NATIONAL AGENDA FOR PUBLIC HEALTH ACTION

The National Public Health Initiative on Diabetes and Women's Health

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A National Public Health Initiative on Diabetes and Women's Health

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Contents

Preface 9

Foreword 11

Just the Facts 13

How does the burden of diabetes affect women?

What is the National Public Health Initiative on Diabetes and Women's Health?

Picture the Possibilities 19

What do we want?

What are our guiding principles?

What is our public health prevention framework?

A National Agenda for Action 23

Keeping the Momentum 33

Appendices 34

Appendix A: Initiative Partners

Appendix B: Criteria for Selecting Priorities

Appendix C: References

Appendix D: Staff Support

Appendix E: Template for Operational Plan

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Preface

The ***National Agenda for Public Health Action*** represents a monumental step in addressing a priority health issue for women. It has been a work in progress and a true collaboration among the Centers for Disease Control and Prevention (CDC), the American Diabetes Association (ADA), the Association of State and Territorial Health Officials (ASTHO), and the American Public Health Association (APHA) – and numerous additional partnering organizations.

The National Agenda for Public Health Action challenges us as a nation to reach beyond our traditional boundaries of public and private health care, federal and state politics, community programs and academic research, and media and training. It poses a vision of a nation in which diabetes among women is prevented or at least delayed whenever possible, and it outlines a rational and feasible plan for making that vision a reality. We hope that the ***National Agenda*** will become a beacon for mobilizing the collective energies and resources of multiple entities to truly make a difference in the lives of women and their families who face the daily challenges of diabetes.

Wanda K. Jones, Dr.P.H.
Deputy Assistant Secretary for Health (Women's Health)
Director, Office on Women's Health
Department of Health and Human Services

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Foreword

Diabetes is a tremendous financial burden on patients, their families and society. It's a burden that grows in conjunction with America's obesity epidemic. Diabetes costs our country $132 billion a year in direct medical costs and in indirect costs such as disability, missed work and premature death. More importantly, it costs Americans their lives, their health and their well-being.

But amidst all the bad news, there is also good news: Diabetes is often preventable.

Of the more than 17 million Americans with diabetes, more than half are women. An additional 16 million more Americans have pre-diabetes. We must all work to fight this disease that affects so many of our friends, neighbors and loved ones. Fighting diabetes through research and public education is one of our top priorities at the Department of Health and Human Services.

That's why HHS' Centers for Disease Control and Prevention, in cooperation with partners such as the American Diabetes Association, the American Public Health Association, and the Association of State and Territorial Health Officials, developed the National Agenda for Public Health Action. We hope this agenda will guide the nation in addressing diabetes and women's health. We want an America in which:

- Diabetes among women is prevented or at least delayed whenever possible;
- Women at risk for diabetes are provided the family and community support they need to prevent or delay diabetes and its complications;
- Appropriate care and management of diabetes among women is promoted across the life stages;
- And the occurrence of complications from diabetes among women is prevented, delayed, or minimized.

This vision requires the collective energies and resources of policy makers, public health professionals, advocates for women's issues, researchers, and the general public. Together, we can make tremendous strides toward better health for all women living with or at risk for diabetes. We urge you to join us in this important endeavor.

Tommy G. Thompson
Secretary, Department of Health and Human Services

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Just the Facts

How does the burden of diabetes affect women?

Diabetes mellitus is a disease in which the body is unable to produce or properly use insulin—a hormone required to convert sugar, starches, and other food into energy. There are three main types of diabetes. **Type 1 diabetes** is a disease in which the body does not produce any insulin. This form occurs most often in children and young adults and accounts for 5%–10% of all cases of diabetes. People with type 1 diabetes must take daily insulin injections to stay alive. **Type 2 diabetes** is a metabolic disorder resulting from the body's inability to make enough, or to properly use, insulin. Type 2 diabetes is the most common form of the disease, accounting for 90%–95% of all cases of diabetes. Primary interventions involve a healthy diet and physical activity. A third type, **gestational diabetes**, is a form of glucose intolerance that is diagnosed in some women during pregnancy. Treatment is required to normalize maternal blood glucose levels and avoid complications for the infant. After pregnancy, 5%–10% of women with gestational diabetes are diagnosed with type 2 diabetes, and 20%–50% develop type 2 diabetes in the next 5–10 years.

Diabetes can be associated with serious complications and premature death. The burden of diabetes for women is unique because the disease can affect mothers and their unborn children. With the increasing life span of women, the rapid growth of minority racial and ethnic populations in the United States (who are hardest hit by the diabetes burden), and the apparent increase in new cases of diabetes among younger women in their adolescent and teen years, the number of women at high risk for diabetes and its complications will continue to increase. These trends will impose heavy demands on the health care delivery system and other sectors of society. Although the cause of diabetes has not been identified, researchers have concluded that both genetic and environmental factors, such as obesity and lack of physical activity, play a major role. Lifestyle interventions designed to promote weight loss, increase physical activity, and improve diet can significantly reduce and delay the incidence of type 2 diabetes and are especially important for women at high risk for the disease. Because women are often influential in affecting behavior change in their own children and families, focusing prevention efforts on them is a good way to improve not only their health but also the health of those they love.

Diabetes Is a Serious and Growing Public Health Problem

- More than 17 million Americans currently have diabetes; 5.9 million of them are undiagnosed.
- One million new cases of diabetes are diagnosed each year.
- By the year 2050, the number of people with diagnosed diabetes is projected to increase from 11 million to 29 million.
- Diabetes costs the United States about $132 billion annually: $91.8 billion for direct medical care and $39.8 billion for indirect costs associated with disability, work loss, and premature mortality.
- In 1999 approximately 450,000 deaths occurred among people with diabetes 25 years and older
- Diabetes is the sixth leading cause of death and the primary cause of blindness, non-traumatic amputations of lower limbs, and kidney failure among adults.

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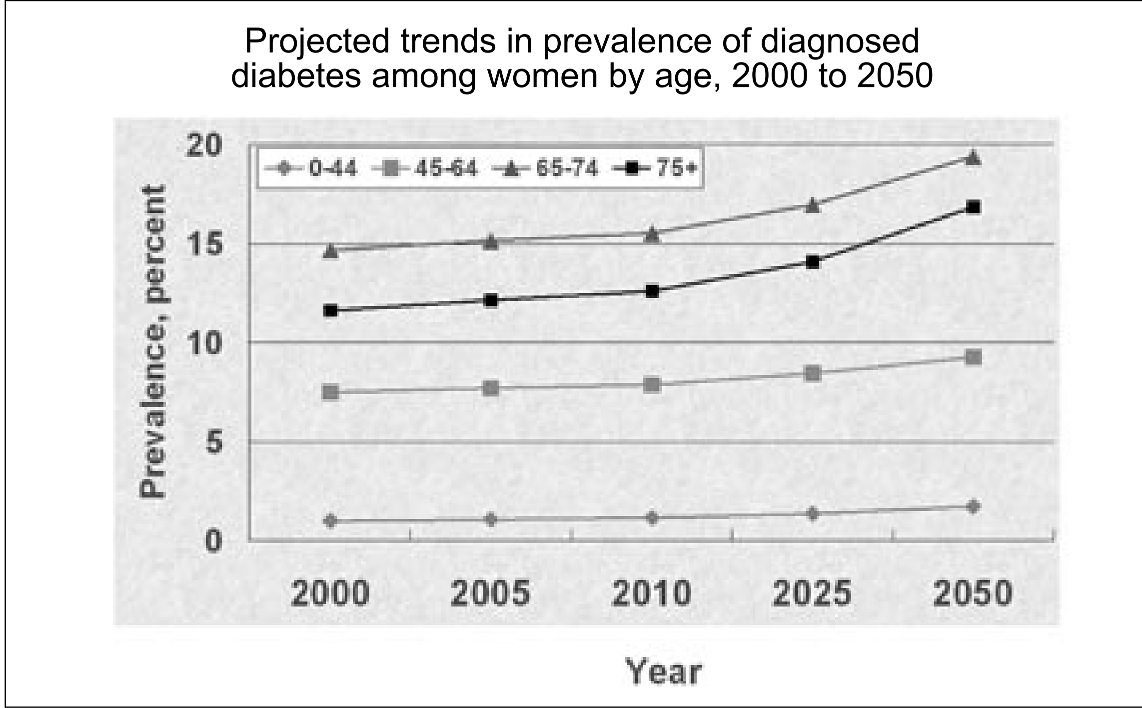
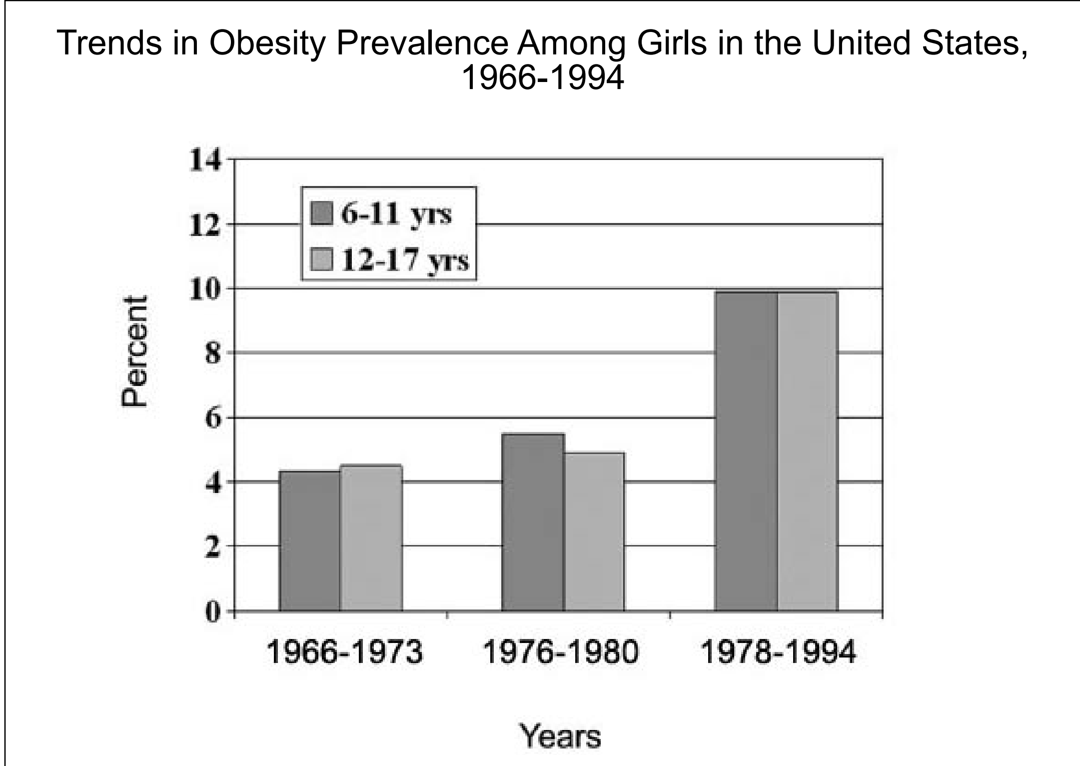


Source: *Diabetes Care*, 2001

Diabetes Has Unique and Profound Effects on Women

- More than 9.1 million women have diabetes.
- From 1990 to 1998, the prevalence of diabetes increased almost a third for both women and men.
- Women in minority racial and ethnic groups are the hardest hit by type 2 diabetes; the prevalence is two to four times higher among black, Hispanic, American Indian, and Asian-Pacific Islander women than among white women. Because minority populations are expected to grow at a faster rate than the U.S. population as a whole, the number of women in these groups who are diagnosed with diabetes will increase significantly in the coming years.
- Diabetes is a more common cause of coronary heart disease among women than men.
- Among people with diabetes, the prognosis of heart disease is worse for women than men; women have poorer quality of life and lower survival rates than men do.
- The link between diabetes and obesity is striking. Nearly half (47%) the women with diabetes have a body mass index greater than 30 compared with 25% of all women.



Source: Pediatrics, 1998

Diabetes Affects Women Differently at Various Life Stages

Adolescent Years (10–17 Years)

- About 86,192 females younger than 20 years old have type 1 diabetes; 92% are white, 4% are black, and 4% are Hispanic or Asian American (rarely occurs in American Indians).
- Eating disorders may be higher among young women with type 1 diabetes than among young women in the general population.
- There is an apparent increase in the number of youth of all racial and ethnic groups being diagnosed with type 2 diabetes, and it appears to be more common among girls than boys.
- By age 20 years, 40%–60% of people with type 1 diabetes have evidence of retinopathy, or diabetic eye disease. Untreated retinopathy can lead to blindness. The risk for developing proliferative retinopathy—the most severe form—is higher for girls than for boys (in at least one study).

Reproductive Years (18–44 Years)

- An estimated 1.3 million women of reproductive age have diabetes; about 500,000 of them do not know they have the disease.

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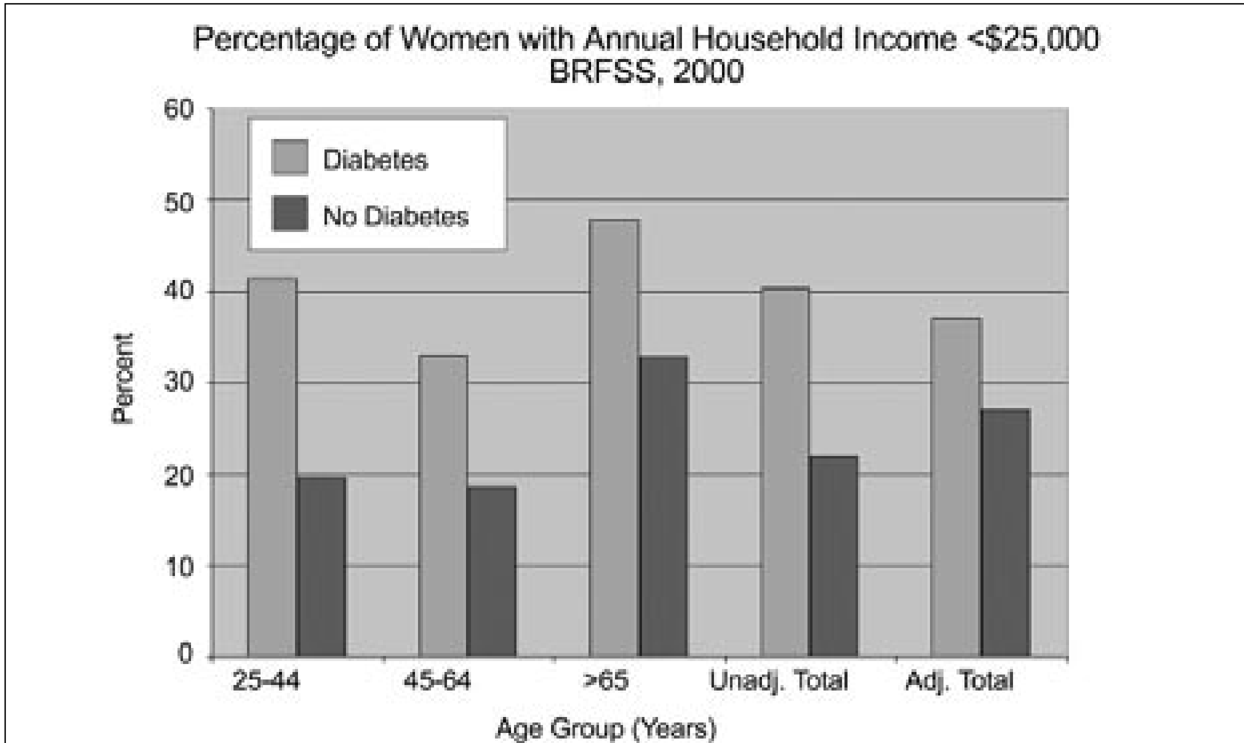
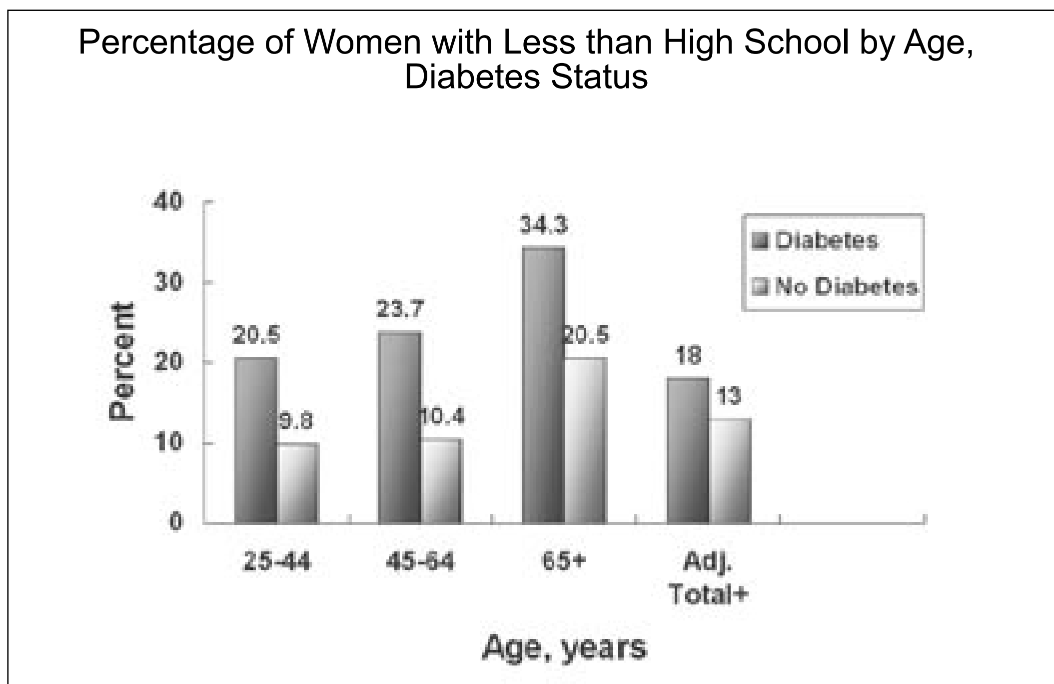


Adjusted for age, race/ethnicity, marital status, size of household, and employment status.

Source: BRFSS, 2000

- Type 2 diabetes accounts for most diabetes cases during this life stage. Most women with type 1 diabetes were diagnosed during childhood or adolescence.
- Women of minority racial and ethnic groups are two to four times more likely than non-Hispanic white women to have type 2 diabetes.
- Reproductive-aged women with type 2 diabetes have fewer years of education, have lower income, and are less likely to be employed than women without diabetes.
- Estimates of the overall prevalence of gestational diabetes in the United States range from at least 2.5% to 4% of pregnancies that result in singleton live births, with higher percentages among some ethnic groups and older women. Most gestational diabetes occurs in women with risk factors for type 2 diabetes: when they are unable to secrete sufficient insulin to overcome the increased insulin resistance that normally results as pregnancy proceeds.
- Gestational diabetes usually ends after the baby is born, but women with gestational diabetes have a 20%–50% chance of developing type 2 diabetes in the 5–10 years after childbirth.
- Children whose mothers had diabetes during their pregnancies have a greater likelihood of becoming obese during childhood and adolescence and of developing type 2 diabetes later in life.



Adjusted for age, race/ethnicity, marital status, size of household, and employment status.

Source: BRFSS, 2000

The Middle Years (45–64 Years)

- Approximately 3.8 million women aged 45–64 years have diabetes.
- Diabetes is a leading cause of death among middle-aged American women; rates in 1996 follow: fifth among white women, fourth among black and American Indian women, and third among Hispanic women aged 45–64 years.
- Coronary heart disease is an important cause of illness among middle-aged women with diabetes; rates are three to seven times higher among women 45–64 years old with diabetes than among those without diabetes.
- In 2000, at least one in four women aged 45–64 years with diabetes had a low level of formal education, and one in three lived in a low-income household. Women with diabetes were more likely than women without diabetes to have a low socioeconomic status regardless of race, ethnicity, or living arrangements (marital status, size of household, and employment status).

The Older Years (65 Years and Older)

- About 4.0 million women aged 65 years and older have diabetes; one-quarter of them do not know they have the disease. Most elderly women with diabetes have type 2 diabetes.
- Because women make up a greater proportion of the population and women with diabetes live longer than their male counterparts, elderly women with diabetes outnumber elderly men with diabetes. Diabetes is one

of the leading causes of death among women 65 and older.
- Being older and having diabetes accelerate the development of diabetic complications such as heart disease, stroke, kidney disease, and blindness. Elderly women with diabetes are at particularly high risk for coronary heart disease, visual problems, hyperglycemia or hypoglycemia, and depression.

Factors that Place Women at Risk for Diabetes and its Complications

Women face increasing risk of diabetes and its complications because of certain social, cultural, and economic trends. National surveys have indicated that since the 1970s there are increasing trends in the numbers of women who

- live in poverty (by age 65, women are twice as likely as men to be poor),
- work in small companies that provide fewer benefits and lower pay than larger companies, and face significant challenges to balance job and family responsibilities,
- are uninsured and/or lack access to health care (approximately one in seven women lack health insurance);
- are overweight and do not exercise regularly (about one-half of women aged 20 years or older are overweight, and more than one-quarter do not participate in any leisure time physical activity.

What is the National Public Health Initiative on Diabetes and Women's Health?

As part of a comprehensive effort to improve women's health, CDC established the National Public Health Initiative on Diabetes and Women's Health. The initiative has three phases.

In **Phase I,** CDC prepared *Diabetes & Women's Health Across the Life Stages: A Public Health Perspective*. Published in 2001, this report examines the issues that make diabetes a serious public health problem for women; analyzes the epidemiologic, psychosocial, socioeconomic, and environmental dimensions of women and diabetes; and discusses the public health implications. This landmark document explores the impact of diabetes on women's lives by using a framework that defines the issues across various life stages—the adolescent, reproductive, middle, and elder years. A complete copy is available on CDC's Web site at **http://www.cdc.gov/diabetes/projects/women.htm**.

In **Phase II**, CDC joined forces with the American Diabetes Association (ADA), the American Public Health Association (APHA), and the Association of State and Territorial Health Officials (ASTHO) to convert the information contained in the 2001 report into action. Toward this end, the four cosponsoring agencies convened a task force in November 2001, with representatives of over 40 organizations from the public, private, and volunteer sectors. Proposed recommendations that emerged from this meeting were published as the *Interim Report: Proposed Recommendations for Action* and are also available on CDC's Web site.

In **Phase III**, the proposed recommendations contained in the interim report moved one step further. During a working summit meeting in August 2002, representatives from multidisciplinary agencies—including government, academic, voluntary, business, community-based, and professional organizations—selected recommendations of highest priority and identified appropriate strategies for implementation. This National Agenda represents the result of their deliberations for action.

Picture the Possibilities

What do we want?

The National Agenda for Action is founded on a realistic vision and on specific and attainable goals. These are consistent with the framework of *Healthy People 2010*, which establishes national targets that address primary prevention of diabetes and prevention of complications related to the disease.

Our vision

- Diabetes among women can and should be prevented or at least delayed whenever possible.
- The families and communities of women at risk for diabetes can and should be informed and provided the support they need to prevent or delay diabetes and its complications.
- Appropriate care and management of diabetes can and should be promoted among women across the life stages.
- The complications of diabetes among women can and should be prevented, delayed, or minimized.

Our goals

- We must garner the national attention of policy makers, public health professionals, other advocates for women's issues, researchers, and the general public to achieve the realization that diabetes is a prominent public health issue.
- We must develop consensus among key stakeholders that there is a need to establish priority strategies, policies, and research to improve diabetes and women's health.
- We must delineate the public health role in diabetes and women's health at national, state, and community levels and improve the capacity of these public health sectors to fulfill that role.
- We must unite partners from multiple sectors of society in a coordinated strategy to prevent and manage diabetes among women.
- We must empower women to adopt prevention strategies that will improve their overall health and delay or prevent diabetes and its complications.

What are our guiding principles?

The guiding principles underlying the National Public Health Initiative on Diabetes and Women's Health are equally important.

- A **public health approach** to diabetes among women should be adopted. This approach aims to improve the health and quality of life for all women primarily through prevention and focuses on all factors that influence health status—physical, behavioral, psychological, and socioeconomic.
- **Collaboration** within and among multiple sectors of society is essential for success. These sectors include public and private health care organizations, business and industry, education and environment, communication and media, and policy makers.
- Strategies and policies must fully consider and take into account the **unique needs** of women in different life stages among all racial, ethnic, religious, and cultural groups.
- Women and grassroots organizations should be fully engaged as **active partners** in policy decisions and in

program planning, implementation, and evaluation. The strong involvement and support of men should be sought as well.

- Leaders of state and community agencies and groups must **share accountability** for adopting approaches to improve the health status of women.
- Actions should be based on **sound research** from all relevant scientific fields, and the pursuit of additional public health research should focus on filling gaps in scientific knowledge. Assessment must guide policy and program development.
- **Measurable outcomes** for programs and policies should be established so that progress and impact can be evaluated and approaches can be modified as needed.
- Strategies and policies must **be sustainable and integrated** over time, and not just one-time interventions. New initiatives should build on existing resources, services, and natural links between local, state, and federal agencies and organizations in both the public and private sectors.

What is our public health prevention framework?

The National Agenda for Action encompasses three approaches to prevention.

- **Primary prevention** aims to prevent or delay diabetes in women.
- **Secondary prevention** aims to identify diabetes at its earliest stage so that prompt and appropriate management can be initiated. Successful secondary prevention reduces the negative effect of diabetes on a woman's life.
- **Tertiary prevention** aims to reduce or minimize the consequences of diabetes once it has developed, that is, to eliminate, or at least delay and reduce, the onset and severity of complications and disability due to diabetes, such as blindness, kidney failure, and lower limb amputations.

The National Agenda also recognizes the unique challenges to prevent diabetes and its complications among women in different life stages. We envision a shift in emphasis toward prevention strategies and activities appropriate to the needs of women at different life stages. Fundamental to this shift is identifying and building on existing opportunities and programs for women across all life stages.

The adolescent years (ages 10–17 years) are marked by major biological and psychosocial changes that transform adolescents into adults. Adolescents with diabetes face many life choices that can affect their ability to control the disease. Peer pressure can undermine therapeutic goals for adolescents with type 1 diabetes and place them at increased risk for complications. Primary prevention of type 2 diabetes is key at this life stage, as is instituting lifelong healthy behaviors related to physical activity and nutrition.

The primary emphasis of public health action in the adolescent years is to improve the health and preventive practices among all youth, particularly among girls already diagnosed with or at high risk of developing diabetes. To accomplish this goal, several major challenges must be overcome. These include the following:

- Lack of diabetes education and prevention materials appropriate for adolescent females;

- Inadequate numbers of physicians who specialize in caring for this age group;
- Lack of quality physical education programs in schools;
- Lack of awareness of the need for weight control, healthy diets, and physical activity among adolescents;
- A plethora of fast-food and other unhealthy eating options; and
- Insufficient recreational activities and environments for youth (e.g., parks, sidewalks, and safe playgrounds).

Hope for the future is bolstered by recent school policy changes and better models for physical education and health education curriculum. Successes with other diseases and health problems that might benefit diabetes prevention (for example, no smoking campaigns), as well as more effective media messages and campaigns to raise awareness and promote healthy lifestyles, and advances in electronic and computer technology as teaching tools all provide opportunities for prevention.

The **reproductive years** (ages 18–44 years) represent the life stage when women experience significant personal growth and increasing responsibility—additional schooling, marriage, career development, and child rearing. Diabetes during pregnancy, regardless of type, puts both a woman and her unborn child at risk for negative health outcomes. For those with few personal resources, this period can place them at high risk for negative outcomes and future economic hardship.

Women face significant barriers to self-care in their reproductive years in the form of balancing the demands of marriage and other relationships, work, child care, household chores, hobbies, and other activities. The result is limited time for physical activity, healthy eating patterns, and attending to the woman's own health care needs. In addition, many women reduce their level of physical activity during pregnancy and early postpartum. Mothers may not lose the weight gained during pregnancy and thus put themselves at greater risk of obesity and of developing diabetes in later pregnancies or later in life. Cultural, social, and physical environmental factors that influence these behaviors can also contribute to lack of self-care. Confusion can result from conflicting health messages from a multitude of sources with regard to chronic disease prevention.

Overcoming these barriers requires taking advantage of unique opportunities to tailor messages to reproductive-aged women, capitalize on the intergenerational aspects of gestational diabetes, and include men and families as supportive partners. Prenatal, postpartum, and other reproductive health services represent important vehicles for identifying and instituting preventive care for women at high risk for diabetes.

The **middle years** (ages 45–64 years) are noted by major physiological events such as menopause. This is also a time when other chronic diseases and complications of diabetes most often first appear, along with many other social and psychological challenges such as disability, death of a significant other or parent, divorce, and retirement. Because women are increasingly developing diabetes at younger ages, complications are expected to develop earlier as well.

During this life stage, some of the major barriers to preventing diabetes and its complications are similar to those in the reproductive years. Prevention takes a backseat to treatment, particularly when acute health issues arise. There may be a transition in health care providers, from gynecologists to family practitioners, internists, and specialists.

Women may have even less time to tend to their own needs as they assume care not only for their children and grandchildren but also for their aging parents.

However, this role as the primary care giver, sandwiched between two generations, affords a rare opportunity. The woman's sphere of influence is broader and deeper than at any other time in her life; she has the chance to be a role model for female relatives and friends. Middle age is also the time when women are most active in civic and religious organizations, an ideal opportunity to deliver prevention messages, interventions, and support.

The **older years** (ages 65 years and over) are a time when women with diabetes become even more vulnerable to other chronic illnesses, disability, poverty, and loss of social support systems. The number of women in this age group is growing exponentially as the American population ages.

Health insurance barriers are compounded in this life stage, with the transition from employer-based coverage to Medicare and other private or public health insurance carriers. The elderly also frequently experience isolation, depression, and lack of social support from their families and communities. Prescription drug coverage is an issue, as is fragmentation of health care services. Financial resources may be limited, particularly for those who rely on social security and have fixed incomes. In addition, the number of elderly people from racial and ethnic minority populations who have limited English proficiency is increasing dramatically, with no comparable increase in the availability of culturally and linguistically appropriate health care services. Opportunities for prevention lie in the increased frequency of health care visits among the elderly for diabetes and comorbidities. Although the actual face-to-face time with health care providers is limited, that time can be optimally used for meaningful education and motivational messages. Community, civic, and religious organizations can also play key roles in promoting behaviors that improve health and quality of life.

A National Agenda for Action

Ten priorities are recommended for improving the health and well-being of women with or at risk for diabetes. For each recommendation, strategic actions are proposed as the means by which the Initiative's goals will be achieved expeditiously. Some actions can be implemented immediately and accomplished in a relatively short time (6-12 months); others require a more extensive investment of time and/or resources.

The vast majority of the recommendations and strategies apply to all life stages. However, some life stages have unique needs that require special approaches to truly have a positive impact. These variations are noted where appropriate. Regardless of life stage, strategies must respect and reflect racial, ethnic, religious, geographic, and cultural needs. Also, although the focus of these recommendations is to improve the health and well-being of women, adopting many of the recommendations will also benefit men and families.

Implementing the priority actions requires strong leadership bolstered by true collaboration among multiple partners. Vital roles and shared responsibility must be assumed by public and private health care organizations; business and industry; education; communication and media; and policy makers at local, state, and federal levels. Our hope is to enlist the help and support of a broad spectrum of organizations and individuals in translating this thoughtful national agenda into tangible and effective action.

1. **Encourage and support diabetes prevention and control programs** in state health departments to develop prevention programs for all women and establish efficient links for women at risk for type 2 diabetes.
   - Enhance financial support and resources to state health agencies to establish and maintain leadership on behalf of women with or at risk for diabetes.
   - Support strong leadership to facilitate organized and consistent efforts between and among the various departments of state and local public health agencies addressing issues of diabetes and women's health.
   - Encourage state and local coalitions and other consortiums to coordinate plans, policies, and activities through regular communication and priority setting processes.
   - Document results of ongoing demonstration projects and share models for widespread use.
   - Evaluate existing communication and education programs to identify effective strategies for motivating and sustaining behavioral change in women.
   - Evaluate existing data from research to extract lessons learned, and identify effective diabetes prevention and management strategies in a range of settings for all life stages.
   - Examine best practices of managed care and other health care organizations regarding chronic disease management.
   - Compile information on "best practices" for diabetes prevention and management, and promote policies to support these practices.

2. **Expand community-based health promotion education, activities, and incentives for all ages in a wide variety of settings –** schools, workplaces, senior centers, churches, civic organizations, and other locations where women live, learn, work, and play.
   - Support and encourage the development of a coalition of grassroots women's groups.
   - Develop a core health promotion message for women, such as:

- o Complications from diabetes are more serious for women
- o Families are essential partners in promoting health and managing diabetes
- o You may be able to prevent diabetes
- o Diabetes is manageable and treatable
- o The devastation of diabetes does not have to happen
- o Honor the gift of life, eat to be well, and get moving
- o Everyone is at risk for diabetes
- o Diabetes prevention saves money and improves quality of life

- Design a social marketing campaign that integrates current diabetes-related messages aimed at women and their families regarding nutrition, cardiovascular disease, smoking, and physical activity.
- Work with and through business, industry, and media partners to reach women and influence them to adopt healthy behaviors.
- Identify and develop links with community agencies that interface with women at greatest risk in all life stages, including those in non-health related sectors (e.g., historically black colleges and universities, fraternal organizations, civic organizations, social organizations, professional organizations, beauty and nail salons, faith-based organizations, and community centers).
- Design and conduct a national campaign based on nontraditional methods of advertisement, such as pay stubs, grocery store receipts, and other retail vehicles.

Especially for the adolescent years (10-17 years)

Structure and deliver educational messages to encourage female adolescents with and at risk for diabetes to engage in regular physical activity, make good nutritional choices, and avoid or stop smoking.

- Raise awareness and knowledge about the importance of regular physical activity among adolescent girls.
- Increase awareness of the benefits of making healthy food choices, the existence of simple methods for preparing healthy foods, and the negative effects of regularly eating fast food and snacks and drinking soda instead of water or milk.
- Identify the most appropriate messages for teens at risk – particularly teens with a genetic history of diabetes, and pregnant and/or obese teens.
- Encourage positive messages about self-care and self-respect.
- Raise awareness about the comorbidity of diabetes and depression.

Create positive, rewarding forums that promote healthy eating and physical activity among adolescent females at risk for type 2 diabetes.

- Conduct focus groups and other forms of qualitative research with adolescent women to help design the structure, content, and delivery channels of forums.
- Involve youth representatives in the planning and design stages.
- Partner with nonprofit organizations, government agencies, universities, businesses, and media outlets to deliver forums on a national basis.
- Develop incentive-based systems to attract and retain participants in forums.

Especially for the reproductive and middle years (18-64 years)

Educate women and providers to increase their awareness about diabetes, its risk factors, its preventability

where applicable through lifestyle choices, and its association with other chronic diseases (for example, cardiovascular disease).

- Assess and evaluate existing messages, programs, and campaigns.
- Increase the awareness of women and providers about the positive impact on both the quality and length of life for women with diabetes through preventing and delaying heart disease.
- Develop an effective social marketing campaign, using focus groups or other qualitative methods.
- Design and test messages and determine dissemination strategies for specific population subgroups.

Especially for the older years (65 years and older)

Educate seniors and promote lifestyle changes that prevent and treat diabetes, including physical activity, healthy eating, and relieving depression. Emphasize the relationship of diseases of old age to diabetes (for example, heart disease and diabetes).

- Develop and disseminate diabetes prevention messages for senior women with diabetes through National Diabetes Education Program partners.
- Inform consumers and providers about recent changes and updates to Medicare coverage for diabetes self-management and medical nutrition therapy.

Expand intergenerational programs and activities to reduce social isolation among older women.

- Encourage relationships among women across the life span through participation in diabetes prevention and treatment activities.
- Define the optimal parameters of intergenerational programs and activities.
- Identify barriers and enabling factors among older women to participation in intergenerational programs.
- Identify existing successful programs and activities in urban/rural areas and different ethnic/cultural groups through qualitative and quantitative public health research.
- Summarize findings, share them with state and local organizations, and promote their use in program designs.
- Partner and build community coalitions that involve the elderly and address their unique needs.
- Use schools, churches, and other key venues within communities to create activities and occasions for women of all generations to congregate.

3. **Strengthen advocacy** on behalf of women with or at risk for diabetes.
   - Create, support, and mobilize both existing and new innovative partnerships and coalitions for the improved health and well-being of women.

- Educate key stakeholders and consumers (women, men, and families) about the issues, challenges, and opportunities for improving the lives of women with or at risk for diabetes. The principles of cultural competency should be respected in all educational messages.
- Advocate for and support more public health research on diabetes and women's health, including identifying measures of quality of care.
- Develop policies and programs to support community health.
- Establish policies that support culturally competent messages and services for women at risk for diabetes while also developing stronger links to culturally competent personal health care services for women and health care providers trained in the principles of cultural competency.

4. **Fortify community programs for women** with sufficient funding, training, tools, and materials.
    - Explore more efficient and effective ways to use existing resources at national, state, and community levels.
    - Enhance funding streams through public-private partnerships.
    - Develop a comprehensive resource guide for lay women based on existing information on best practices for diabetes prevention and management.
    - Establish "train the trainers" programs to facilitate rapid translation of new knowledge into practice.

Especially for the older years

Increase the priority of federal, state, and local funding for (a) diabetes management training and education for elderly women and their families, caregivers, and health care providers; (b) prescription drugs, health insurance coverage, and prevention; and (c) grassroots and community programs.

- Engage area agencies on aging, state and local programs, American Association of Retired Persons, advocacy organizations, coalitions on aging, geriatric education centers, and the National Conference of State Legislatures in developing a broad policy statement supporting increased diabetes funding.
- Seek funding from the private, not-for-profit sector.
- Educate extended care facilities about diabetes management.
- Highlight effective training based on models that have been demonstrated to work.
- Link with Medicare drug benefit groups to coordinate policy and programs.
- Identify and solicit sponsors to establish a fund for advocacy and program development.

5. **Expand population-based surveillance** to monitor and understand

    a. variations in the distribution of diagnosed and undiagnosed diabetes and of impaired glucose tolerance within and among groups; and

    b. the factors – cultural, racial, ethnic, geographic, demographic, socioeconomic, and genetic factors – that influence the risk for diabetes and complications among women at all life stages.

    - Examine the capacity of existing surveillance systems to collect data on disease distribution and risk factors.
    - Design appropriate expansions and/or adaptations in existing systems, and create new systems where necessary.

6. **Educate community leaders** about diabetes and its management and about the value of healthy environments. Increase diabetes awareness programs and materials in workplaces, health care settings, (such as drug stores, pharmacies, and health clinics), the media, and the community (such as recreational centers, schools, churches, barber shops, and beauty shops).
    - Develop a web-based clearinghouse of science-based diabetes information and programs targeting women and the general public.
    - Develop and implement a diabetes education and communication program in schools, workplaces, community health centers and other health care settings, and government social program offices. Programs should focus on nutrition, physical activity, and smoking cessation for all women; and they should include weight loss management and breast-feeding education for women in their reproductive years.
    - Advocate for expansion of parks, sidewalks, playgrounds, and other public recreational areas.

Especially for the adolescent years (10-17 years)

Educate school system personnel

- Build partnerships and dialogue among relevant constituents, including boards of education, diabetes experts, school nurses, teachers, counselors, administrators, community health experts, food service providers, parents, and students.
- Design and expand coordinated school health programs for diabetes.
- Conduct demonstrations in schools for prevention of diabetes among female students at risk and for managing diabetes for those diagnosed with diabetes.
- Develop and disseminate a guide for school personnel, including specific sex-specific components, when appropriate.

7. **Encourage health care providers** to promote risk assessment, quality care, and self-management for diabetes and its complications in their practice settings.

Because the types of health care issues and providers vary by life stage, recommendations and strategies presented below are age specific.

Especially for the adolescent years (10-17 years)

- Develop and disseminate best practice guidelines for providers in various clinical and nonclinical settings.
- Disseminate the model of multidisciplinary teams for diabetes management and encourage its use in clinical settings.
- Empower families to become informed advocates for improved diabetes care.
- Identify or develop risk assessment and diagnostic tools geared to adolescents.
- Conduct health services research to determine the usefulness of tools, patient satisfaction with those tools, and their relative cost-effectiveness.
- Assess Health Plan Employer Data and Information Set measures for adolescents and propose revised or new measures.

- Review and tailor self-management guidelines to adolescent years.
- Bolster training and continuing education for health care providers and diabetes community health workers.
- Promote various strategies to increase self-esteem among adolescent women with diabetes.

