

Nutrition During Pregnancy and Lactation: Exploring New Evidence – A Workshop

Anna Maria Siega-Riz, PhD

January 29-30th, 2020

Disclosure: Views presented in this presentation are my own and are not representative of my role in any other capacity.

Workshop Planning Committee Members



Anna Maria Siega-Riz
(Chair)
*University of Massachusetts
Amherst*



Deborah O'Connor
University of Toronto



Patrick Catalano
*Tufts University School of
Medicine*



Angela Odoms-Young
University of Illinois at Chicago



Erica P. Gunderson
*Kaiser Permanente
Northern California*



Emily Oken
*Harvard Medical School and
Harvard Pilgrim Health Care
Institute*



Tamera Hatfield
*University of California,
Irvine*

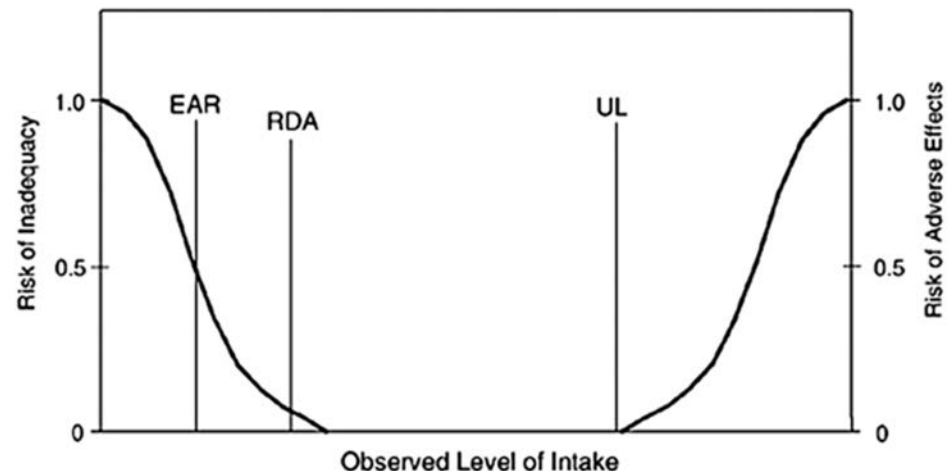
Overview of the Statement of Task:

- We will explore the state of the science on nutrients, dietary patterns, nutritional supplements, and other nutrition-based topics relevant to pregnancy and lactation.
- The workshop topics will include discussion of equity in access of nutritional care for women of childbearing age.



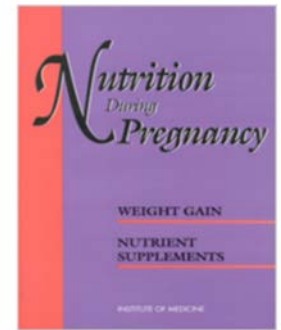
Our hope is:

- to help inform stakeholders about whether there is a need for a new study to reexamine the evidence on the role of nutrition in pregnancy and lactation relative to the needs of the U.S. population today.



Nutrition During Pregnancy 1990

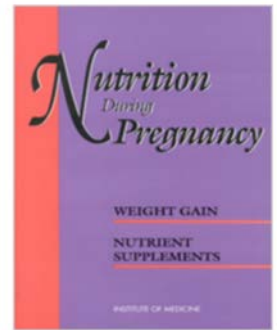
Report-major conclusions:



- **Evaluation** of a pregnant woman's dietary pattern **by food history or food frequency questionnaire, augmented by questions about special problems or conditions** that might affect dietary adequacy may provide the best information for assessing the need for nutrient supplementation.
- **Iron is the only** known nutrient for which requirements cannot be met reasonably by diet alone.
- Pregnant women can meet the physiologic requirements for folate **by following dietary guidelines.**
- **Folate deficiency** is very rare among pregnant women in the United States. There is some evidence that periconceptional use of multivitamins or folate may provide some protection against the occurrence of neural tube defects.

Nutrition During Pregnancy 1990

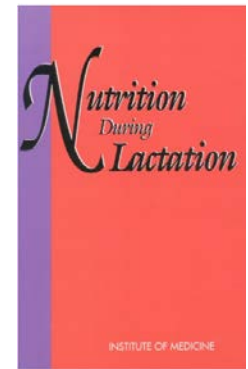
Report-major conclusions:



- Because **protein is abundant** in usual diets in the US and because of evidence suggesting possible harm from routine ingestion of specially formulated high-protein supplements, the use of such supplements, **protein powders, or high-protein beverages** should be discouraged.
- There is only **inconsistent and fragmentary** evidence that the consumption of **coffee or caffeine during pregnancy** exerts adverse effects on the fetus.
- The **adequacy of calcium and vitamin D** intake among pregnant women under age 25 deserves special attention.
- Because of accumulating data that **excessive vitamin A consumption poses a teratogenic risk**, supplementation with preformed vitamin A should be avoided during the first trimester.

Nutrition During Lactation 1991

Report-major conclusions:



- Women living under a wide variety of circumstances in the United States and elsewhere are capable of fully nourishing their infants by breastfeeding them.
- Breastfeeding is recommended for all infants in the United States under ordinary circumstances.
- Data are lacking for use in developing strategies to identify lactating women who are at risk of depleting their own nutrient stores.

Women then vs now: What has changed?

