

# Requirements and Standards for Nutrition Education in Medical Training

---

Kofi D. Essel, MD, MPH, FAAP  
Assistant Professor of Pediatrics  
Director, GW Culinary Medicine Program  
Children's National Hospital  
The George Washington University School of Medicine & Health Sciences  
Washington, DC

**Doctors don't do nutrition!**

# Clinical Nutrition Internship Program(CNIP)



American Society for Nutrition  
*Excellence in Nutrition Research and Practice*

# Nutrition in Medical School Core Milestones

---



# 1963 AMA Council on Foods & Nutrition

- “There is **inadequate recognition, support, and attention** given to the subject [of nutrition] in medical schools.”
- **Medical School:** “...teaching of nutrition often is centered around nutritional deficiency diseases. This is **too limited a focus** for present-day problems.
- **Residencies:** “When nutrition is taught in hospital residency programs, it is frequently **ineffective.**”
- Brought together a group of experts to discuss and **made recommendations to improve nutrition education across the board**

## Nutrition Teaching in Medical Schools

The Council on Foods and Nutrition believes there is an urgent need to define the responsibilities and challenges of medical schools in the teaching of nutrition.

Modern research has shown the importance of nutritional factors in the pathogenesis and therapy of disease and the importance of nutrition in conditions of physiologic stress, ie, in growth, pregnancy, and lactation. Recent investigation indicates a close relationship between nutrition and the individual's response to pathologic stress, such as severe infections or trauma. Relationships have been demonstrated between nutrition and some of the degenerative diseases, such as atherosclerosis and hypertension, and even between nutrition and neoplasia.

In general, medical education and medical practice have not kept abreast of the tremendous advances in nutritional knowledge. A recent survey by the Council on Foods and Nutrition on Nutrition Teaching in Medical Schools indicated that there is inadequate recognition, support, and attention given to this subject in medical schools.

Undergraduate teaching of nutrition often is centered around nutritional deficiency diseases. This is too limited a focus for present-day problems. It is necessary to think more in terms of disturbances of the metabolic and biochemical reactions of the body. Nutritional diagnosis implies evaluation of biochemical changes within and outside the cell, as well as abnormalities of function and structure of the organs and tissues of the body. The basic scientists and the clinicians, especially the biochemists, pediatricians, and internists, must integrate their knowledge so that the student may better appreciate the practical application of biochemistry to prevention and treatment of disease.

When nutrition is taught in hospital residency programs, it is frequently ineffective, even in medical and pediatric services. Graduate training programs in nutrition are few and often poorly integrated with clinical departments. This is a serious deficiency because the house staff of a teaching hospital provides, by example, good, fair, or poor experience for the medical student and habits of medical practice are formed during the period of residency training. Expansion and improvement

The Council has authorized publication of the above statement.  
PHILIP L. WIRTH, ScD, Secretary

of present programs and establishment of additional training programs in nutrition are essential. A critical immediate need must be filled by providing qualified teachers for present and future programs.

A program of continuing education in nutrition is also necessary for present and future physicians to prepare them better to meet the needs of their patients and to combat the misinformation or lack of information prevalent about diet.

As a result of this survey, the Council's Committee on Nutrition Teaching in Medical Schools recommended that a conference be held to seek means of improving the teaching of nutrition in medical schools.

### Conference on Nutrition Teaching in Medical Schools

The Council on Foods and Nutrition, with the support of The Nutrition Foundation, Inc., held a conference on Nutrition Teaching in Medical Schools in Chicopee, Mass., from July 29 to Aug 2, 1962. Forty-seven participants attended the conference; the group included practicing physicians, administrators of medical schools, teaching and research scientists from medical schools, and administrators from granting agencies. The areas of medical science represented included: obstetrics and gynecology, pediatrics, internal medicine, preventive medicine, public health, nutrition, dietetics, anatomy, biochemistry, physiological chemistry, and pathology. Three major questions were discussed: (1) What are the modern concepts of nutrition which are integral to the practice of medicine? (2) How should nutritional knowledge be applied to the prevention and treatment of disease? (3) How should modern nutritional concepts and their application be presented to the medical student?

