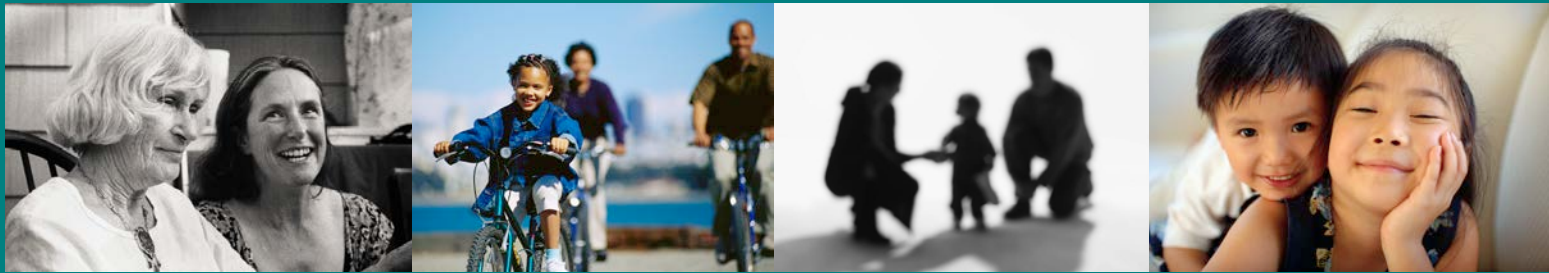


Using a Lifecourse and Multiple Determinants Approach to Address Healthy Weight in Women



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*Based on the Work of Misra, Guyer & Allston, with A Koontz and H Grason
Am J Prev Med 2003;25(1) and Misra & Grason, Women's Health Issues 2005, Forthcoming*

Perinatal Framework Rationale

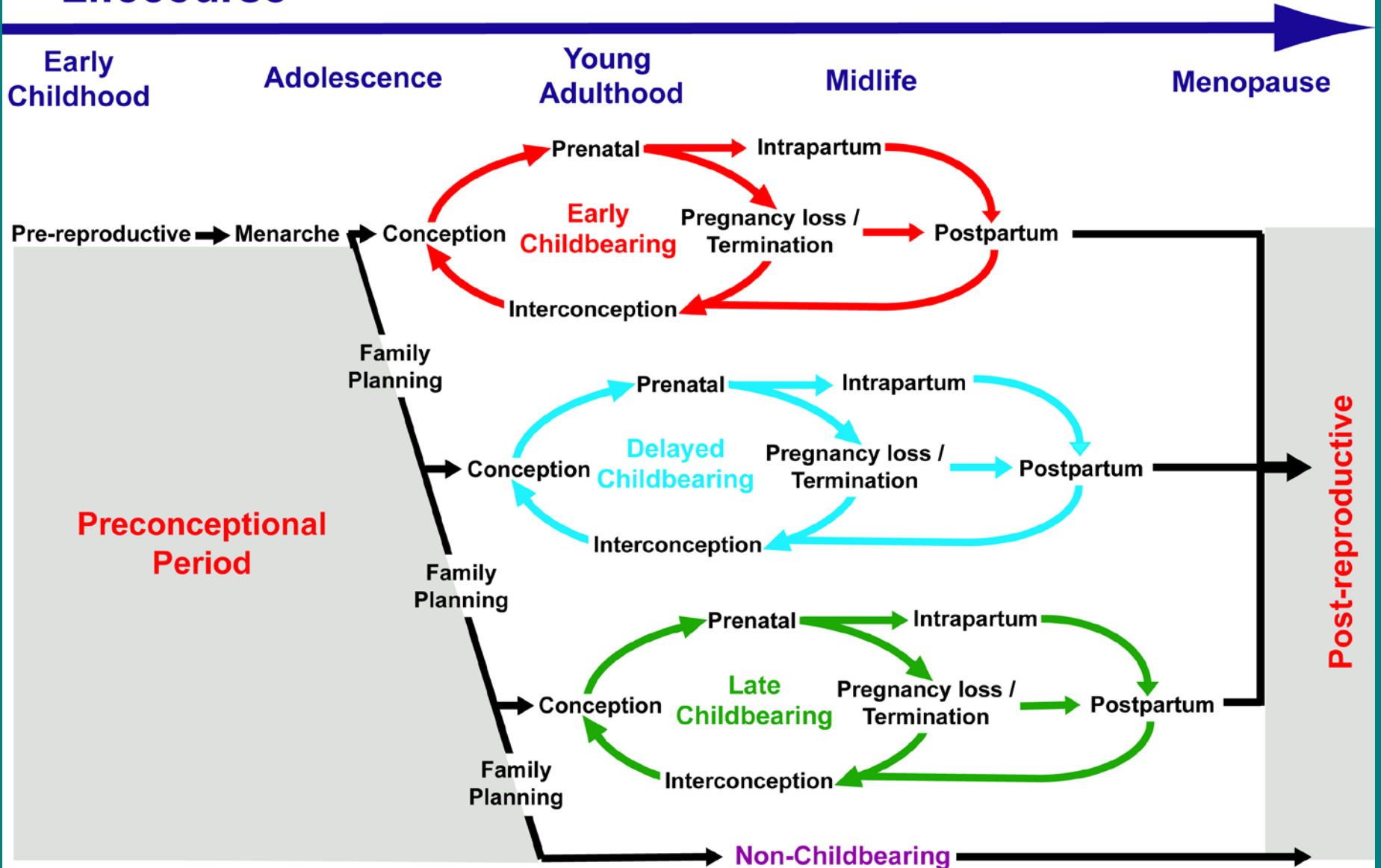
LIFESPAN

- Powerful influences on pregnancy outcome occur long before pregnancy begins.
 - Nutrition
 - Chronic disease
 - Sexually transmitted infections
- Many U.S. pregnancies are unintended.

MULTIPLE DETERMINANTS

- Social, behavioral, environmental and biological forces all shape pregnancy.
 - Model integrates multiple individual factors together.
 - Model shows interrelationships between factors.
 - Model illustrates pathways by which factors might influence.

Lifecourse



Perinatal Framework

Encompasses Dramatic Changes in the Demography of Pregnancy

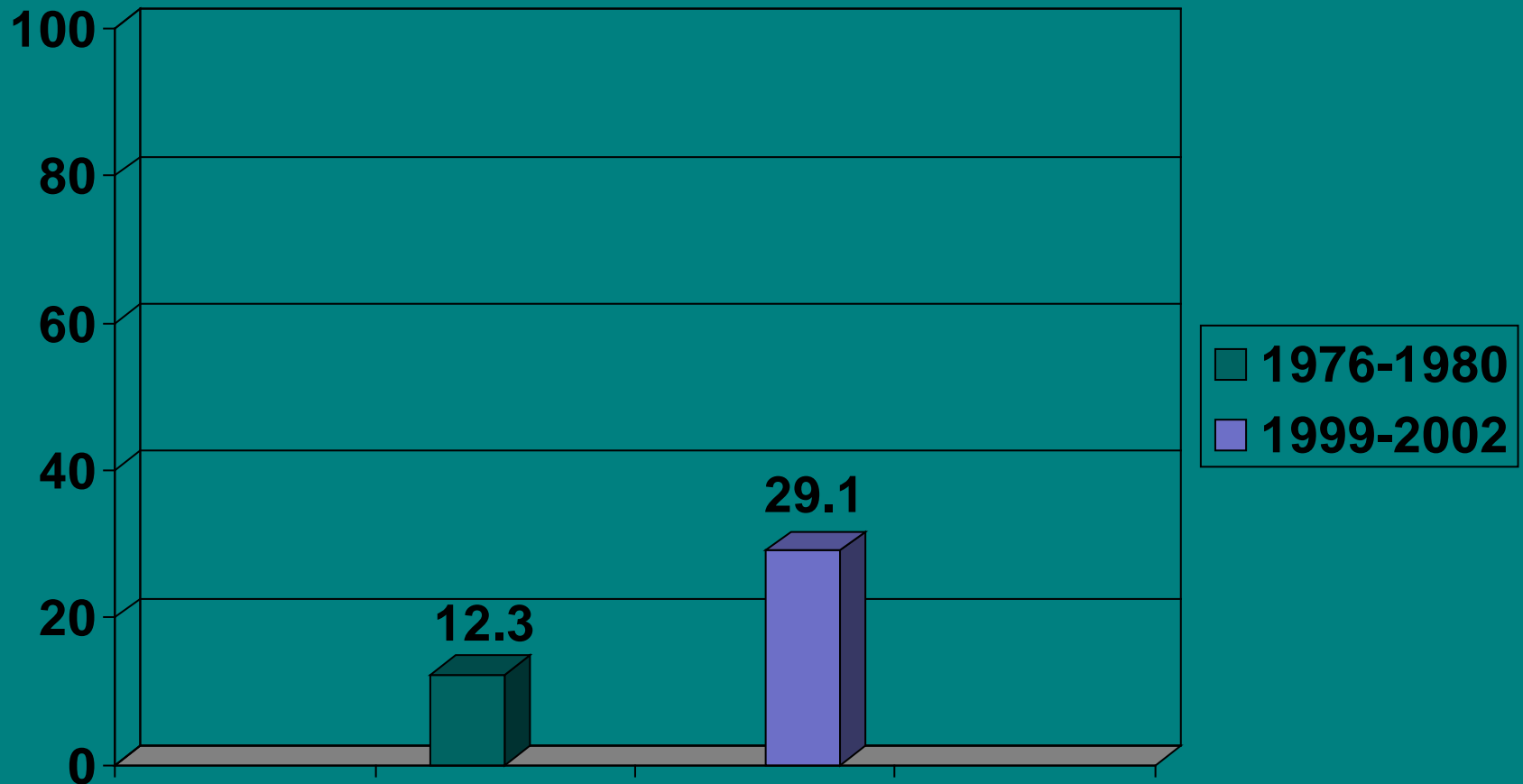
Older age at first pregnancy

- Chronic conditions and diseases that may affect pregnancy outcomes increase with age.
- Prevalence and sequelae of obesity and overweight increase with age.
- Potentially shorter interconceptional periods.

Epidemiology of Women and Weight

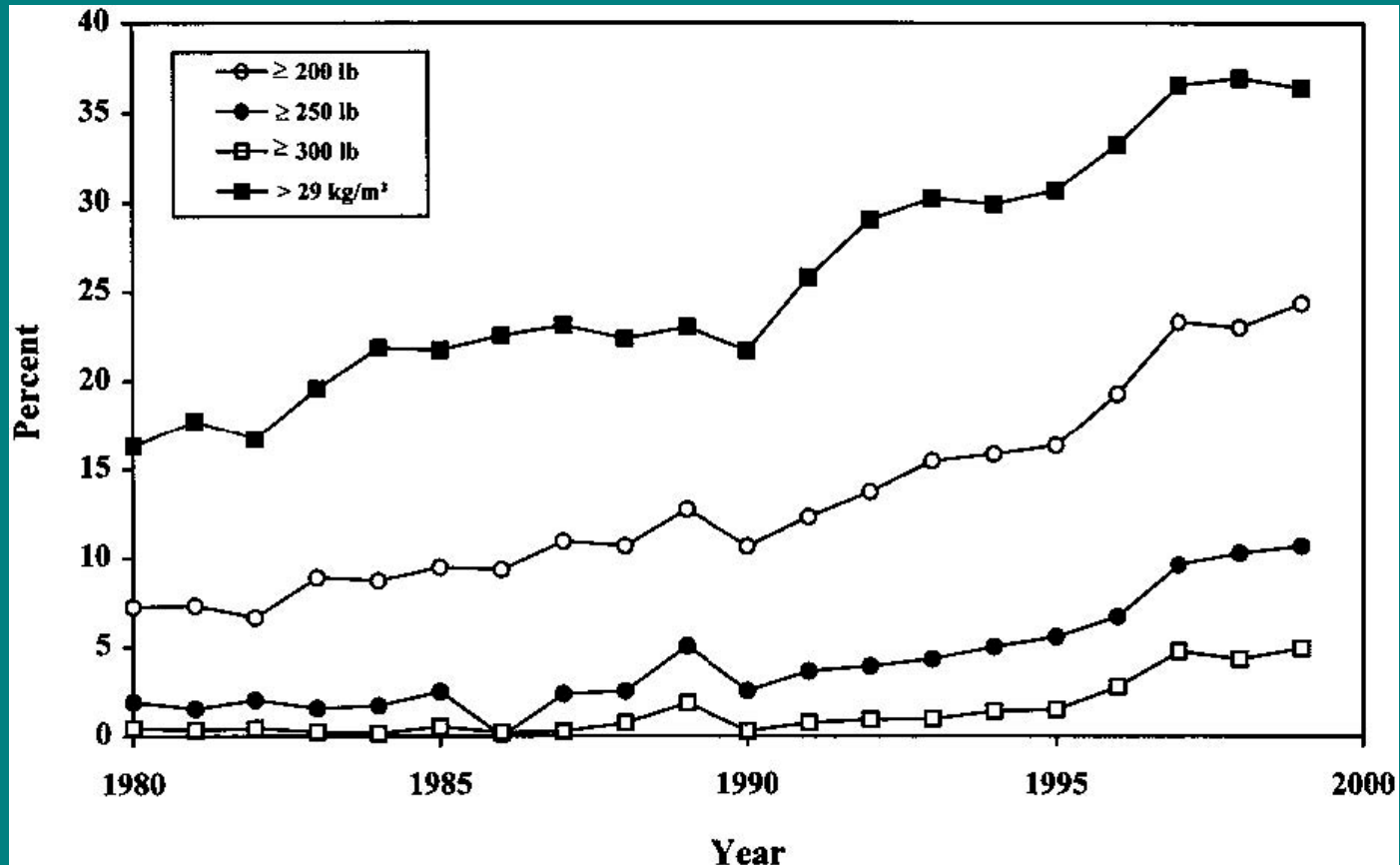
- Overweight and obesity increasing over past 25 years and has risen each year.
- Pregnancy may contribute to obesity in women and hence future morbidity and mortality.
- Obese women at increased risk for maternal morbidity and mortality.

