Summary of Findings from the Reconvened Select Panel on

Preconception Health and Health Care

Prepared by:
Kay Johnson, Mary Balluff, Chad Abresch, Sarah Verbiest, and Hani Atrash

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

This report summarizes opportunities to accelerate progress in preconception health and health care over the next five years. In November 2014, the W.K. Kellogg Foundation provided resources to CityMatCH for a Reconvened Select Panel on Preconception Health and Health Care to discuss successful strategies over the past decade, identify missed opportunities, and focus on potential future direction. Coming together a decade after the initial Select Panel on Preconception Care was convened by CDC, participants in the Reconvened Select Panel included the same individuals or organizations when possible, and added additional experts as necessary. Similar to the original group, the Reconvened Select Panel represented subject matter expertise in clinical care, public health, research, health policy, and other disciplines.

Over the past decade, the topic of preconception health and health care has grown from a concept with a few knowledgeable supporters to a movement embraced by health care leaders and champions. The National Preconception Health and Health Care (PCHHC) Initiative is a public-private effort designed to: convene key stakeholders, guide implementation of recommendations, and provide leadership to anchor national, state, and local activities. Between 2004 and 2014, the PCHHC Initiative held three national summit meetings, supported five implementation work groups, and published various reports and articles, including four journal supplements. At the same time, states and communities took action to monitor, deliver, and improve preconception health and health care. Yet, the PCHHC recommendations of

2006 are not yet fulfilled—most women do not receive preconception care, and much work remains.

The Reconvened Select Panel recommended increased focus and clear actions to improve preconception health and health care. To improve preconception health at the population level, the Panel calls for emphasis on: 1) action to shift social determinants of health; 2) engagement of and social marketing to consumers and 3) public health; and 4) community preventive services. For health care, the Panel recommended emphasis on: 1) implementation of the women's clinical preventive services benefits under the Affordable Care Act, particularly well-woman visits that include preconception care; 2) development and implementation of clinical care supports and tools; 3) action to improve provider knowledge, attitudes, and behaviors, and maximize changes in the health care system; and 4) enhanced use of technology and health information technology.

In addition, the Panel identified a number of areas in need of crosscutting action to advance implementation of national recommendations for preconception health and health care. First and foremost is for the PCHHC Initiative to increase focus on measurement of process and outcomes for accountability. Also, augmented resources, new partnerships, and clearer messages are needed to advance preconception health and health care.

Finally, the Reconvened Select Panel stressed that leaders should envision the future and advance action as resources become available, deeming this an appropriate strategy for a large-scale initiative to improve population health and health care.

CHALLENGE TO THE RECONVENED SELECT PANEL ON PRECONCEPTION CARE AND HEALTH CARE

Despite calls for increased emphasis on preconception health and health care, and leadership from key federal, state, and private sector organizations, progress in implementing national recommendations has been slow. In terms of diffusion of innovation,[1] widespread adoption of preconception care concepts and practices has not been achieved. Change in clinical care is impeded by barriers related to knowledge, attitudes, and beliefs among women and their health providers. Progress in implementing federally required coverage of women's clinical preventive services, including preconception care in well-woman visits, also has been slow since the policy was enacted in 2013. Although state and local leaders in public health have pursued innovations, these are not being widely disseminated or taken to scale.

In response, the W.K. Kellogg Foundation provided resources to CityMatCH for a Reconvened Select Panel on Preconception Health and Health Care (PCHHC) meeting in November 2014. Coming together a decade after the initial Select Panel was convened by Centers for Disease Control and Prevention (CDC), the group included the same individuals or organizations, when possible, and added additional experts as necessary. (See Appendix A for a list of participants.) Similar to the original group, the Reconvened Panel represented subject matter expertise in clinical care (e.g., obstetrics and gynecology, nursing, midwifery, family practice, and pediatrics), public health (e.g., epidemiology, maternal and child health), research, public policy, and other disciplines. Leaders from the current core group of the National PCHHC Initiative were included along with others. (See below for more information on this Initiative.)

The agenda for the Reconvened Select Panel on Preconception Care focused on a series of questions to guide the discussion. These questions were:

- What will it take to get to the next level of implementation toward achievement of preconception health and health care vision and goals?
- What will it take to fulfill the promise to 44 million women for health coverage that includes well-woman visits (and preconception care) with no cost sharing?
- What will it take to communicate the value and importance of preconception health?
- How will we define and measure success?
- What public and private organizational resources are needed to make a leap forward?
- What holds us back?

This report summarizes the discussions, findings, and recommendations of the Reconvened Select Panel on Preconception Health and Health Care. It offers new emphasis and key strategic directions for work over the next five years.

BACKGROUND

Defining Preconception Health and Health Care

Preconception care is not a new concept. Beginning in the 1980s, recommendations by the Institute of Medicine,[2] the U.S. Public Health Service Expert Panel on the Content of Prenatal Care,[3] a national Committee on Perinatal Health,[4] and Guidelines for Perinatal Care made successively stronger calls for improving preconception health. Early studies on implementing preconception care in primary care pointed to promising practices and challenges.[5, 6, 7, 8, 9, 10, 11, 12, 13]

Since 2004, the topic of preconception health and health care has grown from a concept with a few knowledgeable supporters to a movement embraced by health leaders and champions across the United States. While professional journal articles and national recommendations reports had asserted the value of preconception health over several decades,[14, 15, 16, 17] it has been widely discussed and supported only in the past decade. The call to action has been made, and repeated.[18, 19, 20, 21] In part this shift represented recognition of the need to focus not only on pregnancy and prenatal care, but also on the health of women throughout their life span.[22]

A national consensus definition for preconception care, a vision for improved outcomes (see Table 1), goals (see Table 3), and ten recommendations (see Table 2) to improve preconception health and health care were published in 2006, based on a review of the literature and the knowledge and perspectives shared by the Select Panel on Preconception Care, and a Preconception Care Work Group of the CDC and the Agency for Toxic Substances and Disease Registry (ATSDR).[23] The recommendations led to an agenda for action aimed at changing policy, clinical care, consumer knowledge, public health, and data and research efforts.

Table 1. A Vision for Improving Preconception Health and Pregnancy Outcomes

All women and men of childbearing age have high reproductive awareness.
All women have a reproductive life plan.
All pregnancies are intended and planned.
All women of childbearing age have health coverage.
All women of childbearing age are screened prior to pregnancy for risks related to outcomes.
Women with a prior adverse pregnancy outcome have access to intensive interconception care to reduce their risks.

Under the consensus definition adopted by the Select Panel on Preconception Care in 2006, preconception

care is a set of interventions that endeavor to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management.[24] Interconception care, as an element of preconception care, offers opportunities for risk reduction following an adverse birth outcome and to identify or address risks before any future pregnancy a woman may choose to have.[25]