- Data sources available to describe trends
- Characteristics of women who become pregnant
- Tools available to providers, nutritionists, and the public to seek out nutrition information and conduct assessments
- Consumers demand for nutrition knowledge, food supply, and how consumers are both making food decisions and where they obtain food has changed drastically

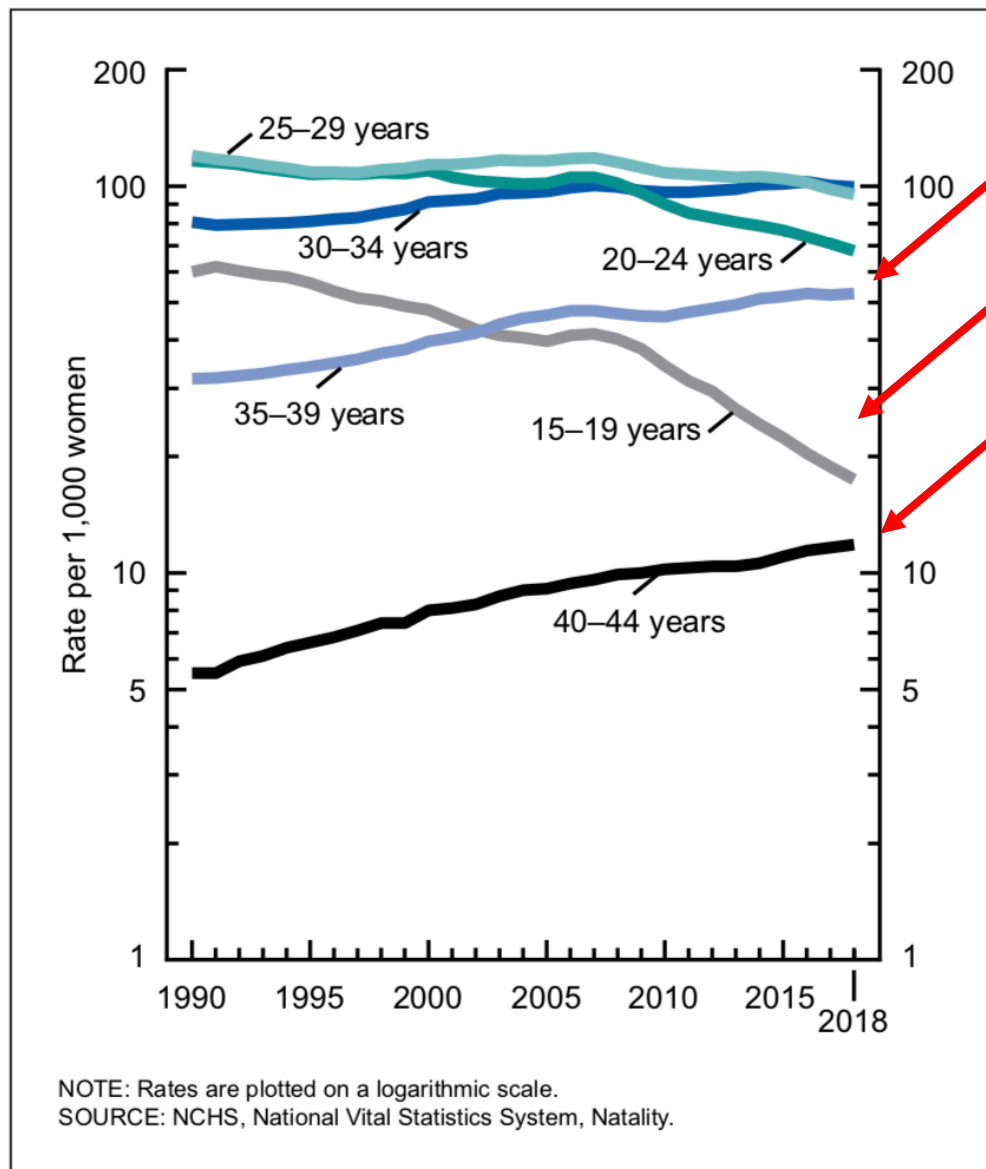
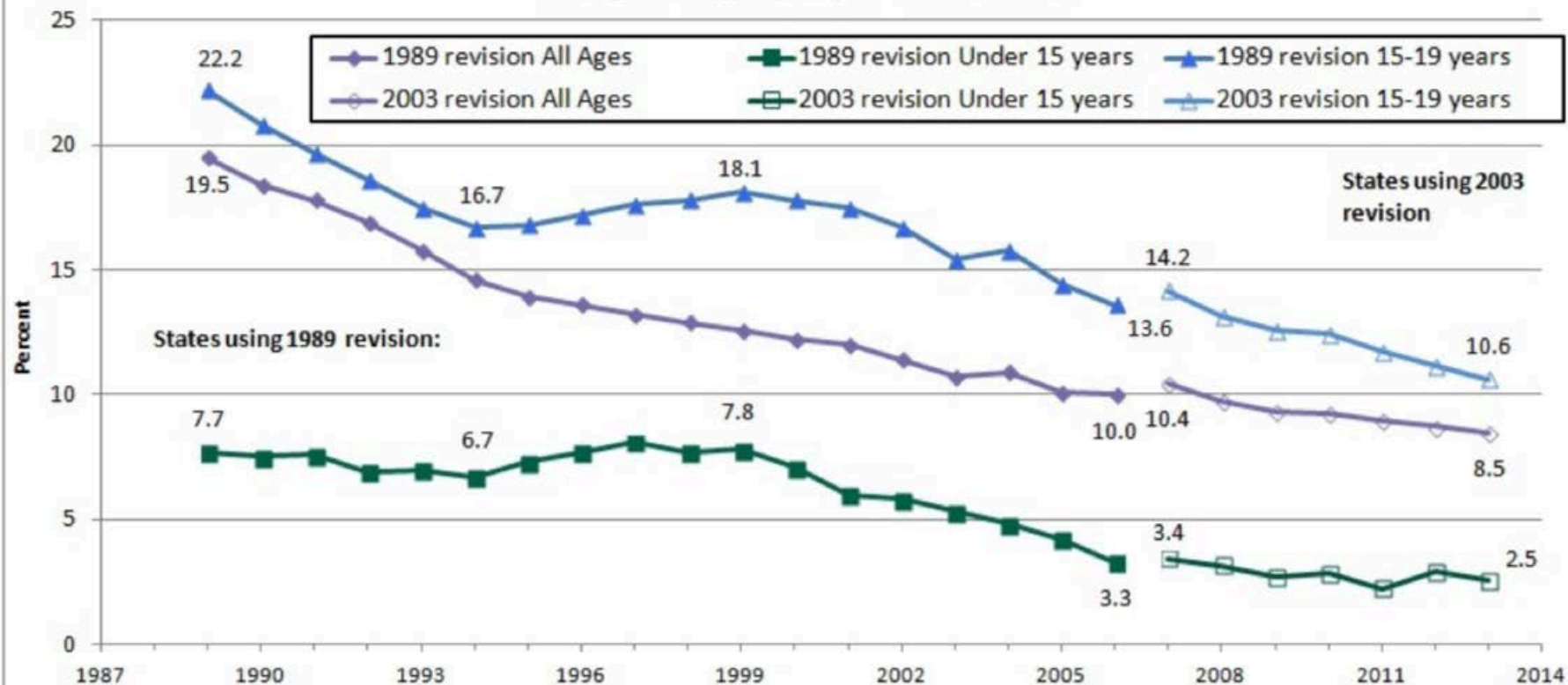