Obese Women 20-39 Years Old



Flegal, K., Carroll, M., Ogden, C., & Johnson, C. (2002). Prevalence and trends in obesity among U.S. adults, 1999-2000. *JAMA*, 288, 1723-1727.

Weight at 1st Prenatal Care, 1980-1999



Lu, G., Rouse, D., DuBard, M., Cliver, S., Kimberlin, D., & Hauth, J. (2001). The effect of the increasing prevalence of maternal obesity on perinatal morbidity. *Am J Obstet Gynecol*, 185, 845-849.

Pregnancy and Obesity

- Pregnancy may contribute to obesity in women who were not obese prior to pregnancy.
 - Women weigh 1-3 kg more at 6-12 months postpartum compared to women who did not experience pregnancy, and each live birth adds $\frac{1}{2}$ kg on average.
 - 1999 review estimated 14-20% women weigh at least 5 kg more at 6-18 months postpartum.

Pregnancy and Obesity

- Weight gain in pregnancy
 - Proportion of women who gain more than >35 lbs (~1/3) seems high relative to expected proportion of underweight women.
 - Excess pregnancy weight gain and failure to lose pregnancy weight gain in first 6 months postpartum strongest predictors of long term weight gain in women. (Rooney & Shaubarger, 2002)

Obesity and Overweight for Women: Health Effects

- Obese women at increased risk for maternal morbidity and mortality.
 - Increased risk for complications of pregnancy (e.g. gestational diabetes, preeclampsia) regardless of prepregnancy health.
 - Increased prevalence of chronic disease prepregnancy which produces its own effects on maternal morbidity and mortality.

Obesity and Overweight for Women: Health Effects

- Obese women at increased risk for maternal morbidity and mortality.
 - Increased incidence of intrapartum problems, including higher c-section rates.
 - Secondary to pregnancy complications, length of labor, and macrosomia.
 - May be increased risk regardless of antenatal and preconception health .
- Obese women may have lower rates of initiating breastfeeding and shorter duration.
 - Physiologic, physical, and social factors?

Obesity and Overweight for Women: Economic Effects

- Cost of prenatal care in overweight women 5-16 times higher and increased with level of obesity (Gaultier-Deurere et al 1995)
- Cost of antenatal, intrapartum, and postpartum hospitalization 5 times higher for overweight women (Gaultier-Deurere et al 2000)

System Challenges

“Too little, too late, too fragmented”

System Challenges

What's an MCHer to Do?