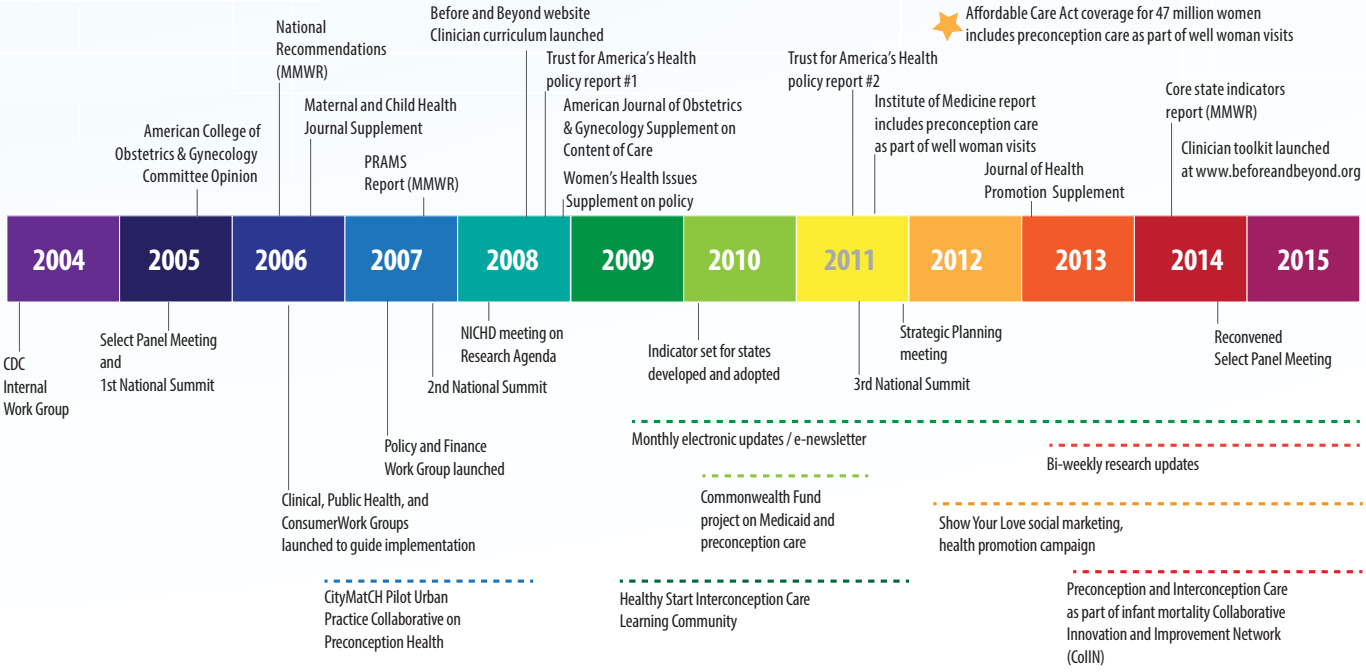
The National Preconception Health and Health Care (PCHHC) Initiative

The National Preconception Health and Health Care (PCHHC) Initiative is a public-private effort designed to: convene key stakeholders, give strategic direction, guide implementation of recommendations, provide leadership, and anchor a variety of national, state, and local activities. Between 2004 and 2014, the PCHHC Initiative convened three national summit meetings, supported five implementation workgroups, and published various reports and articles in support of the national recommendations, including four journal supplements.[26, 27, 28, 29] The PCHHC Initiative has adopted and carried out a series of strategic action plans, most recently the Action Plan for the National Initiative on Preconception Health and Health Care: A Report of the PCHHC Steering Committee (2012–2014).[30] The PCHHC Initiative work groups have undertaken a series of projects in the past decade and served as the leaders for implementation.

The PCHHC Initiative includes representatives from multiple federal agencies and units of government, particularly from the U.S. Department of Health and Human Services (HHS), but also from the Departments of Agriculture (USDA) and Veteran's Affairs (VA). For example, from the HHS Centers for Disease Control and Prevention (CDC), two centers—the National Center for Birth Defects and Developmental Disabilities, and the Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion—have provided consistent leadership to the Initiative. Beyond this core leadership, the CDC/ASTDR Preconception Care Work Group, representing 22 programs, evaluated best practices, reviewed the national recommendations, and grounded the work from its onset in 2004. The Maternal and Child Health Bureau, Health Resources and Services Administration (MCHB-HRSA), Office of Population Affairs (OPA), Office of Women's Health (OWH), and other units of HHS have been consistently involved in the PCHHC Initiative and its steering committee. The Agency for Healthcare Research and Quality (AHRQ) and the National Institutes for Health (NIH) also have played key roles related to their federal responsibilities for research and quality.

Private sector partners are equally important to the PCHHC Initiative. National maternal and child health organizations, such as the Association of Maternal and Child Health Programs, CityMatCH, and March of Dimes, are founding and core members of the steering committee. Professional organizations—such as the American College of Obstetricians and Gynecologists, American College of Nurse-Midwives, and Association of Women's Health, Obstetric and Neonatal Nurses—also have been consistently involved. Examples of organizations participating at various points in time include, but are not limited to, the American Academy of Family Physicians, American Academy of Pediatrics, Association of State and Territorial Health Officials, Jacobs Institute for Women's Health, National Association of County and City Health Officials, National Association Chronic Disease Directors, National Association of Community Health Centers, National Birth Defects Prevention Network, National Healthy Start Association, National Medical Association, National Women's Law Center, Society for Maternal Fetal Medicine, and Trust for America's Health. Key state-level maternal and child health leaders concerned with preconception health (e.g., California, Colorado, Florida, Louisiana, New York, North Carolina, Utah, and Wisconsin) also have played an important role in shaping the direction of the initiative. Researchers from universities and other organizations (e.g., institutes and "think tanks") with expertise in clinical care, health services research, health policy, health promotion, and other topics have equally brought their knowledge to the process over the past decade.

Figure 1. Preconception Timeline



As part of its focus on implementing the national recommendations, the PCHHC Initiative has directly and indirectly influenced other national projects, strategies, and policies. (See Figure 1.) For example, the Institute of Medicine (IOM) group on clinical preventive services for women[31] included two PCHHC Initiative experts who contributed evidence regarding preconception health issues, and, as result, coverage for women's preventive services under the Affordable Care Act recognizes preconception care as part of well-woman visits. (See more on this topic below.) The HHS National Prevention Strategy emphasizes preconception care as a crucial way to improve the health of women of childbearing age, children, and families.[32] The HHS Secretary's Advisory Committee on Infant Mortality (SACIM) recommendations report in 2013 included preconception health as one key element of improving the health of women before, during, and beyond pregnancy and as an important approach to improving pregnancy outcomes and reducing infant mortality.[33] The federal Healthy Start program conducted a three-year quality improvement project with all grantees related to interconception care and continues to develop tools to support grantee efforts. Preconception and interconception health have been part of the MCHB-HRSA, HHS Infant Mortality Collaborative Innovation and Improvement Network (CoIIN) as topics of collective interest identified by states.[34] Medicaid waivers for interconception (or interpregnancy) care, as well as special non-waiver projects have been carried out in several states with the approval and technical support of the Centers for Medicare and Medicaid Services (CMS). The HHS Office of Population Affairs has piloted and adopted principles related to preconception care in the Title X Family Planning program and included preconception care in the Quality Family Planning guidance. Each of these activities reflects the salience of PCHHC as a topic and relies on the evidence regarding the potential of preconception care to improve both women's health and birth outcomes.

PANEL RECOMMENDATIONS

The Reconvened Select Panel recommended increased focus and action to improve both preconception health and health care. (See Figure 2.) Both are essential to improving the health of women of childbearing age and men, as well as to improving birth outcomes.

To improve preconception health at the population level, the Panel calls for emphasis on: 1) action to shift social determinants of health; 2) engagement of and social marketing to consumers, and 3) public health; and 4) community preventive services. Preconception health can be improved across the life course using some of the widespread approaches to shifting social determinants of health and carrying out the core functions of public health. In addition, more resources are needed to advance social marketing and consumer education efforts.

For health care, the Reconvened Panel recommended four priority areas for accelerated action: 1) implementation of women's clinical preventive services benefits, particularly well-woman visits that include preconception care; 2) development and implementation of clinical care supports and tools; 3) action to improve provider knowledge, attitudes, and behaviors and maximize changes in the health care delivery system; and 4) enhanced use of technology and health information technology. The Panel called for a particular focus on strategies that can accelerate implementation of benefits under the Affordable Care Act, under which at least 47 million women now have coverage for clinical preventive services, including preconception care.

In addition, the Panel identified areas in which crosscutting action is needed to advance implementation of national recommendations for preconception health and health care. First and foremost is a need to increase focus on measurement of process and outcomes for accountability. In addition, augmented resources, new partnerships, and clearer messages are needed to advance preconception health and health care, including the work of the PCHHC Initiative. Hitching a ride and finding synergies with other health "movements" and issues is one important strategy.

Finally, the Reconvened Select Panel emphasized that leaders looking ahead should not be too narrow or worried about resources. Envisioning the future, figuring out what is needed, and advancing elements as resources become available is an appropriate combined strategy for this large-scale initiative which is aimed at improving both population health and health care. Some called for thinking big, laying out the billion-dollar plan, and then defining priorities as resources are secured. Such thinking goes beyond the current strategic action plans of the PCHHC Initiative and may set a course for enhanced efforts in the future.

