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Recommended Citation
Carol Joann Bess, Gender Bias in Health: A Life or Death Issue for Woman with Coronary Heart Disease, 6 Hastings Women's L. R. 41 (1996).
Available at: http://repository.uchastings.edu/hwlj/vol6/iss1/3

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Gender Bias in Health Care: A Life or Death Issue for Women with Coronary Heart Disease

Carol Jonann Bess*

Introduction

Growing evidence in medical research suggests a gender bias against women, particularly in the area of coronary heart disease (CHD). This disparity exists at all levels of health care delivery from office visits to in-hospital care. Gender bias may result in delayed or inaccurate diagnosis, unequal medical interventions, and higher mortality for women who undergo invasive cardiac and surgical procedures.¹ While research conducted in other areas of medical care indicate a bias against women,² recent research in cardiac care presents the most worrisome evidence to date that women are dying because physicians fail to timely diagnose and treat CHD as aggressively as they do in men.

Part I of this note explores early recognition of gender bias and research in the 1970s and early 1980s. During this period, researchers attempted to explain why gender bias exists. Today researchers remain unable to account for many inequities, but offer several theories to explain its existence. Part I examines the attitudes of health care providers, specifically as they relate to the gender of the patient in relation to the gender of the physician. Part I also examines the disproportionate effect of gender bias on older women. The male model of health care is offered as the vehicle of discrimination against women.

Part II examines gender bias in CHD, beginning with delayed or inaccurate diagnosis of angina (chest pain) associated with CHD. Further, this section examines why women are not offered early access to diagnostic

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¹ See Part II, infra.
² See Part I, infra.
procedures for CHD. When procedures are offered, the results may not have the same meaning for women as for men. Research suggests that women diagnosed with myocardial infarction have a higher mortality than men. Delayed access to interventions such as thrombolysis, angioplasty, and coronary artery bypass grafting results in higher mortality for women. Finally, extrapolation from all-male clinical testing of drugs results in different outcomes for women in the primary prevention of CHD.

Part III examines the legal ramifications of unequal care for women who have CHD and whether this violates the equal protection clause of the Fourteenth Amendment to the United States Constitution. Since almost every major hospital providing cardiac intervention and care in the United States receives federal and state funding via Medicare and Medicaid, these health providers may not discriminate in access to or provision of medical care. Gender bias against women may also violate other federal and state statutes.

Part IV explores solutions to this gender bias. First, the National Institute of Health (NIH) must be forced to live up to their promise to increase funding for women’s issues. In response to the U.S. Public Health Service’s Task Force on Women’s Health Issues in 1985, NIH promised to increase funding to study women’s health issues. However, as of June 1990, nearly three years after this promise, the General Accounting Office reported NIH had made very little progress toward this end. Second, medical schools should be encouraged to change the male-centered medical model to a male/female medical model. Finally, the American Medical Women’s Association should continue to encourage the medical community to develop a women’s specialty in medicine. Parting out women’s health care between the family practitioner or internist and the obstetrician-gynecologist may not provide comprehensive health care for women.

In conclusion, the “why” of gender discrimination is least important. Our priority in research should be to identify when it occurs, and take measures to see that it ceases. The Council on Ethical and Judicial Affairs of the American Medical Association reports, “The medical community cannot tolerate any discrepancy in the provision of care that is not based on appropriate biological or medical indications.” The long-term quality of life and health of women depend on finding a solution to this problem.


6. Id. at 561.
I. The Scope of Gender Bias in Health Care

A. A Historical Perspective

The roots of women's health issues arose from the Feminist Movement in the late 1970s and challenged the medical profession's authority over women's bodies. In the midst of the Women's Movement in the late 1970s, women complained that their physical complaints were not considered by physicians as seriously as those of men. Armitage et al. were among the first researchers to examine this allegation. Armitage's San Diego study suggested that men received more diagnostic services and more appropriate treatment for their complaints than did women. In 1981, Verbrugge and Steiner examined the same five medical complaints as Armitage and discovered that while women actually receive more medical care than men, there were statistically significant differences between the care delivered. When the complaint is chest pain, a potentially more serious condition, physicians diagnosed men differently than women. Specifically, "Men's chest pain is due to circulatory conditions (heart disease) more often; and women's, to respiratory conditions (bronchitis and pleurisy)." Verbrugge attributed the apparent contradiction in outcome from Armitage's research to the small sample in the San Diego study (n=40 patients) as compared to hers (n=46,868 visits to physician). Current literature interprets Verbrugge's study as indicating a higher morbidity among women (more acute and chronic, non-lethal conditions leading to poor health) and higher mortality among men (conditions leading to death). Rodin states, "Men are sick less often, but their illnesses and injuries are more severe; men have higher rates of chronic diseases that are the leading causes of death."
B. CULTURAL BIASES AGAINST WOMEN RESULT IN GENDER BIAS IN HEALTH CARE

Researchers proposed several theories to explain the existence of gender bias in health care. In 1975, Nathanson synthesized research concerning sex differences in morbidity and utilization of physical and mental health services. She employed three explanatory models previously proposed in research: "(1) women report more illness than men because it is culturally more acceptable for them to be ill — ‘the ethic of health is masculine’; (2) the sick role is relatively compatible with women’s other role responsibilities, and incompatible with those of men; and (3) women’s assigned social roles are more stressful than those of men; consequently, they have more illness." Nathanson observed these studies did not differentiate between illness and illness behavior and concluded there was insufficient data using these three explanatory models to link women’s higher morbidity and lower mortality to various dimensions of the feminine role. Marcus and Seeman further examined the feminine role and illness and concluded inflexible role obligations contribute to differences between men and women in reporting illness; but when this variable was controlled, women reported more chronic conditions than men.