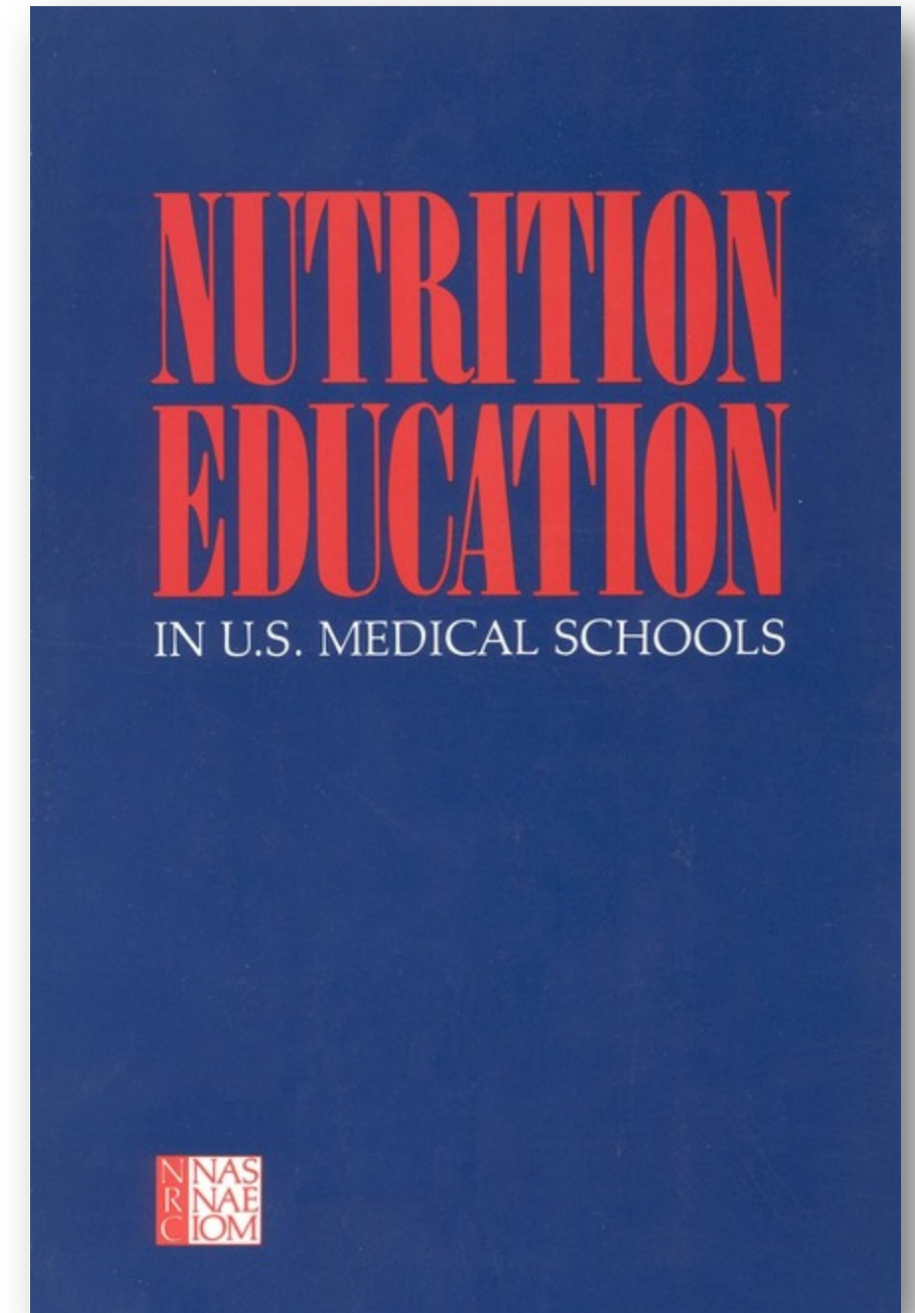
### Summary of the Discussions

*Modern Concepts of Nutrition.*—Nutrition is the science of food, the nutrients, and other substances therein, their action, interaction, and balance in relation to health and disease, and the processes by which the organism ingests, digests, absorbs, transports, utilizes, and excretes food substances. In addition, nutrition must be concerned with certain social, economic, cultural, and psychological implications of food and eating.

The principles of nutrition which are of concern

# 1985 National Academy of Sciences, National Research Council Report

- Highlighted the power of food and nutrition for the health of populations
- Conducted a survey in 1/3 of medical schools
- "The committee concluded that nutrition education programs in U.S. medical schools are **largely inadequate to meet the present and future demands of the medical profession**"
- **~21hrs of nutrition education** was being provided in medical schools, with great variation (<10hrs->30hrs)
- **Recommendation:** Minimum of 25-30 hours in medical school curriculum



# 1998-2005 “Nutrition Academic Award” developed by NHLBI & NIDDK

- Selected 21 US medical schools and gave each a 5-year grant.
- The NHLBI and NIDDK developed and proposed a **set of objectives** which were considered a gold standard at the time

## Nutrition Curriculum Guide for Training Physician Practice Behavior Skills and Attitudes Across the Curriculum



Prepared by:

### **CURRICULUM COMMITTEE of the NUTRITION ACADEMIC AWARD PROGRAM**

#### **National Institutes of Health Staff**

Elaine Stone, PhD, MPH, Advisor, Program Officer (1998-2001)

Marcel Salive, MD, Advisor, Program Officer (2001-2003)

*National Heart, Lung & Blood Institute (NHLBI)*

*National Institute of Diabetes, Digestive & Kidney Diseases (NIDDK)*

#### **Curriculum Committee<sup>1</sup>**

Charles B. Eaton, MD, MS, Chair

Lisa A. Hark, PhD, RD, Chair

Brian W. Tobin, PhD, Editor

Mike U. Smith, