

## **Key Determinants of the Health and the Well-Being of Men and Boys**

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Men in the United States suffer more severe chronic conditions and die 6 years younger than women. For all leading causes of death, and in every age group, men and boys have higher death rates than women and girls. Despite these risks, little is known about the gender-specific health and health care needs of men and boys. This multidisciplinary review provides an overview and summary of key determinants of the health and well-being of men and boys in the United States. Thirty key determinants of physical and mental health were identified from a review of literature and are summarized under the following four categories: behaviors of men and boys, health-related beliefs and the expression of emotions and physical distress, underlying factors that influence the health behaviors and beliefs of men and boys, and health care. The findings reported in this review suggest that men's greatest health risks are the result of modifiable factors, and that efforts to address these factors through practice, policy, and research could contribute to enhanced health conditions for men and boys, as well as to healthier families and communities.

Key Words: men's health, health determinants, men's behavior, health-related beliefs, health care

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Despite the fact that men in the United States have greater social and economic power than women, they are at greater risk of serious chronic disease and death than women at every age and for every leading cause of death. Men in the United States, on average, die 6 years younger than women (Department of Health and Human Services [DHHS], 2000a). For all 15 leading causes of death, except Alzheimer's disease, and in every age group men and boys have higher death rates than women and girls (DHHS, 2000a). Men's age-adjusted death rate for heart disease, for example, is 2 times higher than women's rate, and their death rate for cancer is 1.5 times higher (DHHS, 1996). The incidence rates for 7 of 10 of the most common infectious diseases are higher among men in the United States than among women (Centers for Disease Control [CDC], 1997). Men are also more likely than women to suffer severe chronic conditions and fatal diseases (Verbrugge & Wingard, 1987), and to suffer them at an earlier age. Under age

65, for instance, nearly three of four persons who die from heart attacks are men (American Heart Association [AHA], 1994).

National data also indicate that, during their lifetimes, more men than women meet criteria for psychiatric diagnoses (Robins, Locke, & Regier, 1991). Antisocial, narcissistic, obsessive-compulsive, paranoid, and schizoid personality disorders are all more common among men than women (American Psychiatric Association [APA], 1994). Alcohol- and other substance-related disorders, intermittent explosive disorder, and pathological gambling also occur much more frequently among men, as do most sexual disorders—such as exhibitionism, pedophilia, and voyeurism (APA, 1994; Gomez, 1991). According to hospital-based studies, men are also at greater risk for schizophrenia (APA, 1994) and experience earlier onset, less complete remissions, and more severe exacerbations, and they have poorer prognoses (APA, 1994; Gomez, 1991). Boys are also at greater risk than girls for a number of mental health problems first diagnosed in infancy, childhood, or adolescence. These include attention-deficit/hyperactivity disorder (ADHD), reading disorder, conduct disorder, stuttering, and autism (APA, 1994).

Although gender-based medicine and health care is receiving increasing attention among health professionals, most of this attention has focused on women's health concerns. The gender-specific health care needs of men and boys have only very recently begun to be examined (Courtenay, 2000a; Courtenay & Keeling, 2000a, 2000b; Lee & Owens, 2002; Sandman, Simantov, & An, 2000). In addition to having different reproductive health needs, women and men have different risks for specific diseases and disabilities, and they differ in their perceptions of health (Courtenay, 1998, 2000b, 2000c, 2002). Gender-based health care addresses these differences, as well as other biological, psychological, social, economic, and behavioral factors that influence the health of women and men.

This paper examines the primary influences on the health of men and boys in the United States by identifying and discussing 30 key determinants of physical and mental health and well-being (see Table 1). It summarizes these factors under the following four categories: behaviors of men and boys, health-related beliefs and the expression of emotions and physical distress, underlying factors that influence the health behaviors and beliefs of men and boys, and health care.

Insert Table 1 about here

## BEHAVIORS OF MEN AND BOYS

Men's and boys' health behaviors are a major determinant of their excess mortality and premature deaths. An estimated one half of all of men's deaths each year in the United States could be prevented through changes in personal health habits (U.S. Preventive Services Task Force, 1996). A recent extensive review of large studies, national data, and meta-analyses systematically demonstrates that men and boys are more likely than women and girls to engage in more than 30 behaviors that increase the risk of disease, injury, and death (Courtenay, 2000d). This section summarizes some of these findings in regard to six aspects of men's behaviors: health-promoting behavior, risk-taking behavior, physical abuse and violence, social support, behavioral responses to stress, and health care use.

### Health-Promoting Behavior

Men and boys, in general, have less healthy lifestyles than women and girls, and they engage in far fewer health-promoting behaviors (see Courtenay, 2000d). This gender difference remains true across a variety of racial and ethnic groups (Courtenay, McCreary, & Merighi, 2002). For example, men are more often overweight than women, and they have less healthy dietary habits. They eat more meat, fat, and salt and less fiber, fruits, and vegetables than women. Men are less likely to conduct self-examinations; have higher cholesterol and blood pressure—and do less to reduce them; use less sun protection; wear safety belts less often; and use fewer medications, vitamins, and dietary supplements. Men also sleep less, and less well, and they stay in bed to recover from illness for less time than women do.

### Risk-Taking Behavior

Men and boys further compound the risks associated with not adopting health-promoting behaviors by engaging in risk-taking behaviors (see Courtenay, 2000d). Compared to women, men use more alcohol and other drugs. More men than women use tobacco products and have more dangerous patterns of tobacco use. Men and adolescent males engage in more reckless and illegal driving, and drive drunk more frequently than women and adolescent females. They also have more sexual partners than women, and engage in significantly more high-risk physical activities—such as dangerous sports and leisure-time activities—and physical fights. They are also more likely than women and girls to carry guns or other weapons, and engage in more criminal activity. Gender differences in risk taking remain true across a variety of racial and ethnic groups (Courtenay et al., 2002).

