

## **Instructions for Completing and Submitting Webinar-related Forms**

After the completion of this webinar, **all** participants must complete the following forms:

- PARTICIPANT DEMOGRAPHIC FORM
- PROGRAM EVALUATION FORM

If you would like to receive a **CME** or **Nursing** certificate, please complete the above aforementioned forms along with:

- ATTENDANCE VERIFICATION FORM

All forms must be submitted by **Friday, April 2, 2010**.

Please submit all forms by either **US mail**, attention **Alma Krcic** at Cicatelli Associates 505 Eighth Avenue, 16th Floor, NY, NY 10018 or **fax to Alma Krcic** at 212-629-3321. Please include a fax cover sheet. Respondents' information will be held confidential. If you have any questions, please contact **Alma Krcic** at 212-594-7741x249. Thank you.

**Note: All forms must be received together in order to receive a certificate.**



505 Eighth Avenue  
 New York, NY 10018  
 Ph: 212.594.7741  
 Fax: 212.629.3321

**PLEASE DO NOT USE A FAX COVER PAGE**

DATE: \_\_\_\_\_ NUMBER OF PAGES: \_\_\_\_\_

**ATTENDANCE VERIFICATION**  
**Addressing Reproductive Health Inequities**  
**March 18, 2010**

**Instructions:** To receive a CME or Nursing certificate complete this form, the demographic form and the evaluation form. **Submit them together by fax to Alma Krcic at 212-629-3321 by Friday, April 2, 2010. All forms must be received together in order to receive a certificate.** Respondent's information will be held confidential.

TITLE/DEGREE: MD  DO  RN  NP  PA  LPN

OTHER \_\_\_\_\_

**Please choose only one:**

I WOULD LIKE A  CME or  NURSING CERTIFICATE

THE ADDRESS PROVIDED BELOW IS MY  WORK  HOME ADDRESS:

\_\_\_\_\_  
 First Name Last Name

\_\_\_\_\_  
 Agency Name (if Applicable)

\_\_\_\_\_  
 Street

\_\_\_\_\_  
 City, State, Zip Code

\_\_\_\_\_  
 Email Address ( ) Telephone Number

**Program ID: 13941**



To target our services better, we are asking all of our participants to complete the following information.

Gender: Female, Transgender, Male, Intersex
Age: [ ][ ]
Are you of Hispanic, Latino, or Spanish origin? Yes, No

Race (select all that apply): American Indian/Alaskan Native, Asian, Black or African American, Native Hawaiian/Other Pacific Islander, White, Other: \_\_\_\_\_

Highest level of formal education: Less than High School Diploma, High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Master's Degree, Doctoral Degree

Advanced degrees and certifications (select all that apply): MD/DO, CNA, RD, MPH, PA, LPN/LVN, CHES, MSc, DDS, RN, CASAC, MA, OD, NP, LCSW, MS, PhD, CNM, LPC, Other (fill in below), JD, CNS, LMHC, CPA, ACRN, MSW

Primary functional role(s) (select all that apply): Accounting, Medical Director, Administrator/Supervisor, Nutritionist, Board Member, Outreach Worker, Care Provider/Clinician, Patient Advocate/Navigator, Case Mgmt. Technician, Peer Educator/Advocate, Case Manager, Program Director, Childcare Worker, Program Manager/Coord., Clergy/Spiritual Leader, Psychiatrist, Community Follow-Up Worker, Psychologist, Counselor/Therapist, Social Worker, Data Manager, Student/Graduate Student, Epidemiologist, Trainer/Teacher/Faculty, Financial Manager, Volunteer, Health Educator, Not Working/Not Employed, Medical Assistant, Other

How long have you been in your primary functional role? [ ][ ] years

Area(s) of specialization (select all that apply): Adolescent Health, Pediatrics, CAM, Prenatal Care/OB/Gyn, Criminal Justice, Primary Care, Early Childhood, Reproductive Health, Education, Research, HIV/AIDS, STIs/STDs, Information Systems, Substance Abuse, International Health, Tobacco Control, Mental Health, Violence Prevention, Nutrition/Obesity, Other, Oncology/Cancer

How long have you been in your primary area of specialization? [ ][ ] years

Principal employment setting (select all that apply): Adolescent Health Center, EMS/Police/Fire, Homeless Shelter, School/Educational Institution, CBO/Community Agency, Faith-Based Org., Hospice/Palliative Care, State/Local Health Dept., Child Welfare Services/Foster Care, Family Planning Agency, Hospital or Hospital-Based Clinic, STD Clinic, Community/Migrant Health Ctr., HIV/AIDS Service Org., Long-Term Care Facility, Substance Abuse Treatment Prg, Correctional Facility, HMO/Managed Care Org., Mental Health Facility, Tribal/Indian Health Center, Domestic Violence/Rape Crisis Ctr., Home Care, Private Practice, Other, Early Childhood Facility

Zip-code of your principal employment setting: [ ][ ][ ][ ][ ]

Location of your principal employment setting: Urban, Suburban, Rural, Indian Reservation

Thank you for completing this questionnaire!