In 1982, Cleary et al. studied both illness and illness behavior of men and women and concluded “the consistency of sex differences found using different types of indicators and different types of data supports the notion

15. Id. at 59. See also Council on Judicial and Ethical Affairs, supra note 3 (citing the following studies: W. R. Gove & J. Tudor, Adult Sex Roles and Mental Illness, 78 AM. J. SOCIOLOGY 812 (1973) (concluding more women than men are mentally ill and women have more transient situational personality disorders and psychosomatic disorders); D. L. Philips & B. E. Segal, Sexual Status and Psychiatric Symptoms, 34 AM. SOCIOLOGY REV. 58 (1969) (concluding women report more symptoms because illness is stigmatizing for men, less so for women); K. Broverman et al., Sex-Role Stereotypes and Clinical Judgments of Mental Health, 34 J. CONSULT. CLIN. PSYCHOLOGY 1 (1970) (concluding concepts of mental health held by health professionals differed depending upon the sex of the patient); W. A. GLASER, SOCIAL SETTINGS AND MEDICAL ORGANIZATION (1970) (concluding the sick role is more compatible with a woman’s role); C. Smith-Rosenberg & C. Rosenberg, The Female Animal: Medical and Biological Views of Woman and Her Role in 19th Century America, 60 J. AM. HIST. 332 (1973) (concluding woman’s health is dictated by her reproductive system and disorders of this system may appear in remote areas of her body. Men suffer no parallel disability).
17. Alfred C. Marcus & Teresa E. Seeman, Sex Differences in Reports of Illness and Disability: A Preliminary Test of the "Fixed Role Obligations" Hypothesis, 22 J. HEALTH SOC. BEHAV. 174 (1981).
that they reflect real differences in health." \(^{18}\) Women not only reported more illness, they were actually ill more often than men.

Research indicates there is no one satisfactory explanation for women's higher morbidity, but men's higher mortality. One of the most recent studies, conducted by Verbrugge in 1989,\(^{19}\) examined five factors: (1) biological risks, (2) acquired risks, (3) illness behavior, (4) health-reporting symptoms, and (5) prior health care and caretakers. Verbrugge concluded of these five, acquired risks (roles and stress) account for women's poorer health.\(^{20}\) Additionally, when social factors are taken into account, men still have a higher mortality than women.\(^{21}\) This issue needs further research. The Council on Ethical and Judicial Affairs recognized the contradiction in the existing research, stating:

> Although biological factors account for some differences between the sexes in the provision of medical care, these studies indicate that nonbiological or nonclinical factors may affect clinical decision making. There is not enough data to identify the exact nature of nonbiological or nonclinical factors. Nevertheless, the existence of these factors is a cause for concern that the medical community needs to address.\(^{22}\)

C. FEMALE PHYSICIANS MAY DISPLAY LESS GENDER BIAS THAN MALE PHYSICIANS

In the 1970s, feminists accused physicians of adopting societal attitudes which demean women. Feminists charged that physicians had used the medical system, through clinical decision making, to reinforce the idea that women were helpless, dependent, and less competent than men.\(^{23}\) Feminists placed the burden of gender bias in health care squarely in the laps of physicians. Bernstein and Kane conducted a survey to assess male and female physicians' attitudes toward female patients.\(^{24}\) The results suggest that physicians perceive women as more emotionally labile than men. The more expressive a female was, the more likely the physician was to judge the female's complaints as psychosomatic.\(^{25}\) When men behaved

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20. *Id.*
21. *Id.* at 295.
25. *Id.* at 606.
emotionally, physicians judged them similarly to expressive women. Bernstein and Kane found no differences in the responses of male and female physicians. This last finding may be explained by the small sample of female physicians. A total of 253 physicians participated; 225 were men, 28 were women.

A recent study by Roter et al. suggests striking differences between female and male physicians, regardless of the sex of the patient. In their study of 127 physicians (101 men and 26 women), they concluded that female physicians devoted more time to the clinical patient visit, talked more, and used different communication strategies than males. Female physicians used patient-centered, positive, relation-building communication and provided more biomedical and psychosocial information, regardless of the sex of the patient. Additionally, both male and female patients talked more with female physicians, but women especially benefited from exchanges with female physicians. While this larger study of female physicians may be more reliable than earlier studies, it is difficult to compare the two studies because they do not measure the same variables. Bernstein and Kane found no differences in responses between male and female physicians' attitudes toward female patients, neither did Roter et al.

The mean age of physicians studied by Bernstein and Kane was forty-one, while the mean age studied by Roter was thirty-four. This age difference, in addition to the smaller sampling of female physicians by Bernstein and Kane, suggests that younger female physicians may have different attitudes toward female patients. Additionally, ten years elapsed between studies, during which time the medical profession, as well as society, has become more sensitive to women's health issues. A follow-up study to Bernstein and Kane using a larger sample of female physicians with a broader age range might shed light on the hypothesis that female physicians are less likely to perceive expressive women as having psychosomatic complaints.

26. Id.
27. Id. See also Stephen Colameco et al., Sex Bias in the Assessment of Patient Complaints, 16 J. FAM. PRACT. 1117 (1983) (concluding that female physicians as compared to male physicians do not hold more favorable attitudes toward female patients).
28. Bernstein & Kane, supra note 22, at 603.
29. Debra Roter, Mack Lipkin, Jr., & Audrey Korsgaard, Sex Differences in Patients' and Physicians Communication During Primary Care Medical Visits, 29 MED. CARE 1083 (1991).
30. Id. at 1091.
31. Id. at 1092.
32. Id. See also Nicole Lurie et al., Preventive Care For Women: Does the Sex of the Physician Matter?, 329 N. ENG. J. MED. 478 (1993) (concluding women are more likely to undergo screening with PAP smears and mammograms if they see female rather than male physicians).
D. GENDER BIAS AFFECTS OLDER WOMEN DISPROPORTIONATELY

With the graying of America, the older population has become overwhelmingly female. Today women are likely to outlive men by over seven years. But living longer does not mean living well. In 1986, women constituted 71% of the population entitled to both Medicare and Medicaid. Older women are not only poorer than older men, but are less likely to have private health insurance or other assets. Women have “fewer personal financial resources for health care ‘than older men, and these resources’ must be spread out over a longer lifetime.”