These risk-taking behaviors undermine not only the health of the men who engage in these behaviors, but also the health and well-being of other men, women, and children. For example, in California, men are at fault in nearly 8 of 10 automobile accidents and 2 of 3 injury crashes (California Highway Patrol, 1994). Men's high-risk sexual practices are largely responsible for the continued spread of sexually transmitted infections (STIs), which have a seriously damaging impact on the lives of both women and men (Courtenay, 2000d).

### Physical Abuse and Violence

There is extensive empirical evidence indicating that men and boys are more likely than women and girls to be the victims of physical abuse and violence (Courtenay, 1999, 2000d). Nearly one half of men nationally have been punched or beaten by a person, who in most cases is another man (Department of Justice, 1994). The violent victimization rate among those aged 12 to 19 years is 50% higher for boys than for girls (DHHS, 2000b). For example, among high school students, boys are more than twice as likely as girls to be injured in a physical fight (Kann et al., 1998). Among adolescent boys nationally, more than 1 in 10 (12%) reports that he has been physically abused (Schoen, Davis, DesRoches, & Shekhdar, 1998). Although half as many boys (5%) as girls (10%) nationally report having been sexually abused, sexual victimization increases the health risks of both girls and boys (Schoen et al., 1998; Silverman, Raj, Mucci, & Hathaway, 2001). Among adolescent boys nationally, those who have been sexually abused are more likely than who were not abused to report poor mental health and are twice as likely to

smoke or drink frequently or to have used drugs (Schoen et al., 1998). Violent deaths from suicide and homicide are the third leading cause of premature death before age 65 (CDC, 1994). The suicide rate is 4 to 12 times higher for men and boys than for women and girls (DHHS, 1993), and the homicide death rate is 4 times higher (DHHS, 1996). Each day, 24 children and young adults aged 5 to 24 years are murdered, and 85% of them are boys or young men (DHHS, 1996).

### Social Support

Research consistently indicates that men have much smaller social networks than women do. Men and boys also have fewer, less intimate friendships, and they are less likely to have a close confidant, particularly someone other than a spouse (see Courtenay, 2000d). Men's restricted social networks limit their levels of social support. In times of stress, for example, men mobilize less varied social supports than women do. Among adolescents nationally, boys are more likely than girls to have no one to turn to for support at times when they feel stressed, overwhelmed, or depressed (Schoen et al., 1998). Furthermore, there is consistent evidence that the lack of social support constitutes a risk factor for mortality—especially for men. Men with the lowest levels of social support are 2 to 3 times more likely to die than men with the highest levels of social support, even after controlling for health and a variety of other possible confounding factors (Courtenay, 2000d). Men's social isolation significantly decreases their chance of survival after heart disease, cancer, and stroke. Men with higher levels of social support also maintain more positive health practices. They are more likely to modify unhealthy behavior and to adhere to medical treatment.

### Behavioral Responses to Stress

Men respond to stress in less healthy ways than women do (Stanton & Courtenay, in press). They are more likely than women to use avoidant coping strategies—such as denial, distraction, and increased alcohol consumption—and are less likely to employ healthy, vigilant coping strategies and to acknowledge that they need help (Friedman, 1991; Kopp, Skrabski, & Szedmak, 1998; Weidner & Collins, 1993). Instead, men may deny their physical or emotional distress, or attempt to conceal their illnesses or disabilities (Charmaz, 1995; Courtenay, 2001a; Sutkin & Good, 1987). Among people with depression, for example, men are more likely than women to rely only on themselves, to withdraw socially, and to try to talk themselves out of feeling depressed (Courtenay, 2000b). These behavioral responses contribute to poor outcomes associated with stressful events experienced by men and boys. For example, boys are more severely affected than girls by the death of a parent, and men are more negatively affected—and at higher risk of suicide—than women by the death of a spouse (Gomez, 1991).

### Health Care Use

Epidemiological data consistently indicate that men use fewer health care services than women do and visit physicians less often (see Courtenay, 2000d). According to the Centers for Disease Control, twice as many men (20%) as women (10%) have no regular source of medical care (CDC, 1998). Over half (53%) of men aged 18 to 29 years do not have a regular physician, compared with one third (33%) of women in this age group; among 30- to 44-year-olds, two of

five men (38%) and one of five women (22%) lack a regular physician (Sandman et al., 2000). Men represent 65% of those who have not visited a physician in 2 to 5 years and 70% of those who have not done so in more than 5 years (DHHS, 1998a). These gender differences in health care use remain even when reproductive and other sex-specific conditions are excluded (see Courtenay, 2000d). Indeed, among adults over the ages at which most women bear children, men are still less likely to have a regular physician. Twenty-four percent of men aged 45 to 64 years have no regular doctor—as compared to 13% of women in this age group (Sandman et al., 2000). These differences also remain true for mental health care. As noted earlier, more men than women meet criteria for psychiatric diagnoses. Despite this increased risk, only one out of every three clients who seek psychological services are men (Good, Dell, & Mintz, 1989); during their lifetimes, an estimated one in three women will seek help from mental health professionals as compared to only one in seven men (Collier, 1982). Men’s relative reluctance to seek psychiatric care may help to explain why their mental health conditions are more serious when they finally do seek care (Fabrega, Mezzich, Ulrich, & Benjamin, 1990).

Although gender differences in seeking care often begin to disappear when a health problem is serious (Courtenay, 2000b), there is consistent evidence that men are generally less willing and have less *intention* than women to seek help when they need it (Courtenay, 1998, 2000c, 2001a). One in four men nationally says he would wait as long as possible before consulting a physician if he felt sick or experienced pain, or if he was concerned about his health (Sandman et al., 2000). Indeed, among people *with* health problems, men are significantly more likely than women to have had no recent physician contacts regardless of income or ethnicity (DHHS, 1998a). Delays in obtaining timely health care can have profound consequences for men’s health; early detection is often critical for preventing disease and premature death (DHHS, 1998a).

## HEALTH-RELATED BELIEFS AND THE EXPRESSION OF EMOTIONS AND PHYSICAL DISTRESS

The attitudes and beliefs that one adopts can have powerful influences on both one’s health and one’s health behavior. In the United States, men and boys are more likely than women and girls to adopt attitudes and beliefs that undermine their health and well-being (Courtenay, 2000b, 2000c). This section will discuss the following six attitudes and beliefs: self-rated health status, perceived susceptibility to risk, body image, personal control, readiness to change unhealthy behaviors, and masculinity. This section will also examine the relationship between the expression of emotions and physical distress and men’s health.

### Self-Rated Health Status

Despite their greater risk of death and serious chronic health problems, the vast majority of American men actually believe that their health is “excellent” or “very good” and rate their health as better than women do (DHHS, 1998b; Ross & Bird, 1994). They are also more likely than women to rate their health behavior as better than the health behavior of their peers (Rakowski, 1986). Men also report significantly fewer symptoms of physical and mental illness than women do (Hibbard & Pope, 1986; Verbrugge, 1988).

Self-reports of symptoms and health behaviors are generally assumed to be accurate determinants of men’s risks, but often they are not. Men may be less likely than women to notice

signs of illness when they are ill (Verbrugge, 1985). Even when measured physiological responses to a stressful event are greater among men than women, men still report less distress (Frankenhaeuser et al., 1978). One large study of safety belt use that compared self-reports with actual use showed that among drivers who had been observed not wearing safety belts—more than three out of four of whom were men—one third had reported that they always wore safety belts (Preusser, Williams, & Lund, 1991). The validity of self-reported hypertension has also been found to be lower among men than women nationally (Vargas, Burt, Gillum, & Pamk, 1997). People who think they are healthy despite being ill, and who underreport symptoms or risk behaviors, may be less likely to seek health care or to be counseled or diagnosed correctly when they do.

### Perceived Susceptibility to Risk

Men are less likely than women to perceive themselves as being at risk for illness, injury, and a variety of health problems (Boehm, Selves, & Raleigh, 1993; Cutter, Tiefenbacher, & Solecki, 1992; DeJoy, 1992; Gustafson, 1998; Savage, 1993; Weissfeld, Kirscht, & Brock, 1990). Despite being at greater risk from drug and alcohol use, for example, males of all ages perceive significantly less risk associated with the use of cigarettes, alcohol, and other drugs than females do (Flynn, Slovic, & Mertz, 1994; Kauffman, Silver, & Poulin, 1997; Pascale & Evans, 1990; Spigner, Hawkins, & Loren, 1993; Thomas, 1995). Similarly, men and boys perceive themselves as less susceptible to skin cancer than women and girls do and underestimate the risks associated with sun exposure (Banks, Silverman, Schwartz, & Tunnessen, 1992; Flynn et al., 1994; Mermelstein & Riesenber, 1992). About 3 out of 4 men nationally report that they are not worried about getting AIDS or a STI, even when their sexual experiences put them at high risk (EDK Associates, 1995). Although they represent 8 out of 10 of those infected with HIV (Ward & Duchin, 1998), men perceive less risk from AIDS than women do (Flynn et al., 1994). Men are also more likely than women to underestimate the risks associated with involvement in physically dangerous activities (Zuckerman, 1994), including risks associated with dangerous driving (DeJoy, 1992; Flynn et al., 1994; Savage, 1993).

### Body Image

Men's and boys' perceptions of their body and weight influences their physical and mental health. Researchers studying eating disorders have focused primarily on the desire to be thin, which is most common among women and girls (see McCreary & Sasse, 2000). Only recently have researchers begun to study the health effects of the desire to be physically big (McCreary & Sasse, 2000; Pope, Olivardia, Gruber, & Borowiecki, 1999), which is most common among men and boys. Among a large, randomized sample, McCreary and Sadava (2001) found that one-in-four normal weight men think they are underweight and nearly half of overweight men think their weight is normal (see also McCreary, 2002). Boys with a strong desire to be bigger tend to have poor self-esteem and more depressive symptoms than other boys (McCreary & Sasse, 2000). A preoccupation with muscularity has been found to be associated with psychological distress, impaired social functioning, and substance abuse—including abuse of anabolic steroids (see Pope, Gruber, Choi, Olivardia, & Phillips, 1997).

### Personal Control

Men believe less strongly than women that they have control over their future health or that personal actions contribute to good health (Furnham & Kirkcaldy, 1997; Verbrugge, 1990; Wilson & Elinson, 1981). Although research findings are not entirely consistent and have been challenged (Ratner, Bottorff, Johnson, & Hayduk, 1994), the perception of health as internally controlled rather than controlled by luck or chance has been found to be associated with reduced risk of heart disease (Friedman & Booth-Kewley, 1987). It has also been found to be associated with such health-promoting behaviors as abstaining from smoking, maintaining healthy drinking habits, wearing safety belts, controlling one's weight, maintaining a healthy diet (Hayes & Ross, 1987; Palank, 1991), and practicing monthly self-testicular exams (Neef, Scutchfield, Elder, & Bender, 1991)—and with a health-promoting lifestyle in general (e.g., Courtenay, 1998; Pender, Walker, Sechrist, & Frank-Stromborg, 1990; Rakowski, 1986; Weiss & Larson, 1990).

### Readiness to Change Unhealthy Behaviors

An extensive amount of research has examined people's readiness to change unhealthy behaviors and has identified discrete stages that people move through in changing those behaviors (i.e., Stages of Change or Transtheoretical Model; see Prochaska, Norcross, & DiClemente, 1994). When gender is analyzed in this research, a consistent finding is that women are more likely than men to be contemplating changing unhealthy habits or already are maintaining healthy habits (Auld et al., 1998; Glanz et al., 1994; Weinstock, Rossi, Redding, Maddock, & Cottrill, 2000). Men, however, are more likely than women not yet to be considering changing unhealthy behaviors, and to deny that these behaviors are problematic; they are also more likely than women not to be maintaining healthy behaviors (e.g., Laforge, Greene, & Prochaska, 1994; Laforge, Velicer, Richmond, & Owen, 1999; Rossi, 1992).

### Masculinity

Men's gender is strongly associated with their health risks (Courtenay, 2002). Men and adolescent males who adopt traditional or stereotypic beliefs about masculinity have greater health risks than their peers with less traditional beliefs (Eisler, 1995; Good et al., 1989; Neff, Prihoda, & Hoppe, 1991; O'Neil, Good, & Holmes, 1995). These beliefs have been linked with unhealthy behaviors—including smoking; alcohol and drug use; and behaviors related to safety, diet, sleep, and sexual practices (Baffi, Redican, Sefchick, & Impara, 1991; Eisler, Skidmore, & Ward, 1988; McCreary, Newcomb, & Sadava, 1999). They have also been linked with greater cardiovascular reactivity in situations of stress (Lash, Eisler, & Schulman, 1990); higher levels of anxiety, depression, psychological stress, and maladaptive coping patterns (Eisler et al., 1988; Good et al., 1989; Sharpe, Heppner, & Dixon, 1995); and a greater risk of death (Lippa, Martin, & Friedman, 2000). Traditional beliefs about manhood have also been found to predict involvement in a variety of high-risk behaviors over time among young men nationally (Courtenay, 1998). Men who adopt these traditional beliefs are also less likely than other men to seek help when it is needed or to utilize health services (Burda & Vaux, 1987; Good et al., 1989; O'Neil et al., 1995). Similarly, among men with heart disease, those with traditional beliefs have been found to be less likely to follow their physician's orders and to make fewer healthy lifestyle changes following hospital discharge than their less traditional peers (Helgeson, 1994).

Although traditional masculinity—in general—is associated with increased health risks, there are certain masculine-identified characteristics that have been found to be highly adaptive for men (and women). These characteristics include having the ability to act independently, to be assertive, and to be decisive (e.g., Eisler, 1995; Nezu & Nezu, 1987; Sharpe et al., 1995). Reliance on some specific masculine characteristics such as these has been found to help enable men to cope with cancer (Gordon, 1995) and chronic illness (Charmaz, 1995).

### Expression of Emotions and Physical Distress

In general, women are more emotionally expressive than men—with the exception of expressing anger, which men do more frequently (Brody, 1999; Courtenay, 2001a). Men report less fear or emotional distress than women do, for example, and are less likely than women to cry (Courtenay, 2001a). Men's inexpressiveness can have both direct and indirect effects on their health and well-being. Self-disclosure, for example, has been found to be associated with improvements in immune functioning and physical health (Pennebaker, 1997; Smyth, 1998). Men are also more likely than women to exhibit emotionally inexpressive Type A behavior and to experience or express hostility, both of which are linked with increased health risks—particularly for cardiovascular disease (Booth-Kewley & Friedman, 1987; Friedman, 1991; Strube, 1991), which is the leading killer of men.

Research also suggests that men are disinclined to discuss experiences of pain or physical distress. Compared to women, men report less pain for the same pathology, less severe pain, greater tolerance of pain and higher pain thresholds, and shorter duration of pain (Miaskowski, 1999; Unruh, Ritchie, & Merskey, 1999). Although hormones may play some role in mediating the experience of pain (Miaskowski, 1999), research indicates that psychosocial factors are certainly a contributor. Men have been found to report less pain in front of female health professionals than male health professionals (Levine & DeSimone, 1991; Puntillo & Weiss, 1994). Traditional masculinity has also been found to be associated with emotional inexpressiveness in general (e.g., Eisler, 1995; Thompson, Grisanti, & Pleck, 1985), and with higher thresholds of pain specifically (Otto & Dougher, 1985). The reluctance to acknowledge or report physical or emotional distress can have far-reaching implications for men's health; it can influence help-seeking decisions, delay intervention, and undermine diagnosis and treatment planning.

## UNDERLYING FACTORS THAT INFLUENCE THE HEALTH BEHAVIORS AND BELIEFS OF MEN AND BOYS

A variety of additional factors contribute to men's health risks both directly and indirectly through their influence on men's health behaviors and beliefs. This section examines the health influences of biology and genetics, psychophysiology, ethnicity, socioeconomic status, age, marital status, occupational status, unemployment, imprisonment, societal beliefs about masculinity and the social treatment of boys and men, media and advertisements, and men's health knowledge.

### Biology and Genetics

Biology contributes to a variety of sex-specific reproductive health problems. For example, erectile dysfunction—which can result in significant emotional and interpersonal distress—occurs among half of all men aged 40 to 70 years and more than half of all men over 70 (Melman & Gingell, 1999). Biology also contributes to men’s and boys’ greater risk of death, which begins in utero (Kraemer, 2000). Although an estimated 120 to 160 males are conceived for every 100 females, by birth the sex ratio drops to approximately 106 to 100 (Stillion, 1995). Additionally, boys and men are at greater risk of mortality due to congenital anomalies throughout the life span (DHHS, 1991; Kraemer, 2000). Although several studies have cast doubt on the protective role of estrogen in coronary heart disease (Barrett-Connor 1997; Rossouw, 1999), men’s lack of estrogen may increase their risk by lowering their levels of “good” cholesterol relative to women (Rosano & Panina, 1999). Similarly, the enzyme monoamine oxidase (MAO), a neuroregulator, and hormones in the brain, such as androgens and cortisol, are associated with a desire for varied and intense sensations and experiences. Decades of research have consistently linked this desire—which is significantly more common among men than women—with risky driving, high-risk sexual activity, alcohol use, drug use, and cigarette smoking, as well as involvement in high-risk sports and criminal activity (Zuckerman, 1994). Low serotonin levels in the male brain may also contribute to men’s greater displays of physical aggression (Volavka, 1999). However, while a variety of biological factors do contribute to men’s risks, research indicates that the explanatory power of biological factors in predicting gender differences in morbidity and mortality is comparatively small (Krantz, Grunberg, & Baum, 1985; Verbrugge, 1990). Genetic factors also increase men’s risk. Men with a family history of prostate cancer or heart disease, for example, are at much greater risk for these diseases (Altman, 1993; AHA, 1994). MAO also has a strong genetic determination (Zuckerman, 1994).

