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PART ONE

Foundations of Women's Health

Chapter 1

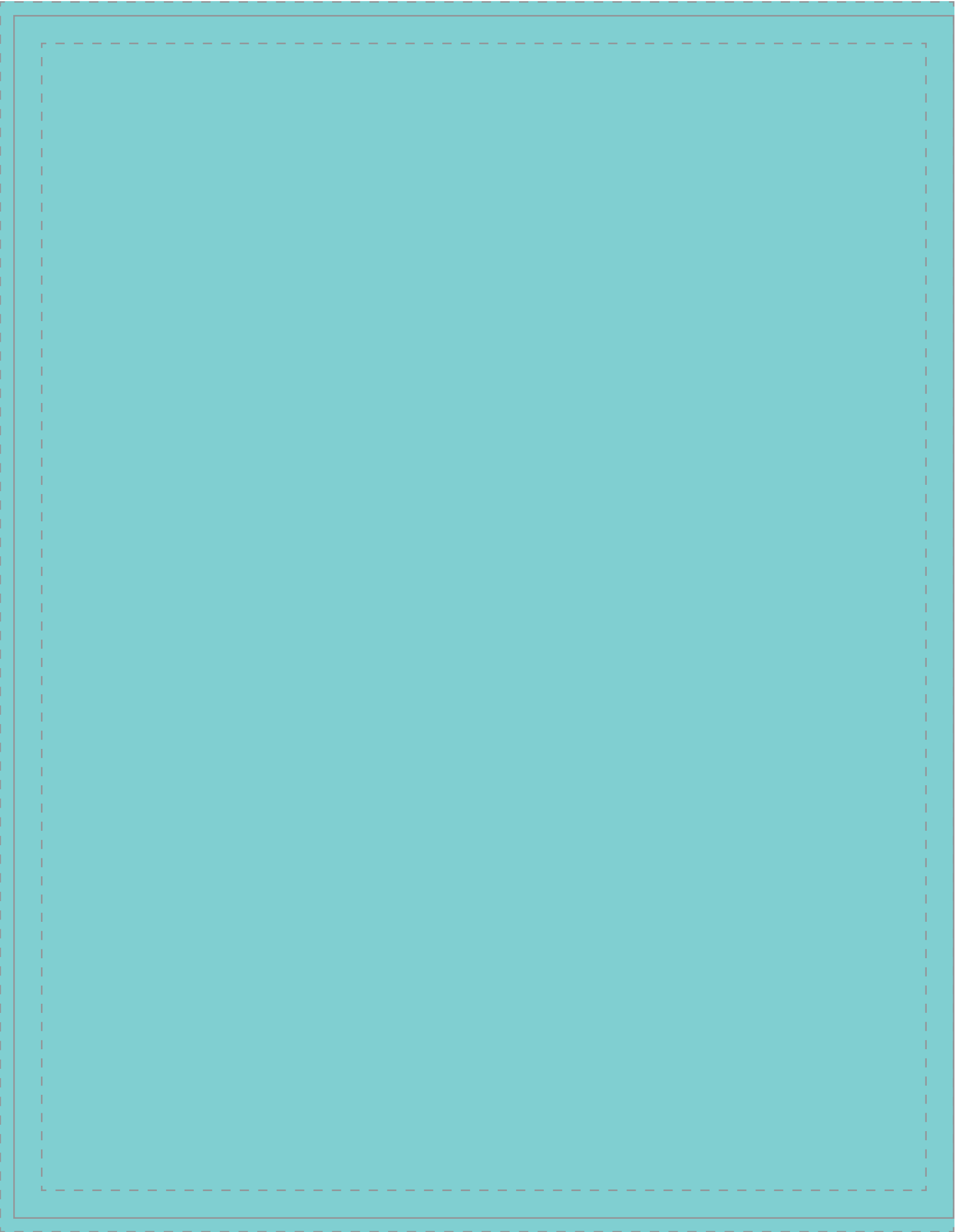
Introduction to Women's Health

Chapter 2

The Economics of Women's Health

Chapter 3

Health Promotion and Disease Prevention



CHAPTER 1

Introduction to Women's Health

Learning Objectives

On completion of this chapter, the student should be able to discuss:

1. Major ways of thinking about and defining women's health.
2. How the women's health movement has grown and changed over the past 200 years.
3. The government's role in protecting and promoting the health of the public.
4. The responsibilities of the National Institutes of Health and the Office of Research on Women's Health.
5. The federal government's role in funding and conducting research on women's health.
6. The importance of investing in biomedical research and the inclusion of women and minorities in research studies.
7. The concept of gender-based research and basic health differences between women and men.
8. Reproductive rights, the global gag rule, and the effects that restricting abortion has on global health.
9. How lack of access to health care, lack of health insurance, cultural insensitivity, and other obstacles affect the health of women.
10. The need to train health professionals about women's health and cultural sensitivity.
11. Global efforts to support women's health and gender equity.

INTRODUCTION

Women's health is a fascinatingly complex area of study. Thousands, even millions, of factors affect the ways women develop, get sick, get well, interact with others, reproduce, age, and receive health care. Some books on women's health attempt to provide a deep but narrow level of detail by focusing on a few of these factors. This book, however, attempts to explore, or at least introduce, the significant facets of women's health from many different angles. The following sections describe areas of concern and ways of thinking about women's health and well-being that are explored in the chapters of this text.

Women's health includes the study of the whole body. Women's health examines biological characteristics unique to women, the most obvious being the reproductive organs, but also differences in body structure, childhood development, hormones, and brain chemistry. Yet women's health is also concerned with factors that affect both genders, including the common cold, heart disease, depression, and the benefits of regular physical exercise. Women's health includes the study of disease, but it also examines factors that affect a woman's physical and mental well-being.

Women's health can study populations or an individual woman. Women's health benefits from examining patterns of health and disease in populations—for example, whether women who are exposed to secondhand cigarette smoke have a greater risk for developing lung cancer than women who are not. But women's health also includes the study of how diseases affect individuals, such as ways a woman can reduce her personal risk of getting cancer; what the signs, effects, and treatments of cancer are for an individual woman who has it; how that woman's unique body acts and reacts to disease; and how a woman copes after being diagnosed.

