Charting a Course for the Future of Women’s and Perinatal Health

Volume I: Concepts, Findings, and Recommendations

Holly Grason, John Hutchins, and Gillian Silver
Editors

Women’s and Perinatal Health Policy Working Group

A Collaborative Initiative
of the
Women’s and Children’s Health Policy Center
Department of Population and Family Health Sciences
Johns Hopkins School of Public Health
and the
Maternal and Child Health Bureau
Health Resources and Services Administration
U.S. Department of Health and Human Services

March 1999
Foreword

The dimension and impact of current societal and environmental conditions bring the Nation face-to-face with critical new challenges for women’s and perinatal health. These challenges stem from altered approaches for financing and delivering health care, advances in medical technology, devolution of responsibility to State and local communities, trends toward privatization of governmental services, and reexamination of public health functions, coupled with a growing emphasis on women’s health. Not infrequently, women’s health and perinatal health have been addressed as separate entities; recently, this perspective has been called into question.

These intense changes, present emphases, and the anticipation of a new century prompted the initiation of Charting a Course for the Future of Women’s and Perinatal Health, a collaborative effort of the Johns Hopkins University Women’s and Children’s Health Policy Center and the Health Resources and Services Administration’s Maternal and Child Health Bureau. Recognizing that prior paradigms no longer serve us well, this work was developed to assess the health needs of women of reproductive age and to formulate recommendations for future directions in policy, practice, and research.

The Bureau and the Center are pleased to present a two-volume compendium that reflects findings from the literature and the opinions of experts utilized throughout the initiative. This compendium is distinguished by two features: 1) its examination of perinatal health within the context of women’s overall health across the reproductive lifespan; and 2) its public health orientation, addressing population health in the context of social, environmental, and behavioral factors. Volume I reports on the conceptual foundation, findings, and a wide array of recommendations for change. Volume II presents the background papers for the initiative which offer detailed literature reviews of selected health issues.

I believe this document will be useful in educating constituencies, developing and implementing new policies and practices, and guiding efforts to monitor the impact of systems changes on women of reproductive age. I also hope that Charting a Course for the Future of Women’s and Perinatal Health will stimulate extensive action among maternal and child health and women’s health professionals, advocates, and policymakers to advance women’s and perinatal health for this and future generations.

Peter C. van Dyck, MD, MPH
Acting Associate Administrator for
Maternal and Child Health
Maternal and Child Health Bureau
# Contents

<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foreword</strong></td>
<td>iii</td>
</tr>
<tr>
<td><strong>Acknowledgments</strong></td>
<td>vii</td>
</tr>
<tr>
<td><strong>Chapter I: Toward a New Vision of Women’s Health</strong></td>
<td></td>
</tr>
<tr>
<td>Introduction: New Challenges and Opportunities</td>
<td>1</td>
</tr>
<tr>
<td>Scope of the Initiative</td>
<td>2</td>
</tr>
<tr>
<td>Guiding Principles</td>
<td>2</td>
</tr>
<tr>
<td>The Evolution of the Field of Women’s Health</td>
<td>3</td>
</tr>
<tr>
<td>The Social Context of Women’s and Perinatal Health</td>
<td>5</td>
</tr>
<tr>
<td><strong>Chapter II: Key Topics in Women’s and Perinatal Health — Findings from the Literature</strong></td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>9</td>
</tr>
<tr>
<td>Health Care Services and Systems for Women of Reproductive Age</td>
<td>10</td>
</tr>
<tr>
<td>Public Health Roles Promoting the Health and Well-Being of Women</td>
<td>13</td>
</tr>
<tr>
<td>Women’s Reproductive Health and Their Overall Well-Being</td>
<td>18</td>
</tr>
<tr>
<td>Pregnancy Planning and Unintended Pregnancy</td>
<td>21</td>
</tr>
<tr>
<td>Issues in Pregnancy Care</td>
<td>24</td>
</tr>
<tr>
<td>Women’s Experience of Chronic Diseases</td>
<td>29</td>
</tr>
<tr>
<td>Depression in Women</td>
<td>31</td>
</tr>
<tr>
<td>Abuse Against Women by Their Intimate Partners</td>
<td>34</td>
</tr>
<tr>
<td>The Nutritional Status and Needs of Women of Reproductive Age</td>
<td>36</td>
</tr>
<tr>
<td>Women’s Physical Activity in Leisure, Occupational, and Daily Living Activities</td>
<td>38</td>
</tr>
<tr>
<td>Effects of Drug and Alcohol Use on Women’s and Perinatal Health</td>
<td>40</td>
</tr>
<tr>
<td>Effects of Smoking on Women’s and Perinatal Health</td>
<td>43</td>
</tr>
<tr>
<td>Cross-Cutting Issues and Implications</td>
<td>44</td>
</tr>
<tr>
<td><strong>Chapter III: Recommendations for the Future of Women’s and Perinatal Health</strong></td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>47</td>
</tr>
<tr>
<td>Social Policies</td>
<td>48</td>
</tr>
<tr>
<td>Surveillance and Quality Assurance</td>
<td>50</td>
</tr>
<tr>
<td>Service Availability, Coordination, and Organization</td>
<td>54</td>
</tr>
<tr>
<td>Financing of Health Programs and Services</td>
<td>57</td>
</tr>
<tr>
<td>Health Communication and Education Services</td>
<td>59</td>
</tr>
<tr>
<td>Development of Workforce Competency and Capacity</td>
<td>61</td>
</tr>
<tr>
<td><strong>Appendix</strong></td>
<td>65</td>
</tr>
<tr>
<td>Participants — <em>Charting a Course for the Future</em> Meeting of Experts, April 1998</td>
<td></td>
</tr>
<tr>
<td><strong>References</strong></td>
<td>73</td>
</tr>
</tbody>
</table>
This initiative seeking to uncover new viewpoints and stimulate new partnerships towards the goal of a women’s and perinatal health policy agenda provided us enriching opportunities to work with many highly talented researchers, policy analysts, providers, and promoters of health care for women from across the United States. Regardless of their post or specific role in the Charting a Course for the Future of Women’s and Perinatal Health initiative, they are all advocates, committed to improving the health and quality of life for America’s 135 million women, and for those to be born in the next century. Their contributions were essential to the development of this publication and its companion documents. We will long remain grateful for their generous assistance and support.

Participants in the April 1998 working meeting were particularly critical in shaping our work. These individuals, representing a diverse array of local, state, and national level public agencies, policy research institutions, and professional and advocacy organizations, are listed in the Appendix. Not only did they engage in extensive deliberations over the two days of the meeting, they also reviewed preliminary versions of recommendations documents, and provided insightful feedback and suggestions for refinement. The quality of the commentary we received, both in April and in subsequent communications, was impressive and infinitely helpful. The extra efforts of those who led workgroup discussions and presented their synthesized findings are particularly appreciated; these individuals were Maribeth Badura, Donna Barber, Claire Brindis, Sally Fogerty, David Gagnon, Bernard Guyer, Ellen Hutchins, Donna Hutten, Lisa Kaeser, Cynthia Minkovitz, Helen Rodriguez-Trias, William Sappenfield, Richard Schwarz, Terrence Smith, Donna Strobino, Carol Weisman, Deanne Williams, and Gail Wilson. Our appreciation also is extended to our colleagues who presented their reflections on the deliberations at the conclusion of the meeting — Catherine Hess, Milton Kotelchuck, and Sheryl Burt Ruzek.

Special recognition and thanks are due our colleagues who served as reviewers for the thirteen papers that provide the foundation for our work. Their perspectives on draft documents and suggestions regarding additional information sources strengthened enormously the comprehensiveness and quality of this work of the Women’s and Perinatal Health Policy Working Group. In this regard, we thank the following individuals: Mary Applegate, MD, MPH (New York State Department of Health); Claire Brindis, DrPH (University of California, San Francisco); Christi Bristow, RN, MN (Washington State Department of Health); Martha Bruce, PhD, MPH (Cornell Medical College); Trudy Bush, PhD (University of Maryland); Wendy Chavkin, MD, MPH (Columbia University); Carolyn Clancy, MD (Agency for Health Care Policy and Research, DHHS); Sue Calvert Finn, PhD, RD (Ross Laboratories); Sally Fogerty, BSN, MEd (Massachusetts Department of Public Health); Julie Gazmararian, PhD (Prudential Center for Health Care Research); Charlotte Gish, CNM, MSN (U.S. Public Health Service, Region VIII); Arden Handler, DrPH (University of Illinois); Rosemarie Henson (Centers for Disease Control and Prevention, DHHS); William Hollinshead, MD, MPH (Rhode Island Department of Health); Corinne Housten, MD, MPH (Centers for Disease Control and Prevention, DHHS); Ellen Hutchins (Maternal and Child Health Bureau, HRSA, DHHS); Lisa Kaeser, JD (The Alan Guttmacher Institute); Helene Kent, RD, MPH (Colorado Department of Public Health and Environment); Debra Krummel, PhD, RD (West Virginia University); Paula Lantz, PhD (University of
As always with our work, this publication would not be possible without the contributions of a talented and committed team of staff and students at the Johns Hopkins Women’s and Children’s Health Policy Center. Lori Friedenberg and Kristie Susco coordinated the many meetings — internal and external — wherein policy considerations were debated and our thinking and writing refined. These women also spent countless hours in libraries and at their computers unearthing and organizing source documents for the reviews. Two students at the Johns Hopkins School of Public Health also deserve special recognition for assisting the Working Group in specific research and writing tasks — Ms. Kendra Rothert, MHS (chapter on Women’s Reproductive Health), and Ms. Sarah Inglas-Baldy, RN (Issue Summaries). WCHPC Secretary, Jackie Tyson, was invaluable throughout, providing capable hands in all aspects of the initiative.

The initiative was funded by the Maternal and Child Health Bureau, Health Resources and Services Administration, DHHS, under Title V of the Social Security Act. Federal project leadership for this entire effort was provided by Ann M. Koontz, CNM, DrPH, to whom we are greatly indebted.

Holly Grason, John Hutchins and Gillian Silver for the Women’s and Perinatal Health Policy Working Group
Women’s and Perinatal Health Policy Working Group

Katherine M. Baldwin, MSW: Ms. Baldwin is a Project Manager at the Johns Hopkins Women’s and Children’s Health Policy Center.

Yvonne Bronner, ScD, RD, LD: Dr. Bronner is an Assistant Professor and a Nutritionist within the Department of Population and Family Health Sciences, Johns Hopkins School of Public Health.

Charlyn E. Cassady, BSN, MEd, PbD: Dr. Cassady is a Research Associate in the Department of Population and Family Health Sciences, Johns Hopkins School of Public Health.

Holly Allen Grason, MA: Ms. Grason is Director of the Women’s and Children’s Health Policy Center, and an Associate Scientist on the faculty of the Department of Population and Family Health Sciences, Johns Hopkins School of Public Health.

Bernard Guyer, MD, MPH: Dr. Guyer is Professor and Chair of the Department of Population and Family Health Sciences at the Johns Hopkins School of Public Health.

Melissa Hawkins, MHS: Ms. Hawkins is a doctoral candidate in the Department of Population and Family Health Sciences, Johns Hopkins School of Public Health.

John E. Hutchins: Mr. Hutchins is Senior Editor for the National Campaign to Prevent Teen Pregnancy and an independent communications consultant.

Ann M. Koontz, CNM, DrPH: Dr. Koontz is Associate Director for Perinatal Policy in the Division of Healthy Start, Maternal and Child Health Bureau, Health Resources and Services Administration, DHHS.

Cynthia Minkovitz, MD, MPP: Dr. Minkovitz holds faculty appointments in both the Department of Population and Family Health Sciences, School of Public Health and in the School of Medicine Department of Pediatrics, Johns Hopkins University.

Dawn Misra, PhD: Dr. Misra is an Assistant Professor in the Department of Population and Family Health Sciences, Johns Hopkins School of Public Health.

Wanda Nicholson, MD, MPH: Dr. Nicholson is Director, Community-Based Obstetrics and Gynecology and an Assistant Professor in the Department of Obstetrics and Gynecology, Johns Hopkins School of Medicine.

Patricia O’Campo, PhD: Dr. O’Campo is an Associate Professor in the Department of Population and Family Health Sciences, Johns Hopkins School of Public Health.

Virginia Poole, MA: Ms. Poole is a doctoral candidate in the Department of Health Policy and Management, Johns Hopkins School of Public Health.

Marjory Ruderman: Ms. Ruderman is a Project Director at the Johns Hopkins Women’s and Children’s Health Policy Center.

Gillian B. Silver, MPH: Ms. Silver is a Research Assistant for the Johns Hopkins Women’s and Children’s Health Policy Center.

Donna M. Strobino, PhD: Dr. Strobino is a Professor in the Department of Population and Family Health Sciences, Johns Hopkins School of Public Health.

Carol Weisman, PhD: Dr. Weisman is a Professor in the Department of Health Management and Policy and Director of the Interdepartmental Concentration in Reproductive and Women’s Health, University of Michigan School of Public Health.
Chapter I

Toward A New Vision of Women’s Health

Introduction: New Challenges and Opportunities

The turn of the century offers an opportune time to take stock of the current state of the field of women’s and perinatal health and to make plans for the future. Women’s and perinatal health have seen many changes this century, particularly in the last thirty years, reflecting social, cultural, and economic transformations in the lives of women. Recent trends in women’s demographics — including their educational attainment, employment status, reproduction, family composition, and access to health care — point to an increasingly complex context influencing women’s health. This context is marked by women’s multiple roles as workers, parents, and caretakers, and by health care and social welfare systems that have not been sufficiently responsive to women’s unique needs. Historically divergent perinatal health and women’s health agendas further complicate current and emerging issues.

In the last ten years, the field of women’s and perinatal health has been confronted by a host of new challenges and opportunities: a rapidly changing health care delivery system driven by cost containment and reduced public health care expenditures, social welfare policy reforms that profoundly alter the lives of poor women and children, continuing trends toward devolving responsibility for health and social programs from the federal government to the states and from states to communities, and a resurgence of women’s activism that has changed health and research policies and priorities. How should the field of women’s and perinatal health respond to these emerging issues in the next decade? How should it work to ensure that the health of women is guaranteed?

The Women’s and Children’s Health Policy Center (WCHPC) at the Johns Hopkins University School of Public Health, in collaboration with the federal Maternal and Child Health Bureau (MCHB), has reviewed the current state of women’s and perinatal health and invited experts to help develop recommendations on health policy, quality assurance, organization and financing of services, education, workforce development, and research for the coming decade. A unique feature of this initiative is its examination of perinatal health within the broader context of women’s overall health. For too long, perinatal health has been seen in isolation without fair consideration of the complex and long-term interplay of health across a woman’s lifespan. Not only has this created
artificial distinctions related to women’s reproductive and non-reproductive health, but it has meant that not enough attention has been paid to women’s health outside of perinatal issues. Moreover, a special contribution of the initiative is found in its public health orientation, one that seeks to address population health in the context of social, environmental, and behavioral factors.

Scope of the Initiative

The WCHPC’s assessment of the field included reviewing published research, program reviews, and policy reports on women’s physical health, mental health, and health behaviors, and on the effects of health services, systems, structures, organization, and financing on women’s health. Literature specific to perinatal health was incorporated within the broader context of women’s health. The WCHPC Women’s and Perinatal Health Policy Working Group (listed on page ix) prepared 13 papers on topics ranging from smoking to pregnancy care, from domestic violence to chronic diseases. These papers discuss epidemiological trends, predictors of health field and risk factors, interventions, and policy and research implications. These papers, which are summarized in Chapter II of this volume, are published in their entirety in a companion publication, Charting a Course for the Future of Women’s and Perinatal Health: Volume II — Reviews of Key Issues.

In the spring of 1998, MCHB and WCHPC convened a working meeting of women’s and perinatal health professionals, policymakers, and advocates to identify the most pressing health concerns of women of reproductive age. Drawing on the reviews of the literature, meeting participants identified changes that need to be made in health policy, services, and systems in order to ensure continuous improvement in women’s and perinatal health. These changes form the basis of the recommendations in Chapter III.

To set the stage for the topic reviews and the policy and research recommendations, this chapter outlines the philosophical principles that guided this initiative; describes briefly the history of women’s and perinatal health field; and offers recent demographic data on women’s health, education, employment and economic status, reproductive health behaviors, family composition, and access to health care.

Guiding Principles

Certainly the lives of American women — at home and at work — have changed dramatically in the past several decades, challenging the field of women’s health to expand its understanding of the meaning of women’s health. Moreover, this century has seen the philosophy of health care for women evolve from a reproduction-centered medical model to one that increasingly describes women’s health in terms of the totality of their experience across the lifespan, including their expanded social and economic roles and the influence of culture, psychology, and social factors — in other words, a biopsychosocial model of women’s health. However, even today, women’s health often is defined in terms of how it differs from men’s health. A women-centered conception of health, on the other hand, begins with an understanding of the health needs of women and of how social factors influence their health. This view goes beyond recognizing biological differences to consider gender-based social and economic inequities that affect health. It also recognizes that health is more than the absence of disease or disability; it is the maintenance of physical health and psychological and social well-being. In this view, gender becomes a key variable in understanding social and medical forces that affect women’s health, including social roles, economic status, access to health resources, experiences of health and illness, and interactions with the health care system.
Therefore, the evolving women’s health field has begun to be shaped by a philosophy that recognizes the impact of women’s multiple roles in society on health, that rejects a false dichotomy between reproductive and non-reproductive health, and that focuses on women’s health assets rather than just health problems. Accordingly, the Charting a Course initiative is guided by four main perspectives:

- **A holistic perspective** that considers the multiple influences of biological, psychological, and social factors on women’s health and that embraces a wellness approach, rather than being problem-focused. Such a perspective focuses on women’s assets, stressing their resiliency and positive factors that affect their health.

- **A lifespan perspective** that recognizes that women have different health and psychosocial needs as they encounter transitions across their lives and that the positive and negative effects of health and health behaviors are cumulative across a woman’s life. A lifespan perspective also means conceptualizing perinatal health within the context of women’s overall health. Pregnancy is recognized as an important event in the life of a woman, although not the only important event.

- **A social role perspective** that recognizes that women routinely perform multiple, overlapping social roles.

- **A women-centered perspective** that considers women’s gender-specific experiences as normative and recognizes the diversity among women in their health care needs and access to adequate health resources.

### The Evolution of the Field of Women’s Health

As the field of women’s and perinatal health has evolved dramatically during this century, public policy has followed suit. Historically, women’s health has been equated with reproductive health and women’s capacity to bear and nurture children. Medicine in the second half of the 19th century, influenced by prevailing theories of biological determinism and fundamental differences between the sexes, operated under the presumption that female reproductive organs were not only central to childbearing but also controlled women’s overall physical and mental health.1

Public policy in the late 19th and early 20th century reflected this focus on reproduction as the defining aspect of being a woman. Legislation prohibiting contraception and abortion was justified as preserving women’s primary maternal role. Labor laws — such as setting maximum limits on the number of hours women worked outside the home — protected women’s health for their caretaking roles. During the Progressive Era, women’s organizations, social welfare workers, and some segments of the health professions promoted maternal and child health programs — including maternal education, prenatal care, and child health clinics — as necessary social and medical reforms. The creation of the Children’s Bureau in 1912 and the passage of the Sheppard-Towner Maternity and Infancy Act of 1921 created the first federally subsidized programs for maternal and infant health.2

Even the early proponents of legalized birth control argued that contraception was necessary to improve maternal health by giving married women the right to control their sexual and reproductive lives.3 The leaders in the Children’s Bureau, however, did not support legalized birth control at the time, foreshadowing what would become a continuing debate within the field about focusing on either reproductive rights or maternal and child health.4 Nevertheless, both sides shared the view that women’s health was primarily about reproduction.

---

The American medical profession formalized the tie between reproduction and women’s health in 1930 by creating a specialty board in obstetrics-gynecology, which was restricted to physicians who served only women, thereby excluding general practitioners from certification.\(^5\) After World War II, the role of obstetrician-gynecologists in well-woman and preventative care expanded. By the 1960s, they had become the gatekeepers for women to medical contraception, legal abortion, and cervical cancer screening (Pap smears). As a consequence, women born after 1945 were far more likely to receive care from obstetricians-gynecologists than any previous generation.

Title V of the Social Security Act of 1935 signaled a shift in public policy toward improving access to pregnancy-related and other reproductive health services for poor and underserved women. Many other federal programs over the ensuing 60 years have built upon this legacy, including the Emergency Maternity and Infant Care program (1943) for the wives and children of servicemen in World War II, the Medicaid program (1965), Title X family planning programs (1970), the Special Supplemental Food Program for Women, Infants and Children (1972), and Medicaid expansions for childbirth and family planning (1980s).\(^6\)-\(^8\)

In the 1960s and 1970s, the Women’s Health Movement challenged the male-dominated medical profession’s control over women’s reproductive lives, leading to much-needed reforms.\(^9\) Only 7 percent of obstetricians-gynecologists and 7.7 percent of all allopathic physicians\(^10\) were women at the time. \textit{Roe v. Wade} led to the growth of non-hospital facilities to provide surgical abortions. Alternative forms of health care delivery for women were created, including feminist women’s health centers and freestanding birthing centers. Hospitals began to change their childbirth practices, creating home-like labor and delivery suites and rooming-in services. The federal Food and Drug Administration mandated that information inserts be included in packets of oral contraceptives. In addition, a strong women’s health advocacy community, including the Boston Women’s Health Book Collective (publishers of \textit{Our Bodies, Ourselves}) and the National Women’s Health Network, disseminated health information and influenced federal and state health policy. As a result of the movement and ensuing federal anti-discrimination laws, the number of women physicians doubled between 1970 and 1980. By 1995, women accounted for 22 percent of all active physicians, 30 percent of obstetricians-gynecologists, and 34 percent of residents and fellows.\(^11\)

Around 1990, another wave of women’s health activism emerged, focusing on broadening the nation’s concept of women’s health.\(^12\) Led by women who had attained positions of influence in government, health professions, academia, and the health care industry, this movement sought equity for women in biomedical research and health care delivery and a new focus on women’s health throughout the lifespan. A number of important health policy initiatives developed at the federal level. For example, federal funding for breast cancer research increased from $90 million in 1991 to $500 million in 1995. The Breast and Cervical Cancer Mortality Prevention Act of 1990 improved access to screening services for low-income, uninsured, and other underserved women. The Women’s Health Initiative, the largest study ever funded by the National Institutes of Health (NIH), was launched in 1993 to research the health of mid-life and older women. NIH and other operating units of the U.S. Department of Health and Human Services created new offices to oversee and coordinate the women’s health agendas in their agencies.