### Psychophysiology

Psychophysiological responses to emotional stress—such as increased catecholamine excretion, heart rate, and blood pressure—are hypothesized to be related to risk for coronary heart disease. Studies consistently report that men exhibit greater psychophysiological responses during acute behavioral stress, and that men are slower to recover from stress, which may help to explain the greater prevalence and severity of coronary heart disease among men (Lash et al., 1990; Polefrone & Manuck, 1987; Stone, Dembroski, Costa, & MacDougall, 1990; Stoney, Davis, & Matthew, 1987). Similarly, systolic blood pressure reactivity is also greater among men and boys than it is among women and girls (Lash et al., 1990; Murphy, Stoney, Alpert, & Walker, 1995; Polefrone & Manuck, 1987; Stoney et al., 1987). The activation of the autonomic nervous system and the subsequent response of the cardiovascular system is generally considered to be the common pathway by which stress compromises physical health (Matthews et al., 1986). In addition, strong and consistent associations between stress and decreased levels of human immune system functioning are consistently found (Herbert & Cohen, 1993). Although it is difficult to directly control or alter psychophysiological responses to emotional stress, it is relatively easy to modify the behavioral and situational factors that stimulate these responses.

### Ethnicity

There are important differences in mortality and in the leading causes of death among men and boys of various ethnicities (Courtenay, 2001b, 2002). The difference between the life spans of African American men and European American men is greater than the difference between the life spans of women and men in general: African American men die 7 years younger than European American men (DHHS, 2000a). Among Native American men, unintentional injuries are the second leading cause of death, surpassing cancer, which is the second leading cause of death among non-Native American men (Collins, Hall, & Neuhaus, 1999). The death rate for HIV is highest for African Americans and Latinos—it is the third and fourth leading killer, respectively, of these men. African American men are nearly 6 times more likely than European American men to die from AIDS. Similarly, homicide ranks among the five leading causes of death only for Latino and African American men—not for men of other ethnic groups. Cerebrovascular disease ranks as the third leading cause of death among European and Asian Americans, but not among Native American, Latino, or African American men, for whom injuries, HIV, and homicide are all greater risks (Collins et al., 1999). Compared to European American men, African American men experience earlier onset of heart disease, more severe heart disease, and higher rates of complications due to heart disease—which is the leading cause of death for men (Barnett et al., 2001).

Ethnicity is also associated with health care use (Courtenay, 2001b, 2002). Despite their high risks, Latino and African American men are significantly less likely than European American men to see a physician regularly; 55% of Latino men and 45% of African American men do not have a doctor that they see regularly, compared to 33% of European American men who do not (Sandman et al., 2000). Among adolescent boys nationally, more Asian (30%), Hispanic (27%), and African Americans (25%) than European Americans (17%) report not having a usual source of health care (Schoen et al., 1998). The patient's ethnicity also influences both the clinician's treatment and the patient's satisfaction with, and utilization of, health care. Mental health clinicians, for example, are less likely to correctly diagnose mental health problems among African Americans and Latinos than among European Americans (Borowsky et al., 2000). Not surprisingly, African Americans report being more dissatisfied with their care by doctors and in hospitals than European Americans (Blendon, Aiken, Freeman, & Corey, 1989).

Ethnicity, however, does not explain gender differences in health care utilization; the same gender-specific patterns of use reported above can be found in most ethnic groups. Among African Americans, women make over 1.5 times more physician visits than men (DHHS, 1990), and men are significantly less likely to visit physicians regardless of the type or severity of the problem that they experience (Neighbors & Howard, 1987). Among Latinos, more men than women have not had a physical exam within the last 5 years, and these differences persist regardless of acculturation (Marks, Garcia, & Solis, 1990). Twice as many Mexican American men as Mexican American women report having no routine place to get health care, and 1.5 times more women than men report having had a routine physical within the previous 2 years (Solis, Marks, Garcia, & Shelton, 1990).

### Socioeconomic Status

A large body of research indicates a clear and strong association between poor health and low socioeconomic status (SES) (Courtenay, 2002; DHHS, 1998a). Economically disadvantaged men are more likely to live in crowded, substandard housing and in areas with high levels of crime; to be exposed to dangerous and toxic environments; lack access to health information; and

experience greater overall life stress (Rich & Ro, 2002). However, the association between SES and health is not limited to a comparison between poor and wealthy populations. Among most ethnic groups in the United States, there is a continuous gradient in this association between SES and health so that the health of persons of middle SES is worse than those of slightly higher SES (DHHS, 1998a). As people's socioeconomic status rises, their health improves (Adler et al., 1994; Sandman et al., 2000).

One way socioeconomic status influences people's health is by influencing their access to medical care (Rich & Ro, 2002). Men with the lowest income are also the most likely to report not having a regular doctor and to report that it is somewhat, very, or extremely difficult for them to get the medical care they need (Sandman et al., 2000). Among adolescent boys nationally, those from lower-income families are 50% more likely than boys from higher-income families not to have received medical care (Schoen et al., 1998). However, despite its relevance to access and care, socioeconomic status does not account for gender differences in health care utilization. Even among a variety of income groups in the United States, men are still less likely to utilize health care than women. Among those who are poor, men are twice as likely as women to have had no recent contact with a health care provider (DHHS, 1998a). Similarly, high-income men are 2.5 times more likely than high-income women to have had no recent contact with a health care provider. Research indicates that among African Americans, men are less likely than women to visit physicians even after income is held constant (Neighbors & Howard, 1987).