Especially for the reproductive years (18-44 years)

Promote expansion of routine physical exams to include risk assessment and appropriate follow-up for diabetes among reproductive-aged women.

- Develop practical and useful screening tools, such as assessment questions, appropriate physical activity, diet, hip and waist measurement, and body mass index; and incorporate them into standard health assessments.
- Train health personnel to conduct and use these assessments.
- Promote the use of tools among various health associations in clinical settings.
- Market the need for expanding routine exams to purchasers, health plans, and payers.
- Train future health professionals about women's health and diabetes to ensure that they are able to communicate with women and address their unique concerns.

Especially for the middle years (45-64 years)

As recommended by the American Diabetes Association, integrate diagnostic testing for type 2 diabetes with pap smears, mammography, and other routine procedures.

- Increase provider awareness of the need for and value of integrated testing.
- Increase provider awareness about the seriousness of diabetes as well as strategies to prevent complications through continuing education, journal articles, and advertising.
- Empower women to become informed advocates and to create demand for integrated diagnostic testing.

8. **Ensure access to trained health care providers** who offer quality services consistent with established health care guidelines.

Like the previous recommendation, access to care presents a unique challenge at all life stages and is particularly important in rural areas. Recommendations and strategies presented below are age specific.

Especially for the adolescent years (10-17 years)

- Integrate diabetes messages and programs into the education and health care services that adolescents already receive.
- Conduct focus groups and other types of qualitative research with adolescent women to elicit what they know about diabetes and how they best receive messages from service providers.
- Develop and market information resources, such as interactive games, so that children and adolescents know who their health providers are and what they do.

Especially for the reproductive years (18-44 years)

- Develop and integrate culturally appropriate diabetes messages into education and services that reproductive-aged women already receive, focusing on high-risk and racial/ethnic groups.
- Ensure appropriate pre- and perinatal monitoring and health care for women who develop gestational diabetes.
- Ensure access to follow-up and ongoing care for women who develop gestational diabetes and therefore are at increased risk for type 2 diabetes.
- When available, use health care providers at the work site to provide diabetes care.
- Encourage occupational health personnel to develop and use risk assessment tools for diabetes.

Especially for the middle years (45-64 years)

- Capitalize on health care visits for other family members by making links and referrals for self-care that include risk factor reduction advice and testing for diabetes.
- Use health care providers at the work site to provide diabetes care.

Especially for the older years (65 years and older)

- Take advantage of health care visits for other family members by making links and referrals for self-care that include risk factor reduction advice and testing for diabetes.
- Use and expand mobile health care programs and education services with vans, immunization units, and other delivery vehicles at convenient venues such as churches, senior centers, and shopping malls.

9. **Encourage health care coverage and incentives** for recommended diabetes prevention and management practices by

   a. Promoting partnerships between insurers and workplaces or labor communities and encouraging employers and employees to discuss needed diabetes benefits in offered health packages
      - Identify the appropriate range of benefits based on “best practices.”
      - Educate employers, employees, and labor union representatives about their role in ensuring health benefits to prevent and manage diabetes.
      - Conduct a pilot demonstration on a sex-specific health care benefits package that includes prevention, management, and treatment.
      - Analyze Medicaid and other data on the costs and benefits of early prevention.
      - Meet with key stakeholders to get buy-in on the need for reimbursement of diabetes risk assessment as a part of routine exams.

   b. Working with health insurers and policy makers to expand coverage and reimbursement policies to include prevention services for women throughout their lives

- Promote federal laws and programs so that all women have adequate coverage for preventive and other services.
- Work with health plans and purchasers of care to help them appreciate the cost of diabetes and encourage the addition of preventive services to coverage plans.
- Extend diabetes collaboration among relevant federal agencies to provide health services to uninsured and underinsured women.
- Identify efficient reimbursement policy models and use them to promote improved coverage.

c. Increasing health coverage and promoting purchasing cooperatives including small business

- Conduct an inventory of existing model programs of health coverage and purchasing cooperatives.
- Develop and disseminate a toolbox of model programs, including nontraditional health care coverage options.
- Promote collaboration on model programs.
- Market programs to individuals and include education on using the health care system.
- Advocate for policies to increase comprehensive care coverage for the underinsured and uninsured.

Especially for the middle and older years (45 years and older)

- Expand WISE WOMAN (an acronym for Well Integrated Screening and Evaluation for Women Across the Nation) throughout the United States.
- Design, fund, and conduct an actuarial study on the impact of diabetes on Medicare costs.

10. **Conduct public health research** on the following questions to further our knowledge about the epidemiologic, socioenvironmental, behavioral, translational, and biomedical factors that influence diabetes and women's health.

- What do we know about diabetes prevention and intervention, among women across all life stages, based on existing research data and findings, and what are the implications of this knowledge for future programs and policies?

- To what extent can type 2 diabetes and its complications in women be prevented or delayed by changes in diet, physical activity, psychosocial stress, work conditions, or pharmacology, taking into account specific biological and maturational changes (for example, endocrinological, physiological, psychological, and social) at each life stage?

- What is the impact of depression on the lives of women across the life stages with or at risk for diabetes?

- What are the determinants of the characteristics of effective diabetes-related prevention and intervention

services among women at different life stages?

- What is the extent of health care provider knowledge, beliefs, and practices related to risk factors, diagnoses, clinical, and preventive care of type 1, type 2, and gestational diabetes among women across all life stages?

- What is the societal cost of diagnosed and undiagnosed diabetes among women throughout the life course?

Especially for the adolescent years (10-17 years)

- What strategies can most effectively minimize the obstacles (independent of normal development and specific to diabetes) to help adolescents adopt and maintain appropriate health behaviors, prevention, and/or management of diabetes?

- Which environmental factors, if maintained or modified, would have a positive effect on preventing diabetes or improving diabetes outcomes for adolescents? What strategies can best lead to environmental change?

Especially for the reproductive years (18-44 years)

- What are the effects of changes in weight, diet, and physical activity during and after pregnancy on the risk of developing gestational diabetes, type 2 diabetes, and the risk of diabetes in the offspring? What systems and infrastructure are needed to support those changes?

- What are the most cost-effective interventions for preconception planning among women with type 1 and type 2 diabetes, to prevent diabetes anomalies in their offspring?

Especially for the middle years (45-64 years)

- What are the developmental characteristics of women in the middle years that affect or influence the risk for diabetes diagnosis, complications, and/or treatment?

- What interventions will have the best effect on long-term outcomes and improved quality of life?

- How can the delivery of preventive care, building on the existing system, be improved for women in the middle years?

Especially for the older years (65 years and older)

- To what extent does use of multiple medications, including over-the-counter drugs, influence quality of life and affect women's ability to manage diabetes?

- What developmental characteristics of women in the older years affect or influence the risk for diabetes, diagnosis, complications, and/or treatment?

- What interventions are most effective in promoting and sustaining healthy behaviors in the older years?