The changes in the women’s health field and women’s health policy of the last 30 years reflect an evolution from a biomedical, reproduction-oriented model of women’s health to one that is more holistic, incorporating biological, psychological, and sociological influences over the whole lifespan of women. As was described above, this new model of thinking informs the work of this initiative.
The Social Context of Women’s and Perinatal Health†

Familiarity with recent social and demographic trends that affect women is essential for understanding the context of women’s and perinatal health in the United States. Social, economic, and political forces help shape women’s health by influencing trends in population characteristics, education and employment, reproduction and family composition, and household economic status. In turn, these demographic trends, which are outlined briefly here, help shape the roles women play in their families, the workforce, and society in general. For example, the population of women in the United States will continue to age and become more ethnically diverse in the coming decades. Women are participating in the labor force more than ever before, and they are more likely to delay childbearing and marriage than in the past. The proportion of single-parent households headed by women continues to rise. In addition, all of these demographic factors and trends contribute to women’s predisposition for chronic disease, access to health care, and personal health beliefs and behavior. Moreover, these factors are highly interrelated; for instance, limited educational achievement constrains job opportunities and earnings, which affect access to adequate health care.

While women as a group have achieved significant improvements in such areas as educational attainment and economic earnings in recent decades, substantial variation persists among women of different races and cultural backgrounds. In addition, with the majority of women active in the workforce, policymakers are just beginning to recognize the importance of women’s multiple roles in society — working for pay outside the home, performing unpaid work at home, and serving as caregivers for dependent children and aging parents — and the effect this has on women’s health. These realities have important implications for formulating social and health policy, designing health services, and developing research agendas.

Women in the United States are living longer, meaning the population is aging overall. While about 44 percent of the 135.5 million women in the United States were 15-44 years in 1996, the leading edge of the large Baby Boom generation is now in its early fifties. With their longer life expectancy, women make up a greater proportion of the old and very old; in fact, among individuals 85 years and older, there are only 39 men for every 100 women. Life expectancy, however, varies by race and socioeconomic status, with minority and poor women lagging behind. The aging of the population has important consequences for health resource allocation, particularly in terms of treating chronic conditions.

The distribution of women by race and ethnicity is expected to shift dramatically over the next several decades, led by high growth rates among Hispanics. Currently, Whites make up 75 percent of the population of U.S. women; by 2050, they will account for only 53 percent. Such demographic shifts are significant, since disease susceptibility and access to care vary among racial and ethnic subgroups. For instance, death rates from heart disease, stroke, and cancer are higher among Black women than most other groups, and Hispanic women are less likely to have health insurance and to have seen a physician in the past year.

The education gap between women and men is closing, yet disparities persist among women of different races. The percentage of women with college educations has increased faster than for men in recent decades. At the high-school completion level, 89 percent of young women and 86 percent of young men had diplomas in 1997. However, among women, Whites (89.4 percent) and Blacks (87.1 percent) are more likely to complete high school than Hispanics (64.9 percent). Differences in college completion are more striking; among women aged 25-29, 30.7 percent

†Material adapted from Minkovitz and Baldwin in Charting a Course for the Future, Volume II.
of White women, 16.4 percent of Black women, and 12.7 percent of Hispanic women held bachelor’s degrees in 1997. Educational achievement is generally highest among Asians and Pacific Islanders. Continuing educational disparities among racial groups may contribute to restricted employment opportunities and earning potential for Black and Hispanic women particularly, thereby affecting their health and that of their families.

The proportion of women in the labor force has increased dramatically since 1950, reaching 59 percent in 1994, yet knowledge about the impact of paid employment on women’s lives and health is incomplete at best. The gender discrepancies in earnings from paid employment that persist (women's median income is 74 percent of men’s) have been attributed, in part, to sex-segregation of jobs and interruptions in employment for childbearing and caregiving. Among women, earnings vary according to race, education, and family type, with less educated, minority, and single, female-headed households at the greatest disadvantage. Increasingly, single and married mothers with children are in the labor force. In 1996, 62 percent of mothers with preschool-aged children had paid employment. And, in 64 percent of two-parent families with children under 18, both the husband and wife work outside the home.

Labor force participation is important to understanding women’s health for two main reasons. First, socioeconomic status is linked to health. Women with lower incomes are more likely to be in fair or poor health, have limitations in activity, engage in high-risk behaviors, and experience acute health conditions. Girls raised in poverty are more likely to be overweight and sedentary, which is associated with chronic disease later in life. Second, the demands of employment outside the home can affect women’s health directly through occupational hazards and stress and indirectly by making it more difficult for them to fulfill their caretaking and self-care responsibilities, particularly if they are single mothers with inadequate childcare, for example.

Women increasingly are likely to have children later in life. Since 1990, while the birth rate among teens has declined, it has risen among older women. In fact, between 1970 and 1986, the first birth rate among women aged 30-34 rose 140 percent. A growing proportion of women are remaining voluntarily childless while the percentage of women who are involuntarily childless is constant.

Women also are delaying marriage. The median age at first marriage for women has increased from 20.8 in 1970 to 24.5 in 1994. One of two marriages ends in divorce, and divorce rates are highest among the young and the less educated. Women are also increasingly likely to give birth outside of marriage. In 1996, 32.4 percent of births were to unmarried women, although the proportion varies by race with Hispanic (40.9 percent) and Black (68.9 percent) women having higher rates than White women (25.7 percent). This evidence that many women are choosing to delay childbearing and to remain voluntarily childless highlights the need to adopt a more comprehensive approach to the health care needs of women. A limited focus on reproductive health may fail to identify and meet the needs of women who do not enter the healthcare system for childbearing-related services.

As a result of these trends in childbearing, marriage, and divorce, the proportion of single-parent families led by women has increased substantially. In 1994, female-headed households accounted for 18 percent of all families, compared with 11 percent in 1970. Among Black families, fully 48 percent are headed by single women. Households headed by single women are at a severe economic disadvantage. For example, in 1997, the median household income for female-headed households was $23,040; for male-headed households, $36,634; and for married-couple households, $51,681. And single mothers often receive little support from the fathers of their children. In 1991, 24 percent of the women due child support did not receive any payment. Of those women who did receive support, 66 percent got only partial payment.
These trends and the ways they interact have significant implications for women’s health and caregiving roles. For instance, the risks associated with increased labor force participation — encountering occupational hazards and juggling multiple roles — may be offset by increased financial independence and self-esteem. Such positive outcomes, however, depend upon a woman’s type of job, her earnings, her social responsibilities and the social supports she receives, as well as the cultural norms of her environment.

Women’s multiple roles as paid workers and caregivers have sparked controversy as society grapples with issues related to comparable worth, gender discrimination in the workforce, child care, and the division of household labor among adults. Some research has found an association between employment and good health as measured by self-esteem, perceived health, and physical functioning. However, excessively demanding jobs and conflicting responsibilities are linked with poor health — for instance, job strain can exacerbate chronic diseases like hypertension. Women’s caretaking roles have changed significantly due to the decline of extended families, the reduced proportion of two-parent households in which men serve as primary wage-earners, and the growth of single-parent households. In addition to contributing solely or substantially to their families’ incomes by working outside the home, many women are also the primary caregivers for children and aging parents. As with paid employment, extremes in caregiving are associated with poor physical health.

Despite significant gains in narrowing the gaps in social indicators for men and women and for women of different racial and ethnic backgrounds, discrepancies persist with regard to life expectancy, educational attainment, employment, and earnings. Improving the social climate that influences women’s health means addressing these fundamental differences. A clear understanding of these differences and their implications should drive the design, implementation, and evaluation of policies aimed at improving the health of women in the United States.
Chapter II

Key Topics in Women’s and Perinatal Health: Findings from the Literature

Introduction

As part of the process of developing recommendations for the field, the Charting the Course initiative undertook a broad assessment of published research, policy reports, and program reviews on women’s physical health, mental health, and health behaviors, and on the effects of health services and systems on women's and perinatal health. Faculty associated with the Johns Hopkins University Women’s and Children’s Health Policy Center wrote a number of review papers on topics ranging from smoking to pregnancy care, from domestic violence to chronic diseases (see Charting a Course for the Future of Women’s and Perinatal Health: Volume II — Reviews of Key Issues). Multiple data sources informed the literature reviews, including peer-reviewed literature, U.S. government publications (such as census data), relevant textbooks on women's health, and other sources as appropriate. These publications are cited in the individual sections. When available, recent data are provided for women of different ethnic and racial groups. However, the availability of such data varies by topic, and not all studies and reports provide comparable information, nor do they all use the same categories and labels for race and ethnicity. Similarly, as the initiative’s focus is on women from menarche to menopause, most data are limited to women in this age group. However, data sources vary in their specific age delineations and these distinctions are noted in the specific chapters.

Chapter II is divided into twelve sections, each representing a summary of a literature review found in Volume II of this series. The summaries provide recent information on aspects of women’s health. The first two focus on the health care system as a whole, describing the current state of health care services for women and explaining the role of public health in promoting the health and well-being of women. The next three concentrate on women’s reproductive health, including diseases of reproductive organs, issues of pregnancy planning and unintended pregnancy, and the current state of pregnancy care. The remaining seven sections look at specific issues in women’s health: chronic diseases, depression, domestic violence, nutrition, physical activity, drug and alcohol use, and smoking.
The topics chosen for review are not meant to represent all of the important issues in women's health. Other health conditions and behaviors and aspects of the health care system deserve study as well. Some of the health conditions reviewed were selected on the basis of their prevalence among women. Others were chosen because they represent behaviors or conditions that have effects on women's health across the lifespan, that affect women of different socioeconomic levels, and that can be influenced by health promotion interventions. Cross-cutting themes found in the topical reviews are summarized at the end of this chapter. Major ideas for policy goals and recommendations related to each topic are incorporated in Chapter III, "Recommendations for the Future of Women's and Perinatal Health."

The 12 literature summaries are:

- Health Care Services and Systems for Women of Reproductive Age
- Public Health Roles Promoting the Health and Well-Being of Women
- Women's Reproductive Health and Their Overall Well-Being
- Pregnancy Planning and Unintended Pregnancy
- Issues in Pregnancy Care
- Women's Experience of Chronic Diseases
- Depression in Women
- Abuse Against Women by Their Intimate Partners
- The Nutritional Status and Needs of Women of Reproductive Age
- Women's Physical Activity in Leisure, Occupational, and Daily Living Activities
- Effects of Drug and Alcohol Use on Women's and Perinatal Health
- Effects of Smoking on Women's and Perinatal Health

**Health Care Services and Systems for Women of Reproductive Age†**

Recent attention to women's health issues reveals that women's care is based on insufficient research and is fragmented in its delivery, particularly with regard to the separation of reproductive and non-reproductive services. Women in the United States obtain health care services from a wide variety of sources, and they frequently enter the health care delivery system for either pregnancy prevention or pregnancy-related services. The array of health service organizations serving women include both public and private entities, and some women may use a combination of both. Unless a woman is enrolled in a managed care plan of some type, her use of multiple sources of health care is unlikely to be coordinated by any provider or payer. The current health care delivery system for women therefore results in both redundancies and gaps in services, with the potential for discontinuities as women age and change providers or health insurance plans.

---

†Material adapted from Weisman and Poole in *Charting a Course for the Future, Volume II.*
Because health care providers have not traditionally been trained in, or responsible for, all aspects of women's care, some women's health problems have been neglected in both research and clinical practice. These include eating disorders, domestic violence, sexual abuse, depression, sexual dysfunction, chemical dependency, the menopause transition, and gender-specific aspects of such chronic conditions as heart disease and diabetes. Many women do not have access to the type of “primary care” that is comprehensive, coordinated, and based on sustained partnerships between provider and patient.\(^1,2\)

**Utilization Patterns**

Women make greater use of the health care system than men, and their utilization patterns are more complex. While constituting approximately one-half of the population, women made 60 percent of all visits to physicians and hospital outpatient departments in 1994. Sixty-one percent of all hospital stays were made by women, excluding obstetrical stays.\(^3,4\)

Eighty percent of women report having a usual source of care — predominantly physicians' offices. Many women, however, obtain specialty reproductive health services or routine care in the public sector, or from private organizations that rely heavily on public funds (e.g., Planned Parenthood centers or school-based health centers). According to a 1993 survey, 33 percent of women over the age of 18 use both an obstetrician-gynecologist and another primary care physician.\(^5\) The types of physicians women see influence the services they receive: women who do not see obstetricians-gynecologists are more likely not to receive key preventive services according to established guidelines.\(^5,6\) Visits to obstetricians-gynecologists account for about one-third of office visits made by women ages 15 to 44.\(^7\) And while there are reported to be approximately 100,000 advanced practice nurses involved in providing primary care,\(^8\) less than 2 percent of women use providers other than physicians as a regular source of care,\(^8\) and only 5 percent of all in-hospital births are attended by certified nurse-midwives.\(^9\) Use of alternative providers is often constrained by state regulations limiting prescribing practices, restrictions related to third-party reimbursement and admitting privileges, and physician resistance.

Women of reproductive age use a diverse array of providers of health care, sometimes concurrently, and issues of comprehensiveness and continuity of care are critically important for this age group. New types of women’s health centers are emerging that may help address both coordination and utilization concerns. These centers are hospital- or community-based. In 1993, there were an estimated 3,600 women’s health centers nationwide, serving 14.5 million women.\(^10\) Twelve percent of the centers provide comprehensive primary care. Many of these are models for innovative provision of primary care, but they have rarely been evaluated to determine their impact on quality or costs.

**Barriers to Women’s Health Care Access**

Despite women's greater overall use of care, they face a number of barriers to receipt of care — both financial and non-financial. Financial barriers include the following, which relate to lack of health insurance and inadequate insurance:

- Women are more frequently insured as dependents of spouses or other relatives.
- Women more often undertake part-time employment, where insurance benefits are limited.
- Women, particularly poor women, spend more out-of-pocket for health services.
- Although Medicaid is a key source of insurance for women, nearly one-third of poor and near-poor women remain uninsured.\(^11\)
- Low-income women's Medicaid coverage primarily involves only pregnancy-related services.
- Recent welfare policy changes leave most immigrant women without health care coverage and create new challenges in enrolling eligible women in Medicaid.\(^12\)
Access to public prenatal care programs and family planning clinics is threatened by limitations in government funding streams and by competition from managed care plans for Medicaid clients, which also reduces the financial base of these organizations. 

Women face many non-financial barriers as well, including lack of availability of health services or appropriate service providers. For example, in 1989, one-quarter of U.S. counties had no prenatal clinic services; in 1992, 84 percent of U.S. counties were without any providers of surgical abortions. Many women also must deal with limited availability of enabling services, such as child care, transportation, and translation services.

**Challenges and Opportunities Related to Managed Care**

The growth of managed care implies both benefits and risks to women. Although the term “managed care” is increasingly vague, its emphasis on cost control, coordination of services, and preventive care has the potential to improve prevention and screening, provide more effective prenatal care, lower out-of-pocket costs, and foster better integration of reproductive and non-reproductive care for women. Managed care might result in fewer unnecessary interventions for women, such as cesarean deliveries and hysterectomies. And because health maintenance organizations have low copayments and do not have coinsurance or deductibles, out-of-pocket costs to women should be lower and more predictable.

However, potential risks associated with managed care include possible reduced access to specialists, incentives to underserve, reduced time during visits for provider-patient communication, and discontinuities in care associated with voluntary or involuntary plan switching. Also, some managed care plans serving Medicaid enrollees may be unprepared to address the special needs of low-income women and their children, specifically chronic conditions, disabilities, mental illness, and substance abuse, and also to provide linkages with needed social services.

**Quality Issues in Women’s Health Care**

Currently there is no consensus on a definition of quality in women’s health. Two general categories of issues are particularly relevant to quality: (1) increasing the knowledge base on the effectiveness of specific services and (2) evaluating the effects of alternate health care delivery models (such as women’s health centers). Although attention has been devoted recently to outcomes research that focuses on disease management, it is important to note that much of women’s health care is not disease-related but is concerned instead with prevention and health maintenance.

Measures of quality currently being utilized under the Health Plan Employer Data and Information Set (HEDIS) for commercially–insured women relate to: breast and cervical cancer screening, early prenatal care, ongoing prenatal care, cesarean delivery and vaginal birth after cesarean delivery (VBAC) rates, birth-related average length of stay, and postpartum checkups. HEDIS measures monitored for women enrolled in Medicaid incorporate additional indicators related to pregnancy and childbirth and to linkages with social services. Additional measures of quality in women’s health are under development within the National Committee for Quality Assurance.

Little is known regarding how women’s health care utilization and quality differ by provider type and by organizational context. Research is needed to determine how receiving care from different types of primary care providers affects the quality of care; how the coordination of reproductive and non-reproductive care in different types of organizations impacts on outcomes; and how the physician-patient communication process in different types of settings affects satisfaction and other outcomes. Despite the massive changes underway in our health care system, little is
known about how new organizational forms, such as comprehensive primary care women’s health centers and the various types of managed care organizations (including mental health and substance abuse “carve outs”), are affecting women’s health care.

**Public Health Roles Promoting the Health and Well-Being of Women†**

Public health agencies nationwide implement core functions of assessment, policy development, and assurance, with the mission to “fulfill society’s interest in assuring conditions in which people can be healthy.”¹ Fundamental to improving the health of the population is public health’s longstanding orientation to social equity issues, as well as its overarching perspective that addresses population health in the context of social, environmental, and behavioral factors. This perspective is significant, particularly given the need to consider the social and developmental aspects of health unique to women.

Over the years, a number of health issue-specific initiatives and services have been developed, primarily through agencies of the U.S. Department of Health and Human Services, but also within other cabinet agencies, such as Agriculture, Justice, and Labor. These activities pertain to all levels of government: many are implemented at the state and community level under the auspices of state and local public health departments, but frequently also via non-profit community agencies. Such concentrated public efforts have been created primarily as categorical programs addressing a broad range of concerns such as family planning, adolescent pregnancy prevention, smoking and drug and alcohol abuse, sexually transmitted disease services, prenatal and perinatal care for women and infants, nutrition, domestic violence prevention, and cancer prevention and early detection. Public health programming in these areas has evolved to address population concerns that hospitals or office-based medical practice on their own could not.

Public health services, including surveillance of health status and needs, population-based health education and promotion, screening, standards development and quality monitoring, as well as gap-filling personal health services, are important to the overall system of health care for women over the lifespan. Drawing on the U.S. Public Health Service’s “Ten Essential Public Health Services,” Grason and Guyer have developed a framework specific to maternal and child health.²³ The table below provides examples illustrating the operationalization of the 10 essential services for three selected health issues specific to women — perinatal care, breast and cervical cancer, and partner violence.