The entire spectrum of research and social sciences can provide insight into women's health. A full understanding of women's sexual and reproductive health requires biological, cultural, historical, psychological, and political perspectives. The physical components of the reproductive system influence a woman's sexual response, but so do cultural mores and traditions that dictate when and how women are supposed to enjoy and think about their sexuality. Women's health includes reproductive health, defined as the well-being of a person's reproductive system, including their ability to decide if and when to have children.¹ Studying reproductive health requires examining the laws, practices, and cultural beliefs that influence when and where women learn about childbirth, family planning, and birth control, and their legal options for ending a pregnancy. Because women's unequal treatment affects their well-being and lives in many ways, **feminism**—the idea that women should have the same political, economic, and social rights and opportunities as men—is also an important part of women's health. Not all women become mothers, but because all

mothers are women, women's health also includes studying pregnancy, fetal development, and mother–infant interactions.

Finally, society and culture also influence women's health. Women's place in society affects if and how often rape, sexual harassment, and other forms of sexual violence occur. Sociocultural factors also influence where and when women can enter the workforce as well as what sort of workplace they encounter. Women's health includes women's ability to obtain and benefit from health care. The study of access to health care has increased dramatically over the past 20 years. Access to health care includes not only whether women can physically get to a doctor or healthcare provider but also whether they trust that provider, whether they have insurance or some other way to pay for health care, and whether they know if and when something is wrong. Access to health care and healthcare decision making are especially important for women's health, because women are more likely than men to make decisions regarding health care for their relatives and families.

HISTORICAL DIMENSIONS: THE WOMEN'S HEALTH MOVEMENT

The past 200 years have seen enormous improvements in women's health, political and economic rights, and place in society. The following section provides a brief history of the women's health movement and advances in women's health in the United States.

Reductions in morbidity and mortality—or injuries and deaths resulting from pregnancy and childbirth—are one of the most important human achievements over the past 200 years. Until the late 1800s, rates of maternal death in the United States and Europe ranged from 25/1000 to 85/1000.² This means women had a 2.5% to 8.5% chance of dying every time they gave birth. Without access to family planning, the large family sizes that were often the norm made childbirth a major cause of death for women.

Today, the maternal mortality rate in the United States is about 28/100,000, less than half what it was in the 19th century.³ Maternal mortality rates are even lower throughout most of Western Europe. Rates of infant mortality have fallen even more dramatically. In the late 1800s, anywhere between 10% and 25% of infants died either during or shortly after childbirth in Europe and the United States.⁴ Today, just 0.6% of U.S. infants die during or shortly after childbirth.⁵ The medical advances that allowed these changes include the knowledge of germ theory, which helped reduce infections during childbirth; improved birthing assistance techniques from doctors and midwives; access to basic medical care during childbirth; and access to family planning services. Women's political and economic rights have also grown enormously since the 1800s. In the early 19th century,

women had no right to vote and were legally restricted to a small number of professions, most of them low paying and menial in nature. Women could not legally attend college and rarely had the opportunity to complete a high school education. Methods of birth control such as condoms and diaphragms existed, but they were illegal and difficult to obtain. The legal system also limited how and when women could own property, the circumstances under which they could marry and get divorced, and many other areas of women's legal life. Although there are still opportunities for improving women's health and for ending existing sources of discrimination, women today can be grateful for the advances made by previous generations of women (and men) to advance women's health.

1830s and 1840s: The Health Movement

Many historians believe the women's health movement began in the 1830s and 1840s, when small groups of women began advocating taking an active role in preventing disease and staying healthy rather than relying on formally trained physicians for treatment. This first wave of advocacy focused on eating a proper diet, the elimination of the **corset**, and periodic sexual abstinence in marriage to control family size. For the first time, a few middle-class women who became interested in their own health sought entry into the medical profession. Elizabeth Blackwell, for example, entered medical school in 1847 and prompted the opening of several medical schools for women. In 1848, the first women's rights convention was held in Seneca Falls, New York; the convention marked the official beginning of the women's rights movement.



During the Popular Health Movement, women were encouraged to eliminate the corset. Corsets were worn as an undergarment or outer garment to support and shape the waistline, hips, and breasts.

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1861–1865: The Civil War

The Civil War prompted many women to volunteer as doctors and nurses; some women even disguised themselves as men to tend to wounded soldiers on the battlefield. Dorothea Dix and Clara Barton led a national effort

to organize a nursing corps to care for the war's wounded and sick.

Women's participation in the war led to the opening of the first training schools for nurses in 1873; by 1890, 35 such schools existed. Although this trend represented advancement for women, the relationship between male doctors and female nurses mirrored the domestic sexual division of labor, with males as the authority figures and females as the subordinates.

Mid- to Late 1800s: The Women's Medical Movement

After the Civil War, educational and employment opportunities, though still severely limited, increased for women. The women's medical movement emerged from the growing numbers of women attending medical schools, their struggles to achieve equal status within the profession, and the popularity of challenging historical notions regarding women's fragility.

Elizabeth Blackwell was responsible for the opening of several medical schools for women in the mid-1800s.

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My grandmother was a physician at a time when all of her peers were men. I have always admired her but now that I have reached the same age as she was when she started her practice, I have a better understanding of the challenges she must have faced at my age in her time.

—24-year-old woman

1890s–1920s: The Progressive Era

The women's medical movement gave way to the Progressive Era, which advanced the roles of women and women's rights as well as women's health. In 1920, the 19th Amendment to the U.S. Constitution, which guaranteed women the right to vote, was ratified. A few years later, the National Women's Party, formed in 1917, proposed the Equal Rights Amendment, which to this day remains unratified (see **It's Your Health**).

During this time, Margaret Sanger and other activists pushed to legalize birth control. In 1916, Sanger opened the nation's first birth control clinic in Brooklyn and was arrested shortly afterward for violating a federal ban on contraception. Sanger was found guilty and sentenced to 30 days of labor; however, in an appeal, a judge legalized contraception—but only for married couples with a doctor's prescription. Other progressives worked to promote healthy motherhood through prenatal care and child health services. The Sheppard-Towner Act of 1921 greatly increased the availability of prenatal and child health care, especially in rural areas where care was scarce. This legislation provided federal funding for programs that opened clinics for women and children, educated women about pregnancy and childbirth, and trained midwives and physicians about childbirth. The Act lasted until 1929, when a conservative Congress refused to continue its funding.

