Obesity/Overweight and Preconception Health

Part 1: Defining the Challenge & Connecting Partners

JANUARY 14TH, 2015

FOR WEBINAR TECHNICAL ASSISTANCE:
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Brief Notes about Technology

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Purpose

To focus attention on the impact of obesity on the health of young women and any future children they may wish to have as well as to share ideas and strategies for addressing this public health crisis among MCH and chronic disease partners.
Objectives

- Describe the prevalence, population and trends in obesity and related chronic conditions in the U.S. among women of childbearing age
- Discuss the clinical impact of overweight and obesity on women’s health, pregnancy and infant health
- Describe the MCH perspective and opportunities for addressing overweight and obesity
- Discuss new approaches to chronic disease prevention and management.
Speakers

- **Moderator:** Erin Bonzon, MSW, MPH, Association of Maternal and Child Health Programs
- **Shin Kim,** MPH, CDC Division of Reproductive Health, NCCDPHP
- **Anne Dunlop,** MD, MPH, Emory University, School of Nursing
- **Sarah Verbiest,** DrPH, MSW, MPH, National Preconception Health & Health Care Initiative
- **Jeanne Alongri,** DrPH, MPH, National Association of Chronic Disease Directors
The Epidemiology of the Problem

Shin Kim, MPH
Prevalence and Trends in Obesity in the U.S. Among Women of Reproductive Age

Shin Y. Kim, MPH
National Center for Chronic Disease Prevention and Health Promotion
Division of Reproductive Health
Presentation Overview

- Describe distribution and trends in overweight and obesity among women of reproductive age in the United States
  - Adult (20-39 years) and Adolescents (12-19 years)
    - Definition of weight status
    - National prevalence and trends
      - By age group
      - By race/ethnicity
  - Obesity and pregnancy
    - Gestational weight gain
    - Gestational diabetes
    - Large for gestational age
  - Association with chronic disease
# Body Mass Index Categories

<table>
<thead>
<tr>
<th>BMI Category</th>
<th>kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt;18.5</td>
</tr>
<tr>
<td>Normal-weight</td>
<td>18.5-24.9</td>
</tr>
<tr>
<td>Overweight</td>
<td>25-29.9</td>
</tr>
<tr>
<td>Obese</td>
<td>≥30</td>
</tr>
<tr>
<td>Class I</td>
<td>30-34.9</td>
</tr>
<tr>
<td>Class II</td>
<td>35-39.9</td>
</tr>
<tr>
<td>Class III</td>
<td>≥40</td>
</tr>
</tbody>
</table>

Obesity Epidemic
U.S. women aged 20-39 years, 1960-2012

Obesity Prevalence (%)

Prevalence of overweight and obesity among U.S. women aged 20-39 years by race/ethnicity, 2011-2012

Source: NHANES: Ogden, JAMA 2014
Overweight defined as BMI 25-29.9; Obesity defined as BMI≥30. NH=non-Hispanic.
Prevalence of overweight and obesity among U.S. women aged 20-49 years by age group, 2005-2006

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>35.2</td>
</tr>
<tr>
<td>20-29 y</td>
<td>23.8</td>
</tr>
<tr>
<td>30-39 y</td>
<td>37.7</td>
</tr>
<tr>
<td>40-49 y</td>
<td>41.3</td>
</tr>
</tbody>
</table>

Source: NHANES: unpublished analysis
Overweight defined as BMI = 25.0-29.9; Obesity defined as BMI ≥ 30.
**Classification of adolescent* underweight, overweight and obesity by gender- and age-specific BMI percentile**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Gender- and age-specific BMI percentile&lt;sup&gt;†&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Underweight</strong></td>
<td>&lt;5&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Normal</strong></td>
<td>5&lt;sup&gt;th&lt;/sup&gt; - &lt;85&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Overweight ‡</strong></td>
<td>85&lt;sup&gt;th&lt;/sup&gt; - &lt;95&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Obesity ‡</strong></td>
<td>≥95&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

