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The Food and Nutrition Board: Past, Present, and Future

Food Policy Impact Meeting
February 9, 2017

Food, Nutrition, and Health in 1940s America

- The average 5-foot-10-inch 35-year-old man weighed 171 lbs; his desirable weight was 159 lbs.
- 25% of military draftees showed evidence of past or present malnutrition; rejection from military service was often due to tooth decay or loss.
- Between 1906 and 1940 ~3 million cases and approximately 100,000 deaths were attributed to pellagra.
- Vitamin A deficiency, the cause of night blindness and corneal ulcers, was prevalent in the population; a 1942 survey of NYC hospital patients found that 60% of all patients were affected.

A Call to Action

- **November 1940**

The National Defense Advisory Commission asked the National Research Council (NRC) for aid in studying problems of nutrition in the U.S.

- **December 1940**

The NRC established the Committee on Food Habits and the Committee on Food and Nutrition

Nutrient Intake Recommendations for Americans

1941 – Recommended Dietary Allowances presented to the National Nutrition Conference for Defense

1943 – RDAs published by the National Research Council

TABLE 1.—RECOMMENDED DIETARY ALLOWANCES*
Food and Nutrition Board, National Research Council

	Calories	Protein	Calcium	Iron	Vitamin A***	Thiamin (B ₁)	Riboflavin	Niacin (Nicotinic acid)	Ascorbic acid	Vitamin D
		grams	grams	mg.	I.U.	mg.**	mg.	mg.	mg.**	I.U.
Man (70 Kg.)										
Sedentary.....	2,500					1.5	2.2	15		
Moderately active.....	3,000	70	0.8	12	5,000	1.8	2.7	18	75	†††
Very active.....	4,500					2.3	3.3	23		
Woman (56 Kg.)										
Sedentary.....	2,100					1.2	1.8	12		
Moderately active.....	2,500	60	0.8	12	5,000	1.5	2.2	15	70	†††
Very active.....	3,000					1.8	2.7	18		
Pregnancy (latter half) ..	2,500	85	1.5	15	6,000	1.8	2.5	18	100	400 to 800
Lactation.....	3,000	100	2.0	15	8,000	2.3	3.0	23	150	400 to 800
Children up to 12 years:										
Under 1 year†.....	100 Kg.	3 to 4 Kg.	1.0	6	1,500	0.4	0.6	4	30	400 to 800
1-3 years††.....	1,200	40	1.0	7	2,000	0.6	0.9	6	35	†††
4-6 years.....	1,600	50	1.0	8	2,500	0.8	1.2	8	50	
7-9 years.....	2,000	60	1.0	10	3,500	1.0	1.5	10	60	
10-12 years.....	2,500	70	1.2	12	4,500	1.2	1.8	12	75	
Children over 12 years:										
Girls, 13-15 years.....	2,800	80	1.3	15	5,000	1.4	2.0	14	80	†††
16-20 years.....	2,400	75	1.0	15	5,000	1.2	1.8	12	80	
Boys, 13-15 years.....	3,200	85	1.4	15	5,000	1.6	2.4	16	90	†††
16-20 years.....	3,800	100	1.4	15	6,000	2.0	3.0	20	100	

A Guide TO GOOD EATING

MILK
2 OR MORE GLASSES DAILY . . FOR ADULTS
3 TO 4 OR MORE GLASSES DAILY . . FOR CHILDREN
*To drink, combined with other foods,
in ice cream and in cheese*

VEGETABLES
2 OR MORE SERVINGS DAILY OTHER THAN
POTATO . . . 1 green or yellow; "greens" often

FRUITS
2 OR MORE SERVINGS DAILY
At least 1 raw; citrus fruit or tomato daily

EGGS
3 TO 5 A WEEK; 1 DAILY PREFERRED

MEAT, CHEESE, FISH, POULTRY
1 OR MORE SERVINGS DAILY
Dried beans, peas, peanuts occasionally

CEREAL AND BREAD
2 OR MORE SERVINGS DAILY
*Whole-grain value or enriched
Added milk improves nutritional values*

BUTTER
2 OR MORE TABLESPOONS DAILY

**OTHER FOODS TO SATISFY
APPETITE AND COMPLETE
GROWTH AND ACTIVITY NEEDS**

The nutritional statements made on this chart have been reviewed by the
Council on Foods and Nutrition of the American Medical Association and
found consistent with current authoritative medical opinion.