It's Your Health

Equal Rights Amendment

The Equal Rights Amendment was written in 1921 by **suffragist** Alice Paul. Although it passed both houses of Congress in 1972, it was not ratified by enough state legislatures to be added to the Constitution.

Section 1. Equality of Rights under the law shall not be denied or abridged by the United States or any state on account of sex.

Section 2. The Congress shall have the power to enforce, by appropriate legislation, the provisions of this article.

Section 3. This amendment shall take effect two years after the date of ratification.

Courtesy of the National Park Service.

1930s–1950s: World War II and Postwar Years

The United States dramatically increased its production during World War II while millions of male workers were leaving to join the military. Women made a vital contribution to this effort. Twelve million women were working when the United States entered the war; by the time the war ended, 18 million women were employed.⁶ Women began receiving more pay and worked in a greater variety of positions, though they were rarely, if ever, employed in skilled labor or managerial positions. When the war ended, women were pressured to leave their jobs and return to being homemakers.

Although many women were using birth control by the 1950s, popular culture still reinforced the idea that sexuality was simply a means for married couples to produce children. The Kinsey reports on human sexuality, issued in 1953, started to dispel this idea by revealing that, for many men and women, marriage was not a prerequisite for sex.



The number of women employed in the United States increased by 50% during World War II. Many of these women were forced to leave their jobs when the war ended.

© Courtesy of the National Park Service

1960s–1970s: The Grassroots Movement

During the 1960s and 1970s, grassroots organizations challenged medical authority in the delivery of health care to women. These groups believed that the overwhelmingly male medical community excluded women from making decisions about their own health care, and they addressed issues such as unnecessary hysterectomies and cesarean sections, postpartum depression, abortion, and childbirth reform from a feminist perspective. The self-help manual *Our Bodies, Ourselves* epitomized this effort. This health book and guide to women's bodies, originally published in 1970, was written and self-published by 12 feminist activists. Today the book has been expanded greatly, is in its 13th edition, and has sold millions of copies worldwide.

Legal reforms during this time gave greater rights to women. The Food and Drug Administration (FDA) approved the birth control pill in 1960. In 1964, Congress passed the Civil Rights Act, including Title VII, which protected women against employment discrimination. In 1972, Congress passed the Equal Rights Amendment, though this amendment fell short of the 38 states needed to ratify it and add it to the Constitution. Also in 1972, legislation known as Title IX forced schools to provide equal funding for men and women in athletic programs.



During the 1960s and 1970s, women challenged the authorities on many issues regarding gender equality.

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For decades, the women's health movement had been composed mostly of middle-class White women. During the 1960s and 1970s, this movement began to be more inclusive. Organizations such as the National Black Women's Health Project (now called the Black Women's Health Imperative), the National Latina Women's Health Organization, the National Asian Women's Health Organization, and the Native American Women's Health Education and Resource Center were developed to focus on issues and diseases that disproportionately affect women of color.

Before I came to college, I thought that you had to be pretty radical and a little "anti-man" to be a feminist. Now I understand that feminists simply want women to have the same chances to make a name for themselves, have their voices heard, and live a good life as men do. I guess I've always been a feminist, but I just didn't know it.

—19-year-old student

I have an inherited condition that affects most of the women in my family. I don't know what we would have done without the support of an advocacy organization that is focused on our condition.

—21-year-old woman

1980s: Changing Public Policy

In the 1980s, the U.S. Public Health Service's Task Force on Women's Health Issues formed to assess the status of women's health. The Task Force issued recommendations to increase gender equity in **biomedical research** and establish guidelines for the inclusion of women in federally sponsored studies. In 1990, the National Institutes of Health (NIH) strengthened its guidelines and established the Office of Research on Women's Health (ORWH). The

ORWH ensures women's participation in clinical trials, strengthens research on diseases affecting women, and promotes the career advancement of women in science. The Women's Health Equity Act also was passed, allocating money to fund health research on particular areas of concern to women, including contraception, infertility, breast cancer, ovarian cancer, HIV/AIDS, and osteoporosis.



The past 20 years have seen the first major female candidate for president of the United States (Hillary Clinton), the first female vice presidential candidate for the Republican party (Sarah Palin), the first African American woman as secretary of state (Condoleezza Rice), the second female Secretary of State (Hillary Clinton), and the first female Speaker of the House of Representatives (Nancy Pelosi).

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1990s: Women's Health at the Forefront

The 1990s brought together government, healthcare institutions, academia, and advocacy organizations to analyze and promote women's health and well-being. New women's health offices in federal agencies and in regional public health service offices opened throughout the country. Existing centers broadened their scope beyond reproductive issues to take a more comprehensive look at health and disease among women.

In the 1993 NIH Revitalization Act, Congress required that women and minorities be included as subjects in all human subject research funded by NIH. This decision was a bold and innovative step. The inclusion of women in research has broadened the scientific knowledge base necessary for developing sex-specific diagnostic techniques, preventive measures, and effective treatments for diseases and conditions affecting women throughout their life span. The Family and Medical Leave Act, also introduced in 1993, gives employees unpaid medical leave for themselves or for the care of a family member or a newborn or adopted infant. In 1994, the Violence Against Women Act mandated a unified judicial response to sexual crimes committed against women.

It's Your Health



Feminism

Feminism is the idea that women should have the same political, economic, and social rights and opportunities as men. Feminism has achieved great advances for women over the past 100 years. Feminism has evolved to help different generations of women, and it will continue to evolve as women face new challenges and opportunities.

The first wave of feminism began in the late-19th and early-20th centuries, when suffragists and abolitionists worked to secure basic rights for women such as the rights to vote, own property, and inherit property.

The second wave of feminism occurred in the 1960s and 1970s. It fought against specific injustices, such as the lack of reproductive freedom, the lack of equal pay for equal work, and women's inability to receive equal access to jobs and education. The second wave of feminism attempted to highlight ways that society legally and professionally subjugated women, and thus turned women's personal struggles into political action.