*Adolescent defined as 12-19 years.
† Percentiles based on CDC growth charts.
‡ Overweight formerly known as at risk for overweight. Obesity formerly known as overweight.
Trends in obesity among U.S. adolescent girls aged 12-19 years, 1966-2012

Prevalence of overweight and obesity among U.S. adolescent girls aged 12-19 years by race/ethnicity, 2003-2006

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Obese (%)</th>
<th>Overweight (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>20.7</td>
<td>13.1</td>
</tr>
<tr>
<td>NH white</td>
<td>20.9</td>
<td>10.1</td>
</tr>
<tr>
<td>NH black</td>
<td>22.7</td>
<td>19.8</td>
</tr>
<tr>
<td>NH Asian</td>
<td>7.3</td>
<td>7.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>21.3</td>
<td>15.2</td>
</tr>
</tbody>
</table>

Source: NHANES: Ogden et al JAMA 2014
Overweight defined as BMI 85th-94th percentile; Obesity defined as BMI≥95th percentile. NH=non-Hispanic.
Why is prepregnant BMI important?

Obesity increases risk of:

**Mother**
- Infertility
- Miscarriage
- GDM
- HTN/preeclampsia
- Thromboembolism
- Induction
- Cesarean delivery
- Postpartum hemorrhage
- Longer hospital stays
- Lactation difficulties

**Child**
- Fetal death
- Congenital anomalies
- Preterm
- LGA/Macrosomia
- Shoulder dystocia
- Respiratory distress
- NICU admission
- Later obesity
- Early onset chronic disease
Summary of Surveillance Data

HP2020 Goal: Normal Weight

Prepregnancy

Prevalence at normal weight (%)


HP2020 Goal, MICH-16.5 Normal Prepregnant Weight 53.4%

PRAMS PNSS NHANES.. CA-MIHA CA-WHS..

**Standardized by maternal age and race-ethnicity
*p-trend <0.001

PNSS Trends in Prevalence of Prepregnancy Underweight, Normal-weight, Overweight, and Obesity, 1999-2008 (22 states)

Pre-Pregnancy Obesity Trends by Race-ethnicity
Low-income U.S. women aged 18-54 years, PNSS 1999-2008

Prepregnancy Obesity Trend, by Class, among Adults, PRAMS 2003-2009*

Class I p-trend = 0.004
Class II p-trend = 0.001
Class III p-trend <0.001

Prepregnancy Obesity Prevalence by State, 2003

No data available

< 15.0%

15.0% - 19.9%

20.0% - 24.9%

≥ 25.0%

Prepregnancy Obesity Prevalence by State, 2006

Prepregnancy Obesity Prevalence by State, 2009

2009 IOM Recommendations

**HOW MUCH WEIGHT SHOULD YOU GAIN WHEN YOU’RE PREGNANT?**

If you start your pregnancy as... | You should gain...
---|---
**Underweight**  
BMI less than 18.5 | 28–40 lbs.

**Normal Weight**  
BMI 18.5–24.9 | 25–35 lbs.

**Overweight**  
BMI 25.0–29.9 | 15–25 lbs.

**Obese**  
(includes all classes)  
BMI greater than or equal to 30.0 | 11–20 lbs.
Prevalence of Adequate Gestational Weight Gain by Pre-Pregnancy BMI

![Bar chart showing prevalence of adequate weight gain by pre-pregnancy BMI.
- Underweight (4.3%): Excess 20.6%, Appropriate 39.5%, Inadequate 39.8%
- Normal Weight (51.5%): Excess 37.3%, Appropriate 37.2%, Inadequate 25.5%
- Overweight (23.6%): Excess 64.1%, Appropriate 24.3%, Inadequate 11.5%
- Obese Class I (11.9%): Excess 63.4%, Appropriate 22.8%, Inadequate 13.8%
- Obese Class II (5.4%): Excess 54.0%, Appropriate 20.8%, Inadequate 19.6%
- Obese Class III (3.3%): Excess 48.5%, Appropriate 19.6%, Inadequate 31.9%

*p=0.0000


<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>41.1</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>41.2</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>50.4</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>15.2</td>
</tr>
<tr>
<td>American Indian</td>
<td>52.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>39.1</td>
</tr>
</tbody>
</table>

Population Attributable Fraction of BMI≥25, excess GWG & GDM on LGA

Adjusted for age, parity, nativity and the other exposure groups
Source: Kim et al., Obstetrics and Gynecology, 2014
Adjusted for GDM, inadequate gestational weight gain, age, parity, nativity
Source: Kim et al., Obstetrics and Gynecology, 2014
Standard Deviation Units for body weight for children born large for gestational age and small for gestational age

Source: Hediger et al., *Pediatrics* 1999, 104 (3): e33
Unadjusted Child BMI Status By Maternal Pre-Pregnancy BMI Status, 2001 ECLS-B

Child BMI Status
- Obese
- Overweight
- Normal Weight
- Underweight

Maternal Pre-Pregnancy BMI
- Underweight
- Normal
- Overweight
- Obese
Long-Term Trend of Mean Weight Gain by Gestational Weight Gain Adequacy

Source: Mannan et al., Nutrition Reviews 2013, 71(6): 343-352
Cardiovascular Disease by BMI group, adults ≥18 years, 2007-2010

Source: Saydah S et al., Obesity 2014, 22(8): 1888-1895
Healthy Weight Goals

- **Body Mass Index**
  - Goal: 18.5-24.9 kg/m²

- **Gestational Weight Gain**
  - Goal: Achieve IOM recommendations

- **Weight Retention**
  - Goal: By 1 year postpartum, return to prepregnancy weight

**Before**

**During**

**After**
Thank you!

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Clinical Impact

Anne Dunlop, MD, MPH
Clinical Considerations:
Overweight & Obesity Among Women of Reproductive Age
Who is Impacted by Overweight & Obesity Among Women of Reproductive Age?

- The woman before, between, and beyond pregnancies
- The woman during pregnancy
- The developing fetus
- The birthed infant during infancy, childhood and beyond
What are the Effects of Overweight & Obesity Among Women of Reproductive Age?

- Impaired fecundity (difficulty in conceiving and carrying a pregnancy to live birth)
- Increased rates of pregnancy complications
- Increased rates of adverse pregnancy outcomes
- Increased rates of adverse fetal & child health outcomes
Effects Upon Probability of Conception
Adiposity and Conception

- There is a dose dependent relationship between increasing adiposity (body fatness, measured by BMI or waist-to-hip ratio) and sub-fecundity (time to pregnancy > 12 months).
- The probability of conception in a given cycle is reduced by 8% for overweight women and by 18% for obese women.
  
  ...an additional ~3 months longer for overweight women to conceive
  ...an additional ~9 months longer for obese women to conceive

- These probabilities are doubled to 16% and 36% for overweight and obese nulliparas.

Mechanisms for Decreasing Fecundity

- Disruption of the hypothalamus-pituitary-ovary axis, resulting in irregular menstrual cycles and anovulation
- Hyperinsulinemia, resulting in chronic anovulation and the polycystic ovarian syndrome (PCOS)
- Ova with lower fertilization potential
- Endometrial abnormalities interfering with implantation
- Sociobiological factors, such as decreased frequency of intercourse

Life Stage of Obesity Onset & Fecundity

- Young adolescents who are obese enter puberty earlier than their normal weight counterparts.
  - Early maturing girls tend to initiate sexual activity at a younger age, and are more likely to be teased and have body image and self-esteem problems.
  - Early puberty has been shown to be a risk factor for self-reported depression in obese adolescents.

- Obese adolescents also demonstrate increased rates of PCOS and problems conceiving.

Obesity also impacts the success of assisted reproductive technology (ART).

Obese women undergoing ART:

- Require substantially higher doses of exogenous gonadotropins
- Experience retrieval of fewer oocytes and lower implantation and pregnancy rates
- Experience elevated risks for spontaneous abortion and pregnancy complications (such as preeclampsia, gestational hypertension, and cesarean section), all of which progressively increase with severity of obesity

Does Preconception Intervention Matter?

- Minimal weight loss of 5-10% of initial body weight results in an ~30% reduction in visceral adiposity, which is effective for:
  - Inducing ovulation in obese women with and without PCOS
  - Improving the chance of conception naturally and artificially
  - Decreasing the chance of spontaneous abortion

Effects Upon Pregnancy Health
Maternal pre-pregnancy obesity (elevated pre-pregnancy BMI) is associated with pregnancy complications including:

- Gestational hypertension and Preeclampsia
- Gestational diabetes
- Shoulder dystocia
- Obstructed labor and Cesarean section

Maternal pre-pregnancy obesity is associated with adverse pregnancy outcomes including:

- Medically-indicated preterm birth
- Spontaneous abortion
- Intrauterine fetal death
- Stillbirth & Maternal death

Studies report a 5-fold increase in stillbirth among obese women, and risk progressively increases with longer duration of obesity before pregnancy.

Women who are overweight or obese upon conception are more likely to birth infants with:

- Congenital anomalies, particularly neural tube defects
- Macrosomia, which is linked by extensive research to neonatal complications and an increased risk for obesity later in life
- Greater body fat relative to fat-free mass and reduced energy expenditure

Children born to women who are overweight or obese at conception are more likely to be affected by:

- Obesity during childhood, adolescence, and adulthood
- High blood pressure, metabolic syndrome, and cardiometabolic complications later in life

Does Preconception Intervention Matter?

- Modest pre-pregnancy weight loss decreases the incidence of gestational diabetes.
- Prevention of weight gain between pregnancies decreases pregnancy complications.
- Since evidence supports that a woman’s intention to become pregnant is a powerful motivator to change health behaviors, providers should counsel overweight and obese women about the elevated risks of infertility and adverse pregnancy and child outcomes should they become pregnant.

Modeling the Public Health Impact of Decreasing Rates of Prepregnancy Obesity

- If NO U.S. women of reproductive age were obese when they became pregnant, nearly 7,000 fetal deaths could be prevented and about 2,800 babies could be born without a heart defect each year.
- If the prevalence of obesity among U.S. women of reproductive age in the U.S. was reduced by about 10%, nearly 700 fetal deaths and about 300 congenital heart defects could be prevented each year.

Screening for Overweight & Obesity
Recommendations for Screening

To ensure that overweight individuals are appropriately identified in the clinical setting, a number of organizations recommend that regular screening for obesity:

- US Preventive Services Task Force (USPSTF) recommends that clinicians screen all adult patients for obesity using BMI.
- ACOG recommends that all women have their BMI calculated at least annually and review medical, social, and family risks for weight-related conditions.
- The Clinical Workgroup of the Select Panel on Preconception Care recommends that all women of reproductive age have their BMI calculated at least annually and review medical, social, and family risks for weight-related conditions.
Perceptions of Body Weight Status

- In the United States, many women who are overweight or obese are unaware of their weight status.
- Misperception of weight status is particularly common among African Americans, Mexican Americans, and those of lower socioeconomic status.

Managing Overweight & Obesity
Recommendations for Weight Loss Among Women of Reproductive Age

- Weight loss during pregnancy is not advisable for women irrespective of pre-pregnancy weight status…thus, weight loss interventions must occur prior to pregnancy to minimize the risks of obesity on pregnancy-related outcomes.

- The Clinical Workgroup of the Select Panel on Preconception Care and the ACOG Clinical Practice Bulletin both recommend that women of reproductive age with BMI > 26 kg/m²:
  - Receive counseling about the risks being overweight or obese poses to their health, fertility, and pregnancy outcomes.
  - Be offered intensive behavioral strategies to decrease caloric intake and increase physical activity, and be encouraged to enroll in structured weight loss programs as these behavioral programs are most likely result in sustained weight loss.

Recommendations for Preconception Counseling

Preconception recommendation from the Clinical Workgroup of the Select Panel on Preconception Care: Obese and overweight women should be counseled about the importance of achieving a healthy body weight to improve their chances of natural conception, their response to fertility treatment should they need it, and to decrease the risk of adverse pregnancy outcomes.

