selected years 1950–2010

Updated data when available, Excel, PDF, and more data years: <http://www.cdc.gov/nchs/hus/contents2013.htm#035>.

[Data are based on death certificates]

Sex, race, Hispanic origin, and age	1950 ^{1,2}	1960 ^{1,2}	1970 ²	1980 ²	1990 ²	2000 ³	2009 ³	2010 ³
Deaths per 100,000 resident population								
Black or African American male⁵								
All ages, age-adjusted ⁴	7.5	8.4	10.0	11.4	12.8	10.0	8.9	9.1
All ages, crude	6.3	6.4	8.0	10.3	12.0	9.4	8.5	8.7
15–24 years	4.9	4.1	10.5	12.3	15.1	14.2	10.4	11.1
25–44 years	9.8	12.6	16.1	19.2	19.6	14.3	13.2	14.5
45–64 years	12.7	13.0	12.4	11.8	13.1	9.9	9.6	9.5
65 years and over	9.0	9.9	8.7	11.4	14.9	11.5	9.6	8.3
65–74 years	10.0	11.3	8.7	11.1	14.7	11.1	8.0	7.6
75–84 years ⁶	*	*	*	10.5	14.4	12.1	11.9	9.9
85 years and over	---	*	*	*	*	*	*	*
American Indian or Alaska Native male⁵								
All ages, age-adjusted ⁴	---	---	---	19.3	20.1	16.0	14.6	15.5
All ages, crude	---	---	---	20.9	20.9	15.9	15.1	16.1
15–24 years	---	---	---	45.3	49.1	26.2	28.9	30.6
25–44 years	---	---	---	31.2	27.8	24.5	20.4	20.9
45–64 years	---	---	---	*	*	15.4	15.4	17.8
65 years and over	---	---	---	*	*	*	*	*
Asian or Pacific Islander male⁵								
All ages, age-adjusted ⁴	---	---	---	10.7	9.6	8.6	8.7	9.5
All ages, crude	---	---	---	8.8	8.7	7.9	8.4	9.3
15–24 years	---	---	---	10.8	13.5	9.1	8.0	10.9
25–44 years	---	---	---	11.0	10.6	9.9	9.7	10.6
45–64 years	---	---	---	13.0	9.7	9.7	12.1	12.8
65 years and over	---	---	---	18.6	16.8	15.4	15.3	14.9
Hispanic or Latino male^{5,7}								
All ages, age-adjusted ⁴	---	---	---	---	13.7	10.3	9.9	9.9
All ages, crude	---	---	---	---	11.4	8.4	8.5	8.5
15–24 years	---	---	---	---	14.7	10.9	10.7	10.7
25–44 years	---	---	---	---	16.2	11.2	11.4	11.2
45–64 years	---	---	---	---	16.1	12.0	12.6	12.9
65 years and over	---	---	---	---	23.4	19.5	16.0	15.7
White, not Hispanic or Latino male⁷								
All ages, age-adjusted ⁴	---	---	---	---	23.5	20.2	23.4	24.2
All ages, crude	---	---	---	---	23.1	20.4	24.7	25.7
15–24 years	---	---	---	---	24.4	19.5	19.4	20.4
25–44 years	---	---	---	---	26.4	25.1	29.5	30.3
45–64 years	---	---	---	---	26.8	24.0	33.6	35.4
65 years and over	---	---	---	---	45.4	33.9	32.5	32.7
White female⁵								
All ages, age-adjusted ⁴	6.0	5.9	7.9	6.1	5.2	4.3	5.5	5.6
All ages, crude	5.5	5.3	7.1	5.9	5.3	4.4	5.7	5.9
15–24 years	2.7	2.3	4.2	4.6	4.2	3.1	3.8	4.2
25–44 years	6.6	7.0	11.0	8.1	6.6	6.0	7.1	7.3
45–64 years	10.6	10.9	13.0	9.6	7.7	6.9	9.6	9.9
65 years and over	9.9	8.8	8.5	6.4	6.8	4.3	4.4	4.5
Black or African American female⁵								
All ages, age-adjusted ⁴	1.8	2.0	2.9	2.4	2.4	1.8	1.8	1.8
All ages, crude	1.5	1.6	2.6	2.2	2.3	1.7	1.8	1.8
15–24 years	1.8	*	3.8	2.3	2.3	2.2	2.1	2.0
25–44 years	2.3	3.0	4.8	4.3	3.8	2.6	2.7	2.8
45–64 years	2.7	3.1	2.9	2.5	2.9	2.1	2.5	2.1
65 years and over	*	*	2.6	*	1.9	1.3	1.0	*

See footnotes at end of table.

Table 34 (page 2 of 4). Death rates for homicide, by sex, race, Hispanic origin, and age: United States, selected years 1950–2010

Updated data when available, Excel, PDF, and more data years: <http://www.cdc.gov/nchs/hus/contents2013.htm#034>.