Research suggests gender bias may be more damaging for older women, especially given women’s higher morbidity rates. A recent study by Mutran and Ferraro suggests that given equal levels of disability and overall health status, older men were more likely to be hospitalized than older women. Mutran and Ferraro propose that physicians’ attitudes differ for three possible reasons: (1) men may be less able or less likely to care for themselves as outpatients, (2) men’s self-assessments may be perceived as reflective of an actual medical problem (i.e., women are more likely to be hypochondriacs), and (3) the decision to hospitalize may be a function of the sex of the physician. Regardless of the reasons, the fact that women are as ill as men, but are not hospitalized as often, constitutes discrimination based on gender. Further, this discrimination may preclude women’s access to in-patient diagnostic procedures which might lead to earlier medical interventions. According to Lewis, older women’s experiences with the health care system have not been positive. Lewis states:

Their chronic diseases are often ignored or undertreated, as medicine occupies itself with more acute conditions. Physicians tend to belittle their complaints and symptoms by attributing them to “post menopausal syndrome,” old age, hypochondriasis or other neurotic behaviors, “senility,” or by over-prescribing tranquilizers and other medications in the belief that many physical complaints

34. Jecker, supra note 32, at 3012 (citing C. MULLER, HEALTH CARE AND GENDER (1991)).
35. Jecker, supra note 32, at 3012. (citing Myrna Lewis, Older Women and Health: An Overview, 10 WOMEN’S HEALTH 1, 10-11 (1985)). In 1983 the median income for older women was $5,599.00 per year compared to $9,766.00 for older men. This placed women just $800.00 over the U. S. official poverty level.
37. Id. But see Marjorie Pearson et al., Differences in Quality of Care for Hospitalized Elderly Men and Women, 268 JAMA 1883 (1992) (concluding the care received by men and women as in-hospital patients is more similar than different).
of older women are psychosomatic in origin. . . . There is little recognition of the value of older women's lifetime contributions to society. Their work is not considered part of the gross national product. Their accumulated wisdom, survival skills, range of personality, and creativity are seldom acknowledged. It is not surprising therefore, that health care workers often reflect the larger cultural disregard and even disdain for older women. 38

There is a fear among female medical professionals that in the current climate of soaring medical costs, the growing numbers of older patients may cause a strong incentive to ration health care based on age. 39 Age-based rationing will disproportionately affect females because there are more older women than men, and their relative impoverished state creates greater reliance on families and public insurance to meet their medical needs. Additionally, age-based rationing may signal to society that older citizens have less value and are less deserving than the young. 40

Recognizing the importance of age-based rationing for women opens up a broader concern. Namely, inattention to how health policies in other areas affect women already has yielded skewed health plans and biased assessments of justice. The concern here is not that policymakers wantonly denounce women's rights or overtly censure women's causes. Rather, women may be prone to suffer because health needs vital to them fall prey to neglect or indifference. To avert this possibility, we must actively anticipate gender issues related to all health policies and give them an alert and meticulous hearing. 40

Gender bias against women is not unique to the older woman, but is consistent with patterned inequities felt throughout the life cycle. Hess states, "Gender is less a reflection of immutable natural differences than a means of dividing people into distinct categories. The gender stratification system is a set of power relationships." 41 As women age, the inequities in medical care increase.

38. Lewis, supra note 34, at 12-13.
40. Id. at 3015.
E. THE MALE MODEL OF HEALTH CARE IS THE NORM

It is generally accepted that all medical care is based on a male model, while care of the female is "other." Dr. McGoldrick stated in an editorial, "[t]ypically, the paradigm patient or research model has been the 70 kilogram man. Traditional studies on diseases which affect both sexes have characteristically used male subjects exclusively, with the results extrapolated or generalized, as if to suggest that males are the generic humans." The problem with this male model is that information is extrapolated to women with effects ranging from incorrect to lethal.

Historically, drug companies have conducted clinical trials on new drugs using white males exclusively during all stages of testing, and physicians have prescribed these drugs to women. Indeed, women are prescribed more drugs than men, and suffer more adverse reactions. Evidence in the 1970s and early 1980s suggested that women have clinically significant differences in drug metabolism and responsiveness throughout the life cycle. However, the FDA and drug companies refused to use women in clinical trials because (1) testing women subjects introduces complexities due to hormonal variations (menstrual cycle, pregnancy, menopause), increasing the cost of research, and (2) drug companies fear liability from teratogenic effects. Underlying these theories is the belief that information from testing young white males is applicable to women, that men and women are physiologically the same.

Examples abound that extrapolation to women of a drug's effects on male research subjects is inaccurate and potentially dangerous. Even though women have a higher incidence of clinical depression, antidepressants tested only on male subjects can cause hostility and violence in women. The menstrual cycle can affect antidepressant effects; a

42. Michelle Harrison, Woman As Other: The Premise of Medicine, 45 J. AM. MED. WOMEN'S ASSN. 225 (1990).
45. Id. See K. O'Malley et al., Effect of Age and Sex on Human Drug Metabolism, 3 B. MED. J. 607 (1971); J.F. Giudicelli & J.P. Tillement, Influence of Sex on Drug Kinetics in Man, 2 CLIN. PHARMOCOKINET., 157 (1977); S.L. Maiskiewicz et al., Sex Differences in Absorption Kinetics of Sodium Salicylate, 31 CLIN. PHARMACOL. THER. 30 (1982); G. Fink et al., Sex Difference in Response to Alphaxalone Anaesthesia May Be Estrogen Dependent, 298 NATURE 270 (1982).
47. Id. at 883.
48. Id. at 888.
constant dose may be too high early in the cycle and too low later.\textsuperscript{49} Menstrual variations in response to drug therapy also occur with clonidine (given for high blood pressure) and Dilantin (given for seizures).\textsuperscript{50} Further, research suggests that oral contraceptive pills and estrogen taken for replacement during menopause may influence the metabolism of a wide variety of other drugs.\textsuperscript{51}

Elderly women may be at higher risk for adverse drug reactions than younger women. When age bias is added to gender bias in drug therapy, the results may be lethal. According to Wolfe, "[a] lot of elderly patients have been killed or injured because extrapolations aren't valid."\textsuperscript{52} One-third of all people over age sixty take five or more drugs simultaneously, and women take more drugs than men.\textsuperscript{53} The U.S. Public Health Service reports that older women take sedatives, tranquilizers, hypnotic drugs, drugs for hypertension and cardiac conditions, vitamins, analgesics, diuretics, and laxatives at two and one-half times the rate of older men.\textsuperscript{54} The greatest danger of taking multiple medications involves the synergistic effect of one medication when taken with another; that is, drugs have a greater total effect than the sum of their individual effects. The aging process complicates the synergistic effect of medications due to delayed absorption, metabolism and excretion in the elderly.\textsuperscript{55} For these reasons, elderly women are more likely to experience adverse drug reactions than are others, especially given the paucity of research applicable to women.