Recommendations for Weight Loss for Overweight Women (BMI 25 – 29.9 kg/m²)

- Encourage woman to set a realistic weight loss goal
- Offer specific behavioral strategies to decrease caloric intake and increase physical activity
- Encourage enrollment in structured weight loss programs
  - Caution to avoid fad diets
- IF BMI 27 – 29.9 kg/m² with co-morbidities, consider pharmacotherapy:
  - orlistat (pregnancy category X drug)
  - phentermine (pregnancy category X drug)
  - fluoxetine (pregnancy category C drug)
  - bupropion (pregnancy category C drug)
  - sibutramine (pregnancy category C; no longer available in US)
  - diethylpropion (pregnancy category B drug)

Recommendations for Weight Loss for Obese Women (BMI \( \geq 30 \, \text{kg/m}^2 \))

- In addition to all of the key points for “overweight” women, follow existing evidence-based clinical guidelines for the management of obesity, which are summarized in an in-depth clinical reference and in a for the clinical visit.
  - Consider **pharmacotherapy** if BMI > 30 \( \, \text{kg/m}^2 \) regardless of co-morbidities
  - Consider **bariatric surgery** if BMI > 30 \( \, \text{kg/m}^2 \) with co-morbidities or BMI > 40 \( \, \text{kg/m}^2 \) regardless of co-morbidities


National Preconception / Interconception Care Clinical Toolkit: www.beforeandbeyond.org
Preconception Health for Clinicians
www.beforeandbeyond.org

Tool Kit

The National Preconception Care Clinical Toolkit was designed to help primary care providers, their colleagues and their practices incorporate preconception health into the routine care of women of childbearing age.

The tool kit is designed to help primary care providers meet their patients' needs based on their response to this "vital sign" question: "Are you hoping to become pregnant in the next year?" Her answer will allow you and your colleagues to individualize her primary care to best meet her overall and reproductive health needs.

The goal of the toolkit is to help clinicians reach every woman who might someday become pregnant every time she presents for routine primary care with efficient, evidence-based strategies and resources to help her achieve:

- healthier short and long term personal health outcomes,
- increased likelihood that any pregnancies in her future are by choice rather than chance,
- and, if she does become pregnant, that her pregnancy and her infant(s) have the lowest likelihood of problems.
Welcome to the National Preconception Care Clinical Toolkit, designed to help primary care providers, their colleagues and their practices to incorporate targeted attention into the routine care of women of childbearing age.

Desires Pregnancy: Family Planning and Contraception

Background

Clinical Guidance

Clinical Tools

Patient Resources

Scope of Problem

Preconception Significance

Risk Identification Strategies

Risk Reduction Strategies

Important Talking Points
Special Considerations for Women of Reproductive Age

- Post-partum weight retention is an important contributor to excessive body weight for women of reproductive age.
  - More likely to occur for minority and low-income women, especially those who are overweight or obese prior to pregnancy
  - Additionally, overweight and obese women are less likely to lose pregnancy-related weight without support of a formal intervention.

Special Considerations for Women of Reproductive Age

- The lower the caloric content of a diet, the more likely it is to be low in essential nutrients linked to reproductive health
  - Diets ≤1,200 kcal daily are likely to require supplementation
  - Even diets >1,200 kcal daily may require supplementation with folic acid, calcium, and vitamin D given difficulty in meeting the RDA through diet

- There are particular nutrients of concern for women of reproductive age who are overweight or obese
  - Folic acid
  - Vitamin D

Folic Acid and Obesity

- Deficiency of folic acid during the periconception period is definitively associated with an increased risk of neural tube defects and other congenital anomalies.
  - A recent meta-analysis finds that neural tube defects and other congenital anomalies are twice as common among women who are obese.
  - Obese women are less likely to supplement with folic acid prior to pregnancy and ingest less folate through food sources.
    - Even after controlling for intake of folate for women of age, elevated BMI is associated with lower serum folate concentrations.
    - Women who chronically diet are also at increased risk of folic acid deficiency.