---

¹Material adapted from Grason, Poole, and Silver in *Charting a Course for the Future, Volume II*. 
### Examples of Public Health Functions and Activities Related to Three Specific Women’s Health Concerns

<table>
<thead>
<tr>
<th>Public Health Function/Activity</th>
<th>Perinatal Care</th>
<th>Cervical &amp; Breast Cancer</th>
<th>Partner Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess &amp; Monitor Health Status</td>
<td>Use vital statistics data to study birthweight-specific infant mortality and to monitor rates of maternal mortality.</td>
<td>Enhance state and local utilization of data from the national breast and cervical cancer surveillance system to monitor incidence, stage at diagnosis.</td>
<td>Initiate a national survey of family and intimate violence to address the lack of systematic tracking of violence against women (e.g., Centers for Disease Control and Prevention-National Institute of Justice survey).</td>
</tr>
<tr>
<td>Diagnose &amp; Investigate Health Problems &amp; Hazards</td>
<td>Extend and maintain existing initiatives, such as the Pregnancy Risk Assessment and Monitoring System, study of the rise in congenital syphilis from unidentified and/or untreated maternal syphilis, and Maternal Mortality Reviews, which uncover woman-specific and system factors contributing to poor pregnancy outcomes.</td>
<td>Conduct epidemiologic reviews of high incidence areas and populations.</td>
<td>Investigate “clusters” of cases to understand the risk factors for violence, including violence against women in the workplace and violence against pregnant women.</td>
</tr>
<tr>
<td>Inform &amp; Educate the Public</td>
<td>Provide resources and technical expertise for the implementation of national and local public information campaigns on the importance of early and continuous prenatal care.</td>
<td>Produce and disseminate culturally-appropriate information in community agencies (e.g., senior centers, YWCAs) to improve risk awareness and encourage women to seek screening consistent with recommended guidelines.</td>
<td>Fund community organizations, such as domestic violence centers, shelters, and schools, to institute collaborative youth violence prevention education programs.</td>
</tr>
<tr>
<td>Mobilize Partnerships</td>
<td>Support community/grassroots consortia, such as Healthy Mothers, Healthy Babies Coalitions, which prompt local and state action on problems of infant mortality.</td>
<td>Maintain national and local partnerships among the Centers for Disease Control and Prevention, American Cancer Society, YWCA, National Association of Breast Cancer Organizations, and National Cancer Institute.</td>
<td>Develop partnerships with grassroots organizations, educators, employers, and health care providers for educating local and state legislators about the problem of partner violence and promising interventions designed to address it.</td>
</tr>
<tr>
<td>Leadership for Planning and Policy Development</td>
<td>Convene and support statewide commissions focused on perinatal health to heighten public and professional attention and to guide policy development and resource allocation based on scientific evidence.</td>
<td>Designate resources and program authority to assure implementation of the National Strategic Plan for the Early Detection and Control of Breast and Cervical Cancers.</td>
<td>Incorporate data and analysis related to rape and battering into required state MCH program needs assessments and annual planning.</td>
</tr>
<tr>
<td>Public Health Function/Activity</td>
<td>Perinatal Care</td>
<td>Cervical &amp; Breast Cancer</td>
<td>Partner Violence</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------</td>
<td>--------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Promote and Enforce Protections, and Ensure Public Accountability</strong></td>
<td>Work with professional and hospital organizations to develop standards and designate units for risk-appropriate deliveries.</td>
<td>Establish medical advisory committees and dedicate state health agency resources to monitor mammography and cytological services consistent with the Clinical Laboratory Improvement Act of 1988 (CLIA) and American College of Radiology Standards.</td>
<td>Work with police departments to monitor implementation of legislation outlining legal penalties for and restrictions on handgun purchases by perpetrators of domestic violence against women.</td>
</tr>
<tr>
<td><strong>Ensure Access to and Linkages Among Services</strong></td>
<td>Provide prenatal care services for immigrant and other women without access to health care. Develop or maintain a regionalized system of perinatal services.</td>
<td>Establish systems under the National Breast and Cervical Cancer Early Detection Program to provide care efficiently from screening to diagnosis and follow up care.</td>
<td>Allocate resources for free post-trauma medical examinations for women who are victims of violence by intimate partners.</td>
</tr>
<tr>
<td><strong>Assure the Capacity and Competency of the Public and Personal Health Work Force</strong></td>
<td>Promote practice parameters and credentialing policies to expand and enhance use of advanced nurse practitioners and nurse-midwives.</td>
<td>Develop educational curricula for primary care physicians and other health care providers, as well as training materials and reminder systems.</td>
<td>Support training for prosecutors, police, and service providers in screening for partner violence in health care and judicial encounters.</td>
</tr>
<tr>
<td><strong>Evaluate Personal and Public Health Services</strong></td>
<td>Provide technical expertise to entities such as NCQA, JCAHO, and FAACT in the development of indicators/benchmarks for monitoring the delivery and quality of services provided to pregnant women and their newborns.</td>
<td>Identify barriers and factors facilitating the use of health services.</td>
<td>Examine the effectiveness of primary care providers practicing in managed care organizations in identifying and treating domestic violence against women (e.g., studies from the Agency for Health Care Policy and Research).</td>
</tr>
<tr>
<td><strong>Support Research and Demonstrations</strong></td>
<td>Allocate discretionary resources for the development and testing of model approaches addressing urgent perinatal concerns such as substance abuse among pregnant women (e.g., Maternal and Child Health Bureau–Substance Abuse and Mental Health Services Administration Pregnant and Postpartum Women and Their Infants Program).</td>
<td>Fund clinical trials to determine treatment outcomes.</td>
<td>Convene expert panels, such as the Institute of Medicine Panel on Research on Violence Against Women, to analyze scientific evidence and make recommendations for improved policies and strategies for addressing partner violence.</td>
</tr>
</tbody>
</table>
Policy Challenges and Opportunities

Notwithstanding the increasing and important attention to women’s health within legislative bodies and governmental agencies nationally and at the state and local levels, a number of key issues demand attention and study as we approach the next century: coordinating governmental leadership and initiatives; appropriating the necessary funding to ensure public accountability for health systems development and monitoring as well as population-based prevention activities; and sorting out public and private sector roles with respect to population health and prevention. All warrant careful consideration as women’s health issues become increasingly important in the public policy agenda.

Stable and Rational Funding Base for Public Health Functions and Services. Over recent years, public policy debates related to health have focused almost exclusively on insurance strategies for improving health status. Legislation proposed and/or enacted both before and following the failed national health care reform initiative has entailed insurance reforms addressing access, parity, and portability concerns.

Further, for many years, public health agencies have been able to support population-based prevention services and other public health functions (e.g., data/surveillance) with funds received from reimbursements for direct health care provided to publicly-insured and other underserved groups, such as Medicaid beneficiaries. However, as the publicly insured are increasingly being channeled into cost-managed private sector care, resources for public health activities have begun to dwindle. While it might be reasonable to assume that some managed care organizations (MCOs) — especially the larger ones — may be able to provide selected population-based services, the issue of public health funding is a critical issue both in the present and future. Will policymakers attempt a balance so that assessment, surveillance, policy structures, independent quality monitoring, and research and capacity building are maintained?

Accountability Related to Prevention Services in the Managed Care Environment. Increasingly, the U.S. population is receiving health services through some variety of managed care entity. Responsibility for clinical preventive services, such as breast and cervical cancer screening, has been clearly delineated for health plans through practice guidelines, regulation, and purchaser contracting mechanisms. MCOs nationally have embraced accountability for these services through incorporation of measures of prevention services in their Health Plan Employer Data and Information Set (HEDIS) performance reporting. Moreover, most insurance purchasers and health plan administrators acknowledge the individual and societal advantages of primary prevention, such as health education and wellness programming. To date, however, financial incentives for promoting health plan accountability for such services have yet to be refined. Health education can be expensive. Costs for primary prevention services are difficult to capture, and, as a result, are not often included in capitated payments made to plans. Given managed care’s strategic goal to reduce costs and bolster stockholder investments, alongside the protracted timeframe for realizing cost savings generated from prevention, commitment to these functions in the private sector is not yet clear.

Further complicating the question of relying on health plans to undertake responsibility for health education and promotion are issues surrounding the inadequacy and instability of insurance coverage and the uneven distribution of health providers. As women move into and out of plans’ enrollee populations (often with change of employer or residence), savings might not accrue to a plan that has made the investments in prevention. Absent universal health insurance for the resident population, funding and organizational accountability for primary prevention cannot effectively rest exclusively in the private sector. Moreover, if both public and private sectors are to share in this responsibility, the question remains of how prevention and other population-based health services should or can be coordinated at the individual and community system levels.
Quality Assurance and Improvement at the Population Level. Measurement of quality at the community/state level represents an important set of functions traditionally assigned to public health. In order to ensure that populations achieve national standards of health status (e.g., Healthy People 2000 Objectives), specific activities are needed for assessing population health in geographic areas where multiple health care plans and provider networks deliver care and where some individuals remain uninsured and/or underserved. At the same time that public health expertise and leadership are increasingly important in addressing environmental and social issues (primary prevention) and monitoring patterns of women’s health care coverage and utilization, public health’s access to relevant data is diminished as a consequence of market-driven, private sector health services organization. Marketplace competition is prompting health plans to limit sharing of encounter and other important data and is promoting an emphasis on internal/peer quality monitoring strategies to the exclusion of objective external assessment by public health entities. Ensuring population health for women over future years will involve protecting the ability of public health agencies to fully utilize their tools of the trade — epidemiologic, demographic, and statistical analysis of health data.

National Leadership for All Aspects of Women’s Health. As women’s health issues have gained prominence, federal agencies have sought to demonstrate their commitment to action by establishing over a dozen organizational units specifically focused on women’s health. The U.S. Department of Health and Human Services (DHHS), in particular, has dramatically increased attention to women’s health concerns in recent years. As welcome as this organizational attention may be, proliferation creates new challenges for coordination and integration of efforts. In 1999, many federal programming efforts remain categorically focused, targeted on specific diseases/conditions (e.g., substance abuse, breast and cervical cancers, family planning) or on specific functions (e.g., research, surveillance, primary care services). Under the leadership of the U.S. Public Health Service’s Office on Women’s Health, representatives of the various DHHS women’s health offices convene regularly to address topics that span the programs within which they operate — such as the effect of managed care on women’s health or training of women’s health professionals. Over time, it will be important that DHHS seize all available opportunities to create an overarching national policy agenda and maintain a locus of accountability for women’s health within the federal government.

A second prominent challenge accompanying new attention to women’s health involves the question of the convergence of policies, programs, and organizational entities having longstanding leadership roles and statutory mandates with respect to women’s reproductive health with those newly emerging. As Weisman (1998) notes, the field of maternal and child health, with roots established in the progressive movement of the early twentieth century, and the women’s health movement that emerged in the 1960s have most often pursued independent avenues for their work and different constituencies for their growth. Key constituent groups promoting women’s health themselves are diverse in their focus and interact infrequently with organizations that traditionally provide advocacy related to maternal and child health. As noted above, until recently, administrative units within the federal government addressed these issues independently.

The question of whether maternal and child health should be distinguished from women’s health, and if so how so, demands and is receiving increased consideration in public health policy deliberations. While the potential for synergy in the integration of the two is clear, the difference in professional cultures, policy interests, and relative emphasis on women’s roles and rights vis-à-vis those of their children (particularly in policy deliberations related to substance abuse, welfare reform, and domestic violence) must be addressed as the fields evolve. In this current environment of heightened attention and activity, the DHHS is well-placed to bring together the broad array of constituency groups concerned with women’s health, maternal health, and child welfare to consider organizational structures and roles (among government and constituent coalitions) that can strengthen all efforts on behalf of women and families.
Women’s Reproductive Health and Their Overall Well-Being†

Although reproductive health is no longer considered to represent the entirety of women’s health care needs, it remains an important factor in women’s overall health. A woman’s reproductive health status influences her physical, psychological, and social well-being. This brief review examines three specific reproductive health issues — infections, breast and cervical cancer, and cesarean delivery — to highlight the predominant cross-cutting themes.

**Epidemiological Trends/Demographics**

*Infections*

- Two-thirds of all cases of sexually transmitted infections occur in persons under the age of 25.7
- Rates of syphilis in the U.S. have decreased since 1990, but remain significantly higher than rates in other countries. The incidence of chlamydia and other sexually transmitted diseases remains high.8
- Sexually transmitted diseases can lead to systemic infections, infertility, and ectopic pregnancy.

<table>
<thead>
<tr>
<th>INFECTIONS AND RELATED CONDITIONS IN WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITION</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Chlamydia†</td>
</tr>
<tr>
<td>Gonorrhea†</td>
</tr>
<tr>
<td>Syphilis (1° and 2°)†</td>
</tr>
<tr>
<td>Genital Herpes²</td>
</tr>
<tr>
<td>HIV (not AIDS)³</td>
</tr>
<tr>
<td>Human Papillomavirus⁴</td>
</tr>
<tr>
<td>Bacterial Vaginosis⁵</td>
</tr>
<tr>
<td>Pelvic Inflammatory Disease⁶</td>
</tr>
</tbody>
</table>

* Decreased 14.8% from 1995
** Ranging from 9-28%

†Material adapted from Misra, Cassady, Rothert, and Poole in *Charting a Course for the Future, Volume II.*
Cervical Cancer

- Of the 14,500 women diagnosed with cervical cancer in 1997, 4,800 were expected to die.10
- Mortality is twice as high for Black women as White women.10

<table>
<thead>
<tr>
<th>YEAR OF DIAGNOSIS</th>
<th>ALL FEMALES</th>
<th>WHITE FEMALES</th>
<th>BLACK FEMALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>12.4</td>
<td>11.1</td>
<td>28.0</td>
</tr>
<tr>
<td>1979</td>
<td>10.6</td>
<td>9.2</td>
<td>23.5</td>
</tr>
<tr>
<td>1983</td>
<td>8.8</td>
<td>8.1</td>
<td>15.2</td>
</tr>
<tr>
<td>1987</td>
<td>8.3</td>
<td>7.4</td>
<td>15.2</td>
</tr>
<tr>
<td>1991</td>
<td>8.4</td>
<td>7.7</td>
<td>13.4</td>
</tr>
<tr>
<td>1995</td>
<td>7.4</td>
<td>6.5</td>
<td>11.4</td>
</tr>
</tbody>
</table>

Breast Cancer

- Breast cancer is rare but more fatal in premenopausal women.11
- 180,200 new breast cancer cases were diagnosed in 1997, and 43,000 deaths were documented.12
- The prevalence of breast cancer is leveling off at 110 cases per 100,000 women.13
Cesarean Deliveries

- Cesarean deliveries increased five-fold since 1970.\textsuperscript{14} There have been encouraging decreases, however, in the rate in the 1990s.\textsuperscript{15}

- Cesarean delivery is more costly than vaginal delivery both in terms of dollars and its effects for the mother.\textsuperscript{16} The increased recovery time required may complicate family life by delaying a woman’s return to child care and work responsibilities. Controversy has recently re-emerged, however, about the level of reduction of cesarean delivery rates that can be sought without compromising quality of care.\textsuperscript{17}

<table>
<thead>
<tr>
<th>YEAR</th>
<th>CESAREAN RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>22.8</td>
</tr>
<tr>
<td>1990</td>
<td>22.7</td>
</tr>
<tr>
<td>1991</td>
<td>22.6</td>
</tr>
<tr>
<td>1992</td>
<td>22.3</td>
</tr>
<tr>
<td>1993</td>
<td>21.8</td>
</tr>
<tr>
<td>1994</td>
<td>21.2</td>
</tr>
<tr>
<td>1995</td>
<td>20.8</td>
</tr>
<tr>
<td>1996</td>
<td>20.7</td>
</tr>
</tbody>
</table>

Risk Factors/Predictors for Disease

Each reproductive health problem has multiple risk factors, many of which cross over to other diseases. Risk factors for infections include multiple sexual partners (or a partner with multiple sexual partners), early age at first intercourse, failure to regularly use condoms, and drug abuse.\textsuperscript{7} Additionally, women with gonorrhea or syphilis are more likely to become infected with HIV.\textsuperscript{7} For cervical cancer, infection with sexually transmitted human papillomavirus\textsuperscript{18-23} and smoking\textsuperscript{24-26} are risk factors. Regarding breast cancer, risk factors include nulliparity, first birth after age 30,\textsuperscript{20,27,28} obesity, weight gain,\textsuperscript{29,30} and low levels of physical activity.\textsuperscript{31-33} Cesarean deliveries are more likely with older maternal age,\textsuperscript{34} high parity, small stature, high body mass index or high weight gain,\textsuperscript{35,36} obstetrician provider compared to nurse-midwife,\textsuperscript{37-40} higher level of insurance reimbursement relative to vaginal delivery,\textsuperscript{41} and prior cesarean delivery.\textsuperscript{42}

Interventions

Overall, reproductive disease rates could be reduced by increasing healthy and reducing risky behaviors among women — for example, for infections, condom use. For some diseases, however, risk-reducing behaviors are harder to identify — for example, the nature and extent of modifiable risk factors for breast cancer (rather than immutable risk factors such as age at menarche and genetic mutations) remain unclear.

Awareness by women, their families, and their providers of a number of sexually transmitted conditions is limited. To address this knowledge gap, the Institute of Medicine (1997) recommends an independent, long-term, national campaign to promote a new norm of healthy sexual behavior in the United States. This norm would promote open discussion of healthy sexual behaviors, including using condoms and other means of protection against sexually transmitted diseases (STDs) and unintended pregnancy, and delaying the age of first intercourse.\textsuperscript{7} Infections also can be prevented by behavioral interventions based on social learning theory and social marketing (in the mass media).\textsuperscript{35,36}

Women need improved access to health care providers and services. Screening (and treatment) services provided in local health department STD clinics, publicly funded community-based health clinics, and private health care settings serve different but sometimes overlapping population groups, and each group has somewhat different needs. Moreover, women are under-represented among those served in public health STD clinics and over-represented in the group served
by community-based agencies (which include family planning clinics). Women are more likely than men to be asymptomatic from sexually transmitted diseases, and thus are potentially less likely to seek out screening or treatment and more likely to experience adverse sequelae. Early detection and effective treatment reduce the duration of infection, thus decreasing the likelihood of transmission to others. In addition, partner notification and insurance coverage of partner treatment are both currently inadequate and uncoordinated. The knowledge base related to infections that are not sexually transmitted—such as bacterial vaginosis and group B streptococcus disease—needs to be expanded in order to identify those factors influencing risk of acquiring these infections.

Pap screening can detect cervical cancer early, and breast self-examination can increase early detection of breast cancer. Unfortunately, data from health plans indicate that there is great variation in mammography and screening rates among health plans. Rates of screening for breast cancer range from 27.7 percent to 89 percent, and from 24 percent to 100 percent for cervical cancer screening. These rates are modifiable, indicating an area of opportunity for improvement.

Some persistent barriers to adequate reproductive health are technological. Methods to stem transmission of infections, particularly female-controlled methods (e.g., topical microbicides and vaccines), are limited. Less expensive, less invasive (e.g., urine- or saliva-based), and more rapid tests need to be developed for screening and diagnosing reproductive tract infections. Moreover, technology related to screening for breast cancer in younger women is underdeveloped.

More epidemiologic information about relatively “benign” gynecologic health conditions (e.g., dysmenorrhea, endometriosis, and uterine fibroids) is needed; while these conditions are not fatal, they impact on women’s quality of life.

Finally, insurance coverage (public and private) for comprehensive reproductive health services, which include screening and treatment for sexually transmitted diseases and breast and cervical cancer, remains limited.

**Pregnancy Planning and Unintended Pregnancy†**

The rate of unintended pregnancies in the United States is higher than that of many other industrialized countries, with 57 percent of all pregnancies and 44 percent of all births unintended. Over the past several decades, sexual activity among teens and births to unmarried women have increased, age of first sexual activity has steadily decreased, and marriage has been increasingly delayed, all contributing to the high rates of mistimed and unwanted pregnancies. Although the rates of mistimed births remained constant through the 1980s, the rate of unwanted births increased.

Three-quarters of women have had intercourse by age 19, and among adolescents intercourse is rarely planned. Only 40 percent of young women go to a doctor or clinic for contraceptive services within the year of their first intercourse. Nevertheless, in the first half of the 1990s, teen birth rates fell in all 50 states, dropping by at least 5 to 10 percent in 37 states. The largest declines were reported among African-Americans. Repeat childbearing among teenagers also has shown dramatic declines since 1991. Still, over 10 percent of all births each year are to women aged 15-19, and teen birth rates remain far higher among African-Americans (91.7 per 1,000), Hispanics of any race (101.6), and Native Americans (75.1) than among Whites (48.4) and Asians or Pacific Islanders (25.4).

---

†Material adapted from Poole and Hawkins in *Charting a Course for the Future, Volume II*. 
Predictors and Consequences of Unintended Pregnancy

A disproportionate number of women who have unintended pregnancies are at the lower or upper ends of the reproductive age span. Among ever-married women, the prevalence of unwanted births increases with age and parity, most likely because these women have already reached their desired family size.

The consequences of unplanned pregnancies may include inadequate prenatal care, greater numbers of abortions, and poor birth outcomes, although the data on this point are mixed. There is some evidence that the apparent link between adverse outcomes, such as low birthweight, and unplanned pregnancy is actually due to confounding maternal and paternal factors (e.g., age, employment status, and parity). Unplanned pregnancies also incur higher medical costs. The estimated annual medical costs of unintended pregnancies reach $13 billion.

Unintended pregnancy in adolescence has been linked to inadequate prenatal care, low birthweight, infant mortality, child abuse and neglect, and lower educational and economic status for both mother and child. Nearly one-half of mothers receiving Aid to Families with Dependent Children were less than 17 years of age when they had their first child. About one-quarter of teenage mothers have a second child within 24 months of their first birth, and the prevalence of closely spaced second births is greatest (31 percent) among women whose first birth occurred prior to age 17. African-American women are 1.6 times as likely as White women to have an interval of less than 18 months between deliveries. Several investigators have proposed a link between intervals of less than six months between pregnancies and poor pregnancy outcomes, including low birthweight, intrauterine growth retardation, preterm delivery, and perinatal mortality.

Interventions and Health Care Utilization

Contraception. Nearly one-half of unintended pregnancies occur to women who report having used reversible contraception at the time of conception. The remaining unintended pregnancies occur among women not using contraception. Several factors may complicate a woman’s decision about the use of available contraceptive methods, including parity, lactation, and desire to be protected against sexually transmitted diseases (STDs). For younger women, embarrassment, concerns about privacy, and lack of access to medical services may present serious barriers.

Despite a relatively high failure rate in typical use, most birth control methods approach 100 percent efficacy when used correctly and consistently. The combined first-year failure rate for all methods except sterilization was 14 percent in 1988. Due to inconsistent or incorrect use, non-use, or failure of contraceptive methods, 3 million women unintentionally become pregnant each year.

Contraceptive failure of condoms accounts for 32 percent of unintended pregnancies among women seeking abortion services. Condom use more than doubled in the 1980s, probably due to concerns about HIV transmission. While condoms are highly effective in preventing transmission of STDs, their high contraceptive failure rate is of concern. The oral contraceptive pill is the most popular of all reversible contraceptive methods, although it does not protect against STDs.

