2020 Dietary Guidelines for Infants and Children - Opportunities and Challenges

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The Infant Nutrition Council of America (INCA) is an association of manufacturers and marketers of formulated nutrition products for infants, young children and adults.

INCA members are:

- Abbott Nutrition
- Mead Johnson Nutrition
- Nestle Infant Nutrition
- Perrigo Nutritionals
Outline

• Overview of the Dietary Guidelines for Americans (DGA)
• Expansion of 2020 Dietary Guidelines to include infants and children
• B-24 Project Outline
• Key considerations and challenges for successful implementation
DGA- Quick Overview

• **Purpose** - Inform the development of Federal food, nutrition, and health policies and programs.

• **Primary audiences** - Policymakers and nutrition/health professionals.

• **Impact** - Serve as the foundation for federal nutrition education and US Department of Agriculture (USDA) and Department of Health and Human Services (HHS) food programs including:
  – National School Lunch Program and School Breakfast Program
  – Special Supplemental Nutrition Program for Women, Infants and Children (WIC)

HHS and USDA collaborate during a 3-stage process to develop new or revise existing DGA every 5 years.

**Stage 1: External Advisory Committee develops an advisory report based on:**

- Original systematic reviews (conducted by USDA NEL)
- Review of existing systematic reviews, meta-analyses, and reports by Federal agencies or leading scientific organizations
- Data analyses
- Food pattern modeling analyses

- Public comments accepted on report

[Link to developing the Dietary Guidelines for Americans](http://health.gov/dietaryguidelines/2015/guidelines/introduction/developing-the-dietary-guidelines-for-americans/)
How Are the DGAs Developed?

**Stage 2: Development of DGA**
- HHS and USDA consider:
  - Public comments on Advisory Committee’s Report.
  - Peer-review of draft Guidelines by non-federal experts.
  - Federal agency review to determine impact

- USDA and HHS agency review for program-specific policy implications

**Stage 3: Federal programs apply and promote the DGA.**
Expansion of the DGA to Infants and Young Children

- Existing DGA do not include infants and children from birth to 24 months (B-24).

- Beginning in 2020, DGAs will expand to include:
  - Infants and toddlers (from birth to age 2);
  - Additional guidance for pregnant women.

- Mandated by Congress in the Agricultural Act of 2014 (Farm Bill).

Rationale

• Child’s first *1,000 days of life* - prenatal through 24 months of age:
  – Critical window of time for human growth and development
  – Lays the groundwork for lifelong health
  – Nutrition may have the most profound impact during this time
B-24 Guidelines Development: Proposed Timeline

**Phase I (2012-2013)**
- Scientific experts and government policy and program leaders identify topics, systematic review questions, and research and data needs.

**Phase II (2014-2017)**
- USDA’s Nutrition Evidence Library (NEL) collaborates with technical experts to conduct systematic reviews.

**Phase III (2017-2018)**
- Technical Report is provided to the 2020 Dietary Guidelines Advisory Committee for consideration.

**Completed**

Phase 1: Age Specific Topics Identified by Working Groups

- **WG 1 (0–6 mo):** Infant formula and infant nutrition.
  - Including bioactive components of human milk and implications for composition of infant formulas.

- **WG 2 (6–12 mo):** Nutrition, metabolism, and growth
  - Particularly protein needs and long-term health.

- **WG 3 (12–24 mo):** Developmental aspects and measurement of physical activity.

- **WG 4 (caregivers: mothers and others):** The impact of maternal diet on human milk composition and neurologic development of infants.

doi: 10.3945/ajcn.113.072140
Phase 1: Five Critical Cross-cutting Topics

- Prevention and treatment of food allergies.
- Infant feeding on the development of the human microbiome and the implications on growth and development.
- Factors influencing the ontogeny of taste preferences, both in terms of the biology and implications for health.
- Diet and developmental origins of obesity and long-term health outcomes.
- Factors affecting the development of eating behavior.
Key Considerations

• **Aim:** Ensure the guidelines are *evidence-based* and reflect the balance of science.

• **Cross-cutting Communication Is Critical**
  – Engage experts for feedback on research framework; summary literature reviews, reports and interim recommendations.
  – Providing adequate time and opportunity for public comment.

• **Consider limitations of infant nutrition research**
  – Most breastfeeding and infant nutrition research is epidemiologically based, which limits the ability to draw strong conclusions.

- Much of the research was weak, studies were often small or failed to control for confounding variables.
- Results were frequently inconclusive.

2010: *Surgeon General’s Call to Action on Breastfeeding*

- Need to standardize definitions of specific terms and measures used to classify the variables in breastfeeding research.
- Need to identify ethical study designs that would expand on observational studies.
Key Considerations

The ethical limitations associated with conducting randomized controlled trials on infant feeding should be recognized. Additionally, observational studies cannot be used to determine causality.