Figure 2. Framework for Setting Priorities to Accelerate Implementation of Preconception Health and Health Care Recommendations

Improving Preconception Health

- Shifts in social determinants of health
- Social marketing and consumer engagement
- Public health
- Community preventive service

Improving Preconception Care

- Implementation of ACA coverage of well-woman visits
- Clinical care support
  Provider and health system changes
- Health information technology (HIT)

Crosscutting Action

- Augment measurement efforts with data, goals and performance and outcome measures for accountability
- Enhanced resources, expanded partnerships, and refined messages

DEFINING THE AGENDA FOR THE NEXT DECADE

Strengths and Missed Opportunities over the Past Decade

The Reconvened Select Panel affirmed that much has been accomplished by the PCHHC Initiative over the past decade. Particular strengths of the Initiative include a flexible structure with work groups focused on different aspects of implementation (e.g., public policy, clinical care, public health, consumer) and the capacity to engage key stakeholders as both short- and long-term partners. The PCHHC Initiative adopted and advanced several strategic action plans, reaching many short-term objectives. In terms of operational achievements over the past decade, the Panel noted that the PCHHC Initiative: maintained focus on the national recommendations, promoted and disseminated evidence through professional publications and meetings, informed and strengthened work at the state and local level, had some success in engaging leaders from women's health and family planning organizations, and provided continuity in leadership.

In addition, states have taken action to continue momentum. State preconception health projects and coalitions have been critical to piloting projects, advancing indicators that can be used to monitor preconception health, integrating preconception health into both maternal and child health and women's health agencies, and engaging health professionals as well as consumers. Visible preconception health groups of long duration have been active in Arizona, California, Colorado, Delaware, Florida, Georgia, Louisiana, Michigan, Nebraska, North Carolina, Oklahoma, Oregon, Washington, and Wisconsin, among other states.[35, 36] At the state level, developments include: consumer education campaigns, clinical guidelines and tools, logic models, annual reports, data initiatives, financing for services, and policies.

The Reconvened Select Panel also discussed strategies that were, for various reasons, put aside or left unfulfilled from past strategic plans over the past decade. These include the following examples of missed opportunities.

- Defining and consistently using core messages to communicate the importance of preconception health as part of women's health.
- Translating the evidence-based core components of preconception into specific guidelines issued and/or adopted by key health professional organizations.
- Designing and implementing clinical tools for translation of knowledge into practice (e.g., a professionally recommended and widely used preconception health screening tool for well-woman visits).

- Advancing a larger research agenda such as the one defined through a workshop of the National Institute of Child Health and Human Development, in particular conducting larger-scale research and demonstration projects.
- Expanding use of Medicaid to finance interconception care and well-woman visits in a large number of states.
- Informing and engaging health plans, managed care plans, and other health care delivery structures.
- Building workforce capacity in both public health and clinical care.

Fulfilling the Aims of the National PCHHC Recommendations

As one focus of the meeting, the Reconvened Select Panel discussed what is not happening now that should be, keeping in mind the vision, goals, and recommendations set out for preconception health and health care in 2006. (See Tables 1, 2, and 3.) The following examples, framed by the PCHHC recommendations, illustrate major gaps or missed opportunities that affect millions of women and men.

In line with Recommendations 1 and 2, the Reconvened Select Panel discussed the low levels of reproductive health awareness and limited "reproductive life planning" (i.e., a plan to achieve a set of personal goals about having children, based on the patient's values and resources) among many men and women in the United States.[37] This is reflected by the fact that an estimate half of pregnancies are unintended, and only about half of women of childbearing age use effective family planning methods prior to pregnancy.[38] To reach a broad cross-section of men[39] and women of childbearing age, efforts across the life span are needed, similar to efforts used to reduce chronic disease risks that give people information about the role of genetic, behavioral, environmental, and other factors. Strong results from one randomized clinical trial demonstrated the potential to change attitudes and behaviors related to nutrition and physical activity, as well as women's perceived control of birth outcomes.[40, 41]

Recommendations 3 through 6 call for action to improve clinical health care. There continues to be a gap in providing assessment, health promotion, and interventions to all women of childbearing age to better service women across the life span, who have different goals in terms of childbearing and varying levels of risk and need. Professional guidelines for clinicians who provide the majority of primary care to women of childbearing age (i.e., obstetrician-gynecologists, family practice physicians, and advanced practice nurses) do not yet specify the elements for routine preconception health risk assessment, education, and health promotion. National survey data indicate only a fraction of ambulatory visits made by U.S women of reproductive age include either preconception or contraceptive services.[42] Many providers are not focused on reproductive risks, preconception health, or risks for recurring adverse pregnancy outcomes.[43, 44] For women at all income levels, primary care is often discontinuous, and many women lack a medical home. Moreover, while studies show interconception care offers opportunities for prevention of repeat low birth weight and preterm births when risks are identified or indicated by prior adverse pregnancy outcome,[45, 46, 47, 48, 49] the health care system is not structured to routinely identify those risks and provide interventions.

Health coverage is the focus of Recommendation 7. While a majority of U.S. women of childbearing age now have coverage for well visits with preconception services as a result of the Affordable Care Act, these women and their providers are often unaware of this coverage. At the same time, millions of low-income women live in states that have not expanded Medicaid for single adults.[50] In addition, as discussed below, not all Medicaid programs provide coverage for adult well visits for any beneficiaries. As a result, many low-income women remain uninsured or underinsured and lack the resources to pay for primary and preventive care, including preconception services.[51]

Recommendation 8 focuses on public health and population services. Many state and local public health agencies have undertaken preconception health projects, with exemplary efforts in some areas. Such projects focus on surveillance, preventive services, social determinants of health, consumer education, or other activities intended to improve preconception health and health care. At the same time, this work has not been systematically undertaken by public health and maternal and child health agencies across the country.

Finally, in line with Recommendations 9 and 10, the Reconvened Select Panel noted that there has been too little emphasis on prevention and implementation research. The National Institute of Child Health and Development (NICHD-NIH-HHS) convened a workshop in 2006 to discuss a sweeping array of research opportunities from laboratory science to translational research to health services research. Systematic and other reviews point to key gaps in research.[52] Few possible projects identified in the context of the NICHD meeting nearly a decade ago have been developed as proposals or funded. Moreover, as discussed below, states and the CDC have some surveillance efforts underway, but these are not organized or structured to routinely provide a nationwide picture of risks and interventions.

Table 2. Recommendations to Improve Preconception Health and Health Care, 2006

1. **Individual Responsibility across the Lifespan.** Each woman, man, and couple should be encouraged to have a reproductive life plan.
2. **Consumer Awareness.** Increase public awareness of the importance of preconception health behaviors and preconception care services by using information and tools appropriate across various ages; literacy, including health literacy; and cultural/linguistic contexts.
3. **Preventive Visits.** As part of primary care visits, provide risk assessment and educational and health promotion counseling to all women of childbearing age to reduce reproductive risks and improve pregnancy outcomes.
4. **Interventions for Identified Risks.** Increase the proportion of women who receive interventions as follow-up to preconception and interconception risk screening, focusing on high-priority interventions (i.e., those with evidence of effectiveness and greatest potential impact).
5. **Interconception Care.** Use the interconception period to provide additional intensive interventions to women who have had a previous pregnancy that ended in an adverse outcome (i.e., infant or fetal death, birth defects, low birth weight, or preterm birth).
6. **Pre-pregnancy Checkup.** Offer, as a component of maternity care health insurance benefits, one pre-pregnancy visit for couples and persons planning pregnancy.
7. **Health coverage for Women with Low Incomes.** Increase public and private health insurance coverage for women with low incomes to improve access to preventive women's health and preconception and interconception care. This includes expanded use of Medicaid for non-pregnant women.
8. **Public Health Programs and Strategies.** Integrate components of preconception health into existing local public health and related programs, including emphasis on interconception interventions for women with previous adverse outcomes.
9. **Research.** Increase the evidence base and promote the use of the evidence to improve preconception health.
10. **Monitoring improvements.** Maximize public health surveillance and related research mechanisms to monitor preconception health.

KEY FINDINGS FROM THE RECONVENED SELECT PANEL ON PCHHC

Improving Health

The Reconvened Select Panel discussed the importance of improving preconception health and women's health across the life span. This topic was equally emphasized by the original Select Panel. While clinical health services are one tool for improving health, a broader set of tools have been identified to improve the health of populations, to ensure good overall health and well-being. The PCHHC Initiative Consumer Work Group and Public Health Work Group have undertaken projects over the past decade to advance population health; however, these have been limited by resource capacity, diffusion of innovation, and other factors.

Social Determinants of Health

The World Health Organization describes social determinants of health as: "The conditions in which people are born, grow, live, work, and age, including the health system."[53] As discussed by Marmot[54] and others the health of populations follows a social gradient, meaning the higher the socio-economic position, the better the health status and outcomes. In addition to genetic factors and health behaviors, the social and cultural environment has an important influence on health. While medical care often can treat disease and prolong life, addressing the social and economic conditions that contribute to ill health and the need for medical care is equally important. Long-term stress, social isolation or low social support, lack of control over life circumstances, job and food insecurity, exposures to environmental toxins, adverse childhood experiences, racism, discrimination, and income inequality are among the social determinants that have negative effects on health.[55] The World Health Organization has identified a framework for action at the population, public policy, program, and individual levels.[56]

The negative consequences of social determinants of health, unequal treatment, and health inequities contribute to racial/ethnic and income disparities in women's preconception health and birth outcomes. National survey data point to continuing disparities among U.S. women of childbearing age.[57] In terms of preconception health, general health, and overall well-being, non-Hispanic Black and Hispanic women of childbearing ages are less likely than non-Hispanic White women to report: good or better health status, high school or a GED completion, social support, adequate fruit and vegetable intake, and a Body Mass Index indicating healthy weight. Mental health distress, postpartum depressive symptoms, and physical or mental abuse affect a higher proportion of non-Hispanic Black and Hispanic women of childbearing age compared

to non-Hispanic White women. Reflecting a lack of equity in health care coverage and access, non-Hispanic Black and Hispanic women of childbearing ages are less likely than non-Hispanic White women to have a postpartum visit and health insurance outside of pregnancy. In terms of reproductive health, non-Hispanic Black women of childbearing ages are more likely than non-Hispanic White and Hispanic women to have risks such as an unintended pregnancy or a prior preterm birth and to experience chronic diseases such as diabetes or hypertension. The limited data available by income illustrate similar patterns of disadvantage for the poorest women and those living in communities with high concentrations of poverty.[58] (See Appendix B for more specific data regarding select risk and protective factors.)

To shift social determinants of health toward positive, rather than negative impact, will require use of data on disparities for advocacy and action to promote health equity. Translating evidence into useful information for action on social determinants is a step strongly recommended by the Reconvened Panel. Mapping risk and protective factors is one way to focus prevention and intervention effort.

Changes in state-level programs and policies are essential to shifting social determinants of health. Examples of state policies that change social determinants of health include: Medicaid expansion to adults with income up to 138% of the federal poverty level, paid family leave, minimum wage increases, and health in all policies approaches. States also have opportunities to invest in programs that can: reduce the impact of trauma, increase on housing and food security, offer support through medical-legal partnerships, and expand job training and education. Community-level projects and place-based initiatives are means to effective implementation of policy and program changes. In addition, the Panel called for engaging and empowering women as agents for advocacy and change.

Consumer Engagement and Social Marketing

Millions of U.S. women of childbearing age—including those with and without financial resources, with and without health literacy, and with and without good health status—do not have adequate reproductive health awareness or a reproductive life plan. They are not aware of risks to their reproductive health. They may not be aware of the full range of contractive methods or the relative safety and effectiveness of available methods. Too many do not understand how age, weight, or chronic disease can affect their childbearing potential. A large proportion does not have a reproductive life plan, which might change over time but would reflect whether or when they intend to have children. Communication about preconception is lacking between couples, as well as between men and women and their health care providers.[59, 60] Much more action is needed to engage and inform women of childbearing age and men about their reproductive health, including preconception health. Studies suggest that women and men value an opportunity to discuss their plans with health providers.[61, 62]

The Reconvened Panel also emphasized that, in today's societal context, it is difficult for many low-income women and men to envision a "responsible time" for childbearing. Millions of women of childbearing age and men do not anticipate greater income, a safer living environment, increased educational attainment, better employment options, or increased social support. For many, there may be a real risk of "weathering" over the life course due to stress, adverse living conditions, and inadequate health care.[63, 64] Women, men, and their providers need information and support that can assist them in fulfilling their childbearing goals regardless of socio-economic status.

A large-scale social marketing campaign is one element of the work needed to advance reproductive health knowledge. Traditional communication theory tells us that an effective communication strategy should be grounded in having the will, plan, and necessary resources. The will to communicate the value of PCHHC to consumers has been demonstrated through the *Show Your Love* campaign, which has been guided by CDC staff and the PCHHC Consumer Work Group.[65, 66] A comprehensive strategy for Phase II of *Show Your Love* and theoretical model were developed, as well as an implementation model for partners. Funding for larger-scale implementation has been a barrier to taking this campaign to a wider audience.

The Reconvened Select Panel emphasized the importance of building one "brand," with a shared focus and message.

The Panel noted that while the consumer element of the *Show Your Love* campaign shows promise, messages about preconception health are important for three audiences: consumers, health providers, and policymakers. Panel members encouraged a strategy that would build on and expand the *Show Your Love* campaign to: use of various platforms customized for local audiences (e.g., print and social media), develop appropriate messages for additional audiences (e.g., health professionals and policymakers), and enrich the current set of messengers (e.g., media reporters and health profession organizations).

The Panel also recommended development of a matrix that looks at audiences, content, vehicles for delivery, and dissemination as part of a comprehensive plan. An expanded set of partnerships was called for in terms of communication. Engaging private sector partners (e.g., corporations, The Ad Council, television networks) has the potential to provide more resources, expertise, and breadth to communications efforts related to PCHHC. More local, community-level partnerships with home visiting, housing, nutrition, domestic violence, and other social and public health programs are equally needed to extend the reach of any communications campaign.

Public Health

A landmark report by the Institute of Medicine (IOM) regarding the Future of Public Health was issued in 1988,[67] and an updated version released in 2002,[68] defined the three core functions of public health as: assessment, policy development, and assurance. Commitment to these core functions has been affirmed by public health agencies, organizations, and professionals for nearly three decades. These core functions are the means by which public health fulfills its mission to create the conditions under which people can be healthy and promote health.

The function of assessment reflects the public health role in surveillance of disease/injury, with the primary activities including data collection, monitoring trends, analyzing causes, identifying needs, and making information available. (These topics are addressed below in a section regarding monitoring and measurement.) The policy development function involves: broad stakeholder engagement, science based decision-making, strategic approaches, and development of comprehensive public

health policies. To fulfill their assurance role, public health agencies help implement legislative mandates (through regulation or by directly provide necessary services), and guarantee access to high-priority personal and community health services (including subsidies or direct provision of personal health services for those unable to afford them).

As mentioned above, state-level maternal and child health leaders concerned with preconception health have formed partnerships, used public health resources, and carried out core public health functions in relationship to preconception health (e.g., Alabama, Arizona, California, Colorado, Delaware, Florida, Georgia, Idaho, Kentucky, Louisiana, Minnesota, Mississippi, Montana, New York, Nebraska, North Carolina, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Washington State, and Wisconsin). State efforts demonstrate the potential for action across the core public health functions.[69] For example, the California Department of Public Health affirms that preconception health will be achieved not only through effective clinical care for women but also through collaboration with individuals, systems, and communities to change knowledge, attitudes, and behaviors related to reproductive health. The Maternal and Child Health Program of the Department of Public Health in California is partnering with stakeholders stateside to provide direction for the integration of preconception health and health care into public health practice and promote preconception health messages to women of reproductive age. A longstanding public-private partnership, similar to the national initiative, has guided preconception health efforts in California.

Other public health leaders also have made preconception health a priority. Local public health leaders (e.g., Atlanta, GA; Boston, MA; Chicago, IL; Los Angeles, CA; Nashville, TN; Oakland, CA; and San Francisco, CA) have engaged in promotion and advancement of preconception health.[70] Native American tribal leaders in tribes across Alaska, Michigan, Minnesota, South Dakota, Wisconsin, and other areas have worked to improve the preconception health of their populations. Some tribal efforts are guided by federally funded Healthy Start sites, while others are independently initiated and led by tribal health leaders.

