Emerging Issues: What might the future hold?

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Past is prologue

- World War I
  - British Royal Society recommended food requirements
- 1925-1937
  - Health Organization of the League of Nations estimated requirements for vitamins and minerals
- 1933 - dietary standards for food programs
  - British Medical Association
  - USDA
Conceptual evolution 1917-1937

- From recommendations for starvation relief to standards for programs to maintain and improve health of the population as a whole
  - Emphasis on infants, children and pregnant women
- From observations of usual food intake to scientific knowledge of needs for essential nutrients and energy
Recommended Dietary Allowances

- **1941-1989, Editions 1-10**
  - Recommended levels of intake of essential nutrients
  - At levels to cover individual variations in requirement
  - With a safety margin to ensure good nutrition and protect all body tissues
Concepts of disease prevention evolved

- 1958 - noted relationship of dietary fat to coronary artery disease mortality
- 1964 - moderate reduction in total fat and substitution of PUFA for saturated fat
- 1968 - higher physical activity to reduce risk of arterial disease, obesity, diabetes
- 1974, 1980 - <35% cal from fat, <10% saturated fat, increasing PUFA
- 1989 - reference to Diet and Health
Emerging Issues in 1994

- Chronic disease risk reduction
  - Marrying up Dietary Guidelines and RDA’s
  - Influential reports: Diet and Health and Surgeon General’s report
Emerging Issues in 1994

- Chronic disease risk reduction
- Safe range of intake
  - Concerns about over-fortification and high use of dietary supplements
  - Assure low probability of either inadequacy or excess
Emerging Issues in 1994

- Chronic disease risk reduction
- Safe range of intake
- New approaches
  - Multiple reference points (COMA Dietary Reference Values, 1991)
  - Probability approach
What challenges emerged as DRI’s were formulated?

- New methods for public health policy decisions
  - Evidence based reviews
  - Quantitative risk assessment
What challenges emerged as DRI’s were formulated?

- New methods for public health policy decisions
- Scientific progress
  - Failure of the single nutrient/chronic disease prevention paradigm
  - Tolerable Upper Intake Level (UL)
  - Statistical techniques for the DRI, populations vs. individuals
What challenges emerged as DRI’s were formulated?

- New methods for public health policy decisions
- Scientific progress
- Process problems
  - Maintaining consistency across committees and time
  - Transparency and openness
Looking forward: What issues might emerge?

- New methods for public health decisions
  - Risks and benefits of nutrient/food intakes for subgroups of the population (e.g., Folic acid)
Looking forward: What issues might emerge?

- **New methods for public health decisions**
- **Scientific progress**
  - Single nutrients vs. patterns of nutrients and/or food intake for chronic disease endpoints
  - New “nutrients” (e.g., flavanols)
  - Better statistical techniques for extrapolation/scaling
  - Greater insights *in re* physiologic, environmental and genetic factors
Looking forward: What issues might emerge?

- New methods for public health decisions
- Scientific progress
- Public health context for setting DRI
  - Obesity concerns
  - Levels of fortification and supplementation
  - Special foods for specific age groups
Looking forward: What issues might emerge?

- **Process**
  - **Vision** - nutrient by nutrient review could be more transparent, allow for better risk characterization, consideration of uses, verification of “reasonableness”
  - **Risk analysis paradigm**
    - Government sponsors provide clear articulation of uses of the DRI
    - Role for IOM/FNB
  - “Manual” for when to trigger a review, how to set DRI, role for evidence-based reviews, statistical techniques or other new methods
Looking forward: What issues might emerge?

- My greatest hope: concerted research program to address the gaps
Conclusions

- Concepts and science base will co-evolve.
  - Definition of nutrient
  - Endpoints along spectrum of health
  - Risk/risk and risk/benefit
- Public health context will change.
  - Obesity
- Sponsors’ and IOM responsibilities in risk analysis paradigm are greater.