**PROGRAM EVALUATION**

**Program Title: Addressing Reproductive Health Inequities    Date: March 18, 2010    Program ID: 13941**

**PLEASE RATE THE PRESENTATION ON A SCALE OF 1 (LOWEST) TO 5 (HIGHEST):**

*Circle your answers*

1. To what extent did the presentation meet its stated objectives:	Poor	Fair	Good	Very Good	Excellent
a. Describe major reproductive health disparities including perinatal health and disease entities impacting health of women and quality of life	1	2	3	4	5
b. Examine the complex relationship of the intrauterine environment and how it influences adult long-term health risk including cardiovascular disease, diabetes and obesity	1	2	3	4	5
c. Discuss the benefits of breastfeeding for infant and long-term adult health	1	2	3	4	5
d. Examine how disparity in health outcome impacts cost and quality of care	1	2	3	4	5
2. To what extent did the objectives relate to the overall purpose?	1	2	3	4	5
3. Your satisfaction with your level of participation during the presentation.	1	2	3	4	5
4. Usefulness of the instructional materials.	1	2	3	4	5
5. Degree to which this was a good learning experience.	1	2	3	4	5
6. Overall satisfaction with the presentation.	1	2	3	4	5

**PLEASE RESPOND TO THE FOLLOWING** (print your answers):

7. The most useful part of the presentation was:

---

---

8. The least useful part of the presentation was:

---

---

9. As a result of attending this presentation, I plan to:

---

---

10. The mix of theory and skill practice at this presentation was:

too much theory                       too much practice                       a good mix of both

PLEASE RATE THE FACILITATOR(S) ON A SCALE OF 1 (LOWEST) TO 5 (HIGHEST):

Circle your answer for each facilitator on the line indicated.

11.	I felt the facilitator(s):	Name	Disagree					Agree
a.	Knew the subject matter thoroughly.	<u>Haywood L. Brown, MD</u>	1	2	3	4	5	
b.	Presented the information clearly.	<u>Haywood L. Brown, MD</u>	1	2	3	4	5	
c.	Provided opportunities for participation.	<u>Haywood L. Brown, MD</u>	1	2	3	4	5	
d.	Provided opportunities for questions.	<u>Haywood L. Brown, MD</u>	1	2	3	4	5	
e.	Was able to hold my attention.	<u>Haywood L. Brown, MD</u>	1	2	3	4	5	
f.	Extent to which the teaching methods were effective.	<u>Haywood L. Brown, MD</u>	1	2	3	4	5	

12. What changes would you recommend for improving this presentation?

---



---

13. What additional presentations would you like to attend in the future?

---



---

14. Please rate your experience using this web-based training forum by visiting [www.cicatelli.org/evals](http://www.cicatelli.org/evals). Thank you.

15. Additional comments:

---



---

**PLEASE RESPOND TO THE FOLLOWING ONLY IF YOU ARE REQUESTING A NURSING OR CME CERTIFICATE:**

1. What is your medical profession?

- MD                       DO                       APN/NP                       PA  
 RN                          PhD                       Other (please specify) \_\_\_\_\_

2. Continuing Education presentations "must be free of commercial bias for or against any product." In your opinion, was this program fair, balanced and free of commercial bias?       Yes                       No

3. What percentage of the material presented is new to you?

- 0%                       20%                       40%                       60%                       80%                       100%

4. After attending this presentation, will you make any changes to your practice?       Yes                       No

5. If yes, explain how:

---



---

6. If no, list the barriers that affect change in your practice:

---



---

## Conference call-in information

- Call-in number for Audio: 1-866-551-3680
- Access Code:

## Addressing Reproductive Health Inequities

Cicatelli Associates, Inc.

Haywood L. Brown, MD  
Professor and Chair  
Obstetrics and Gynecology  
Duke University - Durham, NC

## Disclosure

I have no real or perceived vested interests that relate to this presentation nor do I have any relationships with pharmaceutical companies, biomedical device manufacturers, and/or other corporations whose products or services are related to pertinent therapeutic areas.

## Learning Objectives

- Describe major reproductive health disparities, including perinatal health and disease entities impacting health of women and quality of life.
- Examine the complex relationship of the intrauterine environment and how it influences adult long-term health risk, including cardiovascular disease, diabetes and obesity.
- Discuss the benefits of breast feeding for infant and long term adult health.
- Examine how disparity in health outcome impacts cost and quality of care.

## Health Disparities in Women

- ➔ Maternal Mortality
- ➔ Infant Mortality
- ➔ HIV Infection/AIDS
- ➔ Cardiovascular Disease
- ➔ Obesity and diabetes
- ➔ Cancer Screening and Management