Emergency contraceptive treatment (morning after pills) has been slow to enter the U.S. market. This is a consequence of past reluctance on the part of manufacturers to apply to the U.S. Food and Drug Administration for approval of their oral contraceptives as emergency contraception products — and reluctance on the part of physicians to prescribe them — due to concerns about legal liability. Despite the fact that oral contraceptives have been packaged and labeled for emergency contraceptive use in European countries for some time, the first emergency contraception product, the “Preven Emergency Contraceptive Kit,” did not gain FDA approval until the fall of 1998.
The cost of contraceptive drugs and devices and related physician fees may deter significant numbers of women, particularly if insurance coverage of contraceptive services is minimal; only 33 percent of traditional indemnity plans cover oral contraceptives. However, federal legislation recently enacted now requires insurance plans participating in the Federal Employees Benefit Plan to cover contraceptive drugs.

Abortion. Of the six million pregnancies that occur in the United States annually, 1.6 million end in abortion. Women seeking abortion are more likely than women in the general population to be White, Hispanic, between the ages of 19 and 24, separated or never-married, enrolled in Medicaid, and earning less than $15,000 annually.

Public funding of abortion is supported almost entirely by the states; federal Medicaid dollars cover abortions only in the event that the woman's life is threatened or the pregnancy is the result of rape or incest. Only 13 states and the District of Columbia provide funds for abortion for Medicaid recipients, and only four states and the District of Columbia fund abortions without restrictions on the reason for the procedure.

Women seeking abortions face numerous barriers:
- Prohibitions on public funding of abortions restrict the ability of poor women to end unwanted pregnancies.
- In 1993, almost one in ten women seeking an abortion outside a hospital had to travel over 100 miles.
- Harassment of abortion providers and patients has reduced access to abortion services.
- Most abortions are paid for out-of-pocket because women seek confidentiality or do not have insurance that covers the procedure. However, the average cost of an abortion at a non-hospital facility ranges from $600 to over $1,000 depending on gestational age. Cost is thus the major barrier for many women seeking abortion.

Pregnancy Planning Services

Provider roles in counseling. Health care providers are in a unique position to counsel women about pregnancy planning. Results of studies on counseling among physicians are mixed. Providers of obstetric and gynecologic services initiate discussions about birth control and sexual activity with only about one-third of new patients, and about STDs with only 12 percent. Family practice and pediatric physicians more regularly counsel patients about preventing pregnancy and STDs, but often feel they are not effective in their counseling. On the other hand, physicians report a high level of counseling for adolescent patients, with 97 percent of pediatricians in one study counseling teenage patients about STDs and 62 percent nearly always taking a sexual history.

Much of women's primary care is delivered by non-physician providers. Primary care delivered by non-physicians seems to be equal in quality to that provided by physicians, and non-physician providers may actually do a better job of preventive care and communicating with patients. The gender of the provider may also be important, with female physicians spending more time both listening to and educating patients than do their male counterparts.

Deficiencies in physician training may account in part for inadequacies in women's reproductive health care. Curricula specific to women's health for medical students and for residents in family practice, internal medicine, obstetrics and gynecology, and psychiatry are offered in a minority of medical schools.
Integration of reproductive health services. Improved integration of different types of reproductive health services would likely aid prevention efforts. Although many providers already do offer integrated services (both family planning and STD services, for example), federal categorical funding streams create administrative burdens.

Public pregnancy planning programming. Title X of the Public Health Service Act has funded the provision of family planning services, as well as related research and training, since its creation in 1970. However, due to only modest federal funding of Title X and expansions in Medicaid eligibility throughout the 1980s and 1990s, Medicaid is currently the primary federal financing mechanism for family planning services. State Title V Maternal and Child Health Programs and state-appropriated dollars also support public family planning services in a number of states.

By the end of 1997, a total of nine states had waivers approved by the Health Care Financing Administration to expand access to Medicaid family planning services. These 1115 waivers allow states to make family planning services more widely accessible with the objective of addressing the issue of short interpregnancy periods, which tend to occur more frequently in low-income minority women. Without this waiver approach, Medicaid eligibility for many low-income women is tied to pregnancy status.

Prior to the federal welfare reform legislation in 1996, states were required to fund family planning services for welfare recipients. Although that mandate no longer exists and, in general, states are barred from using Temporary Assistance for Needy Families (TANF) funds for medical services, states are permitted to use TANF funds for prepregnancy family planning services.

Our knowledge base needs to be bolstered in order for more effective family planning methods to be developed for men and women. Tradeoffs between effectiveness in preventing pregnancy and preventing STDs highlight the need for development of contraceptive methods that effectively serve both needs. Similarly, assessment of policies allowing for over-the-counter purchase of oral contraceptives is needed to weigh the benefits of reducing unintended pregnancy rates against disincentives for regular gynecological check-ups. Factors related to the effectiveness of emergency contraception need to be examined. Qualitative studies should be pursued to understand the best ways to educate women and providers about this method.

Issues in Pregnancy Care

Pregnancy is a critical event in the life of a woman that shapes her relationships with her partner and family, her role in the workforce, and also affects her health. Close to four million births occur annually in the United States, along with an estimated 60 percent or more additional pregnancies to women that end in spontaneous losses, stillbirths, or induced abortions. Over ninety percent of women aged 15–44 responding in the 1995 National Survey of Family Growth reported expecting to give birth at least once during their lifetime.

Indicators of Maternal Morbidity and Mortality

Increasingly, attention has been given to measuring morbidity and mortality related to pregnancy and improving the reporting of these incidents. Frequently reported maternal medical complications during pregnancy are pregnancy-induced hypertension (3.6 percent of women), diabetes (2.6 percent), anemia (2.0 percent), and chronic hypertension (0.7 percent). The completeness of

---

1Material adapted from Strobino, Nicholson, Misra, Hawkins and Cassady in Charting a Course for the Future, Volume II.
reporting of maternal medical complications has improved since the introduction in 1989 of a checklist of 16 complications of pregnancy on the standard recommended birth certificate. The prevalence, however, is still underreported.4

**Antenatal Hospitalization and Bed Rest.** Antenatal hospitalization and bed rest are proxy measures of the morbidity of women during pregnancy. Each year, between 12 and 27 percent of all deliveries in the United States are preceded by an antenatal hospitalization.5,8 History of medical or obstetric problems and lack of prenatal care are associated with antenatal hospitalization.6,9 The most common immediate cause is preterm labor, followed by hypertension, diabetes, bleeding/placenta previa, and premature rupture of the membranes.5,7 Studies examining a possible racial disparity in risk of antenatal hospitalization show conflicting results.5,6,8

Bed rest is prescribed in close to 20 percent of all U.S. pregnancies10 and is recommended prophylactically to reduce the risk of several adverse conditions and pregnancy outcomes, including spontaneous abortion, preterm labor, fetal growth retardation, edema, chronic hypertension, and preeclampsia.11,13 Although bed rest is widely recommended, it can have significant detrimental effects on women, including lost wages, disruptions in daily living, and increased levels of stress.14

**Maternal Mortality.** Maternal mortality is considered a benchmark of the health of a community.15 The magnitude of maternal mortality is in question, however, based on the manner in which data are compiled from vital statistics. It is estimated that the number of pregnancy-related deaths is 1.3 to 3 times greater than that reported in vital statistics data.16 The pregnancy-related mortality ratio increased from 7.2 in 1987 to 10 in 1990, and the rate of increase was greatest for Black women.17 Racial disparities exist for every cause of maternal mortality, including hemorrhage, embolism, hypertensive disorders, infection, cardiomyopathy, and anesthesia.18 Risk of maternal mortality is also higher for unmarried women, women with low levels of education, women with inadequate prenatal care, and women with higher order multiple pregnancies.19

Methods for surveillance of maternal mortality and morbidity must improve in order to develop effective interventions, identify high-risk groups, and monitor trends. Efforts to improve the quality of the data must be coupled with a commitment to educate obstetricians, nurse-midwives, and family practice doctors about the need to improve the reporting of complications on vital records.

**Low Birthweight and Preterm Delivery.** The health care needs of the newborn also offer insight into maternal health and the quality of care during pregnancy. Low birthweight (LBW) infants account for over 7 percent of all U.S. births.3 This percentage has increased in recent years for White women, but has dropped for Black women. The change in LBW among White women is believed to be related to increases in the number of women with multiple pregnancies, which is more common among women who receive treatment for infertility or who delay childbearing.3

LBW has a multi-factorial etiology, associated with:

- **Medical risk factors**, such as nulliparity and parity greater than 4, chronic diseases, previous LBW infant, genetic factors, multiple pregnancy, poor weight gain, infection, placental problems, premature rupture of membranes, and fetal anomalies;
- **Demographic risk markers**, such as age less than 17 and over 34, African-American race, low socioeconomic status, unmarried status, and low level of education; and
- **Behavioral risk factors**, such as smoking, poor nutrition, toxic exposures, unintended pregnancy, inadequate prenatal care, illicit substance use, and stress.19

The primary cause of LBW is preterm birth, which occurs in 11 percent of deliveries.3 Because the etiology of preterm delivery is largely unknown,20 progress in reducing the rate of early births has been slow. Preterm infants are at increased risk for infant mortality; nearly 70 percent of
all neonatal deaths can be attributed to preterm birth. Preterm infants (especially very preterm infants) who survive are at increased risk for developmental delays and a variety of chronic conditions.21,22 Research on the etiology of preterm labor must address the social as well as biological determinants of preterm birth, with special emphasis on modifiable risk factors. Moreover, future research needs to address the many potential reasons, both social and medical, for continued racial differences in preterm births.

Preconception and Pregnancy Care Services

Preconception care, which emphasizes the need to view women’s health as a continuum, has been promoted as one strategy to assure the health of the mother prior to becoming pregnant.23 It encompasses the identification and management of both chronic (e.g., diabetes) and acute (e.g., reproductive tract infections) medical conditions that may negatively affect prenatal health and pregnancy outcomes; health education and promotion; nutritional counseling; and identification of women with unhealthy behaviors, such as smoking or substance abuse problems, and referral to care. These services are focused on mitigating or preventing insults to fetal development, in some cases often before a woman realizes she is pregnant.24 There are no reliable data on the extent to which women receive preconception care, but it is believed to be infrequent and most likely obtained by women with chronic diseases or by healthy, health-conscious women.

Early use of prenatal care has increased in recent years among U.S. women, rising from 76 percent in 1991 to 82 percent in 1996.3 Although African-American and Hispanic women continue to start care later and get less care, the rise in early use of care in 1996 was greatest for them.3 There is consistent evidence from a number of quasi-experimental studies that provision of comprehensive prenatal care is associated with reductions in LBW rates.25-29 This care includes not only the medical components of prenatal care, but also ancillary services, such as social and nutrition services, health education, and outreach and home visiting, as needed. The effect of particular components of prenatal care on pregnancy outcomes, however, needs to be addressed in future research. Estimates of costs associated with antenatal hospitalizations should be included in studies of the cost-effectiveness of prenatal care.

Early Discharge of Mothers and Newborns

The length of maternal postpartum hospitalization and the nursery stay of the baby has declined over the past decade due, in part, to changes in medical practice, reimbursement, and patient preferences. Shortages of hospital beds and a trend toward demedicalizing childbirth also have contributed to early discharge practices.30,31 Although early discharge may benefit maternal-infant bonding, it may negatively affect maternal well-being due to the reduced period of rest and to possible lack of confidence about infant care. The increased medical needs in the days after birth (e.g., neonatal jaundice, maternal infection, breakdown of episiotomy), completeness of newborn metabolic screening practices, and the reduction in time for in-hospital teaching and support (particularly in relation to breastfeeding) also raise concerns about the effects of early discharge.32-35 Despite these concerns, no consensus on the maternal and newborn consequences of early discharge exists.32-39

Technological Advances

In the past few decades, medical advances have been made in prenatal diagnosis, assisted reproductive technologies, prediction of preterm delivery, and extension of newborn viability. The effectiveness of prenatal diagnosis in identifying fetal chromosomal and structural abnormalities has
greatly improved. Some of these technologies include: the Triple Marker Screen, used to identify neural tube defects and Down Syndrome and chorionic villus sampling (CVS) and amniocentesis, both performed to detect chromosomal abnormalities. Infertility treatment includes Gamete Intrafallopian Transfer (GIFT) to address abnormalities in the number or motility of the male sperm and Intracytoplasmic Sperm Injection (ICSI), laboratory fertilization and subsequent placement of the embryo in the uterine cavity. New tocolytic therapies have been used to prolong pregnancy complicated by preterm labor, but they have not been demonstrated to significantly affect the absolute number of preterm deliveries.41

The costs of infertility technology bring new dilemmas about (1) health insurance coverage requirements, (2) equal access to this technology by all groups of women, regardless of race and insurance status, and (3) the potential consequences for newborns who require high-cost, long-term outpatient care and special education. For example, fertility treatments may lead to increases in multiple births, which, in turn, increases the risk for compromised birth outcomes. In 1996, 16 percent of neonatal deaths nationally were to multiple births; they were 7 times more likely to die in the first month of life than singleton births.42

The development and availability of improved therapies in neonatal intensive care, which primarily serves very low birthweight (VLBW) infants (less than 1500 grams) and normal weight newborns with life-threatening complications, are believed to be largely responsible for the dramatic decline in infant mortality rates in the last 30 years. In particular, neonatal mortality rates have declined markedly during this time period for the very smallest newborns.

Quality of Care

Along with advances in medical technologies, there has been increasing national debate about the quality of health care services and guidelines for clinical care. A long history of established clinical guidelines for prenatal care exists. The American College of Obstetricians and Gynecologists (ACOG) Committee on Obstetric Practice and the American Academy of Pediatrics (AAP) Committee on Fetus and Newborn (1997) have collaborated in publication of Guidelines for Perinatal Care. These guidelines are comprehensive and represent the orientation of a variety of disciplines within the perinatal health care system. They also stress flexibility in their implementation to address local population characteristics, resources and the environment for providing care.43

Despite these AAP/ACOG guidelines, the provision of and access to perinatal services has been found to vary by maternal characteristics, with minority and low-income women generally receiving fewer services. The quality of ambulatory prenatal care and the use of procedures such as amniocentesis and ultrasound or therapies such as corticosteroids have been shown to differ significantly by socioeconomic status and race/ethnicity.44-46 Lack of implementation of clinical guidelines may lead to unnecessary hospitalizations and additional health care costs.9 Research is needed to assess providers’ implementation of clinical guidelines for prenatal care, to determine the extent to which patient preferences as well as provider non-compliance may influence the content of care, and to identify areas of patient management that are affected by provider uncertainty regarding efficacy and long-term side effects.

Organization and Financing of Pregnancy Care

Major changes have occurred over the past decade in the organization and delivery of pregnancy care services, particularly with regard to financing, with parallel efforts to expand insurance coverage for pregnant women and to reduce costs within the overall health care system through managed care strategies.
In the late 1980s, the Medicaid program was expanded for pregnant women and their newborns largely in three areas: broadening the eligible population; simplifying and shortening the eligibility process, and enhancing services provided to program beneficiaries (e.g., covering nutrition and case management services). The percentage of women with no health insurance at the start of pregnancy dropped from 26 percent in 1985, before the Medicaid expansions, to 19 percent in 1994.2,47

Recent national legislative initiatives regarding health insurance are likely to both positively and negatively affect the affordability of and access to perinatal care by women. The Health Insurance Portability and Accountability Act of 1996 provided new insurance protection for individuals who move from one job to another, who are self-employed, or who have pre-existing conditions. The provisions, which prohibit denial of benefits to pregnant women and application of pre-existing condition exclusions or waiting periods for newborns or adopted children, increase to some degree women’s flexibility in making decisions about employment while pregnant.48

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) eliminated most public benefits for both legal and undocumented immigrants, including Medicaid coverage of prenatal care and delivery services. Concurrent changes in immigration policy compound this situation by creating disincentives for accessing prenatal care. Inadequate prenatal care may lead to increased morbidity in the infants of immigrant women. As a result, the cost savings resulting from the exclusion of immigrant women from Medicaid may be offset by increased costs for neonatal care.49 The delinking of welfare/workforce status with Medicaid has raised serious concerns and stimulated policy initiatives encouraging outreach and collaboration. Title V Maternal and Child Health programs, Community and Migrant Health Centers, and other local and state public health programs seeking to serve this population, however, are facing increased demand at a time when resources and capacity for direct services provision are diminishing. The PRWORA legislation illustrates the need to vigilantly monitor population health status and to institute new processes for system responses to overcome unintended consequences of national policy changes.

While the percentage of pregnant women enrolled in managed care plans is unknown, enrollment of all Medicaid recipients rose nationally from 9.5 percent in 1991 to 47.8 percent in 1997.50 The growth of managed care may have both positive and negative impacts on pregnancy care. While managed care organizations (MCOs) are traditionally oriented towards providing comprehensive, cost-effective care and coordination of services,51 there is also concern about limited choice of providers, limited physician-patient interaction, limited access to specialist care, and discontinuities in providers due to MCO contracting practices.52 The development of public-private partnerships in communities may be an important strategy for ensuring quality care for women enrolled in managed care plans, while maintaining the presence of population-based services for which public health plays such an important role.

Regionalization of Systems for Perinatal Care

Regionalization of perinatal care was successful in the 1970s and early 1980s in concentrating VLBW births in tertiary centers, reducing neonatal mortality rates for these infants, and improving overall neonatal mortality rates for the entire population.53 A rise in Level II (specialty), and to a lesser extent self-designated Level III (subspecialty) hospitals, is thought, in part, to be a result of competition for perinatal patients. Moreover, the number of neonatologists has increased considerably in recent years, yielding more specialists to staff the newly designated Level II and III facilities.54 These changes have occurred without a concomitant improvement in survival rates for VLBW infants in Level II facilities.55 There also is concern about differential access to high-risk perinatal care dependent upon socioeconomic status. Methods of monitoring and measuring the impact of regional systems of care must be developed and implemented to assure the equitable and cost-effective distribution of resources for pregnant women and newborns.
The health services delivery and financing changes in the 1990s highlight the importance of a locus of accountability for the total population, which can be illustrated in perinatal regionalization by the establishment of community boards. These boards are instituted to assure access to care in the community by coordinating services for all pregnant women and newborns residing within a defined geographic area, regardless of income or insurance status, and to assure access to risk-appropriate care by instituting procedures for monitoring and surveillance. Studies are needed to evaluate various approaches to establishing a locus of accountability and their effect on access of women to risk-appropriate care and other needed services.

**Women’s Experience of Chronic Diseases†**

A wide range of chronic conditions may affect a woman across her lifespan. Although women may live longer than men, they experience earlier morbidity and utilize health services at higher rates than men. National Health Interview Survey (NHIS) data reveal that as women progress from adolescence through the childbearing years to menopause, the incidence and prevalence of chronic conditions rise. Asthma, diabetes, hypertension, and thyroid disorders are among the most frequent chronic conditions that limit activity in women of childbearing age.

<table>
<thead>
<tr>
<th>NUMBER OF SELECTED REPORTED CHRONIC CONDITIONS PER 1,000 WOMEN, UNITED STATES, 1995†</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRONIC CONDITION</td>
</tr>
<tr>
<td>Asthma</td>
</tr>
<tr>
<td>Hypertension</td>
</tr>
<tr>
<td>Diabetes</td>
</tr>
<tr>
<td>Thyroid Disorders (including goiter)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RACIAL COMPARISON, RATES PER 1,000 PERSONS‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRONIC DISEASE</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Asthma</td>
</tr>
<tr>
<td>Hypertension</td>
</tr>
<tr>
<td>Diabetes</td>
</tr>
<tr>
<td>Thyroid Disorders (including goiter)</td>
</tr>
</tbody>
</table>

The burden of chronic diseases falls disproportionately on two overlapping subpopulations of women: poor women and minority women. In a study of low-income, African-American women of childbearing age, more than 25 percent of women reported a chronic illness (i.e., diabetes, hypertension, asthma, or any other condition requiring routine therapy with medication).†

---

†Material adapted from Misra in *Charting a Course for the Future, Volume II*. 

‡Material adapted from Charting a Course for the Future of Women’s and Perinatal Health.
Predictors of Chronic Disease

For each of the chronic diseases discussed, a unique set of predictors for disease can be identified. However, a number of factors contribute to multiple chronic diseases:

- nutrition — both the components (food groups) and total calories can have a large impact on risk for several chronic conditions;4-6
- smoking — a well-documented, significant contributor to poor health;7,8
- physical activity — low levels may influence the risk for obesity and compromise heart and lung function, all of which may predispose a woman to diabetes mellitus and hypertension;9-15
- stress — may influence the health of those women who are already experiencing some form of chronic disease.16

Consequences

In 1994, 10 percent of women ages 18-44 reported at least some limitation of activity due to chronic conditions.17 These limitations, as well as the demands entailed by effective self-management of a chronic disease, may have profound consequences on family functioning and on the quality of women’s lives.

Recent trends indicate more women are postponing childbearing into their late thirties and forties. The increase in the prevalence of chronic diseases in older age both highlights and heightens the importance of addressing chronic diseases throughout a woman’s lifespan, but especially during pregnancy.

Chronic diseases have the potential to adversely affect pregnancy outcomes due to complications of untreated disease or even to treatment itself.18 Furthermore, unlike an acute exposure, a chronic disease can affect a woman from the time of conception until the time of delivery.19 Pregnancy may also affect the chronic condition, although adverse effects are not consistently observed. In addition, women may experience differing effects and offer differing levels of adherence to medical regimens at various points during pregnancy.