The three core functions of public health are relevant to promoting preconception health. In the context of these core public health functions, federal, state, and local public health agencies can support knowledge development and dissemination, establish objectives, provide technical assistance, assess preconception health, develop policies to promote preconception health and health care, and assure that high-quality services are available and accessible. Formation of partnerships, such as the PCHHC Initiative and state-level task forces, are critical to fulfilling these functions. The Expert Panel called for continuing and increasing engagement of public health agencies in assuring preconception health.

Community Preventive Services

Community preventive services have an important role to play in improving preconception health. While often using the skills of clinical providers, community preventive services are more likely to be carried out by public health agencies or through mechanisms aimed at improving population health. Public health agencies typically seek to assure provision of evidence-based community preventive services. In some cases, the role of public health is to assure or provide direct services in publicly accessible settings such as local health department clinics and federally qualified health centers which provide services on an income-adjusted scale and include free care for those unable to pay.

The Community Preventive Services Task Force (CPSTF) is an independent, non-federal panel of public health and prevention experts appointed by the Director of the CDC that provide recommendations and evidence-based findings. Through its Community Guide, the CPSTF makes recommendations.[71] Working in parallel, the U.S. Preventive Services Task Force (USPSTF) makes recommendation regarding clinical preventive services, including some that have implications for community service delivery and population health.[72] The following examples illustrate some of the potential roles for community preventive services in improving preconception health.

- Tobacco use is a hazard to women and any pregnancy they may have. The CPSTF recommends use of tobacco cessation telephone quit-lines, increases to the price of tobacco products, mobile phone-based interventions, and reducing the out-of-pocket cost for evidence-based cessation treatment are all recommended community preventive services. These are particularly recommended as part of comprehensive tobacco control programs that might also include policies to create smoke-free areas and restrict minors' access to tobacco.
- The USPSTF recommends that all women planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 mg (400 to 800 µg) of folic acid. To advance folic acid supplementation—an important and evidence-based preconception intervention—the TFCSP recommends use of community-wide campaigns to promote the use of folic acid supplements and fortification of food products.
- The USPSTF recommends screening and behavioral counseling interventions in primary care settings to reduce alcohol misuse by adults. In terms of preconception health, public health agencies have a role promoting screening, counseling, and brief interventions for women prior to pregnancy can reduce the prevalence of fetal alcohol syndrome and other alcohol-related birth defects.
- The USPSTF recommends that health care clinicians screen sexually active women (pregnant and non-pregnant) for chlamydia and gonorrhea. Public health agencies play a key role in assuring the availability and utilization of these services.
- The TFCSP recommends preventing and controlling overweight in worksite settings, through use of multicomponent interventions that include nutrition and physical activity (e.g., simultaneously providing

nutrition education or dietary prescription, physical activity prescription or group activity, and behavioral skills development) to control overweight and obesity among adults in worksite settings.[73]

- The TFCPS recommends youth development behavioral interventions in community settings (e.g., schools, afterschool programs, community centers) that emphasize social and emotional competence, improved decision-making and communication skills, self-determination, and positive bonding experiences with adult role models, with a goal of reducing sexual and other risks.

Panel Recommendations for Improving Preconception Health

To improve preconception health at the population level, the Reconvened Select Panel called for emphasis on: 1) action to shift social determinants of health; 2) engagement of and social marketing to consumers, and 3) public health; and 4) community preventive services. More specifically, the Panel recommended action to:

- Increase action to shifting social determinants of health toward positive, rather than negative impact, through use of policies, programs, and community-level action.
- Increase investment in social marketing, using one "brand" built on the Show Your Love campaign with a shared focus and tailored messages across various audiences.
    - Secure resources to implement the next stage of the consumer-focused Show Your Love campaign messages.
    - Develop new messages for policymakers and health professionals.
    - Develop new, more tailored messages for higher-risk women of childbearing age and men in disadvantaged communities.
- Engage women as health care consumers and decision-makers to increase demand for services.
- Reflecting the core public health functions, use public health resources, methods, and expertise at the federal, state, and local levels to improve preconception health at the population level.
    - Support knowledge development and dissemination.
    - Use assessment, including clear objectives, data collection, and monitoring of preconception health.
    - Provide technical assistance and program support.
    - Develop policies to promote preconception health and coverage for preconception health care.
    - Assure high-quality services are available and accessible.
- Increase public health agencies emphasis on implementation of evidence-based community preventive services important to preconception health, including mass-education campaigns, public policies, and direct services in publicly accessible clinics (e.g., local health departments, federally qualified health centers).
    - Use resources from tobacco settlement funds, Medicaid, and public health to increase tobacco cessation among individuals of childbearing age.
    - Use public health resources to assure that women receive education and support (including free and low-cost vitamin supplements) to supplement folic acid.
    - Increase public health agency action to assure use of alcohol screening, counseling, and brief interventions for women of childbearing age.
    - Renew efforts to make sexually transmitted infection (STI) screening available in publicly accessible clinics (e.g., local health departments, federally qualified health centers).
    - Increase use of effective, evidence-based interventions to reduce overweight and obesity in the workplace, schools, and other community settings.
    - Increase investment in youth development behavioral interventions, including emphasis on life planning, responsible parenthood, reproductive life planning, reproductive health, and overall health.

Improving Health Care

Millions of women do not receive the care they need to stay healthy, both before and during pregnancy. In the case of child development and cardiovascular disease, medicine has routine screening (i.e., risk assessment), health education and promotion, and brief interventions that are recommended for use in primary care. For reproductive health, a parallel set of screening, education, and intervention is needed. Recommendations in support of preconception health and health care have long called for use of this approach. In addition, the integration of the content of preconception care into well-woman visits is seen as the most appropriate clinical approach for reaching and serving a majority of women of childbearing age. While we have recommendations and an evidence base to support preconception care, we do not have clinical guidelines adopted by key professional organizations, translational and clinical practice tools and supports, and clinicians routinely providing services.

The PCHHC Initiative Policy and Finance Work Group developed recommendations and principles for policy change in 2007. Most important among these were recommendations for incorporating preconception health and health care into any health reform legislation. As described below, preconception care was ultimately included in the preventive benefits coverage under the Affordable Care Act. For a majority of women, however, these benefits are not being used.

Clinical Care Supports

Changing professional engagement, knowledge, attitudes, and behaviors were topics of intense discussion by the Reconvened Select Panel. While many health professionals are aware of the concept of preconception health, the Panel discussion concluded that too few are aware of the evidence, and most lack the knowledge and tools to support changes in practice. In diffusion of innovation terms, it is mainly champions and early adopters who are informed and taking action.

The Clinical Work Group of the PCHHC Initiative used the Task Force for Clinical Preventive Services approach to identify evidence-based clinical approaches and make

> "While we say 'every woman, every time,' we don't mean everything for every woman every time. We need to define boundaries on what should be done at health care specific visits, and what can be done by the health care team that does not require physician skills."
>
> Hani Atrash, MD, MPH

recommendations for the content of preconception care. Beginning in 2006, members of the clinical work group asked the following questions: What are the clinical components of preconception care?; What is the evidence for inclusion of each component in clinical activities?; and What health promotion package should be delivered as part of preconception care? Through two years of deliberation, the 29-member Clinical Work Group, along with 30 additional expert consultants, reviewed in-depth more than 80 topics. (Topics were selected on the basis of the effect of preconception care on the health of the mother and/or infant, prevalence, and detectability.) For each topic, the work group assessed the quality and strength of the evidence and made a recommendation. Based on available evidence, the group identified a short list of core preconception interventions for which there is substantial evidence of efficacy. Published in December 2008, their compilation of the evidence and recommendations for the content of preconception care continue to serve as an authoritative source for developing guidelines, defining best practices, and improving clinical care. The list includes, but is not limited to, family planning, immunization, nutrition (including folate), substance use, sexually transmitted infection screening, and medical conditions such as diabetes mellitus, seizure disorders, Phenylketonuria (PKU), and hypertension.[74] Yet, while these evidence-based recommendations for the content of care were published in 2008, they have not been widely implemented.