Vitamin D and Obesity

- Poor vitamin D status during pregnancy is linked with preeclampsia, intrauterine growth restriction, and health problems in the offspring including rickets and other skeletal problems, type 1 diabetes, and asthma.
  - Overweight and obese individuals commonly have a poorer vitamin D status than do those of healthy weight, possibly due to the sequestration of the vitamin in adipose tissue and lower dietary intake.
  - Pre-pregnancy obesity predicts poor vitamin D status for the woman during pregnancy and for the infant, with an evident dose-response trend.

Special Considerations for Women of Reproductive Age

- **Contraception considerations**
  - Counsel all women about the advantages of continuing their method of contraception until they have achieved their desired weight.
  - If a woman is using one of the pharmacotherapies, explain that the drug has not been proven safe in pregnancy; she should continue an effective method of contraception to avoid harms to her future child.

Special Considerations for Women of Reproductive Age

• **Contraceptive Efficacy**
  - There are few trials of contraceptive efficacy involving overweight and obese women; however, there are concerns of decreased efficacy related to weight for the:
    - Combined oral contraceptives – for women > 70 kg
    - Contraceptive patch – for women > 90 kg
  - According to the CDC Medical Eligibility Criteria for Obesity
    - **Category 1 methods** (can be used without restriction) include: progesterone-only pills, Depo injection, implant, IUDs
    - **Category 2 methods** (advantages generally outweigh the risks) include: combined oral contraceptives, patch, ring

Curtis KM. U.S. medical eligibility criteria for contraceptive use, 2010. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5904a1.htm?s_cid=rr5904a1_e.
Clinical preventive and treatment strategies should not stand alone if individual- and population-level impacts are to be achieved.

...it is essential to implement population-based strategies that improve social and physical environmental contexts for healthy eating and physical activity throughout the life course.
The MCH Perspective

Sarah Verbiest, DrPH, MSW, MPH
The Maternal & Child Health Perspective
Maternal Mortality is on the Rise

- 16 deaths / 100,000 births
- African American women have a greater than 3 fold risk compared to other groups
- Cardiovascular conditions are the leading cause of maternal death
- Increasing contribution of chronic diseases to death suggests a change in the birthing population
Key Areas of Connection

- Life Course Approach / Equity
- Social Determinants of Health
- Preconception Health / Women’s Health
- Reproductive Life Planning
- Childhood & Adolescent Obesity
The Barker Theory

- People born low birth weight may have an increased risk for coronary heart disease, high blood pressure, stroke and diabetes
- Protecting the health and nutrition of girls and young women can prevent chronic disease in the next generation
In Utero Tobacco Exposure

- Associated with obesity (after adjusting for age, education, and personal smoking) AND (after adjusting for BMI) hypertension and GDM in adult women.

- NIEHS scientists reported that exposure to tobacco smoke *in utero* led to increased levels of triglycerides and lower levels of high-density lipoprotein cholesterol (HDL), also known as good cholesterol, in adulthood, 18-44 years after exposure.
The Life Course Model

Health potential

Cumulative Pathways

Early Programming

Optimal Life Trajectory

Risk Factors

Life Trajectory Affected by Inequity

Protective Factors
The Life Course Metrics Project in a Nutshell

- A collaborative effort to identify and promote a standardized set of indicators that can be used to measure progress using the life course approach to improve maternal and child health.
Life Course Indicators Related to Obesity

- **Obesity**
  - Percent of adults who are currently overweight or obese
  - Percent of children who are currently overweight or obese
- **Diabetes and Hypertension**
  - Percent of women with diabetes during pregnancy
  - Percent of adults with diagnosed diabetes
  - Percent of adults with diagnosed hypertension
- **Percent of children exclusively breastfed at 3 months**
  - Also: Proportion of births occurring in Baby Friendly Hospitals
- **Food, Nutrition, Physical Activity**
  - Physical activity among high school students
  - Proportion of children aged 2-5 years receiving WIC nutrition services
  - Household food insecurity
Breastfeeding

- Sensitive period of time for initiation
- Healthy weight and nutrition for baby
- Return to healthy weight for mom
- Connection & bonding
- Cancer risk reduction for mom and baby
Preeclampsia & Chronic Disease

- Preeclampsia (PE) affects 5-8% of all pregnancies
- Women who enter pregnancy obese, with diabetes, and/or with chronic hypertension are more likely to experience PE
- Women with a history of PE have an increased risk of developing cardiovascular disease, stroke, type II diabetes, and chronic kidney disease later in life
- They are also at increased risk of death later in life from cardiovascular disease, stroke, and renal failure relative to those who experienced normotensive pregnancies, independent of other risk factors
  - The risk increases the earlier in gestation a woman experiences PE and the number of PE-affected pregnancies she experiences
Where we eat, sleep, work, play, pray and grow matters!
Health Risks for Women & Infants

- Alcohol misuse
- Poorly controlled diabetes
- Folic acid deficiency
- Use of teratogenic prescription drugs
- Lack of immunizations
- HIV/AIDS
- Poorly controlled maternal PKU
- Obesity
- Exposure to STIs
- Tobacco use

Clear Evidence

Growing Evidence

- Short intervals between pregnancies
- Previous poor birth outcome
- High levels of stress
- Substance abuse
- Poor mental health
Interventions that aim to identify and modify biomedical, behavioral, and social risks to a woman’s health or pregnancy outcome through prevention and management.

Health before pregnancy, throughout a woman’s reproductive years and between pregnancies.
Preconception Health Indicators

PRECONCEPTION HEALTH INDICATORS

DOMAINS

- Social determinants of health
- Health care
- Reproductive health and family planning
- Tobacco, alcohol and substance abuse
- Nutrition and physical activity
- Mental health
- Emotional and social support
- Chronic conditions
- Infections
- Genetic and epigenetics

Access at - http://www.cste.org/?page=preconindicators&terms=preconception
Reproductive Life Plan

One Key Question ©
"Would You Like to Become Pregnant in the Next Year?"

Do I want to become pregnant in the next year?
Family Planning

- Guidelines for Quality Family Planning include the provision of preconception health services to women and men.
- MCH home visitors and case managers are increasingly addressing this topic.

http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/QFP.htm
Childhood Obesity

- Staggering increases in child and adolescent obesity rates in past three decades
- Obesity prevention in pregnancy/early childhood has life course implications
- Opportunities for change & collaboration to build supportive environments and policies
Partnership is Essential

Questions?

Sarah Verbiest:
919.843.7865
sarahv@med.unc.edu
The Chronic Disease Perspective

Jeanne Alongri, DrPH, MPH
Coordinated Chronic Disease Prevention Practices

Jeanne Alongi, MPH, DrPH
Objectives

• Where we are
• How we came to be here
• Where we are going
Some history

Chronic Disease Integration Workshop
(2006)
Some history

Chronic Disease Integration Workshop
(2006)

Negotiated Agreements Pilot
(2009)
Some history

- Chronic Disease Integration Workshop (2006)
- Negotiated Agreements Pilot (2009)
- Coordinated Chronic Disease Prevention Grant (2011)
Some history

- Chronic Disease Integration Workshop (2006)
- Negotiated Agreements Pilot (2009)
- Coordinated Chronic Disease Prevention Grant (2011)
- Coordinated approach to categorical funding (2013)
A Coordinated Approach to Chronic Disease Prevention

- **Domains**: Epidemiology, Policy & Environment, Clinical Community Linkages, Health Systems
- **Core functions**: Communications, policy, evaluation, partnership
- **Cross-cutting positions**: epidemiology, communications, etc
- **Culture change**: alignment and position bias
Domain #1: Epidemiology and Surveillance

Provide data and conduct research to inform, prioritize, deliver, and monitor programs and population health
Why is this important?

Ensure capacity to collect, analyze, and apply data and information to:

• Develop and deploy effective interventions
• Identify and address gaps in program delivery
• Monitor and evaluate progress in achieving program goals.
• Communicate risk, burden, and progress.
Examples

• Conduct surveillance of behavioral risk factors and social determinants of health
• Develop and disseminate data reports describing multiple chronic disease conditions or cross-cutting risk factors to drive state and local public health action.
• Develop and disseminate ROI analysis for prevention activities.
• Link administrative, vital records, and hospital discharge data to conduct surveillance (ie – preterm deliveries, cardiovascular disease mortality, joint replacement, etc)
Domain #2: Environmental Approaches

Make healthy behaviors easier and more convenient for more people
Why is this important?

