Dietary Reference Intake Research Synthesis

Applications in Dietary Planning
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Outline
- Overview of DRIs in planning
- Research recommendations and progress to date

Conceptual Framework: Uses of Dietary Reference Intakes

From: Beaton, 1994
What are the Goals of Dietary Planning?

- "Optimize prevalence of diets that are nutritionally adequate without being excessive"

Goals are for Intakes

- Traditionally, planning has been for foods "offered" or "served"
- The actual goal, however, relates to intakes

"You can lead a horse to water..."
Planning for Individuals

Are there special considerations?

No

Plan to meet RDA/AI
Remain below UL
Meet EAR
Stay within AMDR

Yes

(e.g., smoker - Vitamin C)

other nutrients

Plan appropriate intakes based on special considerations

GROUP

Generally homogeneous?

YES

Skewed req’t distribution?

YES

Probability approach (X% <req’t)

NO

EAR cut-point method (X% <EAR)

Can vulnerable subgroup be identified?

YES

Is vulnerable subgroup an intervention target?

Target subgroup (e.g., supplements)

NO

NO

Nutrient density approach

Baseline Usual Intake Distribution

Percent of Individuals

Usual intake of nutrient (amount /day)

EAR

RDA

UL
Target Usual Intake Distribution

Usual intake of nutrient (amount/day)

Percent of Individuals

EAR

RDA

UL

RECOMMENDATION

PROGRESS

Conceptual Framework: Uses of Dietary Reference Intakes

From: Beaton, 1994
RECOMMENDATION

• Determine usual intake distributions of specific population groups.

PROGRESS

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Target Usual Intake Distribution

![Graph showing usual intake distribution with EAP, RDA, and UL levels.]

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RECOMMENDATION

• Pilot test proposed approach to planning for a low group prevalence of inadequacy.
  – Achieve intake goals?
  – Avoid excess energy intake?
  – Maintain intakes <UL?
  – Avoid unnecessary food waste?

PROGRESS

• Limited….
RECOMMENDATION
• Determine the relationship between foods offered and nutrient intake in the context of group planning.

PROGRESS
• Some insight from food fortification (e.g., folate)
• No data located on food-based approaches

RECOMMENDATION
• Determine how different nutrition interventions affect intake distributions.

PROGRESS
• No “real-life” field testing

RECOMMENDATION
• Develop and evaluate dietary planning strategies for heterogeneous groups, including a nutrient-density approach to dietary planning.

PROGRESS
• None
RECOMMENDATION

• Review and, where necessary, revise existing food guides.

PROGRESS

MyPyramid.gov

RECOMMENDATION

• Develop and evaluate food guides for group planning.

PROGRESS

Canada is using a modelling approach to develop a Food Guide that could be used with groups.

RECOMMENDATION

• Assess application of the DRIs for food and supplement labeling.
  – Update values?
  – Synthetic sources?
  – Information on UL?

PROGRESS

• Report released in 2003; recommended weighted EAR as DV.
• Awaiting FDA proposed rule.
RECOMMENDATION
• Communicate with and educate nutrition professionals about correct uses of the Dietary Reference Intakes (DRIs).

PROGRESS
- IOM DRI Summary Report

Modeling Process
• Develop initial intake patterns using food group composites
• Assess adequacy of pattern
  – Low prevalence of diets <EARs; Median meets AIs
  – Median energy content similar to sedentary EER
  – 500 diets generated randomly for each age-gender group
• Refine pattern based on results