The PCHHC Clinical Work Group subsequently developed a toolkit for clinical care (released in 2014).[75] The toolkit offers evidence-based and practical tools and suggestions to clinicians, particularly those interested in improving primary care for women of childbearing age. The goal of the toolkit is to help clinicians better serve in routine primary care every woman who might someday become pregnant with efficient, evidence-based services to help her achieve: improved short- and long-term health outcomes, increased likelihood that any future pregnancies are by choice rather than chance, and decreased likelihood of complications if she does become pregnant. To date, however, the primary users of this toolkit are a group of "early adopters," and it is not being used by a majority of health providers who delivery primary care and reproductive health services to women. The Panel urged increased attention to dissemination of this and other clinical tools.

The Reconvened Panel noted the promising practice in the *One Key Question® Initiative*.[76] This initiative of the Oregon Foundation for Reproductive Health offers a simple, yet groundbreaking, approach that encourages primary care clinicians to routinely ask women: "Would you like to become pregnant in the next year?" The *One Key Question* approach has been endorsed by 30 professional organizations and is being implemented in Oregon and other primary care and public health clinic sites across the country.

Health information technology offers opportunities to develop innovative clinical tools.[77] Boston University researchers have aimed to harness the potential power of electronic information to help to educate women about preconception health.[78] "Gabby" is an online preconception conversation agent. In one recent study with African-American women ages 18-34, interactions with Gabby were associated with significant reductions in preconception health risks.[79] Another example is the National Women's Health Project well-woman visit mobile app, which is specifically designed for health care providers as a helpful tool for the well-woman visit.[80] The Panel also noted that additional efforts also are needed to integrate preconception care into electronic health/medical records approaches.

Implementation of Health Coverage

Prior to enactment of the Patient Protection and Affordable Care Act of 2010 (ACA), an estimated one in five women of childbearing age did not have health insurance, and many others were underinsured.[81] The need for enhanced coverage and financing for preconception care was identified as a need throughout the past decade.[82, 83] Changes in financing for preconception care were needed to address gaps in coverage, benefit limits, and unaffordable cost sharing.[84] Since 2010, many changes related to the ACA have been implemented and had positive effect on coverage and other aspects of the health care system. At the same time, effective implementation of preventive benefits for women of childbearing age has not been achieved.

In 2008, Rosenbaum called for three major reforms to create a comprehensive benefit to address the risks and needs of women of reproductive age. First, a "well-woman" benefit for coverage of preventive visits to assess risks, identify previously undiagnosed chronic illnesses and conditions, and provide health promotion. Second, preconception treatment coverage, including a provision that would override otherwise applicable benefit limitations and exclusions in the case of diagnosed conditions in women of childbearing age

The Institute of Medicine report on preventive care services for women calls for at least one well-woman visit annually for adult women to obtain recommended preventive services, including preconception care. The IOM also recognizes that several visits may be needed to obtain all necessary recommended preventive services, depending on a woman's health status, health needs, and other risk factors.

that pose the potential to adversely affect maternal health and birth outcome.[85] Third, and parallel to the second recommendation, coverage should include comprehensive interconception treatment for women whose previous pregnancies have ended in adverse outcome. Progress has been made, mainly toward the first proposed benefit category.

The ACA focused on prevention, including provisions that require coverage of effective preventive health services for men, women, and children with no out-of-pocket costs. Following enactment of the ACA, the HHS charged the IOM with reviewing what clinical preventive services are important to and necessary for women's health and well-being and therefore should be considered part of federal guidelines. The women's clinical preventive services list is in addition to the services identified in the recommendations of three independent bodies the U.S. Preventive Services Task Force, American Academy of Pediatrics Bright Futures guidelines, and Advisory Committee on Immunization Practices.[86] (Coverage for those preventive services went into effect in 2010 for 58 million adults and 18 million children.) The IOM committee identified gaps in the list of preventive services already identified by those three entities and found sufficient evidence to make recommendations for eight additional services to be covered for women. Among these eight, the IOM committee recommended including at least one well-woman, preventive-care visit annually to receive comprehensive services, including preconception care. Depending on a woman's health status health needs, and risk factors, the IOM committee noted, multiple well-woman visits might be necessary to provide the full range of recommended preventive services.

On Aug. 1, 2011, less than two weeks after the release of IOM report *Clinical Preventive Services for Women: Closing the Gaps*,[87] HHS adopted the IOM's recommendations into federal guidelines. As of Aug.1, 2012, all new health plans were required to cover these women's preventive services for policies.[88] As a result, an estimated 48 million women now have access to additional preventive services—including preconception care—coverage without cost sharing, with 30 million of these being newly eligible because of the ACA.[89]

Yet it is clear that coverage does not necessarily translate into utilization of services. Public awareness of the new rules for preventive services generally is low. A Kaiser Family Foundation survey in March 2014 found that less than half the population (43%) reported that they were aware that the ACA prohibited of out-of-pocket expenses for preventive services.[90] In addition, four in 10 women are unaware of new preventive services coverage.[91] For a service as specific and little understood as preconception care, no doubt public awareness is much lower. Moreover, as discussed above, not only women, but also their providers, must be aware of the coverage rules to stimulate increased use of preventive services such as preconception care.

Another important gap is that Medicaid does not require coverage of preventive benefits in all states. The number and content of adult preventive visits are determined on a state-by-state basis. This means that the requirements for private plans, as adopted under the ACA, do not apply for women in Medicaid.[92]

Panel Recommendations for Improving Preconception Health Care

Recommended four areas for accelerated action: 1) implementation of the ACA women's clinical preventive services benefits, particularly well-woman visits that include preconception care; 2) development and implementation of clinical care supports and tools; 3) action to improve provider knowledge, attitudes, and behaviors, and maximize changes in the health care delivery system; and 4) enhanced use of technology and

"There has been huge progress over 10 years – parallel to the progress related to the IOM quality chasm report. We also must recognize that the ACA offers once in a lifetime opportunity."

Rebekah Gee, MD, MPH, MSHPR, FACOG

health information technology. The Reconvened Expert Panel identified the following high-priority strategies within these areas:

- Focus on implementation of the ACA women's clinical preventive services benefits, particularly well-woman visits that include preconception care.
    - Use federal and professional organizational support to develop guidelines for well-woman visits with information and tools for clinicians and consumers. (This would parallel the approaches and partnerships used by HRSA and the American Academy of Pediatrics to develop the Bright Futures guidelines for well-child visits.)
    - Use federal and professional organizational support to disseminate professional guidelines to ensure they become the accepted standard of care.
    - Ensure coverage in Medicaid for the HHS women's clinical preventive services benefits, as well as other ACA-required preventive services benefits for adults.
    - Inform providers, plans, and payers about covered services definitions and how to be reimbursed.
- Develop and implement clinical care supports and tools.
    - Develop and disseminate new clinical screening tools, algorithms, and defined components to augment well-woman visits with preconception care content.
    - Accelerate dissemination of the Preconception/ Interconception Care Clinical Toolkit.
    - Augment use of some specific models for clinical practice (e.g., "One Key Question" or reproductive life plan tools).

- Action to improve provider knowledge, attitudes, and behaviors related to preconception care and maximize changes in the health care delivery system.
    - Reduce the burden on physicians, and expand use of a clinical team approach that maximizes the role of advance practitioners, nurses, health educators, community health workers, and others.
    - Maximize the potential impact of health care delivery system changes, including creation of accountable care organizations and patient-centered medical homes.
    - Integrate preconception health and health care concepts into medical and other health professional school curricula and continuing education.
- Harness the potential of technology and health information technology. This might entail use of electronic health records or Internet-based resources and tools (e.g., The Gabby Project).

Crosscutting Action

Adoption of augmented measurement efforts

How we define and measure success is a direct reflection of the priorities and goals of our efforts. At the macro level, success may be achieving the goals set out by the original Select Panel. (See Table 3.) Achieving those goals will require health coverage, with appropriate preventive and treatment benefits, for all women and men in the United States to assure access to preconception health care, along with the social marketing and consumer awareness of the risks and benefits of protecting reproductive health and planning for pregnancy. Changing the culture of health and the social determinants of health will be equally important in communities across the nation.