[Data are based on death certificates]

Sex, race, Hispanic origin, and age	1950 ^{1,2}	1960 ^{1,2}	1970 ²	1980 ²	1990 ²	2000 ³	2009 ³	2010 ³
Deaths per 100,000 resident population								
White male ⁵								
All ages, age-adjusted ⁴	3.8	3.9	7.2	10.4	8.3	5.2	4.9	4.7
All ages, crude	3.6	3.6	6.6	10.7	8.8	5.2	4.9	4.7
Under 1 year	4.3	3.8	2.9	4.3	6.4	8.2	7.1	8.5
1–14 years	0.4	0.5	0.7	1.2	1.3	1.2	1.0	1.0
15–24 years	3.2	5.0	7.6	15.1	15.2	9.9	9.1	8.2
25–44 years	5.4	5.5	11.6	17.2	13.0	7.4	7.3	6.9
25–34 years	4.9	5.7	12.5	18.5	14.7	8.4	8.3	8.3
35–44 years	6.1	5.2	10.8	15.2	11.1	6.5	6.3	5.5
45–64 years	4.8	4.6	8.3	9.8	6.9	4.1	4.1	4.1
65 years and over	3.8	3.1	5.4	6.7	4.1	2.5	2.5	2.1
Black or African American male ⁵								
All ages, age-adjusted ⁴	47.0	42.3	78.2	69.4	63.1	35.4	32.0	31.5
All ages, crude	44.7	35.0	66.0	65.7	68.5	37.2	33.8	33.4
Under 1 year	---	10.3	14.3	18.6	21.4	23.3	18.7	12.3
1–14 years ⁶	1.8	1.5	4.4	4.1	5.8	3.1	3.2	3.4
15–24 years	53.8	43.2	98.3	82.6	137.1	85.3	70.7	71.0
25–44 years	92.8	80.5	140.2	130.0	105.4	55.8	56.4	55.9
25–34 years	104.3	86.4	154.5	142.9	123.7	73.9	74.1	76.1
35–44 years	80.0	74.4	124.0	109.3	81.2	38.5	38.0	34.5
45–64 years	46.0	44.6	82.3	70.6	41.4	21.9	18.0	17.6
65 years and over	16.5	17.3	33.3	30.9	25.7	12.8	8.8	8.0
American Indian or Alaska Native male ⁵								
All ages, age-adjusted ⁴	---	---	---	23.3	16.7	10.7	8.9	8.8
All ages, crude	---	---	---	23.1	16.6	10.7	9.3	9.5
15–24 years	---	---	---	35.4	25.1	17.0	15.8	17.6
25–44 years	---	---	---	39.2	25.7	17.0	15.0	14.8
45–64 years	---	---	---	22.1	14.8	*	7.5	6.5
Asian or Pacific Islander male ⁵								
All ages, age-adjusted ⁴	---	---	---	9.1	7.3	4.3	2.8	2.6
All ages, crude	---	---	---	8.3	7.9	4.4	3.0	2.7
15–24 years	---	---	---	9.3	14.9	7.8	4.4	4.0
25–44 years	---	---	---	11.3	9.6	4.6	3.2	3.3
45–64 years	---	---	---	10.4	7.0	6.1	3.7	3.1
Hispanic or Latino male ^{5,7}								
All ages, age-adjusted ⁴	---	---	---	---	27.4	11.8	9.7	8.7
All ages, crude	---	---	---	---	31.0	13.4	10.5	9.5
Under 1 year	---	---	---	---	8.7	6.6	5.7	7.0
1–14 years	---	---	---	---	3.1	1.7	1.2	1.1
15–24 years	---	---	---	---	55.4	28.5	22.9	19.7
25–44 years	---	---	---	---	46.4	17.2	14.2	13.2
25–34 years	---	---	---	---	50.9	19.9	16.5	16.8
35–44 years	---	---	---	---	39.3	13.5	11.5	8.9
45–64 years	---	---	---	---	20.5	9.1	6.9	6.9
65 years and over	---	---	---	---	9.4	4.4	4.9	3.2
White, not Hispanic or Latino male ⁷								
All ages, age-adjusted ⁴	---	---	---	---	5.6	3.6	3.4	3.3
All ages, crude	---	---	---	---	5.8	3.6	3.4	3.3
Under 1 year	---	---	---	---	5.4	8.3	7.3	8.7
1–14 years	---	---	---	---	0.9	1.0	0.8	0.9
15–24 years	---	---	---	---	7.5	4.7	4.1	4.1
25–44 years	---	---	---	---	8.7	5.2	4.9	4.7
25–34 years	---	---	---	---	9.3	5.2	5.2	5.0
35–44 years	---	---	---	---	8.0	5.2	4.7	4.4
45–64 years	---	---	---	---	5.7	3.6	3.7	3.6
65 years and over	---	---	---	---	3.7	2.3	2.3	2.0

See footnotes at end of table.