Interventions

Women in general use a variety of providers to meet their health care needs. Over one-third of U.S. adult women use both an obstetrician-gynecologist and another primary care physician for their regular health care needs,20 highlighting the need for coordinated care. Although a higher percentage of women rely on a single provider, such as a family practitioner, internist, or obstetrician-gynecologist, for regular care,20 women with chronic conditions are likely to see specialists for services in addition to their regular care. In addition to the problems associated with uncoordinated care, women’s multiple roles and limited time for self-care challenge providers in their efforts to help women follow through with their complex therapeutic regimens.

Health education and awareness initiatives can be used to prevent the onset of chronic diseases and minimize their negative consequences. Providers have the opportunity to screen and

<table>
<thead>
<tr>
<th>Chronic Condition</th>
<th>Average annual number per 1,000</th>
<th>Limitation of Activity (%)</th>
<th>One or more Hospitalizations (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>48.1</td>
<td>22.2</td>
<td>21.7</td>
</tr>
<tr>
<td>Hypertension</td>
<td>120.1</td>
<td>11.8</td>
<td>8.3</td>
</tr>
<tr>
<td>Diabetes</td>
<td>30.6</td>
<td>35.7</td>
<td>27.0</td>
</tr>
<tr>
<td>Thyroid Disorders (excluding goiter)</td>
<td>22.0</td>
<td>6.9</td>
<td>12.8</td>
</tr>
</tbody>
</table>

*Among women with the condition.
teach their patients about appropriate health behaviors in addition to prescribing appropriate disease management regimens. Provider-patient encounters, whether for well-woman care, preconception care, prenatal care, or other types of health care visits, represent “teachable moments” that providers can capture to improve the health of their patients. Women may become more health conscious during pregnancy and may therefore be more receptive to health education messages regarding self-care for chronic diseases.

Screening for chronic conditions must be part of the package of routine prenatal care services. Early phases of chronic diseases may not be apparent, and many women, particularly poor and minority women, have had little contact with the health care system prior to pregnancy. The prevalence of chronic disease has implications for maintaining effective systems of regionalized care where women can receive adequate attention to their chronic health problems. Any economic or other disincentives to refer mothers to specialty care must be addressed. Prenatal care may also be an important bridge to a relationship with another health care professional who can provide ongoing care for the woman’s chronic condition after pregnancy.

The inherent difficulties of studying chronic disease in the context of pregnancy, such as the relative infrequency of occurrence of these conditions, have prevented researchers from focusing on it as a risk factor. Studies of the effects of chronic disease on pregnancy outcomes are needed, particularly studies that go beyond the case series methodology and that include the many women with chronic conditions who are not under the care of a specialist. The current knowledge base lacks information to determine whether there are gender differences in the effects of therapeutic regimens for chronic diseases, and whether therapeutic effects differ at various points in a woman’s menstrual cycle.

Depression in Women†

Depression in women is a significant health problem due to its relatively high prevalence, its high rate of recurrence, and its often profound effect on functioning. Recent demographic changes that impact women’s ability to support their families and reconcile conflicting work and family roles — rising numbers of single mothers, increasing participation in the workforce, and decreases in welfare caseloads — may increase the prevalence of depression in women.

Depression affects twice as many women as men. Estimates of prevalence among women range from 6 percent for one-month risk of a major depressive episode to 11 percent for depressed mood. About 10 percent of pregnant women1 and 15 percent of women in the postpartum period experience depression.2,4 The lifetime risk of major depression among women may be as high as 21 percent.2,3,5 Since World War II, rates of depression have risen and the average age of onset has dropped. Rates of depression are highest among women under the age of 25.2

<table>
<thead>
<tr>
<th>RACE/ETHNICITY</th>
<th>ONE-MONTH (%)</th>
<th>LIFETIME (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>African-American</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11</td>
<td>24</td>
</tr>
</tbody>
</table>

†Material adapted from Ruderman and O’Campo in Charting a Course for the Future, Volume II.
Risk Factors for Depression in Women

Depression is analogous to fever, in that it is the singular manifestation of multiple disease processes. No one risk factor will sufficiently explain its origin; it is more likely that depression results from an interaction between biological and environmental, or psychosocial, factors, with the contribution of each varying by case.

**Psychosocial factors:** Many of the factors associated with depression in women speak to the mental health effects of the social position of women, including:
- sex-role stereotypes that foster passivity and “learned helplessness,” and sex-role expectations that limit women’s opportunities and contribute to low self-esteem;
- minority ethnic or racial group or low social class, which may be associated with discrimination, acculturative stress, and increased likelihood of poverty-related life stressors;
- physical or sexual abuse, both highly prevalent among women;
- sexual orientation, which entails stressors related to both disclosure (e.g., job discrimination) and non-disclosure (e.g., secrecy, threat of exposure); and
- degree of parental responsibility and conflicting work and family roles.

Marriage and employment seem to be protective factors for women, with some exceptions. An unsupportive spouse and employment in traditionally male-dominated professions have both been associated with increased risk of depression in women. A sense of control over one's environment is also important for positive mental health.

**Biological factors:** Several biological factors have been implicated in the etiology of depression:
- genetics;
- abnormalities in neurotransmitter activity, particularly norepinephrine and serotonin; and
- malfunctions or fluctuations in the endocrine system, such as impaired neurological control of cortisol secretion, decreased thyroid-stimulating hormone and growth hormone, and changes in female sex hormones associated with reproductive events.

Before puberty, there is no gender disparity in rates of depression, possibly lending weight to an endocrinological explanation for the disproportionate burden of depression in women. However, puberty entails both biological and psychosocial changes that may contribute to depression.

Pregnancy and childbirth may be “triggers” for onset in women already vulnerable to depression. Postpartum depression is associated with personal or family history of depression, although for most cases there is no such history. Postpartum depression is not wholly biological in origin; levels of emotional support and available assistance with caretaking and household tasks are related to the risk of depression. The risk factors for prenatal depression are similar to those for postpartum depression and include personal or family history of depression, marital problems, young maternal age, and unwanted pregnancy.

Consequences and Costs of Depression

Depression tends to be recurrent. At least half of those who experience a single episode of depression will experience another, and the likelihood of recurrence rises with each subsequent episode. Moreover, depressive episodes often occur in the context of chronic subclinical symptoms.

Depression can severely impair both social and occupational functioning and is associated with increased physical illness. Moreover, the death rate from suicide is as high as 15 percent among the severely depressed. Untreated depression during pregnancy can lead to poor nutrition, poor sleep, substance abuse, and inadequate prenatal care.
Charting a Course for the Future of Women’s and Perinatal Health

The economic repercussions of depression on a societal level are great and should lend urgency to the need for public policy addressing its prevention and treatment. Costs associated with depression and related affective disorders, including both the direct costs of treatment and the indirect costs of lost productivity due to impaired functioning or premature death, totaled as much as $30.4 billion in 1990. Currently, about two-thirds of cases of depression go untreated; another $6-10 billion would be added to the direct costs of treatment if all of the estimated 25 million people with affective disorders received treatment. However, because people with depression use more medical services, the costs of treatment would be offset by a 20 percent decrease in per capita health care expenditures, saving nearly $4 billion.

Interventions

Increasingly, pharmacologic treatments are being used to combat depression. Although a small body of evidence suggests that antidepressants are less efficacious in women than in men, most antidepressant prescriptions are written for women. While antidepressants provide a powerful remedy for women experiencing clinical depression, the need to address structural/environmental issues remains, both in individual treatment and on a population level.

Successful interventions will address women’s multiple roles and responsibilities and take into account cultural differences in the expression and management of depression. Given the part sex-role socialization and low self-esteem plays in the etiology of depression, interventions aimed at stemming the risk of depression before the onset of symptoms might involve building a healthy and resilient self-image in young girls and helping them to exert positive control over their environments. On a broader level, efforts to alleviate the effects of poverty, of gender and racial discrimination, and of conflicting work and family roles should favorably impact both women’s mental and physical health.

Most incident cases of clinical depression are preceded by subclinical depressive symptoms, suggesting the opportunity for early intervention and prevention of some of the more disabling forms of illness. Currently, about one-half of all cases of depression go undetected by primary care physicians. These providers, who treat the majority of cases of depression, would benefit from improved training in the detection and treatment of mental health disorders.

The financing of mental health services is an increasingly important policy issue. The most severely ill and the most financially disadvantaged may be the most negatively affected by cost-containment strategies in health care financing and delivery. Medicaid and Medicare reimbursements for mental health services are lower than private insurers’ rates. With the increasing prevalence of managed care organizations, referrals for mental health services may be limited and pharmacologic interventions may be used inappropriately to reduce the scope and costs of treatment. In addition, mental health carve-outs may pose a threat to coordination of enrollees’ care through primary care providers.

Although insurance plans are prohibited by law from setting caps on mental health benefits lower than caps on medical benefits, most fee-for-service insurance plans have greater restrictions and higher co-payments for mental health services than for medical services. Many plans also exclude coverage of mental disorders as preexisting conditions. Recent legislation restricts the exclusion of preexisting conditions to 12 months after enrollment, including time enrolled in a previous plan for individuals who have had continuous coverage. However, for women who have not had continuous insurance coverage, a 12-month break in treatment can have serious ramifications. Finally, greater restrictions on “mental” versus “medical” therapies are particularly burdensome for pregnant and lactating women, for whom pharmacologic treatments may be contraindicated.
Women account for nearly three-quarters of prescriptions for drugs used to treat mental illness, and there are known gender differences in physiology that influence drug metabolism. Still, knowledge is limited about gender differences in the effects of many pharmaceutical interventions. The knowledge base should be expanded regarding the effect of gender on outcomes of treatment, including efficacy and side effects of antidepressants. Particular focus is warranted in this regard on the effect of pregnancy on dose requirements, changes in treatment during pregnancy and lactation, and the long-term effect of exposure to anti-depressants in utero and in breastmilk. The contribution of social factors to women’s depression—such as socioeconomic status and multiple work and family roles—should be further explored, with an eye to determining mechanisms of action.

Abuse Against Women by Their Intimate Partners†

In recent decades, society has become aware of the need to address both the causes and consequences of domestic violence against women. Abuse of women has serious ramifications because of its prevalence, the effects on children in the household, and the long-term emotional and physical consequences for women and their families. Up to 75 percent of lone-offender violence committed against women is perpetrated by someone known to the women. On average, from 1987-1992, 27 percent of all victimizations of females were committed by intimates, and about 5.5 females are victimized by sole offenders per 1,000 population. Surveys reveal that intimate partners batter two million women and kill 1,500 annually.

Violence against women is a major social problem in the United States, yet research on the determinants, prevention, and solutions is still in its early stage. Providers of health care, historically slow to both recognize and develop a response to domestic violence, now acknowledge violence against women as a major cause of premature mortality. A chapter of the Healthy People 2000 Objectives is devoted to violence, providing official recognition of the need for health professionals to address this issue.

Trends in Fatal Violence

- In 1993, one-third of female homicide victims were murdered by their spouses, ex-spouses, or boyfriends.
- While the rate of homicide by an intimate partner has decreased for males over the last two decades, the rate for women has remained relatively stable at around 1.6 per 100,000 population.
- Seventy-four percent of all homicides of men and women are committed using firearms, and the risk of homicide by a family member or intimate is almost eight times higher if a gun is kept in the home.

Trends in Non-Fatal Violence

Occurrences of non-fatal violence, which encompass physical, sexual, and psychological violence, are thought to be underreported, particularly in routine sources as opposed to research studies. Even so, the numbers of reported occurrences of physical violence range from 9 per 1,000 women to 220 per 1,000 women.
- Attacks perpetrated by intimate partners on women result in a 50 percent injury rate, compared to an injury rate of only 20 percent for attacks on women by strangers.

†Material adapted from O’Campo and Baldwin in Charting a Course for the Future, Volume II.
In one study, women with unwanted pregnancies had over four times the risk of experiencing violence by a partner than women with intended pregnancies. In at least 50 percent of abused women do not report the abuse to anyone.

**Determinants and Risk Factors**

A variety of factors have been identified as determinants of domestic violence, including poverty, economic deprivation, and exposure to other stressors such as racial discrimination; educational and occupational status differences in which the woman holds the higher position; patriarchal social norms reinforcing male power over female partners; pathological personality characteristics of the perpetrator or poor coping skills; and substance abuse by the victim or perpetrator. Several risk factors have also been identified, including young age, social isolation, pregnancy and the early postpartum period, and previous abusive relationships.

**Consequences**

The consequences of physical and psychological violence are severe and often long-term and include: mortality, physical and psychological morbidity, lost productivity and income, and social isolation. The medical consequences of physical violence may be underreported, as most women do not disclose their abuse to health care providers. Pregnant women who experience abuse are at risk for spontaneous abortion, premature delivery, low birthweight infant, and depression. Although the economic consequences of domestic violence are difficult to accurately portray, estimates of both direct and indirect costs are considerable, ranging from $5 to $67 billion annually.

**Interventions**

Current activities utilized to prevent violence against women include arrest of male perpetrators, mandatory reporting (which varies from state to state), counseling programs, state and federal statutes that limit access to handgun purchase, and provision of protective and social services for victims of abuse.

There are currently no primary prevention strategies aimed at alleviating risk before the onset of domestic violence. Rather, selected protective and support services are available for crisis intervention once women have experienced abuse. Evaluations of interventions targeting batterers have been fraught with methodological problems. To date, these programs have not proved effective in reducing violent behavior. Rigorous research and evaluations therefore are needed to identify successful batterer interventions. More research also is needed to determine whether and how existing protective and social support services have short- and long-term benefits for victims of violence.

Several national strategies currently being employed may serve to decrease the incidence and stem the negative effects of domestic violence, including the Family Violence Option, a provision of Temporary Assistance for Needy Families (implemented in 28 states) that exempts those women who have experienced domestic violence from the federal five-year lifetime limit of welfare benefits, as well as federal laws prohibiting persons convicted of domestic violence by a jury trial from owning or possessing firearms. Coalitions between women’s and children’s advocacy groups have formed to address issues of joint concern, such as the fragmentation in the legal system that often complicates the preservation of the mother-child unit in cases of domestic violence.

Health professionals have an opportunity at each well-woman check-up and prenatal care visit to screen and refer women for domestic violence treatment, something they often fail to do because
of embarrassment, time constraints, and inadequate training.\textsuperscript{16} In addition, the threat of termination or denial of insurance for victims deters clinicians from recording abuse in medical records.\textsuperscript{1,17}

Additional research is needed to determine pregnancy-related factors leading to the increased risk of abuse prenatally, and the extent to which pregnancy results from sexual abuse. To date, the causal determinants of partner-perpetrated violence, the effectiveness of protective and social support services for victims, and the effectiveness of current interventions for batterers warrant further study.

The Nutritional Status and Needs of Women of Reproductive Age\textsuperscript{†}

The nutritional status of an adult woman is the culmination of nutrient intake, metabolism, and utilization over the course of a lifetime, beginning with her nutritional status at birth.\textsuperscript{1} Weight at birth is a proxy indicator of nutritional status in utero and may be linked to health problems later in life, such as cardiovascular disease, hypertension, and cancer. Poverty is related to poor nutritional status, usually due to factors limiting food access. Nutritional insults resulting from poverty are important since the effects are cumulative. Adolescence is a time when food habits are finalized, laying the foundation for adult nutritional status. Nutritional problems among American women are reflected in high rates of overweight and obesity as well as eating disorders that can lead to underweight and compromised nutritional status.

Specific nutritional deficiencies affect women as well as their offspring. Smoking, not performing load-bearing exercise, and poor diet during the period of maximal bone mineralization are all associated with inferior bone health.\textsuperscript{3} In addition, U.S. women suffer from iron and folate deficiencies and eating and weight disorders:

- The prevalence of iron deficiency anemia in women was 4-10 percent in 1976-1980.\textsuperscript{4}
- Folate deficiencies prior to and during pregnancy lead to neural tube defects in 2,500 infants annually.\textsuperscript{5}
- It is projected that 50,000 U.S. lives each year may be saved by increasing folate to prevent high levels of homocysteine, a factor for heart disease and stroke.\textsuperscript{6,7}
- Anorexia and bulimia affect women of all races and socioeconomic strata. Among young women, there is a 1 percent prevalence of anorexia and a 4-20 percent prevalence of bulimia.\textsuperscript{8}
- Only 30 percent of pregnant women gain weight within Institute of Medicine recommendations.\textsuperscript{9}

Predictors and Risk Factors

Johnson (1996) describes five societal factors that shape women’s eating patterns: (1) employment outside the home — by the year 2000, an estimated 50 percent of the workforce will be women and 60 percent of women will work outside the home, concomitant with a large increase in the number of working women with young children (less than 6 years old); (2) increased consumption of prepared foods that are higher in fat and sodium than home-prepared foods; (3) an increase in single female-headed households (55 percent of these families live in poverty and, as a result of limited resources, eat less fresh fruits and vegetables); (4) increased number of meals eaten away from home, with the associated increased fat, sodium, calorie, and cholesterol intake, and decreased iron, calcium, vitamin C, and fiber intake; and (5) increased tobacco use and consequent poor eating habits.\textsuperscript{10}

\begin{table}[h]
\centering
\begin{tabular}{|l|c|}
\hline
\textbf{RACE AND HISPANIC ORIGIN} & 1988-1994 \\
\hline
White, non-Hispanic & 45.5 \\
Black, non-Hispanic & 66.5 \\
Mexican American & 67.6 \\
All Women & 49.6 \\
\hline
\end{tabular}
\caption{Percentage of Overweight and Obesity in Women ≥20 Years Old (Age Adjusted)\textsuperscript{‡}}
\end{table}

\textsuperscript{†}Material adapted from Bronner and Baldwin’s work on nutrition in \textit{Charting a Course for the Future, Volume II.}\n
\textsuperscript{‡}Per cent age of overweight and obesity in women ≥20 years old (age adjusted).

36
Economic necessity, desire for personal and professional fulfillment, and welfare-to-work legislation are associated with record numbers of women in all age groups being employed and burdened by the multiple responsibilities of employment, child care, and home management. Working women continue to be the primary person managing the household (cooking, cleaning, caring for children, etc.) in addition to working full-time. In both single, female-headed households as well as in married households, the burden of these multiple roles has resulted in a decrease in time available for food shopping and meal preparation, and, in turn, to changes in food consumption patterns.

Risk factors for overweight and obesity include physical inactivity, middle age (30-60 years of age), low socioeconomic status, acceptance of larger body image as ideal, minority race, genetic predisposition, family history, high fat diet, and multiparity. In contrast, risk factors for anorexia and bulimia include adolescent/young adult age, high socioeconomic status, White race, very small body image as ideal, extreme levels of physical activity, controlled dietary intake low in calories and nutrients, family history, and unrealistic achievement expectations. Poverty, low educational attainment, high parity, and smoking are all factors placing women ages 20-44 at greater risk for iron deficiency anemia.

Consequences

Obesity is related to increased morbidity from chronic diseases, such as diabetes, cardiovascular disease, osteoarthritis, and some forms of cancer, as well as depression, low self-esteem, menstrual cycle irregularities and infertility problems. Low and underweight women are more likely to have bone mass and bone structure loss and have an increased risk for osteoporosis, chronic fatigue, and fertility impairment.

Low intake of several nutrients is associated with poor health outcomes: in addition to neural tube defects in fetuses and infants, folate deficiencies can contribute to cardiovascular disease; low intake of iron is associated with anemia; low dietary intake of calcium during adolescence and early adulthood is associated with lower peak bone mass levels and possibly an increased risk of osteoporosis.

Interventions

Interventions to prevent and reduce obesity include decreased energy intake, increased exercise, behavior modification, and pharmacotherapy as needed. While federally-funded food and nutrition programs fill gaps in women’s nutritional intake, non-pregnant women are less likely to see a physician regularly for prevention and education. Creative strategies therefore are indicated to improve this population of women’s nutritional status. Moreover, it is crucial to implement these strategies at the earliest age possible in order to initiate healthy, preventive behaviors regarding, for example, obesity and osteoporosis. The National Institutes of Health is working with institutions such as schools to develop strategies useful to prevent obesity. Clinics also may contribute to increased access to nutritional screening. The National Heart, Lung, and Blood Institute has produced a set of culturally appropriate nutrition education materials for community-based interventions, and the Centers for Disease Control and Prevention is merging its physical activity and nutrition programs to effect change in the prevalence of obesity in the country. Strategies have yet to be developed, however, to meet the recommendations of the American Health Foundation’s Expert Panel on Healthy Weight.

Interventions are hampered by gaps in the knowledge base. To increase folate intake, the Food and Drug Administration requires fortification of grain products with between 0.43 and 1.4
mg folate per pound of product. The potential negative consequences of population-wide food supplementation recommendations, however, remain a concern. Thus it is important to assess the extent to which folic acid supplementation and fortification programming impact folate nutritional status and consequent incidence of neural tube defects. In order to further advance the knowledge base related to nutrition, it is important to evaluate the impact of various initiatives and insults on the nutritional status of women, such as the guidance for calcium intake regarding bone mineral density and the impact of stress from multiple role "overload."

**Women’s Physical Activity in Leisure, Occupational, and Daily Living Activities†**

In recent years, greater attention has been focused on the relationship between women’s physical activity and their overall health. The prevalence of women’s participation in physical activity has increased, due in part to the implementation of recommendations made by national organizations and implementation of the Title IX Education Amendments of 1972, which provides for equal opportunity for women in sporting activities in schools. Despite these advances, only 20 percent of U.S. adult women participate in regular and vigorous exercise.