Measuring progress along the way toward these goals is critical. Considerable progress has been made toward structuring measures for preconception health. National objectives, state indicators, and survey questions all have been used to focus on priorities and identify areas where measurement is valuable and possible. Such measurement efforts are key to both focus preconception health and health care action and to measure success. Multiple measures are aligned with the goals and objectives defined by the Select Panel, and the Reconvened Select Panel took these ideas further.

Preconception health and behaviors are now included in Healthy People 2020 as part of the Maternal, Infant, and Child Health (MICH) topic area.[93] (See Appendix C.) Inclusion in the national health objectives indicates the degree to which preconception health has moved into mainstream public health discussions and national intentions to measure progress. Importantly, however, several key measures are only suggested and are under development.

In the HHS annual report on Child Health USA, preconception health is measured using related indicators including drinking, smoking, vitamin use, and normal weight. Variations by race/ethnicity and education are noted.[94]

State-level surveillance efforts have gone further to define measures. Aligned with the PCHHC Initiative, a group of leaders in program, epidemiology, and policy from seven states (California, Delaware, Florida, Michigan, North Carolina, Texas, and Utah) identified 45 core state preconception health indicators.[95] These were designed to be a comprehensive, nationally recognized set of indicators to be used for monitoring, evaluation, and response. Of the 45 indicators, 24 use the Pregnancy Risk Assessment Monitoring System (PRAMS) and 17 use the Behavioral Risk Factor Surveillance System (BRFSS) as data sources, offering opportunities for state-level, interstate, and nationwide comparisons.[96]

Table 3. Goals of the PCHHC Initiative

To improve the knowledge, attitudes, and behaviors of men and women related to preconception health.
To assure that all U.S. women of childbearing age receive preconception care services—screening, health promotion, and interventions—that will enable them to achieve high levels of wellness, minimize risks, and enter any pregnancy they may have in optimal health.
To reduce risks among women indicated by a prior adverse maternal, fetal, or infant outcome through interventions in the postpartum/interconception period.
To create health equity and eliminate disparities in adverse maternal, fetal, and infant outcomes.

Building from the preconception health indicators set, researchers at CDC and in the private sector have published numerous analyses, which serve as prototypes for surveillance of preconception health and health care.[97, 98, 99, 100, 101, 102] Some states have produced reports or factsheets on preconception health, using these indicators and others, which serve to guide their program and policy investments.[103, 104, 105] States' efforts often have been supported or supplemented by CDC epidemiologists.[106] Together, these applications of the indicators set demonstrate how data can be used to guide planning, promote public awareness, and shape policy and programs.

The Reconvened Select Panel called for development of specific goals or aims for 2020. These goals would build upon the original goals of the PCHHC Initiative (as shown in Table 3) and focus on targets, benchmarks, and

alignment with Healthy People 2020. The Panel suggested that "smart" goals might include more specific targets and higher levels of expected. (See Appendix D.)

Panel Recommendations for Improving Measurement

The Reconvened Select Panel recommended several steps to further refine measurement efforts. These include the following:

- Focus and refine measurement efforts.
  - Measure with both clinical data and population data.
  - Define a set of high 5-10 population level indicators adapted from the core set of 45 and recommend their use by all states.
  - Define a set of measures for clinical settings accepted by one or more national entities (e.g., HEDIS, NCQA, NQF, CMS).
  - Define "smart" goals that include aims, specific numeric targets, and time frames.
- Use health information technology (HIT), electronic records, and other technology to improve data collection and use.
- Hitch a ride with other data initiatives (e.g., chronic care, family planning, birth outcomes).
- Use data to stimulate and drive action.

Enhancement of Resources, Partnerships, and Communication

The Reconvened Select Panel identified a need for more human and other capital to take the work of improving preconception health and health care to the next level of development and implementation. Over the past decade, the PCHHC Initiative has largely relied on "sweat equity" and volunteerism as primary approaches. Many public and private organizations have given in-kind support through staff time and direct investment in projects. These continue to be important to the Initiative, particularly its broad-based leadership structure. At the same time, it is clear that the current Initiative structure needs an infusion of resources to have greater impact. More specifically, the Panel called for action to secure additional resources to support an array of research, demonstration, and implementation projects.

> "Fulfilling the promise will involve using HIT and measurement strategies, including a concise list of common measures and training for data use."
>
> Chad Abresch, MEd

Maximizing existing resources depends on having a broad cross-sector group of stakeholders engaged, providing support, and seeking funding for related projects and research. The Panel recommended expanded partnerships, coordination, and integration with other health movements and groups with related priorities (e.g., chronic disease, women's health, perinatal health, and adolescent health). Using opportunities to "hitch a ride" with other campaigns or initiatives was seen by the Panel as a valuable and essential means of advancing preconception health. Such opportunities include initiatives to address chronic disease, adolescent health, social determinants of health, infant mortality, and, last but not least, the implementation of the women's clinical preventive services package under the Affordable Care Act.

The importance of packaging, framing, and integrating preconception health into a life course perspective was underscored in the Reconvened Panel discussions. Panel members generally held the view that there is a lack of clarity about what preconception health and health care is and, consequently, what can be done to advance it. The diffuse nature of the issue, the many directions of action, and even the long list of indicators, suggests that there is not one target for change, but many. For some, preconception health and health care has become too much a "catch-all" for women's health issues across the life, and for others it is too much a strategy focused pro-natally on birth outcomes. Ongoing tension exists regarding whether preconception health and health care is related primarily to improving women's health or improving birth outcomes. While ongoing efforts have been made to clarify that improved preconception health is intended to do good for women and the outcome of any pregnancy they may choose to have, some misperceptions remain. Adopting a clearer, more-focused message may help accelerate success.

"We need to hitch a ride with ongoing movements. How well are we aligning our work with preventing teen and unintended pregnancy, life course initiatives and chronic disease prevention, home visitation and early childhood development, and promoting health equity and racial justice?"

Magda Peck, ScD

The Reconvened Panel made suggestions for increased investment in research. The panel also affirmed that the evidence base and expert opinion in support of preconception health and health care has grown over the past decade. In 2004-05, the CDC Task Force and the Select Panel defined a list of preventable risks included in publication of the national recommendations. The evidence-base for clinical care was set out using a method parallel to the USPSTF and published in 2008. The recommendation and endorsement of the Institute of Medicine came in 2011. This has been sufficient evidence to implement changes in routine preventive-care visits for women. At the same time, additional research projects could be used to demonstrate the most effective and cost-effective ways to deliver recommended elements of preconception care. Additional research to improve understanding of what biological and psycho-social factors influence preconception health also is needed.

Panel Recommendations for Resources, Partnerships, and Communication

The Reconvened Select Panel recommended several steps to improve the reach and effectiveness of the PCHHC Initiative, particularly focused on enhancing resources, expanding partnerships, and improving communication. These include:

- Increase the level of resources available to support the work of the PCHHC Initiative staff and work groups.
- Cross-walk the priorities of funders (e.g., federal government, philanthropic organizations) against the PCHHC Initiative goals for future action and make more applications for possible funding (including collaborative proposals).
- Expand partnerships, coordination, and integration with other health movements and groups with related priorities (e.g., chronic disease, women's health, perinatal health, and adolescent health) to better integrate preconception health activities and maximize available resources.
- Adopt a clearer, more-focused message for communicating the purposes of preconception health and health care activities (e.g., consensus development of an "elevator speech" and other core communications messages).
- Identify a cadre of new and experienced professionals in search of research, translational, or implementation projects who could be enlisted to advance implementation of the preconception research agenda.

"It is said 'we should do this or that,' but who is the 'WE' that has the specific responsibility or resources? It is essential to define tasks for the next five years and identify who will get the work done. The National PCHHC Initiative will continue to play a key role in coordination and monitoring."