- Need to more broadly define “strong evidence”
- Must include results from a variety of studies
Need to ensure the value of the DGA:
– Implementation
– Communication
Ensuring the Value of the DGA- Implementation

Special Supplemental Nutrition Program for Women, Infants and Children (WIC).

• Two major types of nutrition risk are recognized for WIC eligibility:
  1. Medically-based risks
  2. Dietary risks
     • inappropriate nutrition/feeding practices
     • failure to meet the current Dietary Guidelines for Americans.

• The WIC target population are low-income, nutritionally at risk including 53 % of all infants born in the United States.

Ensuring the Value of the DGA-Communication

• Interpretation and use
  – specific research needed on the best methods of education.
• Address full spectrum of infant feeding and reflect cultural sensitivities.
• Based on “strong evidence”.
Current Dietary Guidelines Communication Programs

Food-A-Pedia >
Look up nutrition info for over 8,000 foods and compare foods side-by-side.

Food Tracker >
Track the foods you eat and compare to your nutrition targets.

Physical Activity Tracker
Enter your activities and track progress as you move.

My Weight Manager >
Get weight management guidance, enter your weight and track progress over time.

My Top 5 Goals >
Choose up to 5 personal goals; sign up for tips and support from your virtual coach.

Groups >
SuperTracker groups allow groups of people to use SuperTracker together.
Challenges: How Will a Review of the Process Affect Future Guidelines?

Members of the National Academy of Medicine will review:

- how the advisory committee’s selection process can be improved,
- how nutritional evidence is compiled,
- how systematic reviews of longstanding dietary recommendations are conducted.
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advocating for infant and young child nutrition
Questions
Supporting slides
Hierarchy of Evidence Model- Critical Consideration for B-24
<table>
<thead>
<tr>
<th>Elements</th>
<th>Grade I: Strong</th>
<th>Grade II: Moderate</th>
<th>Grade III: Limited</th>
<th>Grade IV: Grade Not Assignable*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk of bias</strong></td>
<td>Studies of strong design free from design flaws, bias and execution problems</td>
<td>Studies of strong design with minor methodological concerns OR only studies of weaker study design for question</td>
<td>Studies of weak design for answering the question OR inconclusive findings due to design flaws, bias or execution problems</td>
<td>Serious design flaws, bias, or execution problems across the body of evidence</td>
</tr>
<tr>
<td><strong>Quantity</strong></td>
<td>Several good quality studies; large number of subjects studied; studies have sufficiently large sample size for adequate statistical power</td>
<td>Several studies by independent investigators; doubts about adequacy of sample size to avoid Type I and Type II error</td>
<td>Limited number of studies; low number of subjects studied and/or inadequate sample size within studies</td>
<td>Available studies do not directly answer the question OR no studies available</td>
</tr>
<tr>
<td><strong>Consistency</strong></td>
<td>Findings generally consistent in direction and size of effect or degree of association and statistical significance with very minor exceptions</td>
<td>Some inconsistency in results across studies in direction and size of effect, degree of association or statistical significance</td>
<td>Unexplained inconsistency among results from different studies</td>
<td>Independent variables and/or outcomes are too disparate to synthesize OR single small study unconfirmed by other studies</td>
</tr>
<tr>
<td><strong>Impact</strong></td>
<td>Studied outcome relates directly to the question; size of effect is clinically meaningful</td>
<td>Some study outcomes relate to the question indirectly; some doubt about the clinical significance of the effect</td>
<td>Most studied outcomes relate to the question indirectly; size of effect is small or lacks clinical significance</td>
<td>Studied outcomes relate to the question indirectly; size of effect cannot be determined</td>
</tr>
<tr>
<td><strong>Generalizability</strong></td>
<td>Studied population, intervention and outcomes are free from serious doubts about generalizability</td>
<td>Minor doubts about generalizability</td>
<td>Serious doubts about generalizability due to narrow or different study population, intervention or outcomes studied</td>
<td>Highly unlikely that the studied population, intervention AND/OR outcomes are generalizable to the population of interest</td>
</tr>
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</table>
NEL: Systematic Review

- Establish criteria based on the analytical framework
  - Evaluate study characteristics
  - Bias Assessment Tool (BAT) to assess risk of bias from selection, performance, detection, and attrition
  - Evidence Synthesis, Conclusion Statements, Grading Evidence, & Research Recommendations based on:
    - quality, quantity, consistency, impact, and generalizability.

Dietary Guidelines Implementation

• Legislative update from 2015 DGs
  – House (H.R. 3049) and Senate (S. 1800) versions of the “Farm Bill” include language related to the strength of evidence which should be required for consideration in developing the dietary guidelines.