Figure 3. Lifespan Approach to Intervention as Applied to Obesity

	Child	Adolescent	20s	30+
<u>Distal Factors</u>				
Genetic	Assessment of family history			
			Genetic screening	
Physical Environment	Food security			
	School food policies, nutrition			
	Neighborhood safety to allow physical activity			
			Workplace promotion of physical activity	
Social			Workplace food policies, offerings	
	Teach stress management			
		Insurance coverage for all women of reproductive age, regardless of pregnancy status		
		Teach health literacy and skills for navigating the health system		
		Weight reduction support networks		
		Address domestic violence		

Grason, H. Applying a Lifespan Approach to Safe Motherhood Interventions. Presented at "Expecting Something Better" Jacobs Institute Conference, Washington, DC. May 2005.

Figure 3. Lifespan Approach to Intervention as Applied to Obesity (con't)

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Processes				
Pre-Inter Conceptional			Medication management	
		Training for exercise and diet clinicians		
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		Medical information transfer, coordination care		
Pregnancy State			Medication management	
Postnatal			Breastfeeding education, support specific to weight management	

Intervention Strategy Options

- Information strategies
- Administrative strategies
- Financing strategies
- Provider strategies
- Non-governmental strategies
- Environmental

Example – Information Strategies

Target population at risk, providers, and those who influence larger system.

- Interventions to package information differently
- Use different venues for communicating info to women across lifespan
- Information transfer across health specialties for individual women and over time
- Data-driven policy change

Example – Administrative Strategies

Changing current categorical, disease- and population-defined organizational schemes and practices of state and local health agencies.

- Chronic disease activities are administered independent of MCH programming. Could configure differently to reflect multiple determinants and life course framework.
- Implementing targeted interventions in non-traditional settings such as colleges and workplaces.

Example – Provider Strategies

- Focus on medical school training, with respect to knowledge base and process (e.g., team care).
- More comprehensive guidelines for postpartum care.
- Pursue changes that are not dependent on medical professionals.

Obesity-Related Strategies by Life Stage

Little Girls

- Environmental strategy – make neighborhoods safe and amenable for physical activity. ■
- Provider strategy – increase pediatrician practice of taking family histories. ■
- Administrative strategy – focus on food policies and education in day care and preschool settings.

Obesity-Related Strategies by Life Stage

Adolescent Girls

- Provider Strategies
 - Begin to focus on woman-centered information transfer approach
 - Relay pediatric histories to family practice and internal medicine physicians and reproductive health providers
- School Settings
 - Include peer support groups
 - Breastfeeding education

Obesity-Related Strategies by Life Stage

Young Women in their 20s

- Might expand provider base for health interventions to include coaches, athletic club/gym staff.
- Team care, information transfer across providers and over time continues to be important.
- Tailor chronic disease management to pregnancy.

Opportunities

- Growth of consumer directed health plans.
- National attention to nutritional health and physical fitness.
- Health education and promotion in schools.
- Exemplary model strategies (Centers of Excellence, community outreach and delivery efforts).

Policy Directions

- Expand or maximize stakeholder position of employers and industry.
- Improve utilization of local, state, and federal governments as models of workforce health promotion.
- Use legislative action or congressional directives to 1) develop and test models of care; 2) extend evidence base for practice at the individual and program level; 3) build statutory requirements based on evidence-based practices and models.

Policy Directions

- Pursue and evaluate demonstration projects in using consumer directed health plans and MSA models to incorporate a broad range of women' health providers, e.g., doulas, lactation support.
- Use performance measures as incentives to adopt evidence-based practices and models.
- Enhance and develop stakeholder groups as active participants: (Men, Employers and industry, Environmental health, Urban planning)

Practice Directions

- Integrate tools of quality improvement, model strategies.
- Create teams (intra and inter-disciplinary) in health care delivery.
- Explore group visits for care and support systems.
- Adopt electronic and technological tools to support provision of quality care.

Conclusions

- Lifespan approach demands attention to consistency and continuity with respect to health information and health care.
- As continuity of care no longer appears possible, patient-based approaches complemented by population-based approaches to reach women across life course are critical.

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