Figure 4. Life expectancy by race and sex: United States, 1970-2005

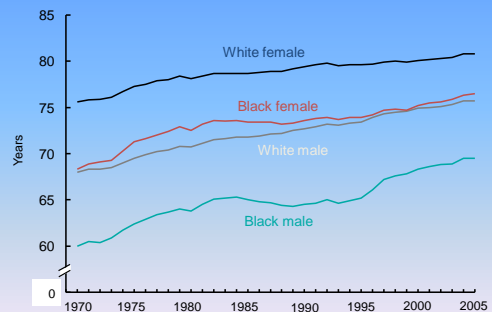
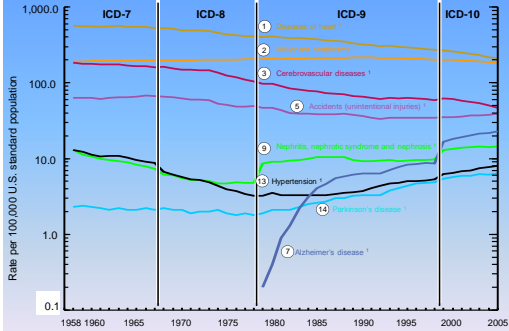
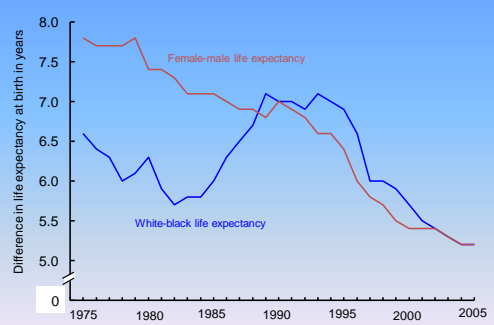


Figure 5. Age-adjusted death rates for selected leading causes of death: United States, 1958-2005



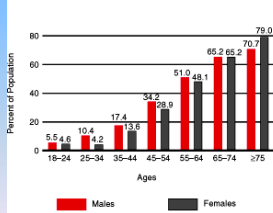
\*Circled numbers indicate ranking of conditions as leading causes of death in 2005.  
NOTE: Age-adjusted rates per 100,000 U.S. standard population, see "Technical Notes."  
SOURCE: CDC/NCHS, National Vital Statistics System, Mortality.

Figure 3. Difference in life expectancy between males and females, and between black and white: United States, 1975-2005



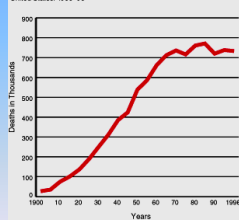
## Trends and Prevalence of Cardiovascular Disease, U.S.

Estimated Prevalence of Cardiovascular Diseases by Age and Sex  
United States: 1988-94



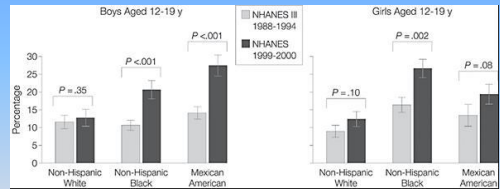
Source: National Health and Nutrition Examination Survey III (NHANES III), 1988-94. CDC/NCHS and the American Heart Association.

Deaths From Diseases of the Heart\*



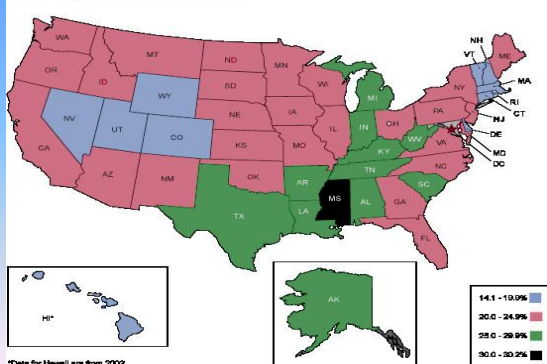
\* See "Important Note" on page 1 for an explanation of "diseases of the heart." Total CVD data are not available for much of the time period covered by this chart.  
Source: CDC/NCHS and the American Heart Association.

## Obesity Trends in U.S. Youth



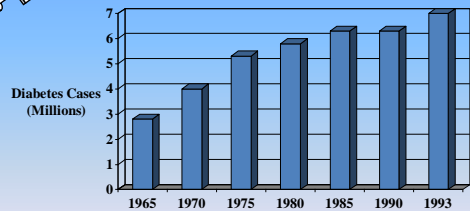
Flegal, K. M., et al. (2002). "Prevalence and trends in obesity among US adults, 1999-2000." *Jama* **288**(14): 1723-7.

Women Aged 18 and Older Who are Obese, by State, 2004  
Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention & Health Promotion, Behavioral Risk Factor Surveillance System



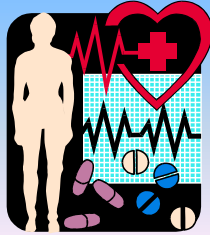
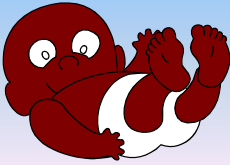
\*Data for Hawaii are from 2002.

## Prevalence of Diabetes in the U.S. 1965 - 1993



<http://www.nih.ndk.gov>

What intrauterine adaptations lead to the adverse adult medical outcomes seen in the underfed fetus?



How can altered fetal nutrition permanently program tissues and regulatory systems?