The third wave of feminism began in the late 1980s and early 1990s. This new movement addressed domestic violence, access to safe and legal abortions, and sexual harassment. It also ensured equal status of women in educational, work, athletic, and social environments. The first two waves of feminism had largely come from a White, middle-class perspective. In this third movement, activists attempted to broaden the scope of feminism to include perspectives of women of color and different social classes. The third feminist wave also looked at all aspects of society, art, and science through a feminist lens. This perspective provided insights into where inequality persists and how women often contribute to supporting the status quo instead of actively fighting for change. Additionally, the third wave has focused on practical ways to help women achieve equality, such as by promoting flexible work scheduling, demanding the availability of child care, and making time off available for maternity leave and caring for sick family members.

Today, many young women are living the dreams of the women who started the feminist movement. Millions of women pursue careers and family, are equal partners in their relationships, and support feminist political agendas. Although the current generation of women may appreciate advances that feminism has made possible, they do not always feel the same personal connection with the feminist movement that women from earlier generations felt (and feel).

Women in the United States enjoy more power and opportunities than they ever have before. Women's wages have risen, and women now constitute a majority of college and university students. The past 2 decades have seen the first African American woman as secretary of state, the first female Speaker of the House of Representatives, the first major female candidate for president of the United States, and the first female vice-presidential candidate for the Republican party. However, women continue to face discrimination at home, in public, and at the workplace because of their gender; and progress on issues from rape and sexual assault to access to reproductive health care has stalled in many ways over the past 20 years.

Today, feminism is exploring many aspects of women's lives. Modern feminism acknowledges that gender differences exist even while working to eliminate gender-based favoritism and bias. Feminism also acknowledges that women may not all want to focus on their careers or even have careers (though they continue to be grateful for the opportunity). Feminists come from both genders, and different political and cultural backgrounds, ages, ethnicities, and sexual orientations; in short, they are as diverse a group as women themselves. HeForShe, a global network of male and female individuals and leaders fighting for gender equality, which is sponsored by UN Women, is a great example of this.

The 21st Century

The new millennium has brought many contributions to improving the health of the public—for example, the identification of the **human genome**, improvements in HIV/AIDS medications, public health programs targeting behavior-related health problems, the inclusion of children in **clinical trials**, and the Patient Protection and Affordable Care Act, which has extended health insurance to millions of women, men, and children. Nevertheless, women still face many difficulties in the healthcare arena. There has been a rollback of many of the advances made in the 1990s. Funding for reproductive health initiatives fell both domestically and internationally for the first decade of the 21st century. In 2012, a record number of women were elected to Congress, with 20 women serving in the Senate and more than 80 women serving in the House of Representatives. However, women remain

underrepresented in national, local, and state governments. Women are living longer but not necessarily with better quality of life; and women across the United States and the world continue to be victims of individual and societal violence and discrimination.

POLITICAL DIMENSIONS OF WOMEN'S HEALTH

Government plays an important role in protecting and promoting women's health and is involved in six main areas that relate to women's health:

1. Policymaking
2. Financing
3. Protecting the health of the public

4. Collecting and disseminating information about health and healthcare delivery systems
5. Capacity building for population health
6. Managing of health services

The government directly and indirectly influences many of the areas affecting women's health. The federal government ensures that the food supply is safe, provides highway funding for states that adopt a legal drinking age, and regulates businesses that provide medications to the public.

During the 1990s, the government established many organizations and agencies devoted to women's health. The Department of Health and Human Services' Office on Women's Health (DHHS-OWH) serves as the coordinating agency for women's health initiatives throughout the agencies and offices of the U.S. DHHS, including the NIH, FDA, Centers for Disease Control and Prevention (CDC), and other agencies and departments. The Office on Women's Health finds and addresses inequities in research, healthcare services, and education that have placed the health of women at risk.

The Office of Research on Women's Health (ORWH) within NIH is the government's focal point for women's biomedical research.

- It advises the NIH director and staff on women's health research.
- It strengthens and enhances research related to diseases, disorders, and conditions affecting women.
- It ensures that NIH research addresses issues regarding women's health.
- It develops opportunities for and supports recruitment, retention, reentry, and advancement of women in biomedical careers.
- It ensures that biomedical and behavioral research studies supported by NIH represent women and women's health issues.
- It supports research on women's health issues.

The ORWH has been instrumental in national and international efforts to make women's health research part of the scientific and educational infrastructure. The ORWH works with scientists, practitioners, legislators, and lay advocates to identify research priorities and set a comprehensive research agenda. The ORWH also encourages research that examines the biological differences between the sexes—that is, gender-based biology—to more fully understand each and thereby enhance knowledge and practice.

The Healthy People initiative joined U.S. DHHS with other federal agencies, nonprofit organizations, and members of various medical industries to educate women and provide them with the knowledge needed to live long and healthy lives. Every 10 years, this initiative creates

goals and objectives to guide health promotion and disease prevention efforts on a national scale. By identifying diseases that affect women the most, scientists can set future directions and goals for research. The current iteration of this initiative, Healthy People 2020, will track and analyze almost 600 public health objectives that are important to women.

U.S. DHHS also works to provide family planning services, prevent sexually transmitted infections, and reduce unintended pregnancies. The Title X program provides funding to millions of people for reproductive health and family planning services. Funding has also increased for research and programs aimed at improving the health of older women. The Administration on Aging has launched a resource center to educate older women about issues such as income security, housing, and caregiving. The Administration on Aging has also increased support for community nutrition services to combat nutrition-related illnesses in the elderly.

The reasons for excluding women from clinical investigations are less obvious than one might expect. In spite of a significant body of opinion to the contrary, the reasons have very little to do with male chauvinism or the gender of the investigating scientist—until the 1990s, female scientists were every bit as likely as men to exclude females from clinical protocols. Even at the most sophisticated academic medical centers, senior investigators taught young scientists that data obtained from male subjects could be extrapolated to women without modification. They assumed that women were essentially small men—identical in all respects except for their reproductive physiology. It is astonishing that in a scientific system that prides itself on its critical sense and accepts no hypothesis as true until it has been rigorously tested, we have tolerated such a leap of faith for so long.⁷

—Marianne Legato, founder and director of the Partnership for Gender-Specific Medicine

Investment in Biomedical Research

The federal government plays a critical role in funding biomedical research. The NIH is the main federal agency responsible for distributing money to private and public institutions and organizations for conducting medical and health research. Along with the CDC and other agencies, it advances basic research to discover new and better methods of treatment and prevention of numerous health conditions. Funding also comes from the private sector, philanthropic organizations, universities, and voluntary health agencies.