Food Fortification and Enrichment

1943

- Standards for adding thiamin, riboflavin, niacin, iron, calcium, and vitamin D to flour
- War Food Administration subsequently required fortification standards for all white bread
- Other fortified and enriched foods included milk, table salt, and margarine

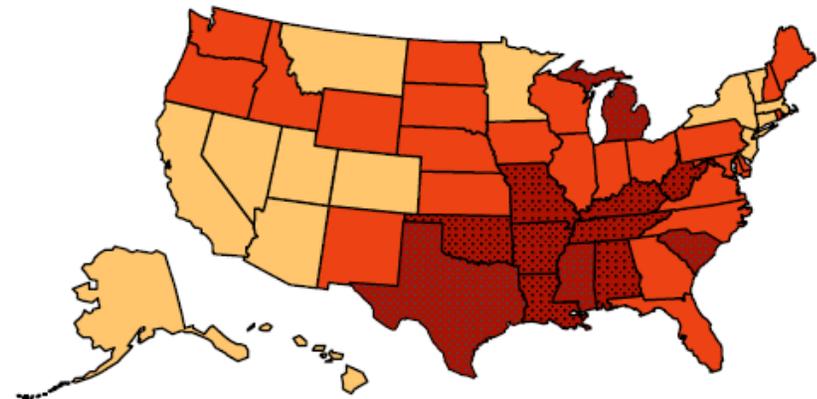
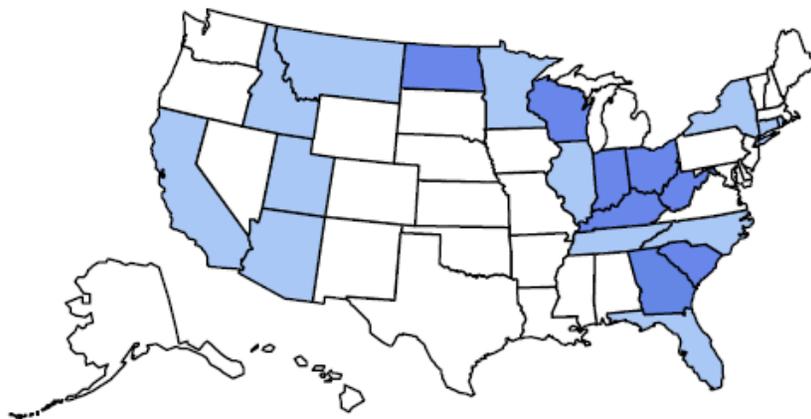


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Changes in the Landscape of Nutrition and Health

- 1988 Surgeon General’s Report on Nutrition and Health
- 1989 Diet and Health Report

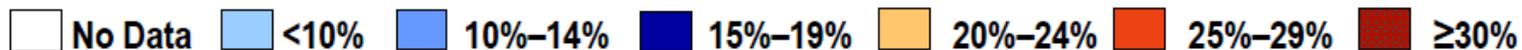
“As problems of nutritional deficiency have diminished in the U.S., they have been replaced by problems of dietary imbalance and excess”. U.S. Surgeon General C. Everett Coop, 1988



Prevalence of Obesity: 1986

2010

www.cdc.gov/diabetes/statistics/.../maps_diabetesobesity_trends.pptx



1990

- **National Nutrition Monitoring and Related Research Act (NNMRRRA)**

Legislative mandate to ensure that federal dietary guidance is consistent with the Dietary Guidelines for Americans and is scientifically accurate