\section*{II. Women and Coronary Heart Disease}

According to the Centers for Disease Control in Atlanta, the leading cause of death for both men and women in the United States is CHD.\textsuperscript{56} Most cases of CHD are due to atherosclerosis, the build-up of lipids in the form of plaque which adheres to the walls of the coronary arteries.\textsuperscript{57} CHD can cause angina pectoris, myocardial infarction (heart attack), cardiac

\textsuperscript{49} Paul Cotton, \textit{Is There Still Too Much Extrapolation From Date On Middle-aged White Men?}, 263 JAMA 1049 (1990).
\textsuperscript{50} Paul Cotton, \textit{Examples Abound of Gaps in Medical Knowledge Because of Groups Excluded From Scientific Study}, 263 JAMA 1051 (1990).
\textsuperscript{51} Hamilton & Parry, \textit{supra} note 43, at 128.
\textsuperscript{52} Cotton, \textit{supra} note 48, at 1050 (quoting Sidney Wolfe, M.D., of the Public Citizens' Health Research Group, Washington, D.C.).
\textsuperscript{53} Rodin and Ickovics, \textit{supra} note 12, at 1029.
\textsuperscript{54} \textit{Id.} (citing U.S. Public Health Service, \textit{Women’s Health: Report of the Health Service Task Force on Women’s Health Issues} (1985)).
\textsuperscript{55} Charlotte Eliopoulos, \textit{Gerontological Nursing} 347-349 (2d ed. 1987).
\textsuperscript{57} Carol Mattson Porth, \textit{Pathophysiology: Concepts of Altered Health States} 277 (2d ed. 1986).
arrhythmias (electrical disturbances in heart rhythm), congestive heart failure, and sudden death. Risk factors contributing to CHD are classified as biological (heredity, sex, race, and age) and behavioral (cigarette smoking, high blood pressure, high blood cholesterol levels, and diabetes). Currently, one of the hottest research topics is coronary heart disease in women, evidenced by the NIH's fifteen-year study, the Women's Health Initiative. Even though CHD is the number one killer of women, it strikes them an average of ten years later than men. Consequently, Cotton states, "[h]eart disease, the number one killer of women, fails to kill enough of them fast enough to make its study in females 'feasible.' Research in CHD excluded women, but the results were extrapolated to women because the medical community believed that heart disease was principally a "man's disease." Research conducted by Paffenberger in 1975 and reported as Work Activity and Coronary Heart Mortality used an all-male group but suggested an "all-people" inclusive population. Research linking Type A personality with an increase of CHD used 4,000 California businessmen, but physicians promptly warned female patients that this may be their fate as well. Research indicates that linkage of Type A personality to heart disease does not extrapolate to women. In fact, working women as a group do not have significantly different rates of CHD than housewives.

The famous Framingham Study, conducted nearly thirty-five years ago, continues to provide much information on CHD. The original cohorts of this study consisted of 5,127 persons who, at the baseline exam, were free of CHD and are reexamined biennially. In 1986, a follow-up on the Framingham Study by Lemer and Kannel suggested that before a myocardial infarction, women with CHD presented angina more often than men. However, after a myocardial infarction, women’s prognosis for

58. Id. at 277.
59. AMERICAN HEART ASSOCIATION, HEALTHCARE PROVIDER’S MANUAL FOR BASIC LIFE SUPPORT 17, 18 (1990).
63. Lila A. Wallis & Perri Klass, Toward Improving Women’s Health Care, 45 J. AM. MED. WOMEN’S ASSN. 219 (citing Paffenberger et al, Work Activity and Coronary Heart Mortality, 292 N. ENG. J. MED. 545 (1975)).
64. Id. at 219 (citing Rosenman et al., Coronary Heart Disease in the Western Collaborative Group Study: Final Follow-up Experience of 8 1/2 Years, 233 JAMA 872 (1976) (Type A personality is marked by aggression, high motivation, and anger)).
66. Debra J. Lerner & William B. Kannel, Patterns of Coronary Heart Disease Morbidity and Mortality In the Sexes: a 26-Year Follow-up of the Framingham Population, 111 AM. HEART J. 383 (1986). But see Howard Dittrich et al., Acute Myocardial Infarction in
survival and morbidity (development of post-infarction angina, congestive heart failure, and reinfarction) were worse than for men. 67 Wenger criticized Lerner and Kannel's conclusion that pre-infarction angina was essentially a benign problem. Wenger stated:

Clearly the favorable prognosis of women with "angina" in Framingham reflected a substantial prevalence of women without coronary heart disease; this flawed myth of better tolerance of angina fostered less attention to women with this, less concern with their preventive care and coronary risk modification, and probably led to inappropriate decisions about objective testing . . . . The opportunity both for preventive therapies and for earlier and safer myocardial revascularization may have been missed, owing to misinterpretation of the chest pain data. 68

A. DIAGNOSIS AND TREATMENT OF ANGINA IN WOMEN

Angina, 69 the chest pain associated with CHD, can be very difficult to diagnose because the symptoms mimic other conditions. Porth states, "in some persons, the arm or shoulder pain may be confused with arthritis; in others, the epigastric pain is thought to result from indigestion." 70 Physiologically, male and female hearts are identical — CHD and its symptomatology are identical. No research to date suggests women's angina is different in character or presentation than angina in men. However, studies show that the diagnosis and treatment of chest pain differs by gender. 71

In a recent follow-up study to the original Mayo Clinic study, Orencia et al. searched the medical records of 1,000 participants diagnosed with angina or heart attack between 1960 and 1979 to investigate the effect of

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67. Lerner & Kannel, supra note 65, at 384-85. But see Fiebach et al., Differences Between Women and in Survival After Myocardial Infarction: Biology or Methodology?, 263 JAMA 1092 (1990) (concluding higher mortality rates of women following MI are related to known risk factors, and gender should not be considered an independent risk factor).
69. Angina in this article refers to angina pectoris which means heart pain caused by an insufficient supply of blood to the heart, a result of CHD. Classic angina pectoris presents as a severe, crushing pain in the middle of the chest and may be accompanied by anxiety, shortness of breath, sweating, and radiation of pain down the left arm, up the neck to the jaw, or through to the back. TABER'S CYCLOPEDIC MEDICAL DICTIONARY 82-83 (13th ed. 1977).
70. PORTH, supra note 56, at 279.
71. Verbrugge & Steiner, supra note 8, at 628.
gender on long-term outcome.\textsuperscript{72} Research revealed that angina in women is less likely to portend either a future myocardial infarction or sudden unexpected death than angina in men. More importantly, treatment after initial diagnosis of angina markedly differed between men and women. Physicians prescribed nitrates (vasodilators which increase oxygen supply to the heart muscle) and anticoagulation (blood-thinning) therapy more often to men and prescribed diuretics (water pills) more often to women.\textsuperscript{73} Additionally, Orencia states, "[t]here is some evidence that the women in this study were evaluated and treated less aggressively than the men."\textsuperscript{74} Orencia et al. failed to address the issue of what would have constituted appropriate care. Dr. Yawn, one of Orencia's colleagues in this study, stated, "[o]ur findings suggest that if women are diagnosed earlier, they can do as well as the men. Maybe in those previous studies the women were not treated aggressively enough. We need to look back at those studies to see what happened before the heart attack."\textsuperscript{75}