Figure 3. Birth rates, by age of mother: United States, 1990–2018

Figure 1

Percentage of Births Which Were to Mothers Who Smoked During Pregnancy, by Age: 1989-2013



Note: The number of states using the 1989 and 2003 revisions of the standard birth certificate has varied over time.

Sources: Data for 1990-2006: Centers for Disease Control and Prevention *National Center for Health Statistics*. (2008). *Mothers who smoked cigarettes during pregnancy, by selected characteristics: United States, selected years 1990-2000 and selected states, 2005-2006*. Table 11. Available at http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/Health_US/hus99/Excel/table011.xls

Detailed Asian

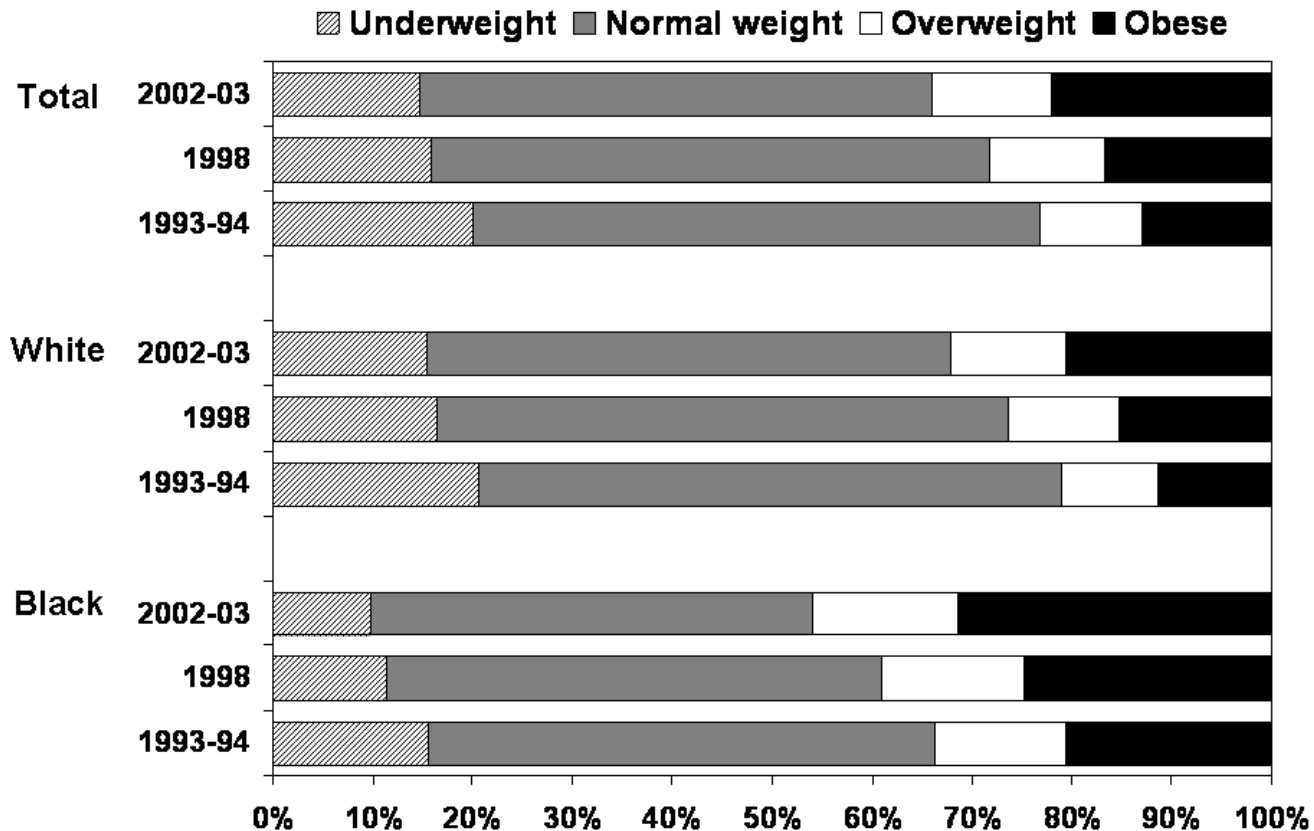
race data and teen birth data for 2007-2011: National Center for Health Statistics, National Vital Statistics System.

VitalStats online tool. Available at <http://205.207.175.93/Vitalstats/ReportFolders/reportFolders.aspx>. All other data

for 2007-2013 and education data for 2010: National Center for Health Statistics, *CDC WONDER* online tool.