#### Age Group

The age group with the greatest gender disparity in mortality is 15- to 24-year-olds (DHHS, 2000a). Three out of every four deaths in this age group are males. Among Latinos in the 15- to 24-year-old age group, the death rate is 4 times higher for males than it is for females (DHHS, 2000a). Male adolescents experience 174% more injuries (Rivara, Bergman, LoGerfo, & Weiss, 1982) and are significantly more likely to be hospitalized for serious injuries than female adolescents (Slap, Chaudhuri, & Vorters, 1991). Fatal injuries (unintentional injuries, homicide, and suicide) account for 75% of all deaths among 15- to 24-year-olds, and three out of four of these deaths are males (DHHS, 2000a). Among adolescents, males are significantly more likely than females to be exposed to a variety of work hazards (Dunn, Runyan, Cohen, & Schulman, 1998). Young men of this age are also at far greater risk than women for STIs (see Courtenay, 1998). Most of these diseases, injuries, and deaths are preventable; they result from young men's lack of healthy habits and their propensity to engage in high-risk behaviors. Males, for example, begin using tobacco, alcohol, and other drugs much younger than females do (Courtenay, 2000d). Among both high school and college students nationally, the use of marijuana, cocaine or crack cocaine, inhalants, and injection drugs is greater among males than females (Courtenay, 2000d). Furthermore, risk behaviors that are initiated in adolescence are often associated with disease, injury, and death in adulthood (DHHS, 2000b).

#### Marital Status

Marriage is an important health-related factor. Whether single, separated, widowed, or divorced, unmarried men have more serious health risks than married men, and they engage in poorer health behavior (see Courtenay, 2000d). For example, unmarried men drink and smoke more;

they eat fewer fruits and vegetables; they are at greater risk of contracting STIs; they utilize medical services less often; they are less likely to have had a blood pressure test in the last year or ever; and they are likelier to commit suicide. Not surprisingly, marriage is consistently found to be positively associated with longevity. Furthermore, all of the current evidence indicates that this correlation with mortality—and the other health risks associated with being unmarried—are greater for men than for women (see Courtenay, 2000d).

### Occupational Hazards

Jobs held by men are the most dangerous jobs. While men constitute only half (56%) of the workforce, they account for nearly all (94%) fatal injuries on the job (see Courtenay, 2000d). Mining, construction, timber cutting, and fishing have the highest injury death rates, while the largest number of total injury deaths occur in production, craft and repair, transportation, labor, farming, foresting, and fishing—all of which are jobs held primarily by men. Among law enforcement officers, 97% of those killed in the line of duty are male, and 98% of all firefighters killed are male. Young men aged 25 to 29 years account for the largest number of occupational injury deaths (National Institute for Occupational Safety and Health, 1993).

Injuries, however, are only one cause of occupational morbidity and mortality. Approximately 32 million workers are exposed to one or more chemical hazards (Winawer & Shike, 1995). The five occupations with the greatest percentage of workers exposed to hazardous chemicals are, in descending order, construction, agriculture, oil and gas extraction, water transportation, and forestry—all jobs held primarily by men.

### Unemployment

Unemployment is consistently linked with a variety of negative health effects, and there is evidence that these negative effects are greater for men than women (see Courtenay, 2000d; Mathers & Schofield, 1998). Associations between unemployment and psychological problems are stronger among men, and rates of suicide are linked with unemployment and times of economic depression for men, but not for women (see Courtenay, 2000d). One recent prospective study among youth found that unemployment is also a risk factor for increased alcohol consumption, increased tobacco use, illicit drug use, suicide, and unintentional injuries, particularly for males (Hammarstrom, 1994).

### Imprisonment

More than 1 million men are incarcerated in U.S. state and federal prisons (Kupers, 1999). Prisoners are among those at highest risk for tuberculosis, hepatitis, and HIV (Courtenay & Sabo, 2001; Polych & Sabo, 2001). The incidence of AIDS in prison is 14 times greater than the incidence of AIDS in the general population (Smyer, Gragert & LaMere, 1997). It is estimated that 41% of prisoners in California are infected with hepatitis C (see Polych & Sabo, 2001). Of those, it is estimated that chronic infection will develop in 85%, and that within 20 years, cirrhosis will develop in 20% (Spaulding, Greene, Davidson, Schneidermann, & Rich, 1999). In American jails and prisons, suicide is the leading cause of death (DHHS, 1991). Suicide rates for prisoners are 16 times higher than the rates for individuals in the general population, and nearly all of these deaths are male (DHHS, 1991). Other factors that increase the health risks of

prisoners include violence, prison health care, poor health knowledge, and poor diet and nutrition (Courtenay & Sabo, 2001).

### Societal Beliefs about Masculinity and the Social Treatment of Boys and Men

North Americans strongly endorse the cultural—and health-related—beliefs that men are independent, self-reliant, strong, robust, and tough (Courtenay, 2000c). Men and boys experience enormous social pressure to adopt these beliefs, and in general experience comparatively greater social pressure than women and girls to endorse societal prescriptions about gender (Courtenay, 2000c; McCreary, 1994). Boys experience more ridicule and are punished more severely than girls—by both peers and adults—for engaging in nontraditional or nonstereotypical “boy” behavior (e.g., expressing hurt or asking for help). The contexts in which men and boys live, work, and play often foster unhealthy forms of masculinity (Courtenay, 2002). In many of men’s sports, for example, the use of aggression, the acceptance of health risks, and the denial of pain are both rationalized and glorified (Courtenay, 2000c).

From birth, parents and other adults treat girls and boys differently in ways that can profoundly influence their health (see Courtenay, 2000c). Despite the fact that boys are at relatively greater risk, parents are less concerned about the safety of their sons than they are about the safety of their daughters, which may both contribute to the development of boys’ risks and further compound their risks. Compared to girls, boys are also less likely to receive warmth and nurturance. Boys are talked to less about sadness and more about anger; are perceived as being physically stronger and less vulnerable—despite being more vulnerable; are handled more roughly; are engaged in more intense and competitive play; and are physically punished more. They are exposed to more violence both inside and outside the home. Boys are also more likely than girls to be encouraged in activities that distance them from their parents, to be discouraged from seeking help, and to be punished when they do seek help. This differential treatment has both short- and long-term effects on the health of men and boys (Courtenay, 2000b, 2000c). As noted earlier, compared to women and girls, men and boys have greater difficulty identifying and expressing their emotions, are more likely to perceive themselves as invulnerable to risks commonly associated with unhealthy behavior and to engage in violent behavior, and are less likely to ask others for help (Courtenay, 2000c).

