

Nutrition to Promote Healthy Aging

David B. Reuben, MD

David Geffen School of Medicine
at UCLA

What We Will Cover

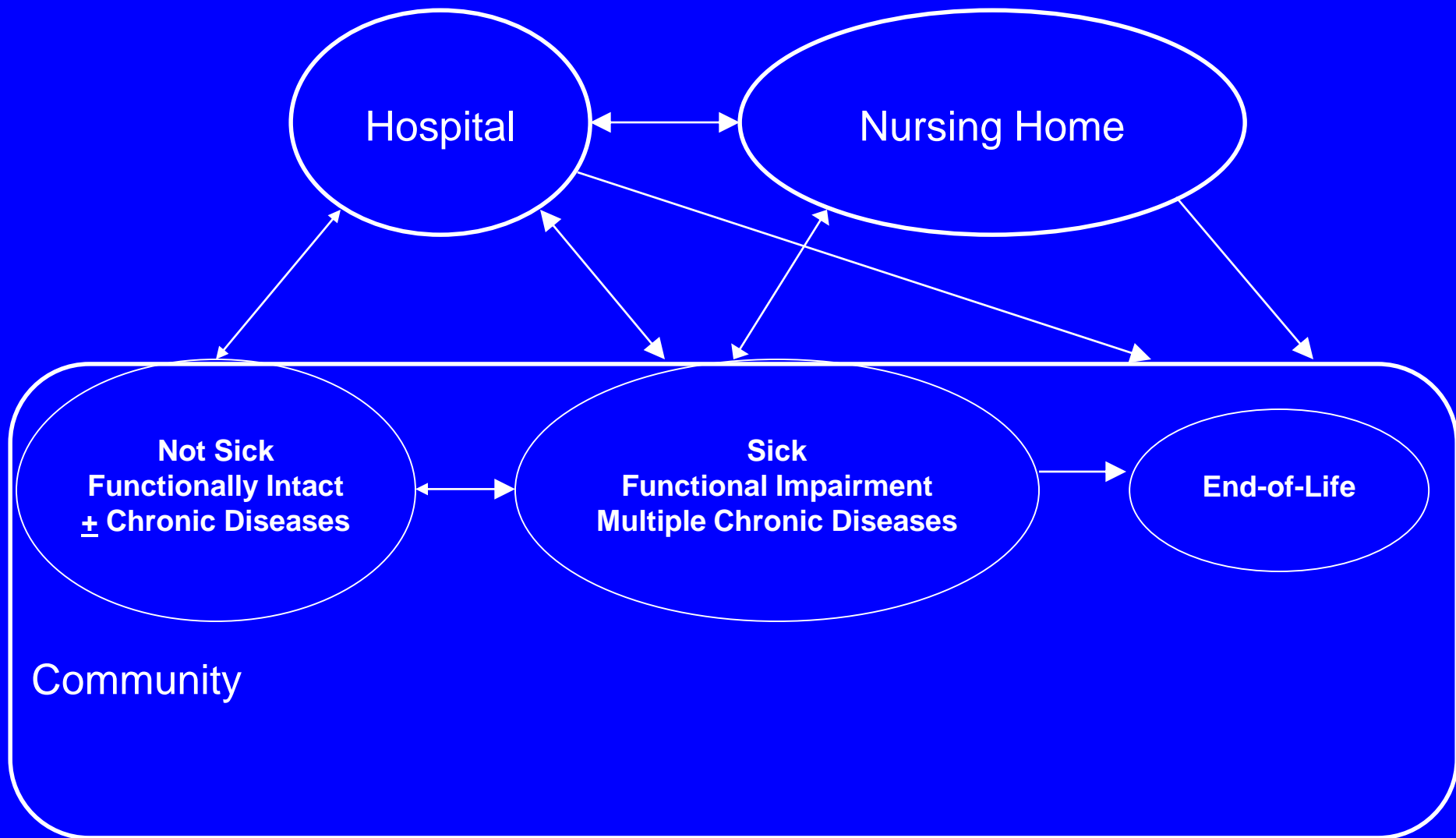
- General principles about aging and nutrition
- Mediterranean, DASH, and MIND diets
 - Observational
 - Clinical Trial
- Nutritional supplements
 - Observational
 - Clinical Trial
- Some questions for the field