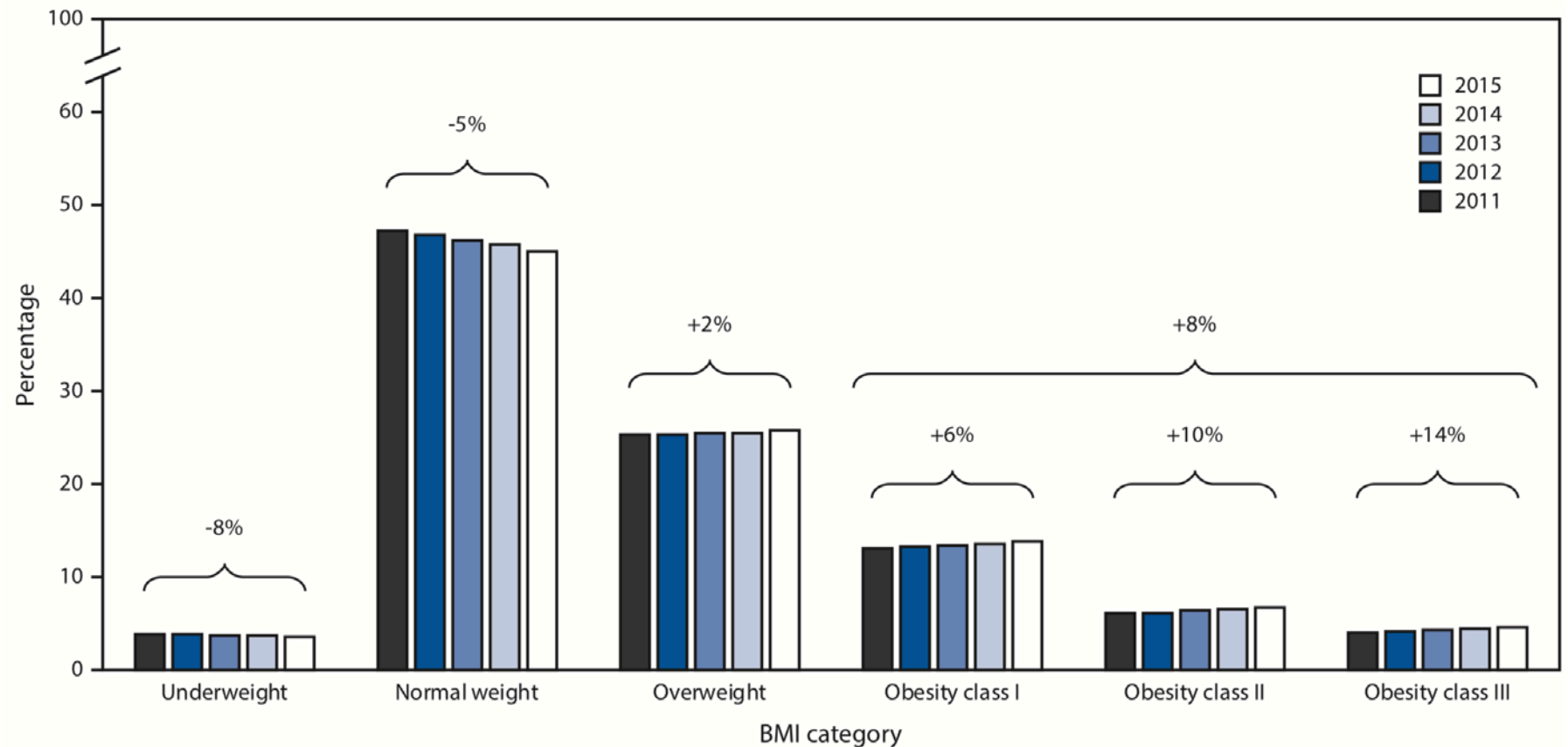
<http://wonder.cdc.gov/nativity-current.html>.

Trends in the distribution of BMI* from 1993 to 2003 among pre-pregnant U.S. women in the total population and by race



*1990 cut points. SOURCE: Kim et al., 2007. (IOM Report, 2009)

FIGURE. Prevalences and relative changes in prepregnancy BMI categories* among women with a live birth — 36 states, District of Columbia, and New York City,[†] 2011–2015

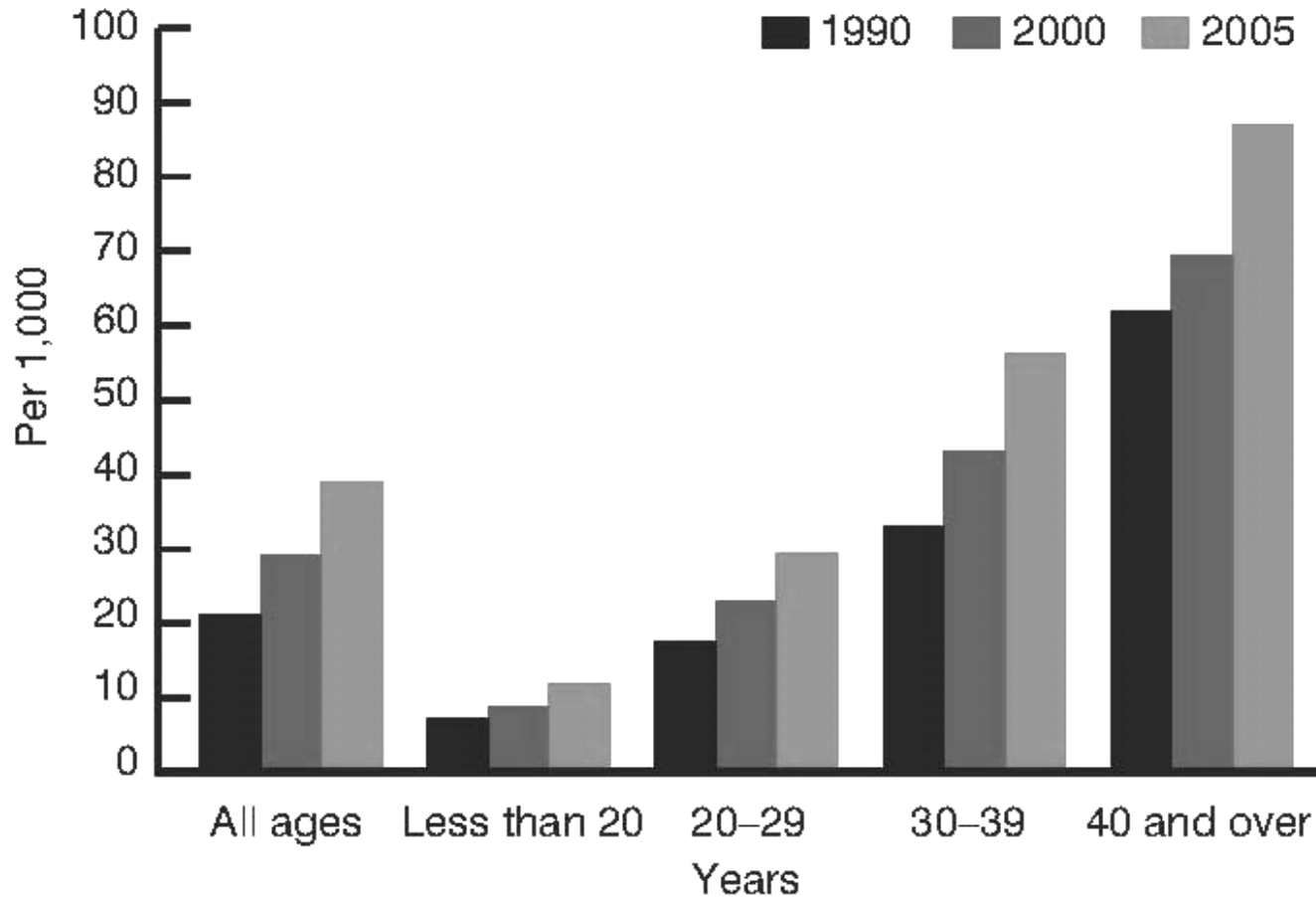


Abbreviation: BMI = body mass index (kg/m²).

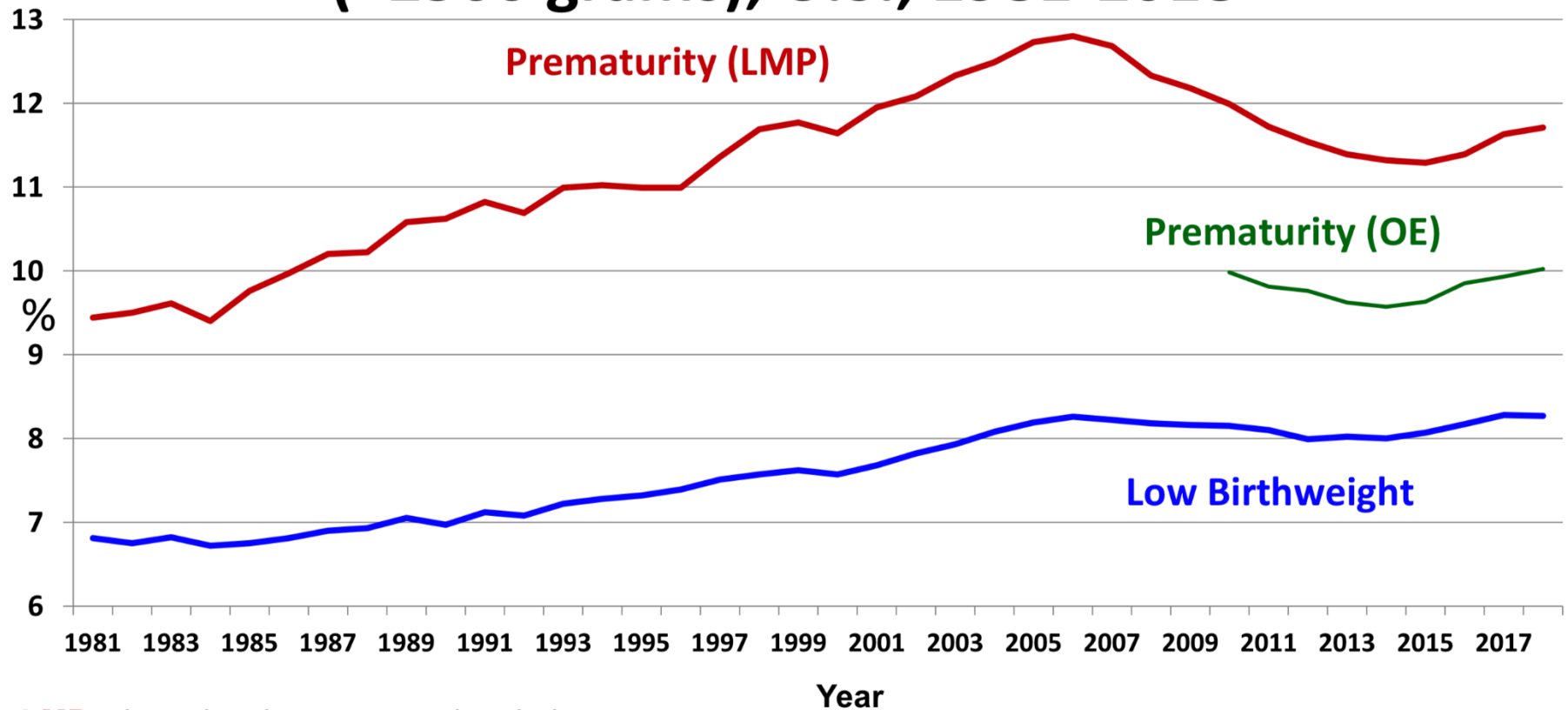
* Prepregnancy BMI was categorized as underweight (BMI <18.5), normal weight (BMI 18.5–24.9), overweight (BMI 25.0–29.9), obesity class I (BMI 30.0–34.9), obesity class II (BMI 35.0–39.9), and obesity class III (BMI ≥40.0).

[†] Data are from 38 jurisdictions that utilized the revised birth certificate by January 1, 2011 and, thus, had prepregnancy BMI data during 2011–2015. Jurisdictions included are California, Colorado, Delaware, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York, New York City, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming (natality data from New York City are reported separately and are not included in New York estimates).

Diabetes rates by age of mother: United States, 1990, 2000, and 2005



Prematurity(<37 weeks) and Low Birthweight (<2500 grams), U.S., 1981-2018

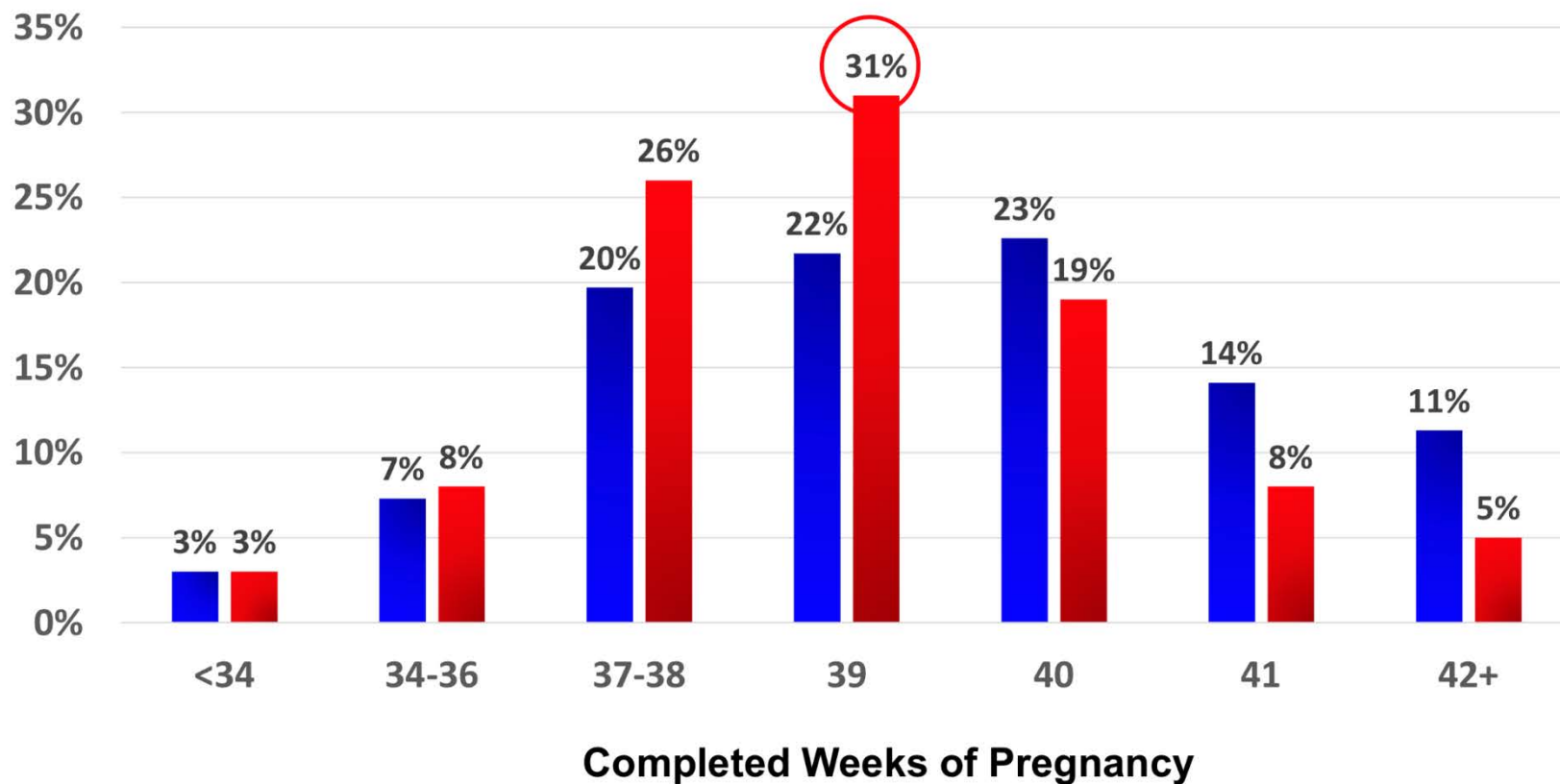


LMP – based on last menstrual period

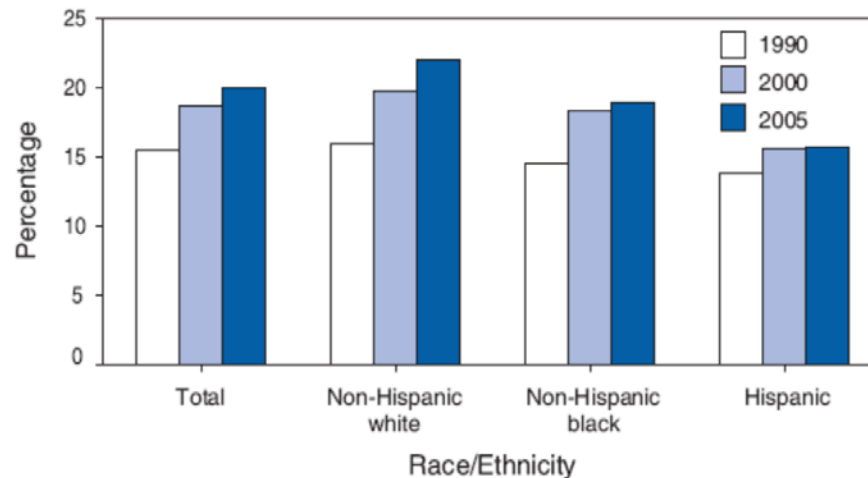
OE – based on obstetric estimate

BirthByTheNumbers.org

Gestational Age, U.S. All Births, 1990, 2018