Pharmaceutical companies and private corporations also invest millions of dollars each year to research and develop new drugs, vaccines, and technologies. Investment in biomedical research and new technologies has led to increased **life expectancy**, improved health throughout the life span, and, in many cases, decreased cost of illness.

However, newer medicines, technologies, and equipment are not the only way to improve health. About one-half of the deaths in the United States are directly or indirectly caused by people's behavior choices.⁸ Research can also find better ways to educate people about basic health measures, such as preventing disease; eating a healthful, balanced diet; exercising; and avoiding tobacco and other drugs, offering the potential to improve the health of millions of Americans. Promoting healthful behaviors and preventing disease are usually cheaper, more effective methods than intervening after a disease or harmful event occurs. Unfortunately, these types of programs typically receive little funding compared to pharmaceutical drugs or technologies promising the next "miracle cure" (or, for shareholders, the next revenue source).

Research on women's health has seen unprecedented growth over the past 35 years, especially with the push to include women in clinical trials. By demanding that women are included in health research, women as well as men become the studied models for the conditions that affect them and the drugs used to treat these conditions. This trend has led to the integration of women-specific data into clinical practice and the formulation of new questions in regard to women and specific diseases.

Another approach to improving women's health relies on gender-based research—studies that examine the similarities and differences between men and women to learn more about the causes of disease and responses to medication in these populations. Gender-based studies identify and investigate the biological and physiological differences between men and women. Males and females can manifest different symptoms of a disease, experience the course of a disease differently, or respond in distinct ways to pharmaceuticals. Identifying and studying gender-based differences offer remarkable potential for understanding disease epidemiology and health outcomes in both men and women. The **Gender Dimensions** box discusses several areas of women's health research that have benefited from increased funding and attention. These topics are discussed in greater detail in later chapters of this book.

Fat and body water content, steroidal sex hormone levels, and **genetic phenotype** all affect drug metabolism through pharmacokinetics (concentration of the drug) and pharmacodynamics (ability to metabolize the drug).⁹ Medical literature has documented significant differences in the ways that men and women process aspirin, acetaminophen (Tylenol), lidocaine, and other commonly prescribed medications.¹⁰ Differences such as age, hormonal status, race and ethnicity, and socioeconomic status can also affect how women metabolize drugs. The extent to which these differences prevail among the range of drugs used to prevent and treat disease is still not fully known or understood.

FDA guidelines urge drug investigators to account for gender differences in drug metabolism throughout the development process and to include women of

Table 1.1 Phases of a Clinical Trial

- Phase I: A new drug is tested in a small group (20–80) of healthy volunteers to evaluate its safety, determine a safe dosage range, and identify side effects.
- Phase II: The study drug is given to a larger group (100–300) of people to further evaluate its safety and effectiveness.
- Phase III: The study drug is given to large groups (1000–3000) in clinics and hospitals to confirm its effectiveness, monitor side effects, and compare it with other treatments.
- Phase IV: The study done after the drug is marketed to continue collecting information regarding the drug's effects in various populations.

childbearing age in both Phase I and Phase II clinical trials (**Table 1.1**). The FDA once excluded women of childbearing potential from clinical trials but has revised its guidelines to call for gender-specific analyses of safety and effectiveness in new drugs. The FDA also changed its policy of excluding women of childbearing potential from early drug studies. These measures have helped the FDA acquire better information on drug effects in women.¹¹

Gender-based research has posed challenges as well as opportunities for pharmaceutical manufacturers. If research shows that a drug is effective for only one gender, the potential market for that drug could be limited, which would diminish the company's profits. However, targeting drugs for women or other specific populations can also allow researchers and pharmaceutical companies to create much more effective products.

Even with advances toward inclusion of women and minority groups in research studies, one major barrier to women's participation in biomedical research still exists. Many women are unable to take part in clinical trials because of they lack health insurance. For insured women, some states have passed legislation requiring health plans to pay for routine medical care that a person may receive as a participant in a clinical trial. In 2000, **Medicare** began covering **beneficiaries'** patient care costs in clinical trials. Clinical trials still are considered experimental by some insurance companies, however, and therefore are not covered under all standard health policies.

Including women in clinical studies may pose challenges, but leaving them out courts disaster through ignorance. Using women, particularly women of childbearing age, presents challenges to the investigation because the researchers must consider the effect of hormonal cycling on the hypothesis being tested. Furthermore, the potential for pregnancy and possible **teratogenic** effects in the fetus must be considered. These factors weigh heavily in designing and conducting any study.

Reproductive Rights

The history and politics surrounding women's decisions to control when and whether to have children are long

GENDER DIMENSIONS: Health Differences Between Men and Women

Differences between men and women are not just limited to the reproductive organs. Women and men react differently to certain medications, have distinct reactions and vulnerabilities to disease, and may show disease in different ways.

The following 10 examples show some of the ways that diseases affect men and women differently.

Heart Disease. Heart disease is the leading cause of death for women in the United States, killing 292,188 women in 2009—that's *1 in every 4* female deaths.¹² Heart disease also strikes women, on average, 10 years later than men. Compared to men, women are also more likely to have a second heart attack within a year of the first one. Symptoms of a heart attack tend to be less obvious and easier to overlook in women than in men.

Depression. Depression is two to three times more likely to affect women than men, in part because women's brains make less of the neurotransmitter serotonin, which regulates emotions.

Drug Reactions. Many common drugs, like antihistamines and antibiotics, cause different reactions and side effects in women than in men.

Autoimmune Diseases. Three out of four people suffering from autoimmune diseases, such as multiple sclerosis, rheumatoid arthritis, and lupus, are women.

Osteoporosis. Women have a higher rate of bone loss than men. Four out of five people suffering from osteoporosis are women.

Smoking. Smoking causes more cardiovascular damage in women than in men. Women have stronger withdrawal symptoms of smoking and are less likely to be able to successfully quit smoking.

Sexually Transmitted Infections. If exposed to a sexually transmitted infection, women are twice as likely as men to become infected.

Anesthesia. Women, on average, wake up from anesthesia after 7 minutes, whereas men, on average, wake up after 11 minutes.

Alcohol. Women produce less of the gastric enzyme that breaks down ethanol (alcohol) in the stomach. Therefore, even after allowing for size differences, women will have a higher blood alcohol content after drinking.

Pain. Some pain medications, such as kappa-opiates, are far more effective in relieving pain in women than in men.

Source: Society for Women's Health Research.
www.women-shealthresearch.org

and complex. For nearly 100 years, abortion was illegal in the United States. On January 22, 1973, the landmark Supreme Court decision *Roe v. Wade* legalized abortion. However, since then, the battle has shifted to the state level; many states with socially conservative governments impose restrictions that limit where, when, and under what conditions women may receive abortions.

Roe v. Wade has also not prevented the federal government from imposing abortion restrictions in countries that receive U.S. funding. In 1984, President Reagan imposed the Mexico City policy, or "global gag rule." This rule has been particularly contentious, having been eliminated by President Bill Clinton in 1993, reimposed by President George W. Bush in 2001, and removed once more by President Barack Obama in 2009. This policy withheld U.S. assistance from foreign family planning agencies if they provided the following services, even if U.S. funds were not used for these services:

- Performing abortions in cases of pregnancy that are not life-threatening to the woman or the result of rape or incest
- Providing counseling and referral for abortions
- Lobbying to legalize abortion or increase its availability in the country in which the nongovernmental organization (NGO) is operating¹³



The potential for pregnancy and possible teratogenic effects in the fetus must be considered in clinical trials.

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It's Your Health



Research Studies

Epidemiologists (scientists who study trends of disease and health in populations) conduct many types of studies. Each type of study has its own advantages and disadvantages. Most of these studies are either descriptive or analytic in nature.

Descriptive studies attempt to describe or examine a disease in a population or populations as well as how that disease or phenomenon relates to variables such as race, age, or gender. Descriptive studies can find correlations between the disease and variables but cannot say if one causes the other. A descriptive cross-sectional survey might find that people who work in factories (variable) are more likely than other people to develop cancer (disease), but it could not say that working in a factory causes disease—there could be some other common factor involved, such as an environmental contaminant that affects people living near the factory. Descriptive studies include population studies, case-report studies, and cross-sectional studies.

Analytic studies compare people who are exposed to a certain variable to people who are not exposed to see whether that variable influences their chances of developing a disease. Unlike descriptive studies, analytic studies can find a cause-and-effect ratio, though they are generally more difficult to perform. Studies that have followed otherwise equal groups of smokers and nonsmokers over time and found that smokers were more likely to develop lung cancer were responsible for linking the variable of smoking to the disease of lung cancer. Analytic studies include case-control studies, cohort studies, intervention studies, and clinical trials.

The global gag rule's restrictions have had serious effects on women's health in many developing countries. Under this rule, developing countries faced a dilemma: If they agreed to the rule and accepted U.S. family planning assistance, they risked seeing death and injuries from unsafe abortions increase because women who cannot obtain safe and legal abortions may visit unqualified practitioners in secret to end their pregnancies. But if these countries rejected U.S. assistance, they lost funding for all areas of family planning, including reducing unplanned pregnancy, preventing HIV, and reducing maternal and infant deaths. This increase in unplanned pregnancies and reduction in the number of safe medical services for pregnant women may have encouraged more women in these countries to seek abortions.

Access to Healthcare Providers, Services, and Health Information

Advances in public health and medicine have improved the prevention, diagnosis, and treatment of disease. Many people are living longer and healthier lives as a result. Over the years, women have learned to seek out medical

information on their own, thereby becoming informed consumers of medicine.

Unfortunately, healthcare promotion and disease prevention are not simple. Many factors prevent women from receiving adequate health care, including:

- Poverty or insufficient income to pay for care
- Lack of health insurance
- Lack of access to healthcare facilities
- Inability to understand medical personnel because of language barriers or illiteracy
- Unfair treatment by medical personnel because of race, ethnicity, or sexual orientation
- Inability to pay for the costs of medications needed for treatment
- Declined coverage for healthcare costs that are deemed unnecessary or experimental
- Fear of doctors and avoidance of seeking health care altogether

Lack of adequate access to healthcare services and information is a serious issue in the United States, with a lack of health insurance being one of the most formidable barriers. In 2010, 19 million women between the ages of 19 and 64 had no health insurance; another 17 million were underinsured, meaning their health insurance had limitations that prevented them from receiving necessary services.¹⁴ The Patient Protection and Affordable Care Act, passed in 2010, sought to address these issues in part. Since its passage, the uninsured rate has dropped significantly, with people gaining coverage either within the expanded Medicaid programs or by leveraging private insurance made possible by state exchanges. Each woman with health insurance, however, does not enjoy the same level of coverage.

Premiums for private health insurance are extremely expensive and, therefore, many people opt to take a chance and remain uninsured when an employer does not sponsor them. When choosing between plans, many women find that affordable policies may not cover serious illnesses or extended hospital stays or may require holders to pay large copayments or deductibles for health services. When costs for health care are high, lack of insurance or underinsurance can make healthcare utilization a driver of financial instability. In many cases this causes people to make trade-offs between healthcare utilization and its related expenses and other life essentials.

A lack of cultural and gender sensitivity, as well as a lack of knowledge about specific health concerns of women, also seriously affects women's health. The health needs of women are different from those of men. Additionally, health needs vary from woman to woman, depending on many factors, including age, ethnicity/race, and sexual orientation. Several steps are being taken to make healthcare providers aware of these specific needs.

The ORWH has developed coursework for medical students to make them more sensitive toward and aware of women's health issues. Dental, nursing, and pharmacy programs, as well as **osteopathic** and **allopathic schools**, also are developing similar coursework. Healthcare providers who receive this training are better equipped to care for the diverse population of women in the United States.



Millions of Americans work but do not have access to health care.
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Global Perspective on Women's Health

Around the world, women continue to be less likely than men to receive adequate health care, to have opportunities for economic advancement, and to have political representation. Women who live in the developing world (most countries outside of Western Europe, the United States, Canada, and Japan) are also much more likely than women in industrialized countries to die or be injured from a variety of illnesses, injuries, and diseases. Global threats to women's health include poverty, underweight and malnutrition, HIV/AIDS, violence, and **maternal morbidity and mortality** (disability, disease, or death related to pregnancy or childbirth). Women are burdened by disease and by violations of their human rights that directly affect their health. These problems include domestic violence, **female genital mutilation**, **honor killings**, **trafficking**, and barriers to reproductive health services.

Access to clean water, nutritious food, and medical care, as well as protection from violence and poor working conditions, are basic, inexpensive factors that could greatly improve global health; unfortunately, hundreds of millions of women lack these basic human rights. Social inequalities, such as lack of education, money, and



Around the world, women are working to improve their lives and make their voices heard.

(top) © Reuters/Faisal Mahmood/Landov; (bottom) © Reuters/Gopal Chitrakar/Landov

decision-making freedom, pose a greater threat to women than to men; women consequently have a disproportionately higher burden of disease and poverty. In addition, women are often the primary caregivers for their children and families.

The United Nations (U.N.) has worked to advance the status of women and achieve equity in the treatment, opportunities, and status of both genders for the past 35 years. In 1979, the U.N. adopted the Convention on the Elimination of All Forms of Discrimination (CEDAW), also referred to as the international bill of rights for women.

CEDAW legally binds 165 U.N. member states to take steps to promote women's equality and to report on the steps they have taken. However, even if a country legally recognized women's rights, women in that country were not always able to exercise them. Many factors contribute to this discrepancy. Sexist attitudes often persist in popular culture and among those with political and economic power. In addition, educational opportunities for women may be limited, there are often insufficient child-care support systems for women, and men may be indifferent or even hostile toward improving women's place in society.¹⁵ In 1995, the U.N. identified 12 critical obstacles to women's advancement (**Table 1.2**). Five years later, at the "Women 2000: Gender Equality, Development and

Profiles of Remarkable Women



Susan F. Wood, PhD (1959–)

Dr. Susan F. Wood has dedicated her career to advancing women's health, both by using scientific evidence to make better decisions about health policy and by taking a principled stand against political interference in the scientific process.

Wood studied biology and psychology and graduated with a Bachelor of Science degree from Southwestern at Memphis in 1980; she earned a PhD in biology at Boston University in 1989 and received research fellowship training in neuroscience from Johns Hopkins School of Medicine in 1990. Wood has studied the biochemistry of smells, researched how medications affect women during pregnancy, and advocated for women's participation in clinical trial research.

Wood joined the FDA in 2000. She later became the assistant commissioner for women's health, the top agency official for women's health issues. In 2005, Wood resigned from the FDA to protest the agency's continued delays on ruling about the emergency birth control pill known as Plan B. Wood believed that decisions to delay the contraceptive were politically motivated.

The FDA's independent, scientific expert advisory committees had recommended that Plan B be approved in 2003, but leadership in the FDA, appointed by President George W. Bush, refused to approve the contraceptive. Before Wood resigned, the FDA regulatory staff, an advisory committee, and the head of the FDA drug center had all found Plan B to be safe and effective and had recommended that the drug be approved for over-the-counter use. Lester M. Crawford, the head of the FDA during this time, overruled these recommendations and said the decision would be "indefinitely delayed." Wood and many other scientists believed that Crawford's decision amounted to political interference from the Bush administration over a scientific decision.

"I can no longer serve as staff when scientific and clinical evidence, fully evaluated and recommended for approval by the professional staff here, has been overruled," she wrote in an email explaining her decision.*

Wood's decision brought immediate national attention to the FDA approval process. In August 2006, less than a year later, the FDA made Plan B available without a prescription to women 18 years of age or older. Wood is currently a research professor in George Washington University's School of Public Health.

*FDA official quits over delay on Plan B, *Washington Post*, September 1, 2005.

Peace for the 21st Century" conference, held in New York, the U.N. evaluated the achievements of different governments and new action plans. Today the Beijing+20 initiative is still working to advance many of the same goals, according to the U.N.

In the early 2000s, the U.N. developed eight Millennium Development Goals (MDGs). The MDGs set global goals toward lowering global poverty, improving health,

*"Twenty years later the Platform for Action envisioned gender equality in all dimensions of life—and no country has yet finished this agenda. Today, women earn less than men and are more likely to work in poor-quality jobs. A third suffer physical or sexual violence in their lifetime. Gaps in reproductive rights and health care leave 800 women dying in childbirth each day. The 20th anniversary of Beijing opens new opportunities to reconnect, regenerate commitment, charge up political will and mobilize the public. Everyone has a role to play—for our common good. The evidence is increasingly in, that empowering women empowers humanity. Economies grow faster, for example, and families are healthier and better-educated. The Beijing Platform for Action, still forward-looking at 20, offers important focus in rallying people around gender equality and women's empowerment. Its promises are necessarily ambitious. But over time, and with the accumulating energy of new generations, they are within reach."*¹⁶

Table 1.2 U.N. Conference in Beijing: Twelve Critical Areas of Concern for Women's Health

- Women and poverty
- Education and training of women
- Women and health
- Violence against women
- Women and armed conflict
- Women and the economy
- Women in power and decision making
- Institutional mechanisms for the advancement of women
- Human rights of women
- Women and the media
- Women and the environment
- The girl child

Source: United Nations WomenWatch. (2000). *The four global women's conferences, 1975–1995: Historical perspective*. United Nations Department of Public Information: DPI/2035/M

reaching environmental sustainability, and other issues to be reached by 2015. Two of the eight MDGs—improving maternal health and reaching gender equality—directly deal with women's health, while several others, such as ending poverty and hunger and providing universal education, are issues that affect women more than men. The U.N. estimates progress toward the MDGs through measures such as the ratio of boys to girls in school; the ratio of literate women to literate men; the percentage

Profiles of Remarkable Women



Gloria Steinem (1934–)

Gloria Steinem, a well-known feminist leader, activist, and journalist, is the daughter of a newspaperwoman and the granddaughter of the noted suffragette Pauline Steinem. Steinem studied in India for 2 years, an experience that made her aware of the extent of human suffering in the world. Steinem returned from India strongly motivated to fight social injustice and decided to begin her career as a journalist.