- What features of improved care, including community supports, can be efficiently implemented at home, in assisted living facilities, and in other settings for women in the older years?

Keeping the Momentum

The National Public Health Initiative on Diabetes and Women's Health, now in its second year, has generated much energy and enthusiasm in many circles. However, sustaining this momentum will require effort on three fronts.

Designation of lead agencies for each recommendation and/or strategy.
CDC has volunteered to be the lead agency for specific recommendations and/or strategies – and has taken steps to ensure that the needed infrastructure and resources are in place. CDC and its cosponsors will catalyze others to become national partners.

Development by the lead agency of operational plans for the priority strategies. These plans should include specific and sequential activities, a timeline for completion of the activities, evaluation measures to gauge progress, and a listing of key partners involved. A template for such an operational plan, generated during Phase III of the Initiative, is in Appendix E.

Design of a simple, yet meaningful, system for monitoring progress toward the National Agenda's broad goals, including a plan for sharing findings and making adjustments over time. Some proposed measures are

Increased number of speeches, press releases, testimony, and publications issued by policy makers, public health professionals, other advocates for women's issues, researchers, and the general public on diabetes as a prominent public health issue.

- A consensus statement among key stakeholders that there is a need to develop priority strategies, policies, and research to prevent and manage diabetes and to improve women's health.
- Increased federal, state, and local funding for the public health role in diabetes and women's health at national, state, and community levels.
- Increased number of agencies and organizations from multiple sectors of society that are engaged in a coordinated strategy to prevent and manage diabetes among women.
- Increased prevalence of behaviors among women that will improve their overall health and delay or prevent diabetes and its complications.

The cosponsors of the National Public Health Initiative on Diabetes and Women's Health invite you to join us in a concerted effort to stem the tide of diabetes and its complications among women. Together, we can win this fight by significantly improving the health and quality of life for women and their families nationwide.

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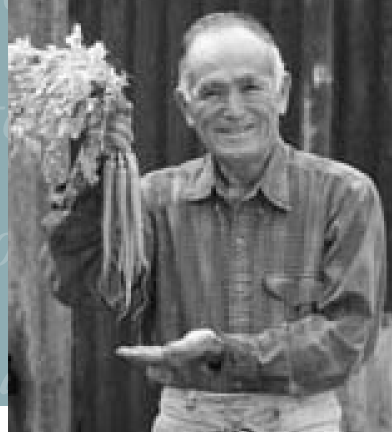

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Appendix B: Criteria for Selecting Priorities

Criteria for Selecting Recommendations

- Is the recommendation likely to have a high public health impact by:
    - o Preventing or delaying diabetes among women whenever possible;
    - o Allowing for early diagnosis and appropriate management of diabetes for women across the life stages;
    - o Preventing, delaying, or minimizing the occurrence of complications from diabetes; or
    - o Providing the needed family or community support to prevent or delay diabetes and its complications?

- Will the recommendation improve (or contribute to) access to and quality of diabetes care?

- Will the recommendation reduce (or contribute to the reduction of) disability and complications from diabetes and improve quality of life?

- Will the recommendation address primary prevention of diabetes-related burden in high-risk populations (e.g., racial/ethnic minorities, individuals who are obese, individuals with low socioeconomic status)?

- Will the recommendation lead or contribute to sustainable and integrated changes that include short-term and long-term outcomes?

- Do proven, effective strategies exist to implement the recommendations with available resources?

Appendix B: Criteria for Selecting Priorities

Minimum Criteria for Selecting Strategies for a Recommendation

- Are there sufficient data and evidence to define the extent of the problem, or evidence of efficacy or effectiveness, or does the strategy help address gaps in scientific knowledge?
- Are there some strategies that give guidance at the national level?
- Can some of the strategies be accomplished early on, with positive short-term outputs within 1-2 years?
- Are the strategies measurable, with evidence that they can be achieved?
- Are the strategies feasible to implement with limited resources?
- Do the strategies provide guidance to the targeted agencies on what steps need to be taken for action?
- Do the strategies reflect collaboration among various organizations?

Appendix C: References

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Appendix E: Template for Operational Plan

RECOMMENDATION: Create positive, rewarding forums that promote healthy eating and physical activity among adolescent females at risk for type 2 diabetes.

Strategy: Partner with existing organizations (nonprofit organizations, government agencies, universities, businesses, etc.), youth advocates within those organizations, and media outlets to deliver forums on a national basis. Develop incentive-based systems to attract and retain participants.

Timeline	Activity/Effect	Evaluation Measure	Key Partners
0 – 12 months	Conduct focus groups with young girls to determine structure, content, and delivery channels (e.g., how best to deliver nutrition messages and support). Contact key partners and solicit their buy-in to the forum concept.	At least __ (number) of focus groups conducted Structure, content, and delivery channels for forums designed based on focus group data At least ___ (number) key partners supporting forum concept	Women on the Run Title Nine sports Athletic shoe companies Lady Footlocker Proctor and Gamble Feminine hygiene product manufacturers "Totally for You" Commonwealth Fund
1-3 years	Develop forum template and pilot test it. Revise template. Launch template nationally.	___ Number of pilot sites Feasibility of pilot Over 3 years, there will be a __% increase in participants due to the incentive system Increase by __ % of girls involved in forums	
3-5 years	Expand forums Conduct national survey of female adolescents and key partners to broadly evaluate the forum's success.	___ % increase in number of forums Positive results from national survey	

Appendix E: Template for Operational Plan

RECOMMENDATION: Work with health insurers and policy makers to expand coverage and reimbursement policies to include prevention services for women throughout their life span.

Strategy: Promote federal laws and programs so that all women have adequate coverage for preventive and other services.			
Timeline	**Activity/Effect**	**Evaluation Measure**	**Key Partners**
1-3 years	Identify champions on Capitol Hill to support activities around coverage for the uninsured, working poor, and middle-aged women. Identify ___(number) of sympathetic policy makers. Encourage coalitions in strategic lobbying efforts.	Over three year time period, there will be a __% increase in the number of bills introduced on this issue and/or other legislative discussions and opportunities Over a three year time period, there will be a ___% increase in the number of supportive policy makers	Health care advocacy groups Women, ethnic, faith-based and other nontraditional federal programs Men's groups Grassroots community-based organizations State and local policy makers Federal legislators
3-5 years	Identify pilots and models for health coverage of uninsured women. Explore feasibility of coverage expansion for particular health issues. Expand and maintain efforts for coverage of working uninsured women. Broaden issue base and coalitions to underinsured women at risk or with diabetes regarding preventive and other services coverage.	Passage, implementation, and funding of federal and state legislation and programs to address these needs Over three year time period, there will be a __% increase in the numbers of women who have health coverage	
5 years and beyond	Continue to develop models and expand coverage.	Increased passage and implementation of federal legislation and programs to address these needs Increased numbers of women with health coverage	

Start dates (T0) and timeframes for T1, T2, and T3 will vary by strategy and/or activity.

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