QuickStats: Percentage of Women* Who Gained >40 Pounds During Pregnancy, by Race/Ethnicity[†] of Mother --- United States, 1990, 2000, and 2005[§]



* Includes only mothers with a singleton delivery.

[†] Includes only non-Hispanic white, non-Hispanic black, and Hispanic mothers (who might be of any race).

[§] The total number of women who gained >40 pounds was 456,678 in 1990, 588,253 in 2000, and 656,363 in 2005.

2018 FOOD & HEALTH

By The International Food Information Council (IFIC) Foundation



INTERNATIONAL
FOOD INFORMATION
COUNCIL FOUNDATION

Top Diets



10%
Intermittent
Fasting



7%
Paleo



5%
Low-carb



5%
Whole30



4%
High-Protein



3%
Ketogenic/High-Fat

2018 FOOD & HEALTH

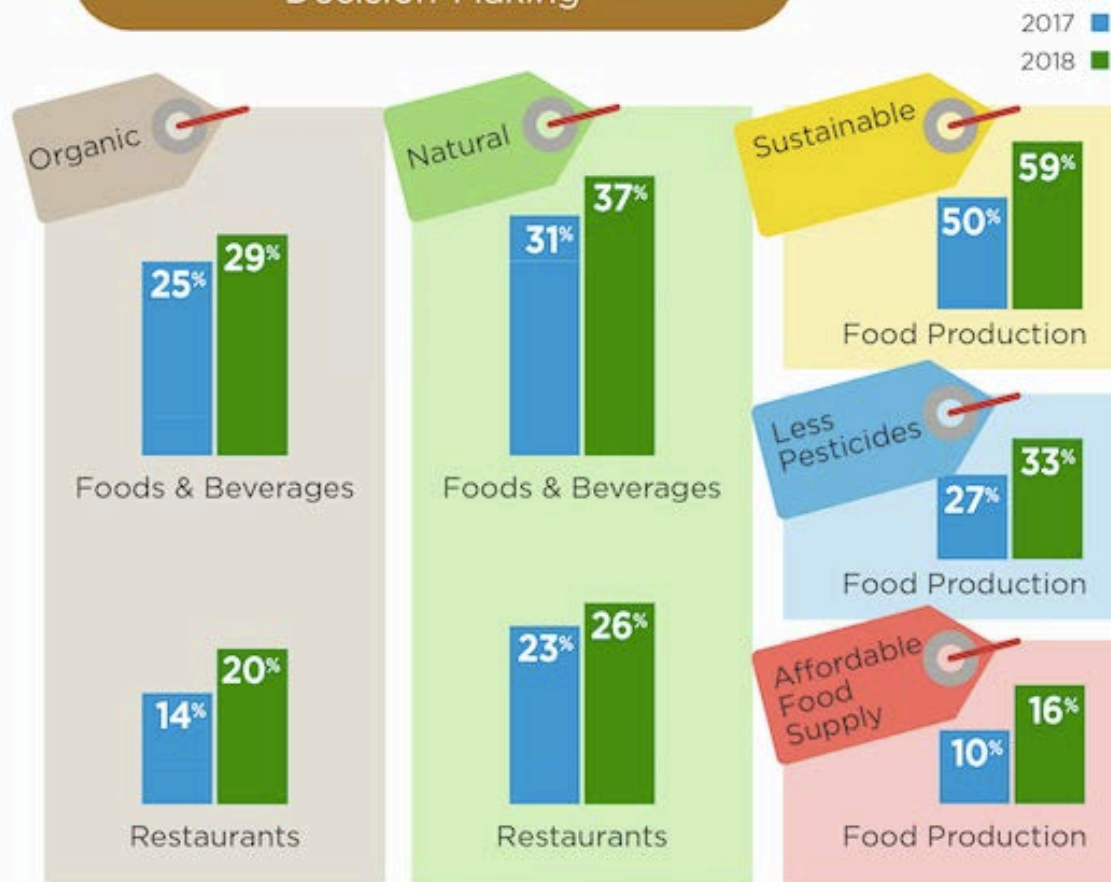
By The International Food Information Council (IFIC) Foundation



INTERNATIONAL
FOOD INFORMATION
COUNCIL FOUNDATION

Food Values/ Labels

Factor in Consumers'
Decision-Making



@foodinsight



@Foodinsight / @FACTSfollowers

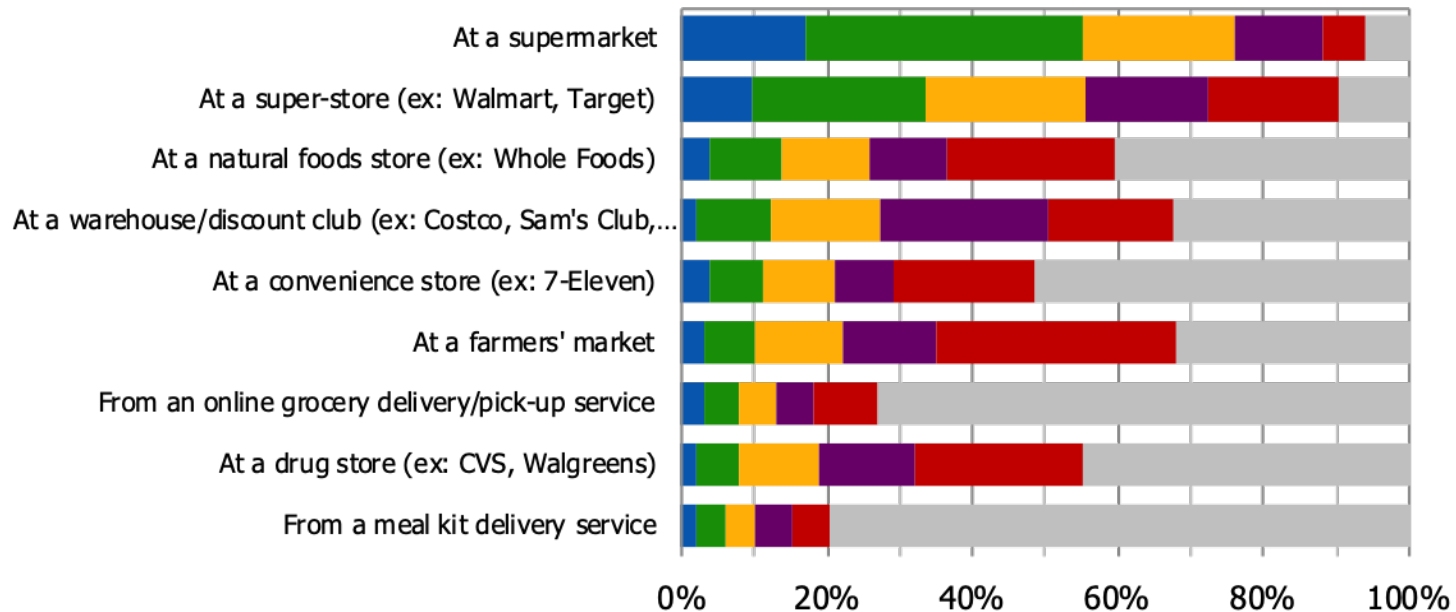
Foodinsight.org

Supermarket Remains Top Source of Food

Men more likely to use drug stores, convenience stores and online or meal kit delivery services

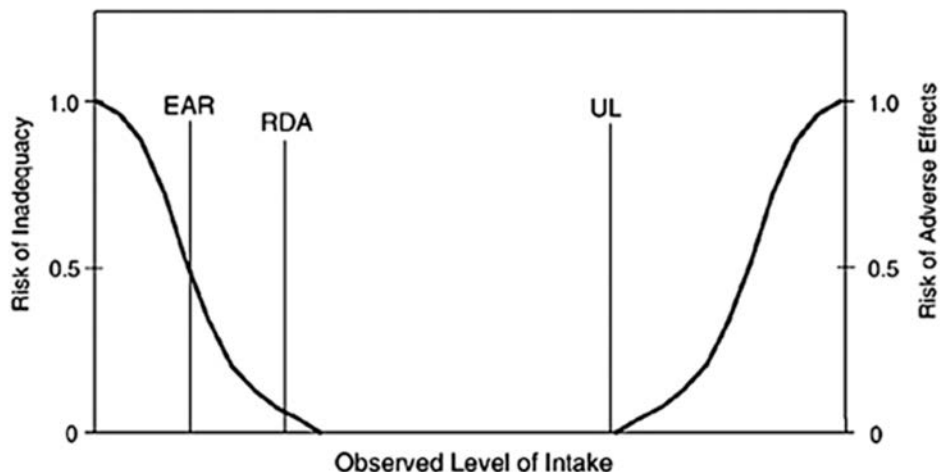
How Often Shop For/Purchase Food or Beverages

■ Multiple times a week ■ Once a week ■ Several times a month ■ Once a month ■ Less than once a month ■ Never



As a reminder, our hope is:

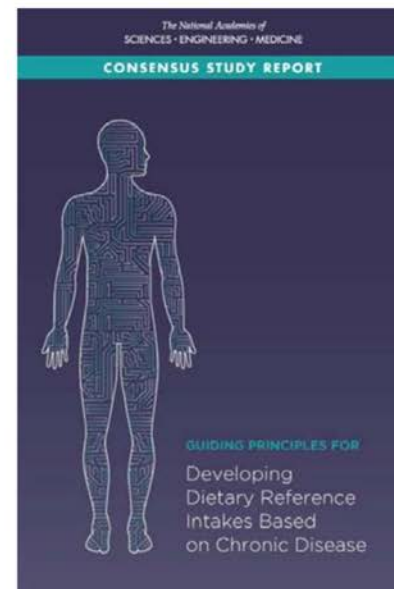
- to help inform stakeholders about whether there is a need for a new study to reexamine the evidence on the role of nutrition in pregnancy and lactation relative to the needs of the U.S. population today.



Keeping in mind that we now have a new category for the DRIs

Guiding Principles Report

- Provides guidance for establishing DRIs based on chronic disease
- In general, DRIs based on chronic disease are:
 - Established when there is **at least moderate strength of evidence** for both causal and intake-response relationships
 - Ideally based on the chronic disease of interest, although **qualified surrogate markers** can be used as supporting evidence



Procedures for asking questions

- Audience questions will be taken at the end of each session, unless otherwise noted
- Questions will begin with those in the event room
- Questions will be taken from webinar participants and asked, as time permits

Next Steps:

- Workshop recordings will be posted to the meeting page within the next couple of weeks
- Proceedings of a Workshop In Brief anticipated late Spring 2020
- Proceedings of a Workshop anticipated Summer 2020