In 1960, Steinem moved to New York and began working as a freelance writer for popular magazines. One of her first major assignments in investigative journalism was a two-part series for *Show* magazine on the working conditions of Playboy bunnies. Steinem worked as a Playboy bunny for 3 weeks to prepare for the article. The articles she wrote exposed the poor working conditions and meager wages of the Playboy bunnies and the discrimination and sexual harassment that occurred at New York's Playboy Club.

In 1968, Steinem joined the staff of *New York* magazine as a contributing editor and political columnist. During these years Steinem moved into politics, covering everything from the assassination of Martin Luther King, Jr. to demonstrations of United Farm Workers led by Cesar Chavez. She also worked for various Democratic candidates. Steinem's shift to the women's liberation movement and feminism began when she started attending abortion hearings. She found herself deeply moved by the stories she heard and realized that society oppressed women in many ways.

By the late 1960s, Steinem had positioned herself as a leader of the women's liberation movement through her research, writing, and activism. In 1971, she joined Bella Abzug, Shirley Chisholm, and Betty Friedan to form the National Women's Political Caucus, encouraging women's participation in the 1972 election.

Steinem became friendly with Dorothy Pittman Hughes, an African American childcare pioneer. Steinem and Hughes spoke together publicly throughout the United States to promote women's rights, civil rights, and children's rights. In 1971 they formed the Women's Action Alliance to develop women's educational programs. Although the alliance folded in 1997, its offshoot, WISE (Women Initiating Self Empowerment), continues.

In 1972, Steinem gained funding for the first mass-circulation feminist magazine, *Ms.* The preview issue sold out, and within 5 years *Ms.* had a circulation of 500,000. As editor of the magazine, Steinem became an influential spokesperson for women's rights issues while continuing her active political life. In 1975, she helped plan the women's agenda for the Democratic National Convention, and she continued to exert pressure on liberal politicians on behalf of women's concerns. In 1977, Steinem participated in the National Conference of Women in Houston, Texas. The conference—the first of its kind—drew attention to feminist issues and women's rights leaders.

As a writer and an activist, Gloria Steinem continues to be a leader in the women's rights movement. Steinem's books include *Outrageous Acts and Everyday Rebellions* (1983), *Marilyn: Norma Jean* (1986), *Revolution from Within: A Book of Self-Esteem* (1992), *Moving Beyond Words* (1994), and *Doing Sixty and Seventy* (2006).

of women with waged employment; the proportion of seats in parliament held by women; and the percentage of births attended by a skilled health professional. Despite gains around the world in women's life spans, quality of health, and political opportunities, women still face discrimination, violence, and marginalization around the world, and women account for the majority of the world's poor.¹⁷ The United Nations has created a set of common objectives aimed at building equity and fair treatment for everyone and has started progress toward meeting these goals. Women and men around the world will need to work together to make this goal a reality.

INFORMED DECISION MAKING: TAKE ACTION

There are many ways to advocate for women's health. Women's health organizations encourage donating, getting involved by sending letters to legislators and helping to organize events, and educating oneself on women's health issues. Visiting the Internet can be a good first step in learning about organizations and deciding where to focus personal interest and commitment. The websites section of this chapter lists several organizations that offer ways to become involved in promoting women's health.



CASE STUDY

Shannon was choosing a college major but did not know which direction she was going to take. She was a strong writer and had loved her English and psychology courses so far. But something was nagging at her. She wanted to be able to do something meaningful with her degree upon graduation. She had always seen health care as an area that impacted everyone in different ways throughout their lives. She had been personally impacted by healthcare issues over the last several years, watching her mom cope with a diagnosis of breast cancer and fight to survive throughout treatment. Shannon thought about all the ways that her mom and her whole family were impacted by the different dimensions of health care—from how it gets paid for, to the role of doctors and nurses in care pathways, to the caregiving responsibilities that fell on her shoulders, to the genetic implications of the disease for her and her sister. Beyond the disease, there was so much to understand and navigate. Shannon imagined that a lot of other people went through a similar personal experience but wondered how she could apply this to her career after college. She began to look into majors that were more healthcare focused. She realized she was particularly interested in women's health and began to explore different aspects of how her education could prepare her to explore this area.

Questions

1. Should Shannon pursue a major that would prepare for a career in health care generally or women's health specifically? Are there pathways beyond being a doctor or a nurse that would fulfill her needs?
2. What types of classes would be useful to prepare someone for a career in women's health? Can you think of five different departments that might have applicable courses?
3. How can people take their own life experiences and use them to inform academic or professional life choices? How is this relevant to women's health specifically?

Summary

Women's health is a wide area of study that examines the biology of the female body, human development throughout the life span, the health of individuals and entire populations, factors that contribute to mental and physical health, women's place in society, and other factors. Over the past 200 years, many organizations and individuals have worked to improve women's health, rights, and status. Women's health is now recognized as a national priority, and tremendous progress has been achieved in expanding the scope and depth of women's health research. Continued success in the women's health movement depends on political commitment; sufficient funds; educated and interested scientific and lay communities; advocacy by professionals, patients, and the public; and involvement of women, men, and communities in working for equality and recognizing gender differences. These factors have driven the explosion in women's health research and are responsible for advances in developed countries and throughout the world. Findings from biological, behavioral, and social sciences all provide insights and important data that can improve women's health and well-being.

Topics for Discussion

1. What are some of the different ways of envisioning women's health? What do you think are the most important aspects of women's health?
2. How has the definition of feminism changed over the past 100 years? What elements have remained the same? Do you consider yourself a feminist? Can a person have socially conservative views about women's health and rights and still be a feminist?
3. What are some of the major differences in how men and women react to medications?
4. Why is it important for women to be included in clinical trials? What is gender-based research, and what areas of health could benefit from further gender-based research?

5. Why should we continue to pursue the Beijing+20 platform? How does that impact lives here in the United States versus in other countries?
6. Discuss the ways the government is involved in the following areas in relation to health:
 - Policymaking
 - Financing
 - Protecting the health of the public
 - Conducting research
 - Influencing how and where people receive health care

Key Terms

Allopathic school
 Beneficiary
 Biomedical research
 Clinical trial
 Corset
 Female genital mutilation
 Feminism
 Genetic phenotype
 Honor killings
 Human genome
 Life expectancy
 Maternal morbidity and mortality
 Medicare
 Osteopathic school
 Premium
 Suffragist
 Teratogenic
 Trafficking

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