### Health-Related Benefits and Concerns Associated with Physical Activity

Moderate intensity activity performed for 30 minutes on most days of the week is associated with a number of health-related benefits:

- Decreased risk of developing cardiovascular disease.
- Decreased risk of developing non-insulin-dependent diabetes mellitus.
- Decreased risk of osteoporosis.
- Weight management and obesity prevention.
- Increased proportion of muscle mass to fat mass.
- Reduced stress levels and improved mood. Inactive persons are reported to be as much as two times more likely to experience symptoms of depression than physically active individuals.
- Availability of physical activity contributes to attendance at smoking cessation sessions, and long-term quit rates are found to be higher for women participating in exercise sessions.

Current research results neither support nor refute a relationship between physical activity and hormone-dependent cancers in women; some studies do however indicate that physical activity may be protective against breast cancer.

---

1Material adapted from Bronner and Baldwin’s work on physical activity in *Charting a Course for the Future, Volume II*. 
Physical activity can also negatively affect women’s health. Exercise done improperly can result in musculoskeletal injuries, metabolic abnormalities (e.g., hyperthermia, electrolyte imbalance, and dehydration for those who exercise in extreme conditions or for excessive periods of time), anovulation, amenorrhea, and decrease in bone mass. Efforts by women, especially young women at puberty, to balance good health, peak performance (for athletes), and appearance result in the “female athlete triad,” consisting of disordered eating, amenorrhea, and osteoporosis. Excessive exercise contributes to this triad.

Physical Activity During Pregnancy and Lactation

Physical activity can have both positive and negative implications for lactating or pregnant women and their offspring. Exercise during pregnancy and lactation may be associated with changes in uterine blood flow, hyperthermia, metabolism of energy nutrients, fetal hypoxia, and uterine contractility, all of which may increase the risk of preterm delivery. Overall, exercise during pregnancy does not appear to have significant positive or negative affects on fetal well-being, but can improve maternal cardiorespiratory fitness, and may increase maternal well-being. Exercise during lactation is not associated with significant differences in maternal body weight or fat loss, volume or composition of breast milk, or infant weight gain. However, physical activity is associated with a small but significant decrease in weight retention at 7 to 12 months postpartum.

Interventions to Enhance the Physical Activity Behavior of Women

Research has identified several psychological, social, and environmental variables that are associated with patterns of physical activity behavior. Marcus and Forsyth (1998) cite several psychological theories that can contribute to the tailoring of a physical activity intervention:

- Motivational readiness points toward using a cognitive intervention rather than a behavioral strategy depending upon what stage of motivation (e.g., precontemplation, contemplation, preparation, action, or maintenance) a person is in.
- Decisional balance refers to the careful consideration of the pros and cons of choices in activity.
- Self-efficacy, relating to a person’s confidence in being able to successfully perform a specific behavior.
- Social support for an intervention can be informational, instrumental, motivational, or modeling.

Tailoring an intervention according to these theories, personal activity preferences, environmental factors such as safety and access, and a woman’s stage in life may improve the likelihood of effectiveness. Providing information so that women are aware of the health benefits of physical activity, helping them acquire skills in physical activities that can be practiced for a lifetime, and providing facilities where women will be comfortable are all important to increased participation. Additional methods to increase access to physical activity are to accommodate women’s multiple roles, using work sites to promote and provide opportunities for physical activity, and making work sites as well as community facilities, such as schools and religious institutions, available during non-business hours. Generally, health care providers do not assess for level of or opportunities for physical activity. Primary care providers and other allied health professionals who interact with women around issues of health promotion should encourage appropriate levels of physical activity, and there should be reimbursement for provider counseling.

There currently exists a dearth of information on the effects of physical activity on women’s (especially minority women’s) health, and many relationships remain unclear. We do not fully understand the impact of physical activity on weight reduction and maintenance, nor the relationship between type, intensity, and duration of physical activity on fitness, health and normal
developmental stages (i.e., symptoms of menopause), and disease in women. We need to examine barriers to participation in physical activity according to a number of factors, especially social class and ethnicity, as well as by number and type of work and caretaking roles, and design interventions to increase the level of physical activity in women, particularly those that enhance and maintain muscular strength, muscular endurance, and flexibility through the perimenopausal period.

Effects of Drug and Alcohol Use on Women’s and Perinatal Health†

Illicit drug use among women has received increased attention as a health problem during the last three decades, particularly, but not exclusively, with regard to use during pregnancy. Nearly 50 percent of American women ages 15-44 have used illicit drugs at least once in their lifetime. The peak age for use among women parallels the peak childbearing years, 15-44 years of age, which is of special concern due to the risks to the fetus. Marijuana is by far the most commonly used illicit substance by women in this age group.

Alcohol is the most frequently used substance among U.S. women. The major risk period for initiation of alcohol use is over by age 20, and almost no individuals initiate alcohol use after age 29. Alcohol abuse and/or dependence occurs in less than 10 percent of women. Among women, reported prevalence of alcohol abuse in 1991 was highest in White women, followed by Black and Hispanic women. Prevalence rates for alcohol abuse in Asian women are low.

Although most women who use alcohol begin their use early, use of hard drugs like cocaine and heroin or chronic excessive use of alcohol occurs later. These findings highlight target times for focused primary prevention programs.

The tables provided illustrate the use of alcohol, marijuana, and cocaine by young men and women from 1976 to 1992, according to results from several years of the National Household Survey on Drug Abuse, administered to a sample of the population 12 years of age and over in the coterminous United States by the National Institute on Drug Abuse.

\[\text{Table 1: Use of Alcohol in the Month Before the Survey (\%)}\]

<table>
<thead>
<tr>
<th>YEAR</th>
<th>FEMALE</th>
<th>MALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ages 12-17</td>
<td>Ages 18-25</td>
</tr>
<tr>
<td>1976</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>1979</td>
<td>36</td>
<td>68</td>
</tr>
<tr>
<td>1982</td>
<td>27</td>
<td>61</td>
</tr>
<tr>
<td>1985</td>
<td>29</td>
<td>65</td>
</tr>
<tr>
<td>1990</td>
<td>24</td>
<td>53</td>
</tr>
<tr>
<td>1992</td>
<td>15</td>
<td>53</td>
</tr>
</tbody>
</table>

\[\text{Table 2: Use of Marijuana in the Month Before the Survey (\%)}\]

<table>
<thead>
<tr>
<th>YEAR</th>
<th>FEMALE</th>
<th>MALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ages 12-17</td>
<td>Ages 18-25</td>
</tr>
<tr>
<td>1976</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>1979</td>
<td>14</td>
<td>26</td>
</tr>
<tr>
<td>1982</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>1985</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>1990</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>1992</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

†Material adapted from Strobino’s work on drug and alcohol use in Charting a Course for the Future, Volume II.
Among adolescents, family/parent connectedness, perception of connectedness to school, high self-esteem, high grade point average, and religious identity have all been found to be protective against alcohol use. On the other hand, higher rates of substance use are reported for adolescents with access to substances in their homes and for adolescents who appear older than their school mates. Protective factors in adults are not known.

### Consequences of Women’s Use of Drugs and Alcohol

Women who abuse alcohol and/or various illicit drugs are more likely to have poor nutrition and to experience medical problems such as elevated blood pressure, increased heart rates, and/or sexually transmitted diseases. They are more likely than non-users to attempt suicide. Approximately 64 percent of reported AIDS cases among women are due to either intravenous drug use or having sex with an intravenous drug user. Alcohol and/or drug abuse is also linked to incidents of sexual assault, unprotected sex, unwanted pregnancies, and domestic violence.

For women, the social consequences of substance abuse include increasing likelihood of incarceration, homelessness, and child abuse and neglect. Chronic heavy alcohol use has especially deleterious consequences for the health of women because of a “telescoping effect.” Women who abuse alcohol experience higher rates of liver disease and related mortality after shorter periods of use and lower amounts of drinking than men. Mortality rates for women who abuse alcohol are also high for suicide, alcohol-related accidents, circulatory diseases, and breast cancer. The co-occurrence of mental disorders with substance abuse has been reported in a number of studies, of which major depression, anxiety disorder, and post-traumatic stress disorder are the most common problems. Moreover, use of stimulants, marijuana, and opiates by women has been correlated with eating disorders, particularly bulimia.

The use and abuse of alcohol and drugs before and during pregnancy has negative effects for both women and children. More than 5 percent of pregnant women are estimated to use illicit substances sometime during their pregnancy. In 1995, a higher rate of alcohol use during pregnancy was reported by women than in 1994: 16.3 percent. The highest reported use was in women over 30. Women who use drugs during their pregnancies are more likely to be depressed, have fewer social supports, have less stable living arrangements, and are more likely to drink alcohol and smoke.

Infants born to women who abuse drugs and/or alcohol during pregnancy are at increased risk for a number of deleterious effects. For example, infants born to women who use cocaine are at an increased risk of being born small. The heavy use of alcohol by women during pregnancy has been associated with severe birth defects, such as cranio-facial abnormalities. Native Americans consistently have the highest rates of alcohol use, with a concomitant increase in rates of fetal alcohol syndrome (FAS) relative to other ethnic groups. With the exception of FAS, research is inconclusive regarding the long-term consequences of maternal substance use on the health and development of children. Children of substance users, however, are much more likely to be displaced from their home than children of non-users.
Interventions

According to Gehshan (1993), the three most common sources of referral of women to substance abuse treatment are: the criminal justice system, family members, and child protective services. Only 4 percent of substance abuse programs report medical professionals as the most common source of referral. Less than 10 percent of medical schools provide a course on substance abuse or alcohol addiction.

Despite the increased focus on interventions for drug abuse, many pregnant women with drug problems do not receive the help they need. Reasons for not receiving treatment may include lack of awareness, poverty, lack of available services, and fear of criminal prosecution, which may lead addicted women to conceal their drug use from medical providers and further jeopardize pregnancy outcome. Despite increased state funding for and requirements to provide access to services for pregnant women within 24 hours of seeking care, services are still not adequate to meet the needs of pregnant and parenting women.

Screening women for substance abuse has not been very common or effective: providers are not adequately educated about women’s substance use. Although no method of screening currently available (maternal reports or biological markers) is optimal, careful questioning of women about use by caring professionals has been shown to have good sensitivity and specificity, and federal agencies are promoting such screening. Moreover, with welfare reform and the increasing numbers of managed care organizations, challenges exist relating to assurance of appropriate screening and effective care for women with substance abuse problems.

There are few substance abuse prevention programs for adult women and few empirical studies conducted specifically on women’s needs. With regard to treatment, components that may increase the likelihood for successful outcomes in treating pregnant women are child care, transportation, counseling, and parenting education. Interventions in the preconception period are very important as there is a clear link between excessive alcohol abuse in early pregnancy and fetal alcohol syndrome.

Studies of interventions for women with substance abuse primarily focus on illicit drugs rather than alcohol. Questions remain about different models of treatment for women with alcohol dependence, such as family and psychosocial interventions in the community, education regarding self-esteem, assertiveness training, use of women-only groups, or skills-building and counseling interventions. Outcomes to gauge success in substance abuse treatment programs need to include variables other than abstinence from substance use. Studies have shown improvement in women’s health (including increased psychological functioning and decreased psychiatric symptoms), productivity (including greater employment rates, fewer rearrests, and more appropriate utilization of public assistance), parenting ability, and the health and well-being of their children.

Many barriers affect women’s access to substance abuse treatment services. These barriers include lack of early identification by professionals, access to services that accommodate children, transportation, culturally sensitive services for minority and disadvantaged women, and safe, drug-free housing. Outreach to adult women with no children who are not pregnant nor planning pregnancy is difficult, because these women are less likely to interface with the health care system. Treatment of women for addiction is also difficult due to complex community, cultural, family, economic, and personal issues, as well as women’s fear of being reported to the justice system by health care providers. Negative attitudes of staff about the ability of women to recover from their addiction also are barriers. One study noted that Black women experience additional barriers to treatment related to home responsibilities for children and adult partners, inability to pay, use of substances to cope with the stresses of social disadvantage, fear of removal of their children, stigma and shame associated with addiction, prior failures in treatment, and waiting lists for services.
A key to preventing and reducing substance abuse among women is decreasing the number of adolescent users. A few programs have been shown to be effective in decreasing marijuana use for middle to high school-aged children. Effective programs include substance abuse education (with both resistance skills and normative education) in the school health curriculum, as well as parent and community education.

**Effects of Smoking on Women’s and Perinatal Health**

Smoking affects people who actually smoke and many others around them exposed to their second-hand smoke, including their born and unborn children. Approximately 23 percent of women smoke, but the rates vary by race, ethnicity, and education level. The vast majority of smokers begin tobacco use between the sixth and ninth grade and few adopt smoking after age 20. Women begin or continue to smoke as a result of teenage risk-taking behavior and/or peer pressure, to lose or maintain current weight, to manage stress, to combat depression, and due to addiction to nicotine.

<table>
<thead>
<tr>
<th>Year</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>32.5</td>
<td>42.9</td>
<td>37.2</td>
</tr>
<tr>
<td>1979</td>
<td>30.3</td>
<td>37.2</td>
<td>33.5</td>
</tr>
<tr>
<td>1985</td>
<td>28.2</td>
<td>32.1</td>
<td>30.0</td>
</tr>
<tr>
<td>1990</td>
<td>23.1</td>
<td>28.0</td>
<td>25.4</td>
</tr>
<tr>
<td>1995</td>
<td>22.6</td>
<td>27.0</td>
<td>24.7</td>
</tr>
</tbody>
</table>

Combatting smoking among women means competing against market forces, including tobacco advertising and sponsorship of sporting events that target vulnerable groups as well as the fact that tobacco farming remains profitable and important to the economy in certain parts of the United States.

**Consequences**

Smoking has been shown to have many deleterious effects on women’s health, including cancers (lung, bladder, and cervical), chronic pulmonary diseases, and cardiovascular disease. In addition, smoking can have secondary effects, including complications of other conditions, such as hypertension and diabetes. Women who smoke are at increased risk for spontaneous abortion, bleeding during pregnancy, and having a low birthweight baby. Women who smoke experience delayed conception and lower fertility compared to nonsmokers. Other health consequences of smoking include more days of work lost, more visits to the doctor, and greater than average lifetime medical costs than nonsmokers, as well as “accelerated aging,” which includes a greater risk of osteoporosis, early menopause, and skin wrinkling. Exposure to environmental (second-hand) smoke has also been associated with an increased risk of lung cancer, reduced pulmonary function, asthma, respiratory infections, and cardiovascular diseases.

**Interventions**

Primary prevention programs are targeted at children in middle or junior high school, when smoking often is initiated. These programs tend to have only small effects (about 5 percent) on relative

---

1 Material adapted from Strobino’s work on smoking in Charting a Course for the Future, Volume II.
reduction in smoking rates. However, the potential effect of optimal programs is an estimated 19-29 percent decrease in smoking. Features of optimal programs include implementation early in the transition to middle school, a same-age peer leader, multi-component strategies, and use of booster sessions in subsequent years. Mass media initiatives targeted at adolescent girls have been shown to reduce smoking rates when they are coupled with health education programs.

Smoking cessation treatment is the most common approach to assisting women to quit or reduce smoking. In 1996, the Agency for Health Care Policy Research (in collaboration with the Centers for Disease Control and Prevention) published extensive guidelines for smoking cessation treatment in clinical practice, and made several conclusions:

- Although brief cessation treatments are effective, there is a dose response relation between the intensity and duration of treatment and its effectiveness.
- The greater the intensity of the program, the more effective it is in producing long-term abstinence.
- Smoking cessation treatment has consistently been found to be cost-effective: costs of cessation programs rise with intensity and duration, but so do cessation rates.
- For pregnant women, counseling interventions of at least 10 minutes duration per session increase quit rates relative to women with no intervention.
- Three treatment strategies have been particularly effective: nicotine replacement therapy using nicotine patches or gum; encouragement and assistance provided by a clinician; and problem-solving and skills training on techniques to achieve and maintain abstinence.

Smoking cessation programs have not had high quit rates. Eighty to 90 percent of women and men alike who quit do so on their own, leaving those who smoke more, or who have otherwise been unsuccessful in quitting, in cessation treatment. Women participating in smoking cessation programs are more likely to quit when the program incorporates components tailored to their specific needs, such as weight management, stress reduction, treatment for depression, nicotine gum, and culturally appropriate approaches.

### Cross-Cutting Issues and Implications

Undergirded by the philosophical, historical, and demographic background, the *Charting a Course* initiative’s investigations of specific health issues for women of reproductive age, summarized in this chapter, reveal several broad implications for health programs, policies, and research. First, while childbearing is an important event for most women, focusing only on women’s health during pregnancy is far too narrow. Preconception health status affects pregnancy and birth outcomes, and pregnancy itself affects women’s subsequent health status. Moreover, women perform many roles in their lifetimes and these roles not only affect their health, but their health status also affects their ability to successfully fulfill these roles, including, but not limited to, parenting.
Second, women need comprehensive, integrated programs and services, including preventive services, that address their unique needs and circumstances throughout their lives. This lifespan perspective recognizes that events that occur earlier in a woman’s life may have a profound effect on her subsequent health.

Third, health care providers need to receive better training about women’s health issues, including knowledge about the unique health care needs of women, the differential effects of some problems — like alcohol abuse — on women relative to men, and the consequences for women of certain chronic health problems like heart disease, which heretofore have been considered to be problems primarily among men.

Fourth, social policies must be developed that ensure economic security for women and continuous access to health care throughout their lives.

Fifth, challenges for improving women’s health research methodology are also apparent and warrant further attention. More specifically, discipline-specific health research is often narrowly conceptualized such that the joint effects of several risk factors are not simultaneously studied (e.g., the joint effects of stress, nutrition, poor mental health, and social class on outcomes), nor are the multiple effects of single exposures examined (e.g., stress events compounded over time may lead to mental and physical symptoms). In addition, definitions of adverse outcomes used within various disciplines can be gender biased. For example, initially, the definition of AIDS did not include the typical symptoms experienced only by women. Similarly, “depression” may be a biased diagnosis, as many of its symptoms describe characteristics that are more commonly seen among women in general. Pregnant women, or women with significant likelihood of becoming pregnant, have historically been excluded from research trials involving drugs. This has resulted in an information gap on how women of reproductive age or pregnant women respond to certain therapeutic regimens.

Finally, the field is challenged with respect to understanding the health services system — the impacts and interrelationships between medical care and population-based interventions, and the optimal ways to organize and link health services of various types.
Chapter III

Recommendations for the Future of Women’s and Perinatal Health

Introduction

The findings of the literature reviews in the previous chapter reveal a set of recurring themes in the current state of women’s and perinatal health status and health care in the United States. First, many challenges are inherent in efforts to ensure quality of care for women within the context of their lives, including their multiple and complex work and family roles, the interrelatedness of their social roles and their health status, and the various distinct stages of health circumstances and events across their lifespans. Second, discontinuities in the health care system — some that affect all people and others that primarily affect women — present problems of equity, accessibility, coordination, information dissemination, and a lack of focus on prevention. Third, more attention must be paid to the unique health issues facing women and to the particular effects of general health and social policies on women. Fourth, enhanced health promotion and education strategies, taking advantage of some of the new communication technologies, can significantly contribute to improved women’s health status over the long run.

The recommendations that follow were developed by a panel of experts in the field of women’s and perinatal health (see Appendix for list of experts). Having considered the findings from the literature summarized in the last chapter, they drew on their experience to identify the issues most important to pursue over the next decade. These recommendations are by no means exhaustive; the literature reviews (presented in their entirety in Volume II) offer additional specific strategies related to their topics, particularly with respect to implications for future research. The intent of these recommendations is to stimulate action among a broad array of individuals and organizations interested in improving the health of women in this country. The recommendations are organized according to six domains generic to topics selected for literature review:

- Social Policies
- Surveillance and Quality Assurance
- Service Availability, Coordination, and Organization
- Financing of Health Programs and Services
- Health Communication and Education Services
- Development of Workforce Competency and Capacity
The presentation of most sets of recommendations contain several sections: “Context” — offers background on the topic; “Policy Goals” — lists general aspirations within the domain; “Strategies” — delineates specific recommendations for policy and program development; “Research Implications” — highlights a few compelling research questions; and “Potential Constraints and Opportunities for Action” — offers an appraisal of the challenges and opportunities potentially confronting those who seek to implement the recommendations.

**Social Policies**

**Context**

Health care policy evolves within the larger context of social policies that affect women and their health. Most of the recommendations in this volume focus on specific health system and service interventions for addressing women’s unique health service needs. For women’s and perinatal health status to markedly improve over the long term, however, certain social and racial inequities must also be addressed. Although these issues are complex and the recommendations here offered are broad, the experts involved in this initiative felt they would be remiss if they failed to articulate the larger changes that must take place in the next century if significant gains in women’s health are to be made and sustained.

The historical social inequality of women in the United States has meant that women have been poorer, less well-educated, and less able to assume positions of authority — in politics, the medical professions, and business — where policy decisions are made. This gender inequity is particularly pronounced for minority and poor women. Because women are under-represented in these arenas, special attention to gender issues in health and social policy is warranted to ensure greater equality in the future.

The major demographic shifts taking place — an aging population, a changing ethnic and racial make-up of the country, and increasing gaps in income — will mean new challenges for both social and health policy. In addition, the increasing recognition of the environmental influences on health generally necessitate a closer look at the effects of women’s multiple roles in their family and work environments. For example, welfare reform places new stresses on women and the health and social service systems that serve them, even as it may provide opportunities to help women become economically self-sufficient.

Within the field itself, perinatal health and women’s health advocacy and programs have evolved independently with different emphases and ideological underpinnings. Sometimes the perspectives of the two groups regarding social policy issues appear to be at odds with one another — for instance, in regard to incarceration of pregnant women who abuse drugs. Such divergence in outlooks and interests can threaten the development within the field of a coherent national health policy agenda for women, thereby diminishing the constituency for promoting the health of women.

**Policy Goals**

Support policies to improve women’s access to resources that are related to improved health and safe community environments — including in the realms of higher education, jobs, housing, health care coverage, pay equity, economic development, child care, domestic violence laws, and gun control.
Support processes for developing health policies and health services for women that actively engage women, encourage them to speak out, and facilitate processes that help women make their own choices.

**Strategies**

Develop structures and processes to enhance coordination and collaboration among the diverse array of constituency groups concerned with women's and children's health and well-being. For example, both women's and children's advocacy groups should encourage coordinated plans and support systems for women and children experiencing abuse. At the federal and state level, policy and program coordinating committees, with broad representation of constituency groups, should be convened and given authority and accountability for ensuring integrated women's and children's health policy.

Require federal agencies to prepare formal statements identifying any effects a proposed social policy may have on women's health and/or access to care. Like environmental impact statements, the objective would be to prevent avoidable, unintended bad effects. For instance, an impact statement on the recent welfare reform legislation would have identified inherently inconsistent policies related to (1) out-of-wedlock births/teen pregnancy (in which a family cap was promoted and family planning services were not), and (2) reducing access to Medicaid-covered health services for immigrant women, particularly prenatal care.

Promote informed decision-making and appropriate legal protections for women to improve access to health services:

- Protect women's rights to access health information and services and to make health decisions on their own behalf without restrictions on their autonomy — for instance, gag rules applied to medical/health professionals, spousal permission requirements for reproductive health services, waiting periods for abortion, and the criminalization of pregnant women's behavior in attempts to protect fetuses.
- Ensure that female children and adolescents have access to health information and services, as well as support from parents/guardians, other family members, and health professionals to make informed health decisions.

Establish safeguards within integrated health systems to protect the privacy of personal health data from groups such as employers and immigration authorities. Of particular concern are those requirements related to mandatory reporting of domestic violence and other personally sensitive health issues such as sexually transmitted diseases and psychiatric disorders.

Address the health concerns resulting from changes in the ethnic, cultural, and racial make-up of the U.S. population:

- Promote understanding of, and provide services for, the unique health needs of the many diverse groups of women; and
- Support and extend national initiatives to eliminate disparities in health status among sub-groups of women.

**Research Implications**

Recent social policies (e.g., welfare reform, State Children's Health Insurance Program) must be analyzed with respect to impact on women's access to health care in communities and resulting health status.
Potential Constraints and Opportunities for Action

The very complexity and enormity of these policy issues means that any effective change would require efforts sustained over many years. In addition, the responsibility for changing these social policies is diffuse; it is difficult to pinpoint which institutions are accountable and which are in positions to exert leadership. In the current conservative political and social climate, some health concerns will be difficult to address, particularly those related to reproductive health and immigration policy. This challenge is coupled with the modest political will exhibited to allocate scarce public resources to these problems.

On the other hand, women have more political strength now than ever before. They vote in greater numbers. Their greater participation in the workforce has made some changes in social and health policies economically imperative. And, as women gain leadership positions in government, health care, and business, they wield greater influence in policy.

Surveillance and Quality Assurance

Context

A framework for thinking about quality, as defined by the Institute of Medicine and discussed by others, is one of the most important foundations for considering the future of health care for women. As evidenced in recent efforts to promote national legislation in this regard, as well as insurer and provider performance measures and “report cards,” consumers and providers alike desire quality health care. Quality implies not only that the most appropriate services will be provided for care of health conditions but that the overall goal and impact of the health care system will be continuous improvements in the health status of the population.

Quality assurance is the process through which the health care industry, government, and the professional organizations address the need to continuously improve quality. Surveillance is the process for gathering information about services, outcomes, and health status. Quality must be measurable, but identifying indicators must not be seen as a stumbling block for the establishment of quality assurance mechanisms.

Inherent in the idea of quality assurance is the concept that there are standards against which to measure systems of care and practices at any particular facility or for particular conditions. Such standards must be articulated by official and/or professional bodies. Currently there is no consensus on a definition of quality in women’s health. Moreover, the responsibility for quality assurance has been distributed among a variety of public and private players, which frequently results in duplicative, overlapping, and/or conflicting standards and guidelines. For example, both national standards established in the form of the Healthy People 2000 and 2010 Objectives and various clinical standards exist for selected aspects of women’s and perinatal health. This proliferation of standards can present a burden for responsible providers or agencies. Clarifying the locus of accountability is essential to achieving quality of health care. As states assume greater roles as insurers, they have greater authority to define quality. Quality requirements can be tied also then to standards for comprehensive care packages.

Other challenges to effective quality assurance also exist. With the increasing private sector involvement in providing services to publicly-insured persons, the role of public health agencies in assuring population-based care has become marginalized. The multiplicity of providers involved in a woman’s care (due both to women’s utilization patterns as well as shifting provider networks in managed competition) demands good information flow, but challenges it as well. As the amount of data collected and shared increases, there is greater need for improved and more
efficient mechanisms. The yield from traditional indicators of perinatal health is no longer sufficient or precise enough to characterize the underlying problems and thereby aid in redirecting program efforts or resources aimed at improving the health of women.

**Strategies**

The strategies recommended for surveillance and quality assurance focus on three main areas:

- **Standards of care** — including creating mechanisms and tools for both clients and providers that promote adherence to and use of standards.

- **Data-related issues** — including developing a conceptual base to direct data collection and analysis; adopting improved or new indicators for individual, system, and community; assessing needs/priorities and packaging information in new and useful ways; being judicious in the use of data and using it for program planning/development; and improving data systems.

- **Importance of quality assurance functions and leadership** — including the necessary attributes of functions and guidelines for this capacity.

**Standards/Guidelines Development and Implementation**

Develop a “Bright Futures for Women” national guidelines initiative, which would include both goals for the health status of women as well as for an ideal set of services for women’s health throughout the lifespan, including pregnancy care. This document should reflect an approach similar to that found in *Bright Futures* for children (see box) and should (1) incorporate and/or reference existing American College of Obstetricians and Gynecologists’ and American Academy of Pediatrics’ perinatal guidelines, (2) specifically incorporate health communication and education components, (3) emphasize coordination of care, and (4) be translated into standards of care for health professionals/practitioners and practice settings based on a life-stages concept, utilizing both evidence-based practice and expert opinion findings.

Important activities that should derive from such a document are:

- Development of a single, integrated health record for women that includes all aspects of their care (regardless of provider), specifies recommended well-woman health care, and allows women themselves to be better-informed health consumers by recording and tracking their own health information.

- Development and universal adoption of standardized forms for health history-taking/health counseling that address the full spectrum of perinatal, reproductive, and non-reproductive health issues, as well as related psychosocial concerns of women.

Limit proliferation of unnecessary standards that may be contradictory, confusing, or burdensome to providers or agencies by involving a wide range of stakeholders in their development.
Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents

*Bright Futures* is a set of practical, comprehensive guidelines published in 1994, designed to help professionals, families, and communities more effectively promote and improve the health, education, and well-being of children and adolescents. The document was prepared through a process of extensive research and consensus development among four expert panels of multidisciplinary pediatric providers, health care payers, families, and academicians. The guidance extends beyond the traditional primary focus of clinical practice standards – physical examination and procedures – to incorporate strategies for health supervision that address contemporary and often especially challenging questions and problems that children and parents bring to health care visits – learning and behavior, social interactions, nutritional concerns, sexuality, substance use, and other similar issues of child health and development. Specific steps are outlined for pediatric professionals related to interviews with patients, developmental challenges, clinical observation of family interactions, and anticipatory guidance for the family, as well as physical assessment and screening procedures.

*Bright Futures* acknowledges the complex contextual forces that affect physical health, mental health, cognitive development, and social efficacy and advocates interdisciplinary cooperation in promoting health and preventing disease. The initiative is unique in that it (1) views health comprehensively, (2) encourages an interactive approach to health supervision through clinician-family partnerships, (3) recognizes the contextual forces influencing child health, development, and behavior, (4) integrates health concerns and interventions with education and human services, and (5) focuses on the strengths of the child, family, and community.

### Development of Measures/Indicators

Develop conceptual or theoretical frameworks: (1) for understanding the pathways linking demographics, health risks, services received, intermediate outcomes, and health status outcomes specific to women; and (2) to guide collection of relevant data.

Create new indicators of perinatal health that: (1) capture information at the systems, provider, and client levels; (2) collect information on preconception, prenatal, intrapartum, and postnatal periods of care; and (3) report these indicators by subgroups of age, race/ethnicity, etc.

Develop a set of measures for assessing community-level need for health and social services and other resources to support the lives of women (e.g., number of shelter beds to care for abused and/or homeless women; child care; equal access to recreational facilities.)

Develop performance measures and tools to specifically assess and monitor linkages and coordination with respect to (1) preconception care through postpartum care; (2) interactions among providers; and (3) physical health care and psychosocial services. These measures should be developed to address coordination at the health plan, service system, individual/client, and population levels.
Client Information Systems

Improve the flow of health record information among all providers serving a woman, linking such elements as preventive and chronic care, and reproductive and non-reproductive care. Safeguards must be adopted to preserve confidentiality.

Accelerate the development and use of electronic, confidential, unified, longitudinal medical records for women.

Quality Improvement Mechanisms

Develop a monitoring system to ensure that results of panels of experts convened on topics related to women’s and perinatal health are integrated into health standards, guidelines, and practices. Also develop a method to assure that, on a regional or national level, the practice of health professionals complies with recommended medical/health standards and guidelines.

Develop, publish and disseminate an annual national report profiling women’s health status that includes social indicators (education, etc.), and sub-group analysis (race/ethnicity, etc.) so that policymakers and program administrators are working with the most current information when making decisions.

Establish incentives for states and communities to demonstrate improvements in women’s health status.

Assess unmet health service needs for women on a state-by-state basis by broadening Title V needs assessment to include such data as women’s health services provided through other programs/agencies (e.g., family planning under Title X, etc.). Use the data to prioritize needs and guide resource allocation.

Create mechanisms to regularly gather data on consumer preferences for services and about their experiences receiving services. Use the information to improve health care delivery.

Assure that routinely collected data, such as vital statistics, are analyzed and used for improving women’s and perinatal health. Public data should be linked and analyzed; relevant information should be fed back to agencies/stakeholders capable of solving problems and altering health status.

Capacity Building

Develop and establish a locus of accountability for quality assurance systems of surveillance and reporting population-based data for perinatal care and for women’s health services. Involve all major stakeholders in this process.

Develop and promulgate guidelines that specify operations, capacity, and standards of practice for state and local monitoring of women’s and perinatal health. The standards should reflect that data functions must be timely, useful, theoretically sound, population-based, responsive, flexible, simple, acceptable, and integrated.

Promote and build local, state, and federal public health agencies’ capacities for leadership in quality assurance and recognize their different skills and roles in the assessment of women’s health. At the national level, capacity building depends in large part on the collaboration of federal agencies and their cooperation with the national professional organizations. They can set national policy and implement surveillance systems nationwide. At the state and local levels, capacity building needs to
be much more focused on developing expertise in working with the provider community (including managed care) and developing skills in the management of data and information.

Ensure that population-based data continues to be collected, analyzed, and reported, especially as many public health functions are being privatized.

**Potential Constraints and Opportunities for Action**

At all levels of health and social policymaking, support for effective performance measurement and quality assurance has grown in recent years. In addition, public and private health systems are emphasizing concepts of community accountability, linkages in systems, and multi-factor approaches.

The availability of data is vital to surveillance and quality assurance. The continued underfunding of public health, however, undermines the capacity and credibility of its data and quality assurance functions. This problem is compounded by both cost and potential conflict of interest disincentives for insurers, health plans, or provider groups to embrace public health functions related to community-level population health assessment and monitoring. Another challenge is to balance interest in developing integrated health records for women while assuring privacy, especially given competition in the health care industry.

A step recommended by experts participating in this initiative is the development of consensus on standards for women’s health — comprehensive “Bright Futures for Women” national guidelines. Such an initiative might face difficulties in development and promotion, particularly given the diversity of interests and professions that should be included for a successful process. In addition, as health care decision-making moves increasingly to the local level, defining and maintaining national standards may prove elusive.

**Service Availability, Coordination, and Organization**

**Context**

Women’s and perinatal health must be better integrated. Most women use multiple providers because obstetrical and gynecological services are usually provided by specialists, which makes coordinating women’s care particularly challenging. Women’s lives are complicated by their multiple work and caretaker roles, making convenience an important factor in promoting appropriate utilization of health services, particularly for preventive, non-urgent care. Providing health services in non-traditional settings can improve access, yet care is needed to avoid exacerbating existing problems with poor coordination of services.

Managed care and shifting provider networks threaten what was already a fragile continuity of care for women. Limited choice of providers and demands for women to change providers compromise the maintenance of comfortable and trusting client/provider relationships and undermine adequate exchange of information about health events and services received. Federal health programs tend to be developed and managed along narrow and categorical lines; even when health problems share common etiologies and similar interventions, statutes and funding policies often require divergent administrative practices or conflicting programming practices. Managed care structures for organizing health services offer opportunities for population-based health in the private sector, but raise new questions about the loci of responsibility for prevention and other population-based health services and functions.
Health care services are not consistently available to all women. The distribution of professional resources is significantly uneven and medical technology continues to be centrally located in cities and teaching institutions. Women living in rural areas often face an inadequate array of available services or prohibitively high transportation and time costs in accessing needed services. Moreover, disenfranchised and vulnerable populations — women with disabilities, lesbian women, incarcerated women, Native-American women — are often left out of the health care system or do not receive care appropriate to their needs.

**Policy Goals**

Develop health service models that recognize the holistic nature of women’s health — both biopsychosocially and longitudinally (from pediatric to adult to peri/post menopausal) — and that emphasize health education.

Ensure for every community availability of a full range of high-quality, culturally-competent, coordinated medical care, public health, and other health-related community services addressing health needs for women of all ages.

Integrate women’s and perinatal health concerns in government programs and public health agencies and among constituency groups. Encourage multidisciplinary and interorganizational collaboration, including coordination of public and private sectors, in relation to all women’s and perinatal health issues.

Encourage creation of integrated models of health care delivery that organize services around the needs and culturally-based practices of women at all life stages (e.g., comprehensive women’s health centers, which include primary care services).

**Strategies**

Support and fund the development and testing of models for delivering health services that are women-centered and that incorporate a holistic perspective in reproductive, perinatal, and non-reproductive women’s health care. Replicate successful programs for similar populations in communities nationwide — for instance, weight management programs at worksites.

Promote deployment of health professionals and community health workers in ways that support integrated service delivery, addressing multiple and related health issues simultaneously. For example, restructure categorical health education programs in schools to provide combined smoking, alcohol, drug, and obesity prevention services.

Support demonstrations that combine health screening and treatment services (e.g., depression, domestic violence, substance abuse, smoking, family planning) in multiple clinical and non-clinical settings. Examples of potential opportunities include:

- Family planning providers offering referrals to the WIC food program; domestic violence screening by substance abuse providers.
- Educating pediatricians to identify mothers’ health care concerns and needs and to assist them through screening and referrals.
- With more early discharge of mothers and newborns, increased postpartum home visits offer opportunities to evaluate mothers’ health — postpartum depression, for example.
Identify collaboration strategies to ensure public health accountability for population-based health services, such as health education and health screening, in the context of increasing managed care organizational and financing arrangements.

Focus on the needs of women with health problems and health information deficits that have not been addressed sufficiently to date — for example, injuries resulting from domestic or sexual violence, mental health and substance abuse treatment, nutrition services for women of high socioeconomic status, and fitness services for low-income women.

Preserve safety-net services and programs for women — including Title X family planning clinics, Title V maternal and child health programs, WIC food services, and breast and cervical cancer screening — and integrate them within comprehensive service delivery systems.

Protect women’s access to sensitive reproductive services, including abortion, adolescent contraceptive services, and STD/HIV screening and treatment, in their communities.

Make health care services easier for women to access for themselves and their family members by offering, for example, convenient locations and hours of operation, subsidized transportation, on-site child care, community outreach workers, translator/interpretation services, and gender- and culturally-competent providers and programs.

Ensure community-level outreach to bring high-risk and underserved groups of women (whether high- or low-income, urban or rural) into the health care system.

Establish, test, and apply a range of strategies to monitor and enhance coordination of women’s health services, particularly high-risk perinatal care with mental health, substance abuse, and “wrap-around” health-related services. This is particularly important in the current managed care environment, which is characterized by shifting and often disconnected networks of providers. For instance, in many private health plans, mental health and substance abuse services are provided by separate entities.

Ensure that screening services are implemented to the fullest extent. Publicly-funded screening programs must provide adequate linkages to treatment and social services. For example, substance abuse treatment slots must be available for those identified as needing services through screening. HEDIS, the national standards developed by the managed care industry, could enhance its measures related to referrals and follow-up of hard-to-access services.

Decrease federal and state level administrative complexities stemming from the categorical structure of public programs — including overregulation, separate funding streams, and categorical eligibility. For example, eligibility requirements for federally funded family planning, sexually transmitted disease, prenatal, and maternity-specific nutrition services could be made entirely consistent and enrollment in the program(s) a single event.

Using infant mortality reviews as a model (in which diverse professionals and community members are brought together to understand the reasons behind a child’s death), promote review processes as a strategy for improving the coordination of services at the community, state, and federal levels for breast and cervical cancer, domestic violence, perinatal substance abuse, chronic illness, and child welfare.

**Research Implications**

Studies are needed to document the health benefits and costs of coordination and the consequences and costs of lack of coordination — for instance, the potential negative outcomes related to the disintegration of regional systems of perinatal care.
Charting a Course for the Future of Women's and Perinatal Health

Despite the massive changes underway in our health care system, little is known about how new organizational forms, such as comprehensive, primary care women's health centers and the various types of managed care organizations (including mental health and substance abuse “carve outs”) are affecting women's health care. Research needs, therefore, involve addressing how women's health care utilization and quality differ by provider type and by organizational context. Research is needed to determine how receiving care from different types of primary care providers affects the quality of care; how the coordination of reproductive and non-reproductive care in different types of organizations impacts on outcomes; and how the physician-patient communication process in different types of settings affects satisfaction and other outcomes.

Potential Constraints and Opportunities for Action

In part because efforts to increase availability and coordination of services have largely been insufficient in the past, the effectiveness of coordination has not been well-documented. Well-coordinated services require partnerships that are labor- and time-intensive and, therefore, expensive on their face. Competition in the new health care marketplace may undermine efforts at both the individual and systems levels to implement partnerships that are necessary for coordination of care; this is a particular challenge for providers of safety net services. In a system of many public and private providers, accountability for coordination activities is unclear. Moreover, while advances in communications technology promise great potential for remedying coordination challenges — particularly in rural areas — privacy concerns complicate questions of the information-sharing necessary for sufficient coordination of care. Finally, issues remain related to the adequacy of health professional training with respect to coordination of care (see section on Development of Workforce Competency and Capacity).

Financing of Health Programs and Services

Context

Lack of health insurance coverage continues to be a problem for many women. In addition, recent legislation impacting public insurance programs (for instance, in the Personal Responsibility and Work Opportunity Reconciliation Act of 1996) created new barriers to enrollment and eligibility. Public health policy for women under the age of 65 has emphasized insuring them primarily when they are pregnant, which limits receipt of preconception care, such as family planning and nutrition counseling. Even recent legislative efforts to remediate problems associated with access to insurance — such as the Health Insurance Portability and Accountability Act of 1996 and the Mental Health Parity Act of 1996 — are thwarted by industry challenges to their full implementation. Further complicating such matters are managed care cost-containment strategies that may create disincentives for providing screening and treatment services needed by women and may limit the amount of time providers are able to spend with women on health education and counseling and other preventive services. Even when primary prevention may prove to be more cost-effective in the long run, it remains poorly funded in both the public and private sectors.

In addition, privatization of publicly-funded health services through Medicaid managed care waivers is reducing local health departments' ability to provide direct safety net services and is threatening the funding base for core public health functions. Finally, categorical funding in the public sector continues to impede efforts aimed at coordinated women’s health care.
Policy Goals

Support the long-term goal of affordable universal health insurance for all persons.

Increase the reach of population-based health services and maintain public health functions in the face of further privatization of publicly-funded health services.

Strategies

Encourage all health plans — both private and public — to provide comprehensive benefits packages consistent with the recommended “Bright Futures for Women” national guidelines covering reproductive and non-reproductive services for women across the lifespan.

Ensure women’s continuity of health insurance coverage and access to affordable health care providers: (1) despite changes in employment, marital status, pregnancy status, or other factors; (2) despite loss of Medicaid eligibility for any reason; and (3) for all legal and illegal immigrant women, irrespective of pregnancy status.

Promote complete implementation of federal statutes requiring parity in coverage for mental health and substance abuse services.

Promote increases in funding for public health population services and infrastructure functions.

Promote regionalization of perinatal care through cost-sharing and risk-adjusted reimbursement between basic (Level I), specialty (Level II), and subspecialty (Level III) facilities or services.

Mandate a specific communication and education set-aside within all U.S. Department of Health and Human Services-funded women’s and perinatal health service programs to ensure that health promotion is an integral part of all efforts to improve women’s health.