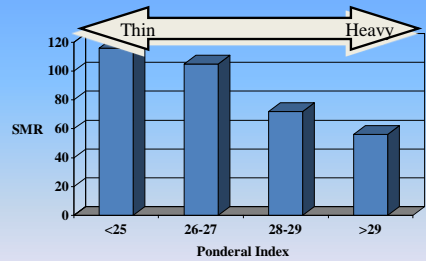


**The Undernourished Fetus: The "Thrifty Phenotype"**

Nicholas Hales, David Barker. Diabetologia 1992;35:595

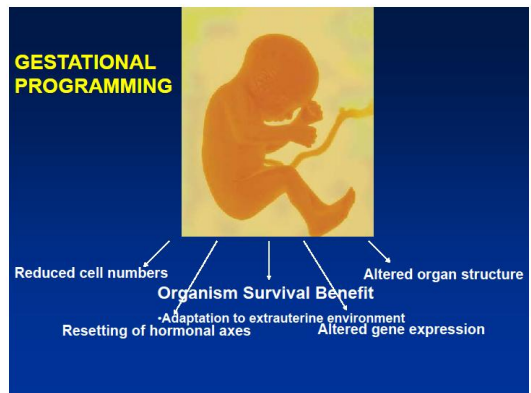
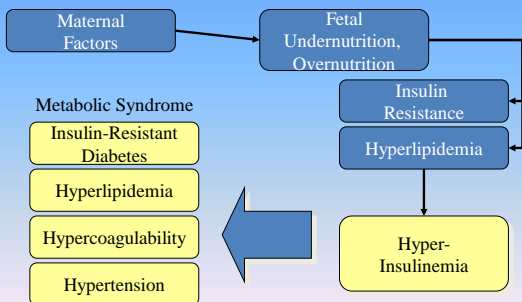
- Fetal response to limited nutrients
  - directs calories away from body to head, heart, adrenal
  - other tissues become **insulin resistant**
  - results in high levels of insulin and growth factors (IGFs) which maximize anabolism
- = Successful adaptation in resource-poor environment

**Newborn Body Fat and Adult Heart Disease**



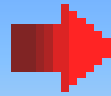
Ponderal Index = wt/length<sup>3</sup>  
3300 Finnish men, born 1924-33. Law et al BMJ 1993

**In Utero Metabolic Syndrome**



# Disparity in Perinatal Health

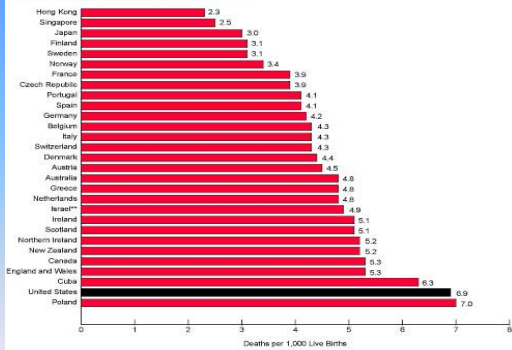
## U.S. Maternal and Infant Mortality



**U.S. has higher maternal and infant mortality rates than other developed countries:**

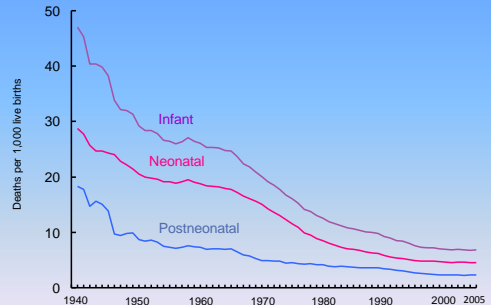
- Ranks 25<sup>th</sup> in infant mortality
- Ranks 21<sup>th</sup> in maternal mortality

International Infant Mortality Rates:<sup>a</sup> 2003



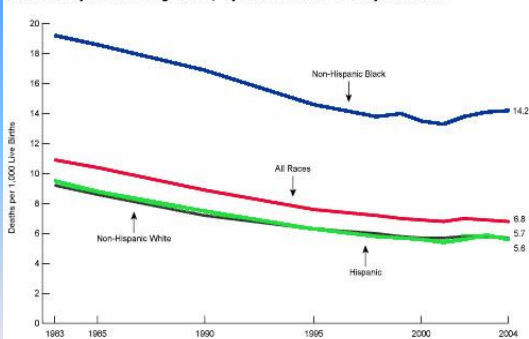
<sup>a</sup>Includes countries, territories, cities, or geographic areas with at least 1 million population and with complete counts of live births and infant deaths according to the United Nations Demographic Yearbook.  
<sup>b</sup>Includes data for East Jerusalem and Israeli residents in certain other territories under occupation by Israeli military forces since June 1967.

Figure 6. Infant, neonatal, and postneonatal mortality rates: United States, 1940-2005



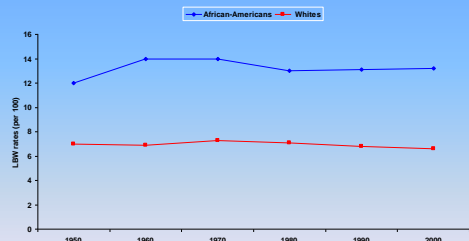
NOTE: Rates are infant (under 1 year), neonatal (under 28 days), and postneonatal (28 days-11 months) deaths per 1,000 live births in specified group.

U.S. Mortality Rates Among Infants,<sup>a</sup> by Maternal Race/Ethnicity: 1983-2004



<sup>a</sup>Under 1 year of age.

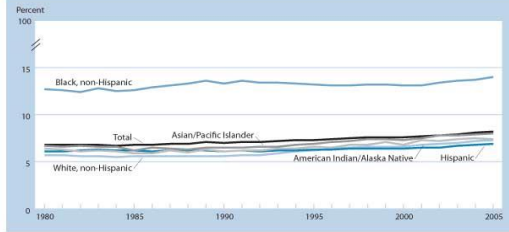
## Five Decade Trend in Low Birth Weight Rates in the United States



LBW (< 2500g) infants account for ~8% all of births and 66% of deaths.  
 The most common cause of LBW is Premature birth

## Prematurity: LBW by Race

INDICATOR HEALTH: PERCENTAGE OF INFANTS BORN WITH LOW BIRTHWEIGHT BY MOTHER'S RACE AND HISPANIC ORIGIN, 1998-2000 AVERAGE



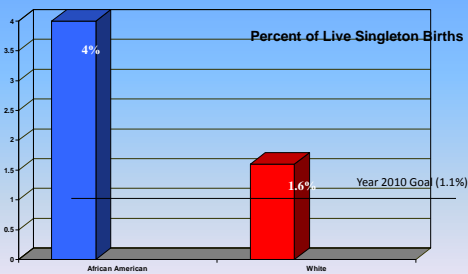
NOTE: Data for 2005 are preliminary.  
SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, [National Vital Statistics System](#).

## U.S. Infant Mortality By Race/Ethnicity-1000 Live Births 1998-2000 Average

Total	7.0
White	5.8
Black	13.8
American Indian	9.0
Asian Pacific Islander	5.1
Hispanic	5.7
Hispanic Origin White	5.8
Hispanic Origin Black	13.9

## Black:White Infant Mortality: Very Preterm Births < 32 Weeks

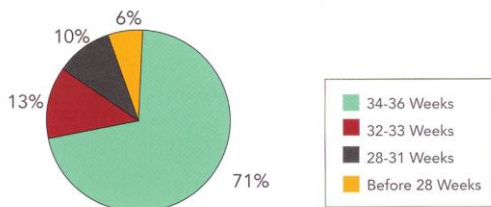
USA: 2002



Green: AJOG (2005) 193, 626-35

**PRETERM BIRTH**

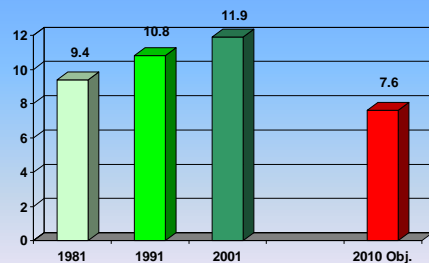
## Premature Births in U.S.<sup>3</sup>



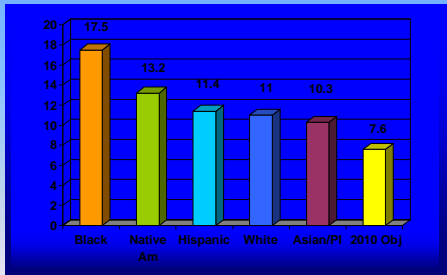
*Babies born before 32 weeks of gestation face the greatest risk.<sup>3</sup>*

## Preterm Births U.S. 1981-2001 27% Increase

Source: National Center for Health Statistics



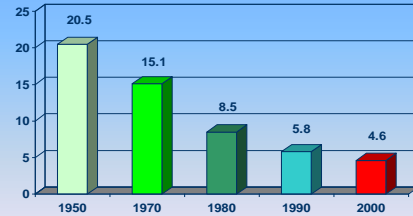
### Preterm Birth by Race/Ethnicity U.S. 2001 (Per 1,000 live births)



Source: National Center for Health Statistics

### Neonatal Mortality Rates U.S. 1950-2000 15.9% Decrease – All Races (Per 1,000 live births)

Source: National Center for Health Statistics

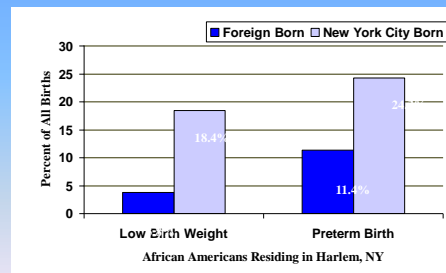


### Ethnic Difference in Preterm Birth

RACE	Odds Ratio (< 37 weeks)	Odds Ratio (<33 weeks)
African Amer	1.79:1	2.35:1
Mexican Amer	1.40:1	1.31:1
Asians	1.40:1	1.10:1
Whites	1.00	1.00

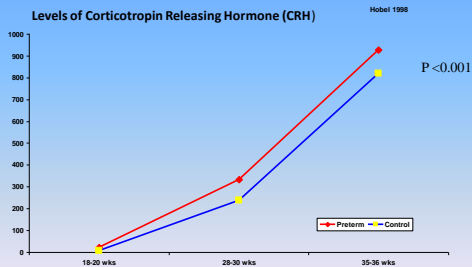
Based on cohort of 28,330 women. Shiono et al. Am J Public Health 1986;76:1317

### Low birth weight & preterm birth is lower among foreign-born African Americans



Valanis 1979

### Racial & Ethnic Disparities: Stress and CRH in Pregnancy



### Specific Hypotheses on Stress and Prematurity

- Preterm birth will occur more commonly in women with perceived stress, who have biological markers of stress and of altered inflammation.
- These women will more commonly be African American and will more commonly have pro-inflammatory polymorphisms
- African American women w/ PTD will have evidence of stress & altered inflammation