Hani Atrash, MD, MPH

APPENDICES

Appendix A.
Members of the Reconvened Select Panel on Preconception Health and Health Care

Chad Abresch
Executive Director
CityMatCH

Deborah Allen
Director
Bureau of Child, Adolescent and Family Health
Boston Public Health Commission

Hani Atrash
Director
Division of Healthy Start and Perinatal Services
Health Resources Services Administration

Mary Balluff
Division Chief
Douglas County Health Department

Sara Baker
Administrator
Penn State Center for Women's Health Resources

Wanda Barfield
Division Director
Division of Reproductive Health
Centers for Disease Control and Prevention

Janis Biermann
Senior Vice President
March of Dimes

Coleen Boyle
Center Director
National Center on Birth Defects and Developmental Disabilities
Centers for Disease Control and Prevention

Carol Brady
MIECHV Project Director
Florida Association of Healthy Start Coalitions

David Chelmow
Professor and Chair
Department of Obstetrics and Gynecology
Virginia Commonwealth University Medical Center

Mario Drummonds
CEO
Northern Manhattan Perinatal Partnership, Inc.

Anne Dunlop
Professor
Emory University

Johannie Escarne
Senior Public Health Analyst
Maternal and Child Health Bureau
Health Resources Services Administration

Lacy Fehrenbach
Director, Program Team
Association of Maternal and Child Health Programs

Dan Frayne
Assistant Clinical Director
MAHEC Family Health Center at Biltmore

Lorrie Gavin
Office of Population Affairs
U.S. Department of Health & Human Services

Rebekah Gee
Medicaid Medical Director
State of Louisiana

Violanda Grigorescu
Branch Chief
Division or Reproductive Health
Centers for Disease Control and Prevention

Arden Handler
Director, MCH Program
University of Illinois at Chicago

Brian Jack
Professor and Chair
Department of Family Medicine
Boston University

Chazeman Jackson
Health Science Advisor
Office of Minority Health

Art James
Senior Policy Advisor
Bureau of Child and Family Services
Ohio Department of Health

Kay Johnson
MCH Policy Expert
Johnson Group Consulting Inc.

Nancy Lee
Director
Office on Women's Health
U.S. Department of Health & Human Services

Kiko Malin
Director of MCAH
Alameda County Department of Public Health

Betsy Mitchell
Associate Director for Communication Science
National Center on Birth Defects and Developmental Disabilities
Centers for Disease Control and Prevention

Magda Peck
Founding Dean
Joseph J. Zilber School or Public Health
University of Wisconsin-Milwaukee

Diana Ramos
Medical Director
Maternal Health & Family Planning
Los Angeles County

Cathy Ruhl
Director, Women's Health Programs
Association of Women's Health, Obstetric and Neonatal Nurses

Patrick Simpson
W.K. Kellogg Foundation
Director of Programming

Nan Streeter
Deputy Division Director
Utah Department of Health

Sarah Verbiest
Executive Director
Center for Maternal & Infant Health

Deborah Walker
Vice President
Abt Associates

Kimberlee Wyche Etheridge
Interim Assistant Director of Public Health Initiatives
Tennessee State University

** The Reconvened Select Panel on Preconception Health and Health Care met November 2014. Titles and organizations noted on this page, for each individual, reflect that moment in time.

Appendix B.
Prevalence of Selected Preconception and Interconception Risk and Protective Factors among Women Ages 18-44 Years, PRAMS and BRFSS, 2009

		Percent of Total	Percent of non-Hispanic White Women	Percent of non-Hispanic Black Women	Percent of Hispanic Women
Preconception (Pre-pregnancy) Risks and Protective Factors	Tobacco use**	25.1	30.8	22.7	12.7
	Alcohol use**	54.2	65.7	44.2	32.2
	Folic acid vitamin supplementation**	29.7	34.2	19.5	22.5
	Overweight just prior to pregnancy**	24.9	23.4	27.2	23.3
	Obese just prior to pregnancy**	22.1	20.5	30.7	13.3
	Physical abuse**	3.8	3.0	5.7	5.0
	Pre-pregnancy Diabetes (Type I or II) **	2.1	2.0	2.7	1.8
	Pre-pregnancy Hypertension**	3.0	2.5	6.6	1.7
	Non-use of contraceptives at time of conception**	52.6	54.1	54.5	45.9
	Annual well-women checkup**	66.4	65.1	79.0	63.0
Interconception/ Postpartum (PP) Risks and Protective Factors	Unintended pregnancy**	42.9	37.3	65.2	45.9
	Prior preterm birth**	14.4	12.6	17.5	17.1
	PP use of contraceptives**	85.1	85.9	83.7	85.7
	Tobacco use**	18.7	22.0	15.7	9.8
	PP depression**	11.9	11.8	14.1	11.1

Source: Centers for Disease Control and Prevention. Robbins et al. Core State Preconception Health Indicators – PRAMS and BRFSS, 2009. MMWR. 2014; Vol. 63 No. 3 /SS-10.

** Chi-square p-value significant at $p<0.05$ for race/ethnicity

Note that number of reporting areas varies by indicator. Most measures based on PRAMS data are from 29 reporting areas representing approximately 55% of 4 million live births in the United States during 2009. BRFSS data represent non-pregnant women ages 18–44 years from 51 reporting areas including the 50 U.S. states and D.C., with varying response rates.

Appendix C.
Healthy People 2020 Objectives for Preconception Health and Behaviors

- MICH-14 Increase the proportion of women of childbearing potential with intake of at least 400 µg of folic acid from fortified foods or dietary supplements. (Baseline 23%)
- MICH-15 Reduce the proportion of women of childbearing potential who have lower red blood cell folate concentrations. (Baseline 25%)
- MICH-16 Increase the proportion of women delivering a live birth who received preconception care services and practiced key recommended preconception health behaviors.
    - MICH-16.1 Increase the proportion of women delivering a live birth who discussed preconception health with a health care worker prior to pregnancy (developmental measure).
    - MICH-16.2 Increase the proportion of women delivering a live birth who took multivitamins/folic acid prior to pregnancy. (Baseline 30%)
    - MICH-16.3 Increase the proportion of women delivering a live birth who did not smoke prior to pregnancy. (Baseline 78%)
    - MICH-16.4 Increase the proportion of women delivering a live birth who did not drink alcohol prior to pregnancy. (Baseline 51%)
    - MICH-16.5 Increase the proportion of women delivering a live birth who have a healthy weight prior to pregnancy. (Baseline 49%)
    - MICH-16.5 Increase the proportion of women delivering a live birth who used contraception to plan pregnancy (developmental measure).
- MICH-17 Reduce the proportion of persons aged 18-44 years who have impaired fecundity (i.e., a physical barrier preventing pregnancy or carrying a pregnancy to term).
    - MICH-17.1 Reduce the proportion of women aged 18-44 years who have impaired fecundity. (Baseline 13%)
    - MICH-17.2 Reduce the proportion of men aged 18-44 years who have impaired fecundity (developmental measure).

Appendix D.
Suggested Targets for Smart Goals in Preconception Health and Health Care

- Among all U.S. women of childbearing age:
  - 90% receive well-woman visits annually; and
  - 80% have the benefit of preconception care in a well-woman visit.
- Among women who experience pregnancy:
  - 80% of women receive postpartum visits; and
  - 80% use a family planning method following pregnancy.
- Among women who experience an adverse pregnancy outcome:
  - 80% of women receive comprehensive risk assessment as part of postpartum visits; and
  - 75% of those with identified risks have an interconception care plan including health care, case management, and other related interventions.
- Among Medicaid beneficiary women:
  - 95% with risks or adverse outcomes indicating a need for interconception care are identified using state-level linked data sets;
  - 65% with identified risks or adverse outcomes receive interconception care and case management; and
  - 75% have coverage for annual well-woman visits.

Appendix E.
Author Affiliation and Inquiry Information

Authors:
Kay Johnson, MPH, EdM
President
Johnson Group Consulting, Inc.

Mary Balluff, MS, RD, LMNT
Division Chief
Douglas County Health Department

Coauthors:
Chad Abresch, MEd
Executive Director
CityMatCH

Hani Atrash, MD, MPH
Director
Division of Healthy Start and Perinatal Services
Health Resources and Services Administration

Sarah Verbiest, PhD, MPH, MSW
Executive Director
Center for Maternal & Infant Health
University of North Carolina at Chapel Hill

Inquiries can be addressed to the lead author
Kay Johnson, kay.johnson@johnsongci.com,
or the sponsoring organization
CityMatCH, citymch@unmc.edu

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