- Improvements in social and physical environments make healthy behaviors easier and more convenient
- Broad reach
- Sustained health impact
- Best buys for public health
Examples

- Active transportation to reduce obesity
- Nutrition standards for food and beverages offered in schools, child care and education facilities.
- Reducing tobacco use, preventing youth initiation, and eliminating exposure to secondhand smoke.
- Increasing the proportion of the U.S. population served by community water systems with optimally fluoridated water
Domain #3: Health Care Systems

Improve delivery and use of quality clinical services to prevent disease, detect diseases early, and manage risk factors
Why is this important?

• Improve delivery of preventive services.
• Early detection and effective management lead to better health outcomes.
• Quality improvement processes yield system-wide changes.
• Technology potential is more fully realized to improve coverage of prevention services.
Examples

• Electronic health records with registry function, decision support, and electronic reminders
• Quality improvement of clinical care for cancer screening and control of A1C, blood pressure, BMI, and cholesterol.
• Increase access to and use of clinical and preventive oral health services.
Domain #4: Community-Clinical Linkages

Ensure those with or at high risk for chronic diseases have access to quality community resources to best manage their conditions.
Why is this important?

• Ensure that people with or at high risk of chronic diseases have access to community resources and support.

• Link community members with effective interventions to prevent, delay or manage chronic conditions once they occur.
Examples

• Deliver chronic disease self-management education programs, including physical activity programs, to reach at risk populations in community settings.

• Use of healthcare extenders (nurses, dentists, etc.), community health workers, and/or patient navigators.
On the horizon

• Domain centered objectives
• Systems transformation focus
• Whole person/whole life
• Population health outcomes
Thank you!
Questions

To submit questions throughout the call, type your question in the chat box at the lower left-hand side of your screen.

• Send questions to the Chairperson (AMCHP)
• Be sure to include to which presenter(s) you are addressing your question.
Preconception Health Resources
Show Your Love Campaign

Show Your LOVe! Steps to a Healthier me

Life offers many opportunities. Take time to think about your goals for school, for your job or career and for your health. Your physical and mental health are important in helping you achieve the goals you set for yourself. This is a tool to help you set your goals and make a plan.

Start by choosing your goals for this year. It is easier to focus on 2 - 3 goals. Then use the checklist below to set your plan into motion.

Date plan made or revised: ____________________

My top 3 goals for this year are
1. ____________________
2. ____________________
3. ____________________

Check Lists:

Tool Kit

The National Preconception Care Clinical Toolkit was designed to help primary care providers, their colleagues and their practices incorporate preconception health into the routine care of women of childbearing age.

The tool kit is designed to help primary care providers meet their patients' needs based on their response to this "vital sign" question: "Are you hoping to become pregnant in the next year?" Her answer will allow you and your colleagues to individualize her primary care to best meet her overall and reproductive health needs.

The goal of the toolkit is to help clinicians reach every woman who might someday become pregnant every time she presents for routine primary care with efficient, evidence-based strategies and resources to help her achieve:

- healthier short and long term personal health outcomes,
- increased likelihood that any pregnancies in her future are by choice rather than chance,
- and, if she does become pregnant, that her pregnancy and her infant(s) have the lowest likelihood of problems.
Newsletter

- Send an email to pchhcnews@gmail.com with Subscribe as the subject line. Or text PCHHC to 22828
- Archived available on beforeandbeyond.org – news section.
- More resources at www.cdc.gov/preconception
Bi-Weekly Research Updates

- CDC’s Division of Reproductive Health routinely conducts media and literature searches on preconception and inter-conception health

- Summaries include PubMed abstracts, citation information and links to research articles. To subscribe: send an email to Cheryl Robbins at ggf9@cdc.gov
Closing

• Thank you for joining us!

• The recording will be available on beforeandbeyond.org as well as on the AMCHP website at http://www.amchp.org/Calendar/Webinars/Womens-Health-Info-Series/Pages/default.aspx

• Please complete short evaluation