### Media and Advertisements

A recent review of research indicates that clear distinctions are drawn in the media between the health and health behavior of women and girls and that of men and boys (see Courtenay, 2000c). For example, in prime-time television, three times more male than female characters are obese. On television and in films, men are shown smoking three-to-seven times more often than women. Two thirds of all characters who drink in prime-time television programs are men, and in the various media, alcohol, masculinity, and high-risk behaviors are consistently linked. Boys are 60% more likely than girls to be portrayed using physical aggression on television, and men and boys on television are more likely than women and girls to initiate violence—which typically is rewarded and without negative consequences. In general, women and girls are portrayed in the media as having the greatest health risks and being the most likely to die, while men and boys are portrayed as engaging in unhealthy or high-risk behaviors—and as being healthy and invulnerable to the risks that their high-risk behaviors pose. These media

representations of gender and health have been found to contribute to negative health effects (Courtenay, 2000c). For example, there is an association between the viewing of television violence and subsequent violent and aggressive behavior, which may be causal (e.g., Sege & Dietz, 1994; Signorielli, 1993). Similarly, exposure to alcohol consumption on television has been found to be associated with more favorable attitudes toward drinking (Signorielli, 1993).

Research indicates that advertisements reinforce unhealthy and stereotypical gender behavior among boys and men (see Courtenay, 2000c). Toy commercials, for example, are more likely to portray boys demonstrating aggressive behavior than girls. Alcohol advertisements are strategically placed in magazines and television programs with predominantly male audiences. For example, *Sports Illustrated*, a magazine most often read by men, has more tobacco and alcohol advertisements than any other magazine (Klein et al., 1993). Advertisers also often portray men in high-risk activities to sell their products. Beer commercials, for example, have been found to link men's drinking with taking risks and facing danger without fear (Signorielli, 1993; Strate, 1992). Tobacco companies link the use of smokeless tobacco with virility and athletic performance in marketing to men (Connolly, Orleans, & Blum, 1992).

### Health Knowledge

Recent reviews of research indicate that men and boys are far less knowledgeable than women and girls about health in general and about specific diseases—such as cancer, STIs, and heart disease—and their risk factors (Courtenay, 1998, 2000c). A lack of health knowledge has been associated with underuse of health care and with unhealthy behaviors, such as not using sun protection and engaging in unsafe sex practices (see Courtenay, 2000c). Most men also lack basic knowledge about foods and nutritional risk factors. This knowledge is considered essential to improving dietary practices and reducing health risks. Men's lack of knowledge about health matters is due, in part, to the failure of the health care institutions to educate men, a topic that is discussed in the following section.

## HEALTH CARE

The health care system and its allied health fields represent important influences on men's health. This section will discuss the following aspects of health care: insurance coverage and health care costs, health care access, institutional influences and research methodology, clinician-patient interaction and communication, and clinicians' gender biases.

### Insurance Coverage and Health-Care Costs

People without insurance are at increased risk of death, regardless of whether or not they are employed (Sorlie, Johnson, Backlund, & Bradham, 1994). More men (16%) than women (13%) in the United States lack health insurance coverage (Powell-Griner, Anderson, & Murphy, 1997). Seventy percent of working age men who are uninsured have no regular physician, compared to only 27% of those who are insured (Sandman et al., 2000). Nearly one half (48%) of uninsured men recently surveyed did not visit a doctor in the prior year, compared with one fifth (21%) of men who were continuously insured (Sandman et al., 2000). These uninsured men were also three times more likely to have gone without needed care and not to have had a prescription filled because they could not afford it (Sandman et al., 2000). Adolescents without health

insurance are more than twice as likely not to have visited a physician or other health professional in the past year as adolescents with health insurance (DHHS, 2000b). Nearly three in ten uninsured adolescent boys (29%) report a time when they did not receive needed medical care (Schoen et al., 1998).

Cost (and perceived cost) of medical care are also barriers to health care utilization, particularly for people with low incomes and people without a job or health insurance (Nelson, Thompson, Bland, & Rubinson, 1999). Among adolescent boys nationally, one quarter report that they did not receive medical care because it cost too much, or because they lacked health insurance (Schoen et al., 1998). Among male college students, cost was also recently found to be a leading barrier to obtaining health care (Davies et al., 2000). Cost and insurance coverage, however, do not account for gender differences in health care utilization. Even when there is no fee for those services—or when care is paid for through insured health plans—men still use fewer health services than women (Stockwell, Madhavan, Cohen, Gibson, & Alderman, 1994; Wells, Manning, Duan, Newhouse, & Ware, 1986).

### Health-Care Access

One in five boys nationally has not received medical care when he needed it (Schoen et al., 1998), and among urban middle and high school students, males are significantly more likely than females to believe that it is difficult to obtain health care (Aten, Siegel, & Roghmann, 1996). One-in-three men has no regular physician (Sandman et al., 2000). Factors such as geography and time contribute to differences in health care access between women and men, and among men. People living in rural U.S. communities find it more difficult to obtain care than people in metropolitan areas (Mueller, Ortega, Parker, Patil, & Askenazi, 1999). Rurality, however, does not explain gender differences in access to care. Among rural populations, men and boys in general are less likely than women and girls to visit a physician or to seek help from a mental health clinician (Cook & Tyler 1989; Dansky, Brannon, Shea, Vasey & Dirani, 1998; Hoyt, Conger, Valde, & Weihs, 1997). The unavailability of health services during nonwork hours may further limit access to health care for many working men.

### Institutional Influences and Research Methodology

The health care system, public health departments, and other health-related institutions—as well as medical researchers—have contributed to cultural portrayals of men as healthy and to the invisibility of men's poor health status (Courtenay, 2000b, 2002). Historically, women but not men in the United States have been encouraged to pay attention to their health (see Courtenay, 2000b). For example, cancer education during the twentieth century was directed primarily at women (Reagan, 1997). A variety of scientific methodological factors and research methods also contribute to misperceptions about men's health status. For example, the use of behavioral indices of health—such as bed rest and health care utilization—to determine health status underestimates the significance of men's health problems and confounds our understanding of morbidity. These indices actually represent how men and women *cope* with illness rather than representing true health status (for further discussion see Courtenay, 2000b).

### Clinician-Patient Interaction and Communication

Men receive significantly less physician time in their health visits than women do, and they generally receive fewer services and dispositions than women (Courtenay, 2000b, 2000c). Men are also provided with fewer and briefer explanations—both simple and technical—in medical encounters (Roter & Hall, 1997). Men also receive less information overall from physicians. In fact, no study has ever found that women receive less information from physicians than men do (Roter & Hall, 1997). Although they are more likely to engage in high-risk behaviors and less likely to adopt health-promoting behaviors, men receive less advice from physicians about changing risk factors for disease during checkups than women do (Friedman, Brownson, Peterson, & Wilkerson, 1994). They are also less likely than women to be taught how to perform self-examinations. Only 29% of physicians routinely provide age-appropriate instruction on performing self-exams for testicular cancer, compared to 86% who provide age-appropriate instruction to women on performing breast self-exams (Misener & Fuller, 1995).

### Clinicians' Gender Bias

Gender biases about men and boys (as well as women and girls) influence the counseling and diagnostic decisions of clinicians (Courtenay, 2000b). For example, men and boys are underdiagnosed for those mental health disorders that are more commonly diagnosed among women and girls. Perhaps because major depression is diagnosed twice as often in women as in men (APA, 1994), mental health clinicians are less likely to correctly diagnose depression in men (Borowsky et al., 2000; Potts, Burnam, & Wells, 1991); this may contribute to a suicide rate that is up to 12 times higher for men than it is for women (DHHS, 1993). Similarly, more women than men are diagnosed with eating disorders; however, some populations of men—notably men involved in athletics and gay or bisexual men—appear to be at increased risk for such disorders (Andersen, 1999; Gomez, 1991; Hausenblas & Carron, 1999). Gender biases may also influence the medicines that one is prescribed. Men are less likely than women to be prescribed medicines and psychotropic medications, which further compounds their health risks (see Courtenay, 2000d). In contrast, boys may be overprescribed some psychotropic medications. For example, the use of stimulants to treat ADHD among 5- to 14-year-olds has risen significantly during the last 15 years, and methylphenidate medication—which accounts for 90% of the stimulant treatment—is prescribed to 3 to 4 times more boys than girls (Zito et al., 2000).

### CONCLUSION

The preceding review provides an overview and brief summaries of key determinants of the health and well-being of U.S. men and boys. Thirty key determinants of physical and mental health were identified from a review of literature and were discussed under the following four categories: behaviors of men and boys, health-related beliefs and the expression of emotions and physical distress, underlying factors that influence the health behaviors and beliefs of men and boys, and health care. This review has important implications for public and private organizations or institutions and health care providers who provide services to men and boys, as well for future policy and research.

Culturally appropriate, gender-specific health promotion and disease prevention interventions are needed for men and boys. Although many counseling and psychological interventions with men have been recommended in the past two decades (Courtenay, 2000e), very rarely are these interventions designed to reduce men's health risks. Even more rarely are

health interventions designed to address the unique needs of various populations of men, such as gay and bisexual men (Scarce, 1999), men in prison (Courtenay & Sabo, 2001), or African American men (Davis, 1999). Furthermore, this review suggests that new intervention strategies must go beyond addressing the physiology of individual men to address the sociocultural, psychological, and behavioral determinants identified here that influence the health of various communities of men and boys, as well as the ways in which these factors mediate men's biological and genetic risks. It is important to note that the social, psychological, behavioral, biological and genetic determinants discussed here do not occur in isolation; they are interrelated, and often, these determinants compound one another. The multifactorial nature of the risks to the health and well-being of men and boys, and the complex interrelationships among these factors, suggest that multidisciplinary interventions designed to address the dynamic intersection of these various health determinants are especially needed (Courtenay, 2000a; Courtenay & Keeling, 2000).

Multidisciplinary and interdisciplinary research, which would inform the development of intervention strategies, is also needed. Although the last decade has witnessed a dramatic increase in the level of interest in men's health among scholars and health scientists internationally, relatively little is known about the subject. Both basic and applied research is necessary, as well as interdisciplinary collaboration to develop interactive models and new gender-specific perspectives on human behavior, health, and illness. The development of interdisciplinary approaches to investigate men's health will require addressing a variety of methodological challenges, including the numerous and varied health determinants involved, and disciplinary differences in outcome measures, populations studied, methodologies applied, and rigor of intervention evaluations.

Most of the key determinants identified here represent factors that are modifiable. Consequently, the resulting adverse health effects of these determinants are preventable. Efforts to address these factors through practice, policy, and research could contribute to enhanced health conditions for men and boys. Furthermore, as the preceding data suggest, many of the health concerns of men and boys—including their injuries and premature mortality as well as their risk behaviors—affect not just themselves but everyone in the community. Therefore, efforts to address these concerns and improve men's health not only will lead to enhanced health conditions for men and boys, but will also contribute to building healthier families and communities.

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Table 1  
*Thirty Key Determinants of the Health and Well-being of U.S. Men and Boys*

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Behaviors of men and boys

1. Health-promoting behavior
2. Risk-taking behavior
3. Physical abuse and violence
4. Social support
5. Behavioral responses to stress
6. Health care use

Health-related beliefs and the expression of emotions and physical distress

7. Self-rated health status
8. Perceived susceptibility to risk
9. Body image
10. Personal control
11. Readiness to change unhealthy behaviors
12. Masculinity
13. Expression of emotions and physical distress

Underlying factors that influence the health behaviors and beliefs of men and boys

14. Biology and genetics
15. Psychophysiology
16. Ethnicity
17. Socioeconomic status
18. Age group
19. Marital status
20. Occupational hazards
21. Unemployment
22. Imprisonment
23. Societal beliefs about masculinity and the social treatment of boys and men
24. Media and advertisements
25. Health knowledge

Health care

26. Insurance coverage and health care costs
27. Health care access
28. Institutional influences and research methodology
29. Clinician-patient interaction and communication
30. Clinicians' gender biases