1994

- **How Should the RDAs be Revised?**

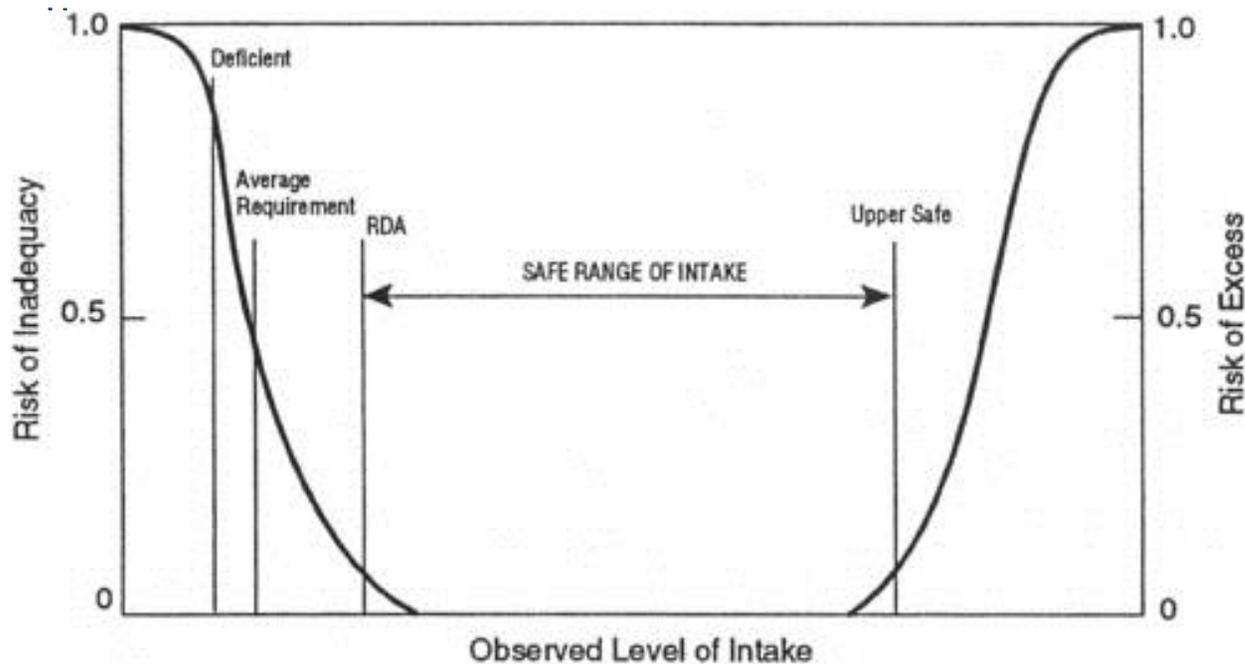
“We now understand not only that nutrients are essential for growth and development and health maintenance, but also that some play a role in the reduction of risk of chronic disease”.

Dietary Reference Intakes



Dietary Reference Intakes: Beyond the RDAs

- Concept of a safe intake range
- Predicts a low probability of nutrient inadequacy or excess intake
- Defines reference points for nutrient and food component intakes that influence risk of chronic



Nutrients Reviewed for Nutritional Adequacy Based on Chronic Disease Endpoints (1997-2005)

- Calcium/Vitamin D (AI) [RDA in 2010]
- Fluoride (AI)
- Fiber (AI)
- Potassium (AI)
- Osteoporosis/bone fracture
- Dental caries
- Coronary Heart Disease
- Hypertension risk factors

The FNB Today

FNB's Mission

- To provide visionary leadership in the effective application of the full range of nutrition and food sciences to improve human health.
 - To contribute at national and global levels to the enhancement of child growth and development; the prevention of diet-related deficiencies and chronic diseases; and the improvement of physical and cognitive function, health, and well being.
 - To decrease the incidence of foodborne disease to improve human health nationally and globally.
 - To apply scientific knowledge to advise on policies and approaches to eliminate, reduce, or control the natural, inadvertent, or intentional contamination of the food supply.
-

Our Portfolio

2016-2017

- Methods to Assess Prevalence and Trends in Obesity
- Food Allergy
- Nutrition Assistance – Review of the WIC Program
- Access to Nutrition Care in Outpatient Oncology (Workshop)
- Diet and Healthy Aging (Workshop)
- Review of the Dietary Guidelines Process
- Using Chronic Disease Endpoints in DRI Development
- Strategies to Reduce Sugar-Sweetened Beverages (Workshop)
- Global Harmonization of Methodologies for Nutrient Intake Recommendations (Workshop)
- Food Forum
- Roundtable on Obesity Solutions and its Innovation Collaboratives

Communication, Innovation, and Dissemination

- Reports
- Workshop Proceedings
- Workshop Proceedings-in-Brief
- Scrolling Workshop Proceedings-in-Brief
- Perspectives
- Infographics
- Videos



Impact: Effecting Change

- In May 2016 FDA announced a new, modern Nutrition Facts label for packaged foods
 - The FDA ruling cites the IOM's **Dietary Reference Intakes reports** in its rationale, and notes that updated daily values for nutrients like sodium, dietary fiber, and vitamin D are consistent with IOM recommendations.