General Principles

- Older people are more heterogeneous
- Risks associated with malnutrition differ
- Barriers to good nutrition differ
 - Functional impairment
 - Oral health
 - Chronic diseases with dietary restrictions
 - Medications

More General Principles

- Nutritional health and problems vary by sub-population
 - Younger and healthier
 - Chronic disease
 - Frail, multiple chronic diseases, limited life expectancy
 - Setting (community, ALF, nursing home)



Mediterranean, DASH, and MIND diets

DASH

High

- Grains
- Vegetables
- Fruits
- *Low fat dairy*
- Nuts, seeds & legumes

Low

- Meat, poultry, and *fish*
- Total and saturated fat
- Sweets
- Sodium

Mediterranean

High

- Grains
- Vegetables
- Fruits
- Potatoes
- Nuts, seeds & legumes
- *Fish*

- Olive oil

Low

- Red meat and poultry
- Full-fat *dairy*
- Alcohol

Mediterranean and DASH Diets-Observational Data

- Reductions in:
 - Cardiovascular disease (9%)
 - Cancer (6-10%)
 - Colorectal (14%)
 - Prostate (4%)
 - Pharyngeal/esophageal (56%)
 - Overall mortality (9%)
 - Parkinson and Alzheimer diseases (13%)
 - CKD (16-51%)

MIND Diet

Observational Data

- MIND diet score (Med + DASH)
 - Less decline global; episodic, semantic, and working memory, perceptual speed and perceptual organization at 4.7 years
 - -Less likely to develop Alzheimer's at 4.5 years

Mediterranean and DASH Diets- Clinical Trial Data

- PREDIMED study (age 55-80)
- Mediterranean diet + Extra Virgin Olive Oil
- Mediterranean diet + mixed nuts
- Regular diet (reduced dietary fat)
- Outcome (MI, stroke, CVD deaths) 4.8 y
- Reduction in outcome by 28-30%
- Same effect size for <70 y and ≥ 70 y
- DASH diet
 - Lower BP and cholesterol

Diets and Cognition- Clinical Trial Data

- Mediterranean supplemented with either extra-virgin olive oil or mixed nuts
 - Higher MMSE and CDT scores at 6.5 years
- DASH diet
 - Greater psychomotor skills at 4 months

Nutritional supplements

Vitamins and Minerals

- Vitamin D and calcium supplementation
 - No recommendation (USPSTF)
 - 800 IU D3 if > 71 ; 1200 mg Ca if > 71 (IOM)
- Vitamin, mineral, or multivitamin supplements to prevent CHD
 - No recommendation (USPSTF)
- Do not take beta carotene or Vitamin E (USPSTF)

Calcium Supplement Controversies

- CV disease: lots of conflicting data
 - WHI: Ca + D: MI HR 1.05; stroke RR 0.95
 - Meta-analyses: MI Ca RR 1.27; Ca \pm D RR 1.24
 - May differ by whether dietary versus supplement
- Dementia: small observational study
 - dementia: OR 2.10
 - stroke-related dementia: OR 4.40
 - dementia if a history of stroke: OR 6.77

Multivitamin Supplements- Observational Data

- Observational data in postmenopausal women (WHI) indicate no effect of multivitamins on breast, colorectal, endometrial, lung, or ovarian cancers, MI, stroke, VTE, or mortality.

Multivitamin Supplements- Clinical Trial Data

- In middle-aged men, multivitamins have not been shown to decrease CVD disease or mortality, but there is a small reduction in total cancer risk
- No benefit of multivitamins in reducing infections in outpatient and nursing home settings

Nutritional Supplements- Clinical Trial Data

- No benefit (AREDS2) of:
 - Fatty acids (docosahexaenoic acid [DHA]/eicosapentaenoic acid [EPA])
 - antioxidants (lutein/zeaxanthin)
 - zinc supplementson cognitive decline

Some Questions for the Field

- How can US Dietary Guidelines for Americans (DGAs) that apply to older persons be promoted and included in prevention and health care settings?
- How can the unique barriers to good nutrition that affect older persons be overcome?

More Questions

- Is the evidence for Mediterranean/DASH diets compelling enough that these should be implemented widely and, if so, what would be the best strategy?
- What can we recommend for people who would not be appropriate for these diets (e.g., frail and nursing home)?

More Questions

- What is the appropriate stance on MVIs and other nutritional supplements that do not have evidence?
- When, if ever, is it reasonable to stop preventive nutritional measures?
- What more do we need to know?