## Premature Birth

- PPROM in blacks compared to whites (adjusted OR (95%CI))
  - PPROM (< 35 weeks) 2.25 (2.04-2.49)
  - PPROM & late(32-34) PTB 1.94 (1.64-2.29)
  - PPROM & very(28-31) PTB 2.52 (2.26-2.80)
  - PPROM & extreme(20-27)PTB 2.82 (2.50-3.19)
  - Recurrent PPROM (<35 wks) 6.43 (3.74-11.04)

## Hispanic Paradox

Distribution of Adverse Outcomes by Race (1994-2004)

Outcomes	AA N(%)	Caucasian N(%)	Hispanic N(%)
<b>N</b>	<b>5,555</b>	<b>2,263</b>	<b>2,937</b>
Preterm Birth	1059(19.1)	400(17.7)	246(8.4) 0.0001
Abruption	109(2.0)	40(1.8)	31(1.1) 0.0076
Preeclampsia	564(10.2)	182(8.0)	183(6.2) 0.0001
GDM	260(4.7)	118(5.2)	148(5.0) 0.5553
SGA Infant	239(4.3)	70(3.1)	62(2.1) 0.0001
Fetal Death	93(1.7)	31(1.4)	24(0.8) 0.005
Maternal Death	14(0.3)	3(0.1)	0(0.0) 0.197

## Hispanic Paradox in Perinatal Outcome

- Results of Logistic Regression Analysis of Adverse Outcomes for Hispanic and African American North Carolina Medicaid Recipients Giving Birth at Duke Medical Center (1994-2004)\*

### Odds of Outcome in Hispanic vs. African American Women

Adverse Outcomes	p-Value	Odds Ratio	95% CI
• Preterm Birth	<0.0001	0.54	(0.46, 0.64)
• Abruption	0.0292	0.61	(0.39, 0.95)
• Preeclampsia	0.0026	0.75	(0.62, 0.90)
• GDM	0.9569	0.99	(0.79, 1.26)
• SGA infant	0.0079	0.66	(0.48, 0.90)
• Fetal Death	0.0019	0.46	(0.28, 0.75)

\*Analysis excludes patients who reside outside of North Carolina (N=61).  
\*Reference group is African American

Table 6. Results of Logistic Regression Analysis of Adverse Outcomes for Hispanic and African American North Carolina Medicaid Recipients Giving Birth at Duke Medical Center (1994-2004)

Adverse Outcomes	Odds of Outcome in Hispanic vs. African American Women		
	p-Value	Odds Ratio	95% CI
Preterm Birth	<b>&lt;0.0001</b>	<b>0.57</b>	<b>(0.48, 0.67)</b>
Abruption	<b>0.0399</b>	<b>0.63</b>	<b>(0.40, 0.96)</b>
Preeclampsia	<b>0.0040</b>	<b>0.76</b>	<b>(0.62, 0.91)</b>
Gestational Diabetes	<b>0.0002</b>	<b>1.60</b>	<b>(1.25, 2.04)</b>
Small for gestational age infant	<b>0.0058</b>	<b>0.65</b>	<b>(0.47, 0.88)</b>
Fetal Death	<b>0.0079</b>	<b>0.52</b>	<b>(0.32, 0.84)</b>

Analysis excludes patients who reside outside of North Carolina (N=61).  
Reference group is African American. Results adjusted for age at delivery(11-17 years, 35+years, using 18-34years as reference), residence (outside Durham, using Durham as reference), medical or psychiatric comorbidity, substance abuse, length of hospital stay, total hospital charges(≥\$5,000, reference \$0-4999).

## Racial Disparity and the “Hispanic Paradox”

- Minority race and socioeconomic disadvantage are known to be associated with ethnic differences in health outcome
  - Low birth weight
  - Infant mortality
- Low birth weight infants have a higher risk for morbidity and mortality leading to disparity in perinatal outcome
- **Low birth weight is a factor in the fetal origin of adult diseases**

## Racial Disparity and the “Hispanic Paradox”

- Hispanics are socioeconomically more similar to Blacks than they are to Whites
- However, minority race and socioeconomic disadvantage for Hispanics have not translated into poorer birth outcome
  - Low birth weight
  - Prematurity

## Factors Increasing Vulnerability of Black Women to Prematurity and LBW

- Biology
- Social
- Economic
- Behavioral
- Environmental
- Medical

## Factors Accounting for Prematurity Differences in Low Risk Whites and Blacks

- Current health status
- Childhood and adolescent health history
- Stresses
- Nutrition
- Parents and/or grandparents socioeconomic status
- Quality of medical care during pregnancy

Kleinman JEM 317;749;1987

## Maternal Mortality

- **Estimated number of maternal deaths in 2000 for the world was 529,000**
- **Almost equally divided between Africa (251,000) and Asia (253,000)**
- **4% (22,000) Latin America and the Caribbean**
- **less than 1% (2,500) in the more developed regions of the world.**

WHO Maternal Mortality 2000

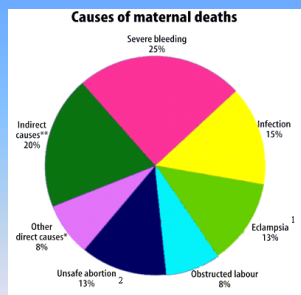
## Maternal Mortality

- Overall global maternal mortality is 430 per 100,000 live births
- North America: 11 per 100,000
- West Africa: 1,020 per 100,000