Potential Constraints and Opportunities for Action

The financing of health care is influenced by the political environment. Lack of political will for “unpopular” populations, such as immigrants and welfare recipients, makes it difficult to increase health care spending. Employers are the major purchasers of health care coverage. Many are hesitant to expand benefits packages as it becomes increasingly difficult for them to cover rising health care costs and either break even or turn a profit. Many employers therefore have begun limiting health care benefits offered for dependents of their employees.

Recent national legislation, such as the State Children’s Health Insurance Program (1997), and the Health Insurance Portability and Accountability Act, has the potential to expand the number of people who have health insurance coverage that is comprehensive and continuous. The momentum from these expansions can be used to propel educational and lobbying efforts to extend insurance coverage for uninsured and underinsured populations. Educational endeavors should include information illustrating the economic and societal contributions that traditionally uninsured populations — such as immigrants — make in the United States. It may be possible to weave arguments in favor of providing comprehensive health care coverage to all residents into current proposals to reform Medicare and managed care.
Health Communication and Education Services

Context
Chronic illnesses, including heart and lung disease, that take a heavy human and financial toll in the last third of women’s lives have their genesis in behaviors that begin in late childhood and early adolescence. Because never adopting many habits detrimental to health — like smoking or heavy drinking — is easier than quitting or modifying a harmful behavior, health communication and education services targeted to young girls and adolescent women can prevent many health problems later in life — for themselves and for their offspring. The challenge, however, is to make the benefits of healthy behavior immediately relevant to girls and young women (as well as adult women), because health education is not very effective in prompting behavior change when the potential benefits seem distant or irrelevant. Unfortunately, too, health care providers are sometimes poor health educators, often because of inadequate training. Because evaluation research on health education interventions is neither well-funded nor well-developed, identifying the best strategies and practices remains difficult.

Health education efforts can capitalize on the current cultural emphasis on personal responsibility when promoting the benefits of self-care — including proper nutrition, smoking abstinence, responsible alcohol consumption, adequate rest, stress-reducing exercise regimens, and responsible sexual relationships. The tremendous advances in information technology, including the Internet, offer new opportunities to health educators. However, because the wealth of information available to consumers is of such variable quality, it is more important than ever to teach women, particularly young women, how to assess critically the information they receive.

Pregnancy planning, pregnancy care, and pediatric care present important opportunities to promote positive health habits with women. In addition, in the face of changing racial, ethnic, and cultural demographics in the United States, health care professionals must pay special attention to the diverse needs of various sub-populations and be able to communicate in the target audiences’ languages.

Policy Goal
Design and implement age-appropriate, culturally and linguistically appropriate health education strategies that improve women’s ability to make informed health-related choices for themselves, to adopt positive health behaviors, and to navigate effectively the health care system.

Strategies
Focus health communication and education strategies on the following specific knowledge and skill areas:
- Healthy body images and approaches to maintaining health.
- Critical thinking skills to increase the ability to analyze and critique advertising and other media messages.
- Competence in personal health maintenance.
- Effective strategies for communicating with health care providers.
- Age-appropriate health screening and health education topics — e.g., pap tests for women 18 years and older and sexually active adolescents, osteoporosis information for all women.
- Reduction of behaviors detrimental to health — e.g., smoking.
Charting a Course for the Future of Women’s and Perinatal Health

Design health communication and education strategies that incorporate an understanding of the multiple demands on, and complex roles of, women:

- Use communication methods and education messages that are designed to meet the needs of segmented audiences of women, particularly high-risk groups.
- Use competent communication professionals and proven marketing techniques to communicate positive health messages to women that promote healthy behavior.
- Promote health education in places that women frequent, e.g., grocery stores, schools, community organizations, churches, adult education programs, and work sites. Use community-based strategies like outreach workers and educators recruited from the community and linkages to local service providers.
- Use clinical health visits for teaching health promotion; capitalize on “teachable moments.”
- Encourage large private sector companies to develop and implement programs, in collaboration with local organizations, that promote exercise among women of all ages, races, and ethnicities.
- Use multiple media approaches, capitalizing on the most appropriate media for specific populations — for instance, the Internet for college students, radio for young adolescents, and billboards on buses and taxis in cities. Use the entertainment industry — concerts, soap operas, sporting events, and popular television programs — to reach women with messages about promoting healthy body images, attitudes, and behaviors.
- Establish a Media Advisory Committee at the U.S. Department of Health and Human Services to encourage the use of prominent sports and entertainment personalities in promoting healthy behaviors in women.

Implement strategies for community partnerships and collaboration in health communication and education:

- Promote incentives for public sector/health plan partnerships to implement health education strategies (including through school-based health clinic operations).
- Develop approaches for information-sharing among health care professionals providing services to women to promote consistent health education messages.
- Involve consumer and community groups in the design and implementation of health education and information programs.
- Assure that health promotion messages are integrated with services in the community that address the needs of specific populations — for instance, a media campaign promoting breast cancer self-examinations should be coordinated with women’s health care providers in the community.

Research Implications

Rigorous research should be promoted and funded to identify the most effective communication and education practices for women’s and perinatal health. At the population level, the use of the mass media should be examined. At the individual level, studies are needed to identify effective models for clinician/patient communication that improve clinicians’ ability to identify women’s needs and address potential barriers to women’s adherence to therapeutic regimens.

Potential Constraints and Opportunities for Action

The effectiveness of health communication and education strategies has not been well-documented. This gap in our knowledge base is related in part to measurement challenges, including the long time-frame necessary for observing impact on behavior. Health promotion must compete within a marketplace that offers messages that contradict sound health practices. Even with media industry cooperation, it can be difficult to “control the message,” which raises concerns about quality of
information people receive. In addition, American society has a longstanding cultural aversion to public discourse on issues related to sexuality, which complicates public health efforts to educate women about such issues as pregnancy planning, sexually transmitted diseases, lesbian health, domestic violence, and attitudes about breastfeeding, among others.

Consumers are seeking useful information about improving their health. New media technologies offer expanded routes to transmit health promotion messages. The Healthy People 2010 Objectives could provide a framework for designing health education efforts, an opportunity for common ground among stakeholders, and a way to focus the public’s and providers’ attention.

Development of Workforce Competency and Capacity

Context

Perhaps the most important attribute of an effective health care delivery system is a competent and committed workforce — both clinical and non-clinical professionals and lay providers. As the literature reviewed in the previous chapter shows, a wealth of new research-based information related to women’s health is available, but it must be better translated into practice. Moreover, new information technologies offer cost-effective opportunities to provide on-going training to health care providers.

The health care workforce is made up of a wide array of professional and lay providers, including community health workers, physician’s assistants, nurses, doctors, and others. Two main issues arise when considering women and the health workforce serving them: (1) the level of knowledge and sensitivity of the health workforce to women’s health issues; and (2) the number and representation in leadership of women in the health workforce.

Because women comprise the largest group of consumers of health care and make the majority of health-related decisions for their families, it is critical that the health care workforce receive training related to understanding their health care needs and practices. This understanding needs to reflect the growing racial, ethnic, and cultural diversity of women in the United States.

Policy Goal

Encourage girls’ interest in the health professions earlier in the education process, and provide support and resources to make successful participation of women in the health professions field feasible.

Strategies

Understand and promote diversity (gender/racial/ethnic/cultural) in the health workforce. Specific strategies should:

- Promote more training of women to care for women.
- Address the cost of education as a barrier to pursuing health profession careers, particularly among low-income groups and minority populations, by offering such support as low-cost loan programs.
- Reconsider bolstering affirmative action to increase minority representation among providers.
- Enhance science and math education starting in grade school to increase the applicant pool of girls, particularly those from low-income populations.
Promote women as leaders within all health professions by providing resources for women’s health leadership fellowships and mentorships and for women’s participation in health policy and management educational programs. The Association of American Medical Colleges (AAMC), for example, has developed an initiative called “Increasing Women’s Leadership in Academic Medicine,” which seeks to increase the presence of women medical faculty through a series of fifteen recommendations to leaders of medical schools, teaching hospitals, academic medical societies, and the AAMC.

Provide training for women’s health providers that encompasses the concepts and content included in “Bright Futures for Women” national guidelines proposed in these recommendations:
- Promote understanding of gender-specific issues and gender differences related to clinical care and psychosocial issues, as well as other needed non-health services like child care.
- Encourage provider training in the full range of health care needs of women. Implement women’s health curricula as a component of core education requirements.
- Provide training to a wide range of professionals, practitioners, and clinicians on collaborative delivery of health care services for women that ensures coordinated and continuous care across reproductive and non-reproductive health services and for women using multiple providers (especially those with chronic illness or disability).
- Provide training for clinicians in population-based health sciences, evidence-based practice, and collaborative service delivery. For example, as non-surgical treatments and outpatient therapies become more routine, the traditionally surgery-oriented specialties, such as obstetrics/gynecology, must ensure consistent core training in primary care and ambulatory-based medicine, rather than subspecialty, hospital-based care.

Educate established and new providers regarding cultural competence and sensitivity:
- Develop and implement core competencies for accreditation of training programs.
- Establish and promote role models.
- Enhance communication skills.
- Encourage education of bilingual and multi-lingual clinicians.

Improve the capacity of providers to coordinate women’s and perinatal services across specific health issues and across the continuum of perinatal and non-reproductive health care:
- Cross-train health professionals to address the broad range of women-specific health concerns and the interactions among them in order to provide appropriate screening, counseling, referral, and treatment services.
- Reassess current licensing statutes and credentialing practices that unnecessarily limit the scope of practice of health practitioners (nurses, social workers, etc.) and promote appropriate expansions that contribute to improved coordination of service provision to women.
- Encourage educational institutions to expose health professional students to strategies for coordinating direct patient care.
- Develop and maintain a repository of evaluated best practices in clinical care coordination/case management.
- Promote information-sharing and communication among providers/clinicians by (1) encouraging federal health agencies to involve the broad spectrum of health professions in the development of policy and programs and in making sure that the materials they disseminate reach all relevant groups; (2) establishing liaisons between health care providers in communities and perinatal specialists to provide consultation for high-risk patients; (3) developing a standard format for computerized patient records that can be used nationally and easily adopted to various clinical settings; and (4) supporting and funding the use of computerized data collection for individualized patient care and population data collection and analysis.
Improve providers’ communication skills:
- Teach health care providers to effectively communicate health promotion messages to women, appropriate to their cultural and educational backgrounds.
- Teach public health practitioners and academicians how to use the news media to disseminate accurate information about women’s and newborns’ health issues.
- Disseminate best practices in the effective communication of health education messages for women’s and perinatal health at the policy, population-based, and personal health levels.

Develop new funding streams for initiating and sustaining activities in women’s reproductive/non-reproductive health services research and education — in particular:
- Health professionals education/training/re-training in academic health centers.
- Basic science research.
- Research programs in community agencies (including public health programs) providing services for women.
- Partnerships between academic health centers and community-based organizations.
- Practice-based clinical research.

For example, medical “trust funds” — made up of contributions from public payers (Medicaid, Medicare) and private insurers — could be a possible new source of revenue to sustain academic training centers.

**Research Implications**

Improvements are needed in the science of forecasting demand and supply for health care providers in general and in specific geographic areas (e.g., urban vs. rural). New models to estimate provider supply and demand will need to adjust for the potential changing role of obstetrician-gynecologists in providing women’s health care and for the emerging role of non-physician providers, such as nurse midwives and physician’s assistants in providing care.

**Potential Constraints and Opportunities for Action**

These efforts in workforce development must contend with a recent trend of funding cutbacks for health professional education and for incentives to recruit minority candidates in particular. Advocacy for a more diverse group of providers is complicated by the lack of clear documentation that workforce diversity makes a difference in terms of health outcomes. Finally, education programs for health professionals can be resistant to challenges to the status quo and its traditions — particularly in the medical professions. On the other hand, this time of intense change in the health care system may offer opportunities to introduce new ideas and practices into service delivery and provider education.
Appendix

Participants: Charting a Course for the Future Meeting of Experts, April 1998

Maribeth Badura, MSN, RN
Chief, Program Operations Branch
Division of Healthy Start
Maternal and Child Health Bureau
Health Resources and Services Administration
Department of Health and Human Services

Donna M. Barber, RN, MPH
Director, Division of Family Health Services
Florida Department of Health

Doris Barnette, ACSW
Principal Advisor to the Administrator
Health Resources and Services Administration
Department of Health and Human Services

Barbara A. Bartman, MD, MPH
Assistant Professor of Medicine, General Medicine
University of Maryland Medical Center

Claire Brindis, DrPH
Director, Center for Reproductive Health and Policy Research
Institute for Health Policy Studies
University of California, San Francisco

Yvonne Bronner, ScD, RD, LD
Assistant Professor, Department of Population and Family Health Sciences*
Johns Hopkins School of Public Health

Charlyn Cassady, PhD
Research Associate, Department of Population and Family Health Sciences*
Johns Hopkins School of Public Health
Charlotte Catz, MD
Chief, Pregnancy and Perinatology Branch
National Institute of Child Health and Human Development
Department of Health and Human Services

Janet Chapin, RN, MPH
Associate Director, Division of Women’s Health Issues
American College of Obstetricians and Gynecologists

Alice J. Dan, PhD
Director, Center for Research on Women and Gender
Chicago, Illinois

Catherine Eblen, MA
Research Associate, Medical Affairs
American Association of Health Plans

Norma Finkelstein, MSW, PhD
Director, Coalition on Addiction, Pregnancy and Parenting, Inc.
Cambridge, Massachusetts

Loretta P. Finnegan, MD
Special Advisor to the Director
Center for Substance Abuse Treatment
Department of Health and Human Services

Sally Fogerty, BSN, MEd
Deputy Director
Bureau of Family and Community Health
Massachusetts Department of Public Health

David Gagnon, MPH
President, National Perinatal Information Center
Providence, Rhode Island
Representing the Secretary’s Advisory Committee on Infant Mortality

Rita Goodman, RNC, MS
Chief Nurse, Division of Community and Migrant Health
Bureau of Primary Health Care
Health Resources and Services Administration
Department of Health and Human Services

Barbara R. Gottlieb, MD, MPH
Assistant Professor, Department of Maternal and Child Health
Harvard University School of Public Health

Holly Allen Grason, MA
Associate Scientist, Department of Population and Family Health Sciences*
Director, Women’s and Children’s Health Policy Center
Johns Hopkins School of Public Health
Maureen Greer
Assistant Deputy Director, Bureau of Child Development
Part C Coordinator, Indiana Family and Social Services Administration
Representing the National Perinatal Association

Joy Grohar, RNC, MS, CNM
President, Comprehensive Perinatal Consultants
Lockport, Illinois

Marcy Gross
Director, Women’s Health
Agency for Health Care Policy and Research
Department of Health and Human Services

Bernard Guyer, MD, MPH
Professor and Chair, Department of Population and Family Health Sciences
Johns Hopkins School of Public Health

Betty Hambleton, BS
Senior Advisor for Women’s Health
Health Resources and Services Administration
Department of Health and Human Services

Catherine A. Hess, MSW
Executive Director
Association of Maternal and Child Health Programs

Heddy Hubbard, RN, MPH
Health Scientist Administrator
Agency for Health Care Policy and Research
Department of Health and Human Services

Ellen Hutchins, ScD, MSW
Health Care Administrator
Division of Healthy Start
Maternal and Child Health Bureau
Health Resources and Services Administration
Department of Health and Human Services

Donna Hutten, MS, RN
Chief, Program Development and Coordination Branch
Division of Healthy Start
Maternal and Child Health Bureau
Health Resources and Services Administration
Department of Health and Human Services

Bonnie Connors Jellen, MHSA
Director, Section for Maternal and Child Health
American Hospital Association
Lisa Kaeser, JD
Senior Public Policy Associate
The Alan Guttmacher Institute

Laurie A. Konsella, MPA
Regional Women’s Health Coordinator
Region VIII, Public Health Service
Department of Health and Human Services

Ann M. Koontz, CNM, DrPH
Associate Director for Perinatal Policy
Division of Healthy Start
Maternal and Child Health Bureau
Health Resources and Services Administration
Department of Health and Human Services

Carol C. Korenbrot, PhD
Associate Professor, Department of Obstetrics, Gynecology, and Reproductive Sciences
Institute for Health Policy Studies
University of California, San Francisco

Milton Kotelchuck, PhD, MPH
Professor, Department of Maternal and Child Health
School of Public Health
University of North Carolina at Chapel Hill

Joan M. Leiman, PhD
Executive Director
Commission on Women’s Health
The Commonwealth Fund

Tamara Lewis-Johnson, MBA, MPH
Senior Public Health Advisor
Office of Minority and Women’s Health
Bureau of Primary Health Care
Health Resources and Services Administration
Department of Health and Human Services

Susan M. Lieberman, MS
Director, Office of Maternal and Child Health
Philadelphia Department of Public Health

George A. Little, MD
Professor of Pediatrics, Obstetrics and Gynecology
Dartmouth-Hitchcock Medical Center
Charting a Course for the Future of Women’s and Perinatal Health

Thurma McCann Goldman, MD, MPH
Director
Division of Healthy Start
Maternal and Child Health Bureau
Health Resources and Services Administration
Department of Health and Human Services

Cynthia Minkovitz, MD, MPP
Assistant Professor, Department of Population and Family Health Sciences*
Johns Hopkins School of Public Health

Dawn Misra, PhD
Assistant Professor, Department of Population and Family Health Sciences*
Johns Hopkins School of Public Health

Claudia Morris, MPH
Deputy Director
National Healthy Mothers, Healthy Babies Coalition

Wanda Nicholson, MD, MPH
Assistant Professor, Department of Obstetrics and Gynecology
Assistant Professor, Department of Epidemiology/Preventive Medicine
University of Maryland

Audrey H. Nora, MD, MPH
Associate Administrator for Maternal and Child Health
Maternal and Child Health Bureau
Health Resources and Services Administration
Department of Health and Human Services

Judy Norsigian
Program Director
Boston Women’s Health Book Collective
Women’s Health Information Center

Patricia O’Campo, PhD
Associate Professor, Department of Population and Family Health Sciences*
Johns Hopkins School of Public Health

Melissa Perry, ScD
Visiting Scientist, Occupational Health Program
Harvard University School of Public Health

Phyllis T. Piotrow, PhD
Professor, Department of Population Dynamics
Director, Center for Communication Programs
Johns Hopkins School of Public Health
Charting a Course for the Future of Women’s and Perinatal Health

Carolina Reyes, MD  
Assistant Professor  
George Washington University Medical Center  
Representing National Coalition of Hispanic Health and Human Services Organizations

Helen Rodriguez-Trias, MD  
Co-Director, Pacific Institute for Women’s Health  
Public Health Institute

Marjory Ruderman, MHS  
Project Director, Women’s and Children’s Health Policy Center  
Johns Hopkins School of Public Health

Sheryl Burt Ruzek, PhD, MPH  
Professor, Department of Health Studies  
Temple University

William Sappenfield, MD, MPH  
Assistant Professor, University of Nebraska Medical Center  
MCH Epidemiologist, CityMatCH  
Representing CityMatCH

Richard H. Schwarz, MD  
Department of Obstetrics and Gynecology  
New York Methodist Hospital

Gillian B. Silver, MPH  
Research Assistant, Women’s and Children’s Health Policy Center  
Johns Hopkins School of Public Health

Deborah M. Smith, MD, MPH  
Assistant Professor of Obstetrics and Gynecology, Howard University College of Medicine  
Representing the American College of Obstetricians and Gynecologists

Phillip Smith, MD  
MCH Coordinator  
Indian Health Service  
Department of Health and Human Services

Terrence Smith, MD, MPH  
Chief, Perinatal Care Section  
California State Department of Health Services

Beverly Stauffer, RN, MS  
Health Officer/Director  
Pottawatomie County Health Department  
Westmoreland, Kansas  
Representing the National Association of County and City Health Officials
Donna Strobino, PhD
Professor, Department of Population and Family Health Sciences*
Johns Hopkins School of Public Health

Carol S. Weisman, PhD
Professor, Department of Health Management and Policy
University of Michigan School of Public Health

Lynne Wilcox, MD, MPH
Director, Division of Reproductive Health
Centers for Disease Control and Prevention
Department of Health and Human Services

Carol W. Williams, DSW
Associate Commissioner for the Children’s Bureau
Administration on Children, Youth and Families
Department of Health and Human Services

Deanne Williams, CNM, MS
Executive Director
American College of Nurse-Midwives

Gail J. H. Wilson, MS, MPH
Director, Chicago Healthy Steps for Young Children
Advocate Health Care

Susan F. Wood, PhD
Assistant Director for Policy
Office on Women’s Health
Department of Health and Human Services

*Subsequent to the April 1998 meeting, the Johns Hopkins School of Public Health Department of Maternal and Child Health was renamed the Department of Population and Family Health Sciences.
Chapter I: Toward A New Vision of Women’s Health


Charting a Course for the Future of Women’s and Perinatal Health

Chapter II: Key Topics in Women’s and Perinatal Health: Findings from the Literature

Health Care Services and Systems for Women of Reproductive Age


---

**Public Health Roles Promoting the Health and Well-Being of Women**


Women’s Reproductive Health and Their Overall Well-Being


Pregnancy Planning and Unintended Pregnancy


Issues in Pregnancy Care


Charting a Course for the Future of Women’s and Perinatal Health


Women's Experience of Chronic Diseases


**Depression in Women**


Abuse Against Women by Their Intimate Partners


---

**Women’s Physical Activity in Leisure, Occupational, and Daily Living Activities**


Charting a Course for the Future of Women's and Perinatal Health


Effects of Drug and Alcohol Use on Women’s and Perinatal Health


Charting a Course for the Future of Women’s and Perinatal Health


Effects of Smoking on Women’s and Perinatal Health