NEW LABEL / WHAT'S DIFFERENT

Servings: larger, bolder type

Serving sizes updated

Calories: larger type

Updated daily values

Actual amounts declared

New footnote

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (85g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 6g	10%
Saturated Fat 1g	9%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	12%
Dietary Fiber 3g	6%
Total Sugars 10g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	5%
Calcium 200mg	20%
Iron 8mg	40%
Potassium 250mg	5%

*Percent Daily Values are based on a diet of other people's secretaries.

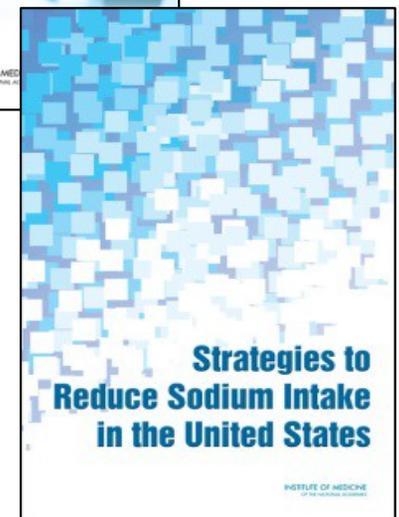
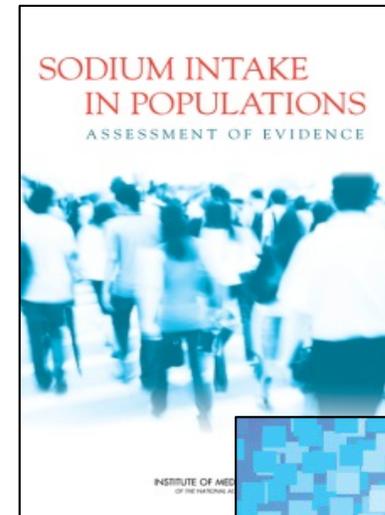
Change in nutrients required

New: added sugars

FDA

Impact: Inspiring Action

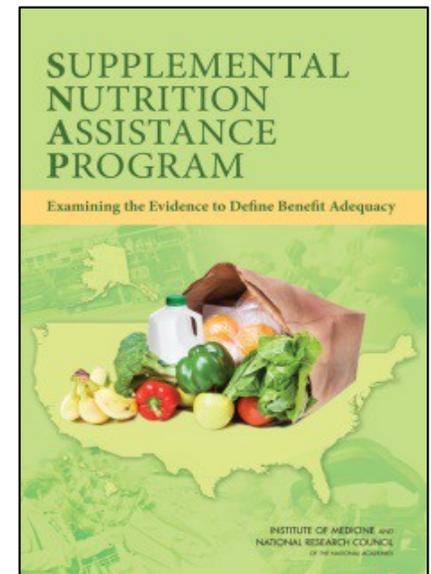
- In June 2016 FDA issued for comment draft guidance for industry, “Voluntary Sodium Reduction Goals: Target Mean and Upper Bound Concentrations for Sodium in Commercially Processed, Packaged, and Prepared Foods,”
 - The draft guidance cites the IOM reports ***Strategies to Reduce Sodium Intake in the United States, Sodium Intake in Populations: Assessment of Evidence***, and ***Dietary Reference Intakes for Water, Potassium, Sodium Chloride and Sulfate***.