B. MEDICAL AND SURGICAL INTERVENTIONS FOR CHD

Once a patient with known CHD is admitted to a hospital with the diagnosis of unstable angina, which may signal an impending myocardial infarction (death of a portion of the myocardium) or a myocardial infarction in progress, several treatment modalities are available. If the patient has not yet had a myocardial infarction, he or she may receive an angioplasty, an invasive procedure in which a balloon on the end of a catheter is threaded into the coronary arteries and inflated in order to open up the narrowed area.\textsuperscript{76} If a patient arrives at the hospital with a myocardial infarction in progress, he or she may be a candidate for thrombolysis, or administration of powerful drugs which act directly on the clot occluding the coronary artery to dissolve it.\textsuperscript{77} If the patient arrives at the hospital either before, during, or after a myocardial infarction with severe multiple coronary artery disease (more than one coronary artery involved), he or she may be eligible for a coronary artery bypass graft (CABG), a surgical intervention which removes areas of diseased coronary arteries and grafts new vessels in their place.\textsuperscript{78} While all of these treatment modalities are

\begin{itemize}
\item \textsuperscript{72} Anthony Orencia et al., \textit{Effect of Gender On Long-term Outcome of Angina Pectoris and Myocardial Infarction/Sudden Unexpected Death}, 266 JAMA 2392 (1993).
\item \textsuperscript{73} Id. at 2392.
\item \textsuperscript{74} Angina Update: Gender Differences, 18 HEALTHFACTS 2 (1993).
\item \textsuperscript{75} Id. at 2.
\item \textsuperscript{76} Steven A. Schroeder et al., \textit{Current Medical Diagnosis and Treatment} 264 (30th ed. 1991).
\item \textsuperscript{77} Id. at 268 (The minimum time for treatment after onset of symptoms differs according to the procedure or medication administered).
\item \textsuperscript{78} Id. at 263-64.
\end{itemize}
not without significant risk, the risk of dying from a myocardial infarction is also great. 79

Even after diagnosis of CHD, women may not have equal access to treatment modalities. This lack of access may affect the outcome (mortality or morbidity) disproportionately. In 1991, a study by Ayanian and Epstein suggested that women who are hospitalized for CHD undergo fewer major diagnostic and therapeutic procedures than men. 80 Their results showed that men are more likely than women to undergo coronary angiography (diagnostic dye study of the vasculature of the heart), and revascularization procedures (angioplasty and CABG) for known or suspected CHD, even after controlling for clinical and demographic variables. 81 Researchers state, “[W]omen may not have equivalent access to these procedures at a time when the incidence of coronary heart disease among women is increasing.” 82 Ayanian and Epstein’s research brought mixed reviews. While one group of researchers questioned their findings, 83 another group not only supported Ayanian and Epstein’s research, but indicated that there appeared to be no regional differences with respect to gender access and treatment modalities. 84

A study published a year later confirmed Ayanian and Epstein’s conclusion that all three treatment modalities (thrombolytic therapy, coronary angioplasty, and CABG) were used less often in women hospitalized for acute myocardial infarction. 85 Researchers suggested the gender disparity may be related to confounding factors such as advanced age, and an increase in diabetes mellitus in women, but urged more research in the decision-making process for referral for women. 86

In 1993, researchers studying survival rates after a myocardial infarction suggested women who follow the treatment regimen of their

79. AMERICAN HEART ASSOCIATION, TEXTBOOK OF ADVANCED CARDIAC LIFE SUPPORT 2 (1987). In 1987, approximately 1.5 million people in the United States sustained a myocardial infarction. Of those, 540,000 (36%) died. Of those who died, over one-half or 350,000, died before reaching the hospital; most of these deaths occurred within two hours of the onset of symptoms. Id.
81. Id. at 222-23.
82. Id. at 225.
83. Roy Poses et al., Is There Sex Bias In the Management of Coronary Artery Disease? 326 N. ENG. J. MED. 570 (1992).
84. David Foster et al., Is There Sex Bias In the Management of Coronary Artery Disease? 326 N. ENG. J. MED. 570, 571 (1992).
85. Charles Maynard et al., Gender Differences in the Treatment and Outcome of Acute Myocardial Infarction, 152 ARCH. INTERN. MED. 972 (1992).
86. Id. at 976.
physicians have a lower mortality than women who do not comply. However, other research suggests this is true for men as well. Further, noncompliance places "blame" for mortality squarely on the patient. Conclusions drawn from this study are limited because women were excluded from the substudy which surveyed four important variables — levels of life stress, social isolation, depression, and Type A behavior. Studies involving only one treatment modality as a variable seem to suggest gender bias as often as research of multiple treatment modalities.

1. Fewer Women Offered Thrombolytic Therapy Than Men

Pfeffer et al. suggest that fewer women received thrombolytic therapy because they were classified as ineligible more often than men. Thrombolytic therapy involves the early introduction of intravenous drugs which dissolve blood clots restricting blood flow through major vessels. Thrombolytic therapy instituted in the early stages of myocardial infarction decreases or at least limits the amount of myocardial tissue death. This study indicates that when thrombolytic therapy is not offered as a treatment modality for older patients and patients with prior myocardial infarction, impaired functional status, diabetes, and neurological diseases, as well as patients who are unemployed. The net result is that women are excluded more often than men. Researchers state, "[e]ven though thrombolytic therapy is of proven benefit in increasing survival following myocardial infarction, the majority of patients currently do not receive this therapy, and these patients are at higher risk for adverse events." However, Pfeffer et al. stop short of suggesting this difference in access is due to gender bias.