WHO

## Maternal Death

- Hemorrhage
- Sepsis
- Hypertensive disorders
- Unsafe abortion
- Obstructed labor



Safemotherhood.org

## Maternal Mortality

- **Lifetime risk of pregnancy-related death**
- **Global 1:60**
- **North America 1:4000**
- **Africa 1:16**
- **Worst parts of Africa 1:7**
- **570 fold lifetime risk of dying**

WHO 1996, Worldwide Fistula Fund

## Risk Factors

- **Poor or lack of antenatal care**
- **Inadequate facilities to deal with obstetric emergencies**
- **Illiteracy among pregnant women**
- **Teenage pregnancy**
- **High parity/nulliparity**
- **Delay in referral from peripheral units**
- **Unsafe abortion**

Geneva Foundation

## Risk Factors

- Malaria, HIV, anemia
- Harmful traditional medical beliefs and practices
- Deteriorating economies
- Gender violence
- Pregnant women age >40, parity >5
- Civil war

## Maternal Mortality Historical Interventions

- 1938-1948, shift from home to hospital deliveries
  - Hospital deliveries increased from 55% to 90%
  - Shift slower in rural areas and the South
  - Maternal mortality decreased by 71%
- Legalized abortion in 1960's contributed to 89% decline in death from septic illegal abortions during 1950-1973
- 1988 CDC began Maternal Mortality Surveillance

## Maternal Mortality 1900-1930

- **Poor obstetric education and delivery practices**
- **Obstetrics shunned by many physicians, leaving obstetric care to poorly trained or untrained medical practitioners**
- **Inappropriate and excessive surgical and obstetric interventions performed without aseptic principles**
  - lead to 40% maternal deaths due to sepsis (deliveries and illegal abortions)
- **Sepsis, hemorrhage and toxemia were leading causes of death.**

## *Pregnancy and Long Term Health Risk*

### Why is Breastfeeding Important for Long-term Health?

- Many perinatal risk factors for long-term adverse health outcomes are not modifiable (e.g., genetics, history of pregnancy complications)
- Breastfeeding, however, is a simple, inexpensive behavior available to all women, that has significant, positive short- and long-term health effects for the infant

## “Breast Feeding and the Risk of Post-Neonatal Death In the United States”

- 1204 infants who died between 28 days and 1 year from causes other than congenital anomaly or tumor (cases) and 7740 children who were alive at 1 year (controls)
- Longer breast feeding associated with lower risk: (Odds ratios)
  - 0.59 (CI 0.38-0.94) for injuries
  - 0.84% (.67-1.05) for **sudden infant death syndrome (SIDS)**
- “Breast feeding has the potential to save or delay ~720 post-neonatal deaths in the United States each year

– Pediatrics (2004) 113: E435-439...url:<http://www.pediatrics.org/cgi/content/full/113/e435>

## Infant Weight Gain and Feeding Methods

	Formula- or Mixed-Fed		Breastfed	
	Boys	Girls	Boys	Girls
n	321	261	148	151
Birth weight, kg				
Mean	3.553	3.400*	3.601	3.480*
SD	0.490	0.447	0.485	0.431
Gestation at birth, wk				
Mean	39.6	39.8	39.7	39.7
SD	1.1	1.2	1.2	1.2
Weight at 4 mo, kg				
Mean	6.90	6.40*	6.87	6.26*
SD	0.74	0.66	0.82	0.64
Weight gain 0–4 mo, kg				
Mean	3.34	3.00*	3.27	2.79*
SD	0.62	0.59	0.72	0.59
Energy intake at 4 mo, kJ/d				
Mean	2767.8	2549.4*	2797.2	2574.6*
SD	478.8	474.6	655.2	617.4

\*P < .005, girls versus boys.

\*\*P < .05, girls versus boys.

**Ong et al. 117 (3): e503. (2006)**

## First 6 mo rate of growth and overweight at 4 years

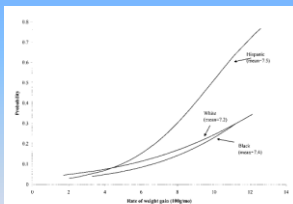


Figure 1: Probability of childhood overweight (BMI  $\geq$  95th sex-specific percentile-for-age) at 4 years of age vs. rate of infant weight gain (between birth and 6 months of age) by race/ethnicity.

**Dennison et al. Obesity 14 (3): 491. (2006)**

## Breastfeeding Duration and Adult Blood Pressure

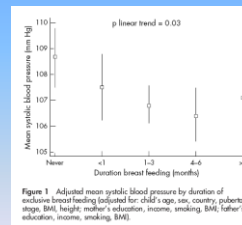


Figure 1: Adjusted mean systolic blood pressure by duration of exclusive breast feeding (adjusted for: child's age, sex, country, parental age, BMI, height, mother's education, income, smoking, BMI, father's education, income, smoking, BMI).

- This difference is greater than the effects of other blood pressure lowering measures, such as weight loss, salt restriction and physical exercise.
- A 2 mm reduction of blood pressure has been estimated to correspond to 17% and 6% reductions in the prevalence of hypertension and coronary heart disease.

Cripps RL et al. Clinical Science (2005) 109, 1–11

## Breastfeeding and CV Disease: The Nurses Study

Rich-Edwards JW et al. Epidemiology. 2004 Sep;15(5):550-6

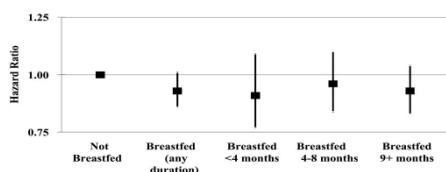


FIGURE 1. Multivariate hazard ratios (solid boxes) and 95% confidence intervals (vertical bars) for cardiovascular disease, represented retrospectively or prospectively (1976–2000), by history of having been breastfed and duration of breastfeeding. Adjusted for birthweight and adult cigarette smoking.

## Multivariate Analysis of Stroke And Adverse Pregnancy Outcomes

<b>Pregnancy outcome</b>	<b>OR</b>	<b>95% CI</b>	<b>p-value</b>
<b>Preeclampsia</b>	<b>2.14</b>	<b>1.03-4.47</b>	<b>0.04</b>
<b>Gestational diabetes</b>	<b>2.69</b>	<b>1.04-6.92</b>	<b>0.04</b>
<b>Age at delivery</b>	<b>1.04</b>	<b>1.00-1.07</b>	<b>0.02</b>

## Risk Factors In Univariate Analysis, For MI Or Death

Risk Factor	Hazard Ratio	CI	P-value
Dyslipidemia	0.635	0.417-0.996	0.029
Ejection Fraction	0.980	0.965-0.995	0.0096
Diabetes	1.514	1.02-2.56	0.047
Smoking	1.71	1.17-2.5	0.0049
Adverse Pregnancy Outcome	2.14	1.41-3.21	0.0001

## Conclusions

- Disparity in birth outcome such as prematurity, low birth weight and fetal growth restriction and pregnancy complications are factors in the ethnic disparity in development of adult conditions such as obesity, diabetes, and cardiovascular disease

## What Does This Mean To The Practicing OB/GYN?

### *Interconceptional Care*

## What Does This Mean

Begin education of mother and child of long term health risk at birth (SGA, LGA)



## What Does This Mean - Lessons Learned

### *Interconceptional care*

(the next generation)

Intrauterine nutrition, postnatal feeding, and environmental changes are key to breaking the cycle of generation adverse health

## Black:White Disparity in Health Care

### Within Medicare:

#### Differential utilization based on race for:

- Mammography (Gornick et al.)
- Amputations (Gornick et al.)
- Influenza vaccination (Gornick et al.)
- Lung Ca surgery (Bach et al.)
- Renal transplantation (Ayanian et al.)
- Cardiac catheterization & angioplasty (Harris et al, Ayanian et al.)
- Coronary artery bypass graft (Peterson et al.)
- Treatment of chest pain (Johnson et al.)
- Referral to cardiology specialist care (Schulman et al.)
- Pain management (Todd et al.)

65% of African-Americans and 58% of Hispanics (compared to 22% of whites) were afraid of being treated unfairly when accessing health care services.

*Kaiser Family Foundation*

Equity is achieved by providing care that does not vary in quality by personal characteristics such as ethnicity, gender, geographic location, and socioeconomic status.

*The Disparities Solutions Center at Mass. General Hospital*

### “Affordability Gap”

- Women more likely to have lower incomes
- Less likely to have employer-based coverage
- Use more health services
- Have higher out-of-pocket costs
- More likely to avoid needed health services

### Health Care System

- Health care is not a right of citizenship
- Ultimate goal of health care system – maximize profits
- Lack of access to uninsured and underinsured.
- Geographic access - less in poorer areas
- Gender inequality- uninsured women have more difficulty getting health care than uninsured men Lambrew 2001. In 2004, >14% of women were uninsured Census Bureau 2005

“I think the three major arguments for addressing disparities are the quality argument, the caring argument, and the financial argument”

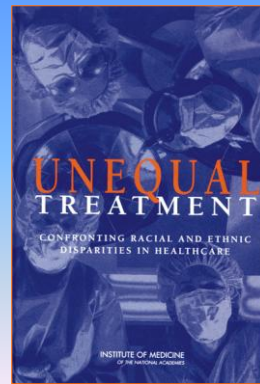
William Fulkerson, MD  
CEO, Duke University Hospital

### Disparities impact quality

- Minorities more likely to be re-admitted, especially for chronic conditions such as CHF
- Increased risk of hospitalization for ambulatory care sensitive chronic conditions such as asthma, diabetes
- Joint Commission, National Quality Forum have developed quality measures on disparities, cultural competence

## Disparities impact cost

- Health care providers tend to order more expensive tests for conditions that could have been diagnosed through basic history-taking
- LEP patients have longer hospital stays
- Pay-for-performance, “Never-events”
- Community benefit



**QUESTIONS?**

To access all webinar-related forms:

Go to:

<http://www.cicatelli.org/TitleX/Webinars.htm>

Click on:

[presentation handouts as .pdf available here](#)

If multiple people are logged onto  
one computer...

Please e-mail Alma Krcic at:

[akrcic@cicatelli.org](mailto:akrcic@cicatelli.org) with the names and e-mail  
addresses of all participants present