Impact: Informing the Field

The Center on Budget and Policy Priorities issued a policy brief in June 2016 on the impact of raising Supplemental Nutrition Assistance Program (SNAP) benefits on low-income households. The report, which cites the 2013 IOM report, ***Supplemental Nutrition Assistance Program: Examining the Evidence to Define Benefit Adequacy*** found that raising the SNAP benefit by \$30 per month would:

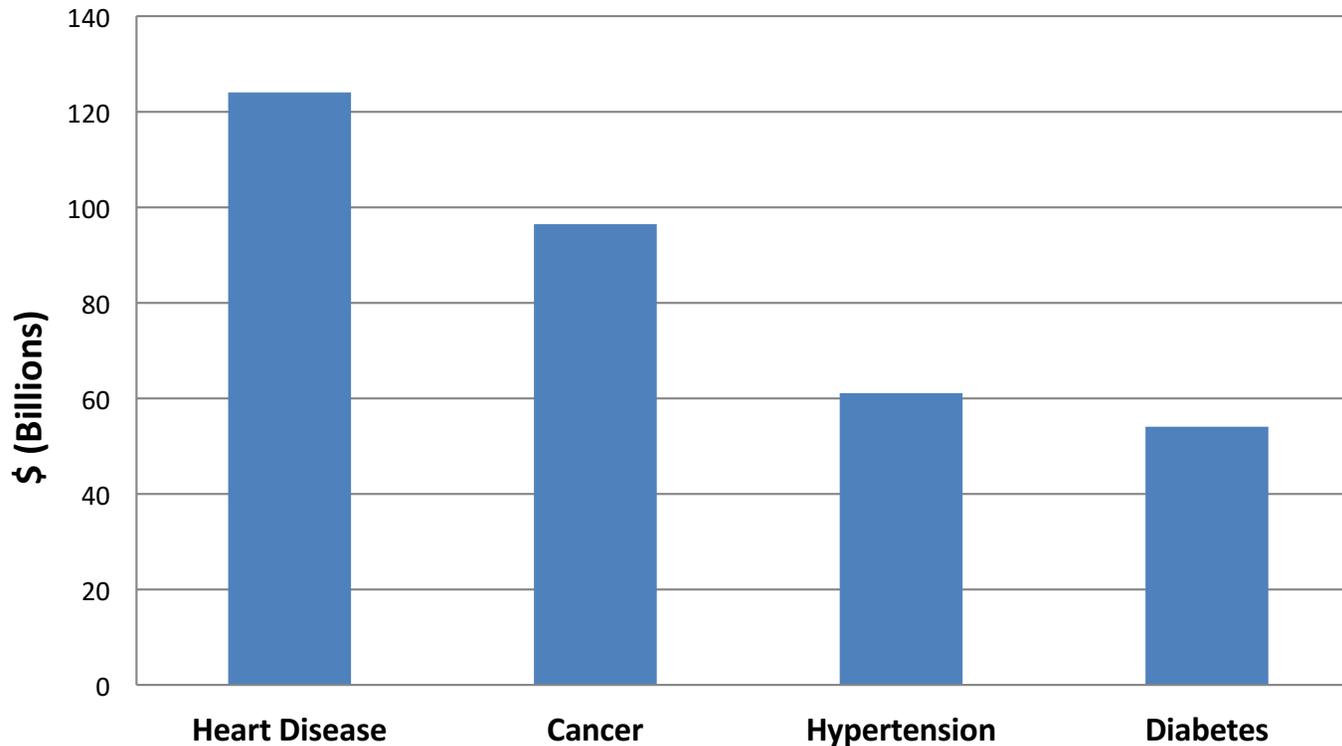
- Raise recipient household's grocery spending by \$19 per month;
- Increase consumption of more nutritious foods;
- Reduce consumption of fast foods; and
- Reduce food insecurity.



What's in Store for the Future?

Nutrition, Public Health, and the Burden of Chronic Disease

Projected Direct Treatment Expenditures (2015)



Source: An Unhealthy America: Economic Burden of Chronic Disease, Milken Institute, 2007

Major Thematic Directions

- From Obesity Prevention to Obesity Solutions
 - Focus on overcoming barriers to turning recommendations about prevention into actions
 - Cross-sector outreach
- Food Safety and Food Systems
 - Impact of health, environment, and social effects on the food system and cost of food
 - Food loss and waste
- Dietary Reference Intakes
 - Consideration of chronic disease endpoints in future DRIs

Thank You!



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