2. Higher Mortality For Women Receiving Angioplasty

A current study of mortality rates for angioplasty suggests a higher mortality for women than for men. Bell et al. studied the in-hospital death rates for patients receiving angioplasty and concluded the death rate was 2.7% for men and 4.2% for women. Angioplasty is an adjunct or

88. Id. at 741 (citing Coronary Drug Project Research Group, Influence of Adherence to Treatment and Response of Cholesterol on Mortality in the Coronary Drug Project, 303 N. ENG. J. MED. 1038-1041 (1980)).
89. Gallagher, supra note 86, at 745.
91. SCHROEDER, supra note 75, at 268.
92. Pfeffer, supra note 89, at 531.
93. Id.
alternate therapy to thrombolysis used if thrombolysis fails or if the required time for administration of thrombolytics has expired. Bell's study also indicates women who died were significantly older, and had more severe angina, heart failure, diabetes, high blood cholesterol and high blood pressure than men. Researchers attributed women's higher mortality to advanced age of the women tested (four to ten years older than the men) and the severity of the underlying heart disease. They concluded these factors, and not gender, accounted for the differences in mortality rates.

3. Higher Mortality For Women Receiving Coronary Artery Bypass Grafts

Several studies indicate a higher mortality rate for women who undergo coronary artery bypass grafting (CABG) than for men, but each proposes a different reason for the discrepancy. CABG is a major open-heart surgical procedure which requires replacing diseased and/or occluded coronary arteries with healthy veins harvested from the leg of the patient. Surgeons perform CABG for cardiac patients who exhibit more severe symptoms of CHD, especially following a myocardial infarction or several failed angioplasties (reocclusion of artery). Researchers from the Coronary Artery Surgery Study (CASS) suggest the smaller size and stature of women may pose technical problems which increase women's mortality. Perhaps these "technical problems" are a form of gender bias as well. If the surgical instruments are not sized appropriately for a women's smaller anatomy, it is understandable that there might be technical problems. Dr. Yawn, referring to studies showing higher mortality in women who undergo angioplasty which involves threading of a catheter sized for males states, "One of the things which fascinates me about the reaction [from male doctors] to such a finding is, 'Gee, the catheter is too big for women's smaller arteries.' Well, why didn't they think of using a smaller catheter to begin with?" This male-centered model may apply to surgical interventions as well; however, the "technical difficulties" have received no attention in research.

95. SCHROEDER, supra note 75, at 269.
96. Bell, supra note 93, at 2091.
97. Id.
98. SCHROEDER, supra note 75, at 263-64.
99. Stephen S. Kahn et al., Increased Mortality of Women in Coronary Artery Bypass Surgery: Evidence for Referral Bias, 112 ANN. INT. MED. 561 (1990) (citing D. Fisher et al., Association of Sex, Physical Size, and Operative Mortality After Coronary Artery Bypass in the Coronary Artery Surgery Study (CASS), 84 J. THORAC. CARDIOVASC. SURG. 334-41 (1982)).
100. HEALTHFACTS, supra note 73, at 3.
Kahn et al. documented a higher in-hospital mortality for women undergoing CABG, but attributed this to differences in preoperative status and age (women were older, had a higher incidence of unstable angina, and had congestive heart failure). Further, Kahn observed women are referred for CABG later in the course of their disease than men, and this may increase their intraoperative mortality. Therefore, evidence suggests a "referral bias" and not a treatment bias.

Tobin et al. suggested a gender bias against considering women for CABG and found men ten times more likely than women to be referred for cardiac catheterization (diagnostic dye study) following a positive nuclear exercise test (diagnostic exercise testing). These tests are essential to a diagnosis which would result in CABG.

The evidence from the above medical research suggests women are referred later than men for all diagnostic, medical and surgical interventions. It does not matter what rationale is given to explain this phenomenon. The result is that women are older and sicker by the time clinicians grant access to life-saving procedures, and this delay results in higher mortality for women. The question researchers need to answer is why women are consistently denied earlier access. Early access would mean women would undergo dangerous invasive procedures at a younger age with less advanced disease and fewer other related disorders (congestive heart failure, diabetes, unstable angina) which tend to occur more often in older women. Wenger states, "[c]learly, if deferral of evaluation and intervention results in these procedures being undertaken at an older age, often with a more adverse symptomatic status precipitating evaluation and intervention, this deferral must be considered as a variable contributing to unfavorable outcomes." Certainly, death is considered an "unfavorable outcome." Reports of higher mortality in women undergoing treatment interventions further influenced physicians to refer women more infrequently for invasive procedures. Instead of warning women not to have these procedures, physicians should interpret the data as indicating that procedures should be done, and done at an earlier stage of disease.

III. Legal Ramifications of Gender Bias in Health Care

Research examining gender bias in health care, specifically in the area of women and CHD, fails to address the origin or cause of gender bias. However, it is clear that women do not have equal access to life-saving procedures.
interventions such as thrombolysis, angioplasty, and CABG at the same stage of coronary disease as men. Later access and intervention result in higher mortality for women. Hospitals, and physicians who perform these interventions in hospitals, are making decisions regarding access based on gender, rather than on clearly articulated medical facts. This constitutes discrimination based on gender.

Almost all public and private healthcare facilities in the United States receive federal assistance, in the form of Medicaid and Medicare, which subjects these facilities to Title VI.106 Congress enacted Title VI as part of the 1964 Civil Rights Act107 partly to prevent the use of federal funds by healthcare facilities who openly discriminated on the basis of race. Surprisingly, though, Title VI does not prohibit discrimination on the basis of sex. The relevant section of Title VI provides:

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.108

To highlight this omission, compare Title VII of the Civil Rights Act of 1964,109 which provides:

It shall be unlawful employment practice for an employer to fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual’s race, color, religion, sex, or national origin . . .110

One must query if the omission of discrimination based on sex in Title VI was intentional or merely a congressional oversight.

There is another important difference between Title VI and Title VII. Title VII's prohibition against employment discrimination is authorized by Congress' power under the commerce clause to regulate interstate commerce.111 Alternately, Title VI is authorized by Congress' power

under the spending clause to regulate the availability of federal funds. Unlike Title VII, which imposes an obligation, Title VI offers an option: "Accept federal money and do not discriminate, or discriminate and do not get federal money." 

Although Title VII cases differ factually from Title VI cases, courts analyze Title VI cases using Title VII theories of discrimination, i.e., disparate treatment (intentional) and disparate impact (unintentional). The Court in Alexander v. Choate (interpreting Guardians) held that Title VI requires intentional discrimination, but Title VI's implementing regulations that prohibit unintentional discrimination are valid. The disparate impact doctrine used in Title VII gender discrimination cases may be extrapolated to healthcare law. Under the disparate impact doctrine, a woman can establish discrimination by demonstrating that women as a class are more severely affected than men by a facially neutral practice or policy. Disparate impact plaintiffs do not need to show intentional discrimination based on sex. Rather, disparate impact cases are concerned with impact, or outcome, and focus on what actually happened rather than the intended effect. Courts do not scrutinize statutory cases using intermediate scrutiny. However, they are more intolerant of racial differentiations than sexual differentiations. Applying the disparate impact doctrine to the unequal access to treatment of women with CHD, it would not be difficult to prove with statistics from the research discussed above that women's outcomes from CHD differ dramatically because of delayed access to treatment, evidenced by women's higher mortality. It would be difficult for a defendant to dispute the research in this area.

Presently, Title VI cannot be used as the basis an action for gender discrimination in health care. Any Title VI gender discrimination claim will prove futile until Congress amends Title VI to include sex as a protected class. Other federal statutes prohibit hospitals from discriminating on the basis of race, sex, national origin, physical handicap, or age.

119. See Part IV, infra.
Federal law prohibits hospitals which enjoy tax exempt status or have received construction grants under the Hill-Burton Act from discriminating. Similarly, state laws may also prohibit discrimination in places of public accommodation. The Joint Commission on Accreditation of Healthcare Organizations (JCAH) requires "impartial access to treatment . . . regardless of race, creed, sex, national origin, or sources of payment for care." Medicare automatically deems any hospital with JCAHO (formerly JCAH) accreditation to be fit for Medicare participation. Therefore, Medicare accepts JCAHO's non-discrimination standards in addition to federal standards for Medicare.

Gender discrimination in health care may be actionable under the Equal Protection Clause of the Fourteenth Amendment. The State Action Doctrine arguably applies to those situations where patients are denied access to procedures performed in hospitals which receive state and federal funding via Medicaid and Medicare. States, or state actors, who discriminate on the basis of gender violate the Fourteenth Amendment. The State Action Doctrine is available to a private party seeking damages and other remedies when the state violates that party's civil rights under the Equal Protection Clause. When a state is significantly involved in statutorily authorized private conduct, such as administering Medicare and Medicaid funding for private and public hospitals, then the state's conduct may constitute "state action." If a sufficient nexus exists between the hospital's conduct and the action of the federal government, and federally protected constitutional rights are at stake, the State Action Doctrine applies. In order to show a sufficient nexus, the complaining party must show that (1) the state is so entwined with regulating private conduct as to constitute state activity; (2) the state delegated what has

122. In California, The Unruh Civil Rights Act provides in part, "All persons within the jurisdiction of this state are free and equal, and no matter what their sex, race, color, religion, ancestry, national origin or disability are entitled to the full and equal accommodations, advantages, facilities, privileges, or services in all business establishments of every kind whatsoever." Cal. Civil Code § 51 (Deering 1995).
123. MARK A. HALL & IRA MARK ELLMAN, HEALTH CARE LAW AND ETHICS 81-82 (1990) (quoting JCAH, ACCREDITATION MANUAL FOR HOSPITALS (1990)).
126. Id.
127. Burton v. Wilmington Parking Auth., 360 U.S. 252 (1961) (state action existed where there was a partnership or symbiotic relationship between the state and a private party).
traditionally been a state function to a private party (hospitals); and (3) the state was the source of authority for private action. At first blush, one might assume a sufficient nexus exists between hospitals who receive federal and state funds and the state to establish state action. However, courts have refused to find a significant nexus between the state and a hospital’s receipt of Medicare, Medicaid, or Hill-Burton funds.

In an Equal Protection challenge of gender discrimination in health care, the defendant hospital or physician must justify the offending policy under the intermediate scrutiny standard applied to gender-based classifications. In *Craig v. Boren*, the Court first articulated a formal standard of review for gender-based classifications, stating, “previous cases establish that classifications by gender must serve important governmental objectives and must be substantially related to achievement of those objectives.”

Defendant physicians could argue that they may not know a woman’s symptoms are as severe or indicative of needed intervention as a man’s symptoms because the same symptoms of CHD do not appear to portend equal outcomes for men and women; that is, if a woman presents with angina, she has a lower morbidity from CHD than a man. The overriding governmental objective in delaying care may be articulated as concern for providing expensive, “needless” interventions unwarranted by the symptoms presented by women. If monetary concerns are the “important governmental objective”, this argument fails the second part of the *Boren* test — “it must be substantially related to achieve those objectives.” It is far more expensive to provide healthcare for older women with multiple disease processes (diabetes, high blood pressure, high blood cholesterol levels, congestive heart failure) who will suffer a higher mortality with any CHD intervention than it is to medically intervene at an earlier stage of CHD.

Presently, without congressional amendment to Title VI and concurrent changes in the courts’ unwillingness to find state action in hospitals’ receipt of federal funds, litigation on the issue of gender discrimination in healthcare will be unsuccessful, whether the issue is litigated on a constitutional or statutory basis.

128. *Id.*
130. *Id.* at 1026.
132. *Id.* at 197.
133. *Id.*
IV. Solutions to Gender Bias

Litigation to address discrimination is not only expensive, but may take years to effect change in laws and attitudes.134 Litigation can successfully be employed to raise the consciousness of the public and to highlight this area of discrimination. A more immediate solution involves prevention of gender discrimination.

A. NATIONAL INSTITUTE OF HEALTH (NIH) FUNDING FOR WOMEN’S HEALTHCARE ISSUES

A study by the Public Health Service in 1985 indicated that a dearth of medical data on women limited understanding of women’s health care needs. NIH responded two years later by promising to encourage the use of women in clinical studies. Further, NIH promised to require grant applicants to explain why they excluded women from proposed research. However, as of June 1990, nearly three years after this promise, the General Accounting Office (GAO) reported NIH had made very little progress toward this end.135 NIH National Heart, Lung, and Blood Institute Deputy Director Peter L. Frommer, M.D. says, “[w]e try to live by the precept [of holding grant recipients responsible for including women, or explaining why they exclude them].”136 But Dr. Frommer admitted he was unable to answer whether trials using women have been turned down, and challenges critics, “if people are contending that we have been derelict in [funding] studies with inappropriate bias, they should identify our errors.”137 Dr. Frommer states the burden inaccurately. By NIH’s own policy, it is incumbent upon NIH to prove to GAO that they have complied with their own rules and regulations, and not upon the general public to prove NIH failed to comply.

It is encouraging to see that in recent years NIH has taken their promise more seriously. In 1990, following the unfavorable GAO report, NIH opened the Post-Menopausal Estrogen Progestin Intervention Trial (PEPI), its first large-scale clinical trial evaluating over 800 post-menopausal women for heart disease risk factors.138 In 1991, the new director of NIH, Bernadine Healy, hailed the Women’s Health Initiative (of which PEPI is a part), as the “most definitive, far-reaching study of women’s

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134. See Brown v. Board of Education of Topeka, Shawnee County, Kan., 347 U.S. 489 (1955) (ordering courts to act “with all deliberate speed”, but by 1964 only one third of southern school districts had desegregated).
136. Cotton, supra note 48, at 1049 (quoting Dr. Peter L. Frommer, Deputy Director, National Heart, Lung, and Blood Institute, NIH, Bethesda, MD.).
137. Id.
138. McGoldrick, supra note 42, at 211.
health ever undertaken . . . [to] examine heart disease and stroke, cancer, and osteoporosis — the major causes of death, disability, and frailty in women of all races and socioeconomic strata.”139 However, a recent newspaper account suggests the project is flawed, according to the Institute of Medicine, a congressionally chartered review panel.140 The panel stated, “much of the information could be obtained in better designed, smaller, more focused studies that could have a greater chance of success and probably be less costly.”141 So far the project involves 160,000 postmenopausal women (for the entire Women’s Health Initiative) and its cost is expected to exceed $625,000,000 over a fourteen year period. It is possible that the largest single research study ever funded by NIH might fail due to its design, making it difficult to draw statistically valid conclusions. While NIH’s efforts need to be applauded, a failed study of this magnitude may cause researchers to avoid women’s health issues in the future. It is essential that NIH carefully review the panel’s recommendations and modify the design in the study’s early stages before more money and time are wasted on “flawed” design. Throwing money at a problem rarely creates solutions. Women want and need answers which statistically valid research can provide.

B. MEDICAL SCHOOLS — CHANGE THE MALE-CENTERED MODEL

The second possible solution to gender bias is to attack the problem at its source by altering the manner in which medical schools use the male-centered model of health care, and exclude women’s health. Drs. Wallis and Klass state, “when students are taught about women’s health only in terms of disorders of the breast, uterus, cervix, and vagina, then — for some doctors — the very state of being female almost comes to imply pathology, while the norm is so eminently male.”142 Dr. McGoldrick identifies the source of the male model of health care as originating in medical school.143

There are two ways to alter this male-centered model. First, change the medical school curricula to include two models — one for males and one for females. Second, encourage more females to become physicians. Bernadine Healy, Director of NIH, states:

Progress in addressing the gender discrepancies that have been documented cannot depend alone on swelling the ranks of female researchers and physicians . . . . Here, more may be needed.

139. Healy, supra note 59, at 567.
140. Earl Lane, Panel Criticizes 14-Year Study on Women’s Health, WEST COUNTY TIMES (Contra Costa County, CA), Nov. 2, 1993, at B2.
141. Id.
142. Wallis & Klass, supra note 62, at 220.
143. McGoldrick, supra note 42, at 211.
Namely, we must train all medical students, male and female, to understand the biological differences between the sexes, to take the time to listen to their patients, to respect their patients’ concerns and anxieties, and, most of all — as so many women have consistently written to me — to take them seriously.144

When medical schools teach both the male and female model for health care, women's health issues will no longer be an oddity, and physicians will seriously consider women’s health concerns.

C. FEMALE MEDICAL SPECIALTY

When the American Medical Women’s Association (AMWA) convened in Philadelphia in 1990 to discuss a proposed curriculum for a women's health specialty, a fierce “turf” battle began. The AMWA recognized the need for a women’s health specialty to address the female patient’s entire medical needs, which include internal medicine, psychiatry, nutrition, orthopedics, urology, preventive medicine, as well as OB/GYN services — all provided by one physician. However, the AMWA encountered strong opposition from the American Academy of Family Physicians, American College of Obstetricians and Gynecologists, and even the American College of Physicians.145 All of these organizations argued that they provided health care addressing all health concerns of women; however, the AMWA disagreed.

The Women’s Movement empowered women and encouraged them to take control over their own bodies. Power resided in lay workers who formed hundreds of women-run alternative health centers. This message of empowerment filtered out to physicians, and the AMWA responded.146 A women’s health specialty, as proposed by the AMWA embodies a multidisciplinary approach to health in order to treat the whole person, not just parts or organs in isolation. “The concept of women’s health has been shaped by consumer activism. It implies a commitment to prevention, patient education, and information exchange. Women . . . expect to be partners in health care and practitioners who serve these women will do well to embrace this perspective.” 147

Conclusion

Evidence suggests a gender bias exists for women in health care, especially for older women with CHD. Researchers frequently argue over

144. Healy, supra note 59, at 567.
146. Johnson & Dawson, supra note 7, at 222.
147. Id. at 224.
the causes for this bias, but most accept its existence. It is not necessarily as important to discover the cause of gender bias as it is to seek solutions.

Gender bias in health care may be a litigatable issue. However, there are no cases on point. More immediate solutions include supporting legislation which directly alters gender bias. In addition, women should hold NIH accountable and insist they follow the mandate to include more women in clinical drug trials and research so that medical decisions for women are based on data relevant to women. Female consumers and physicians need to encourage medical school curricula which presents both a male and female model of health care. Finally, women need to support the AMWA’s proposal for a multidisciplinary health specialty.

It is not enough for women to wait for professionals to make changes. “Women constitute 52% of the population and account for about 70% of all health provider/consumer interactions, yet they represent only a small fraction of the decision-making groups in medical education, training, practice, and policy.”148 Women have power and voice which can be exercised at five levels — as voters, taxpayers, supporters of women’s organizations, supporters of women in academia, and as partners in health care with physicians — for changes which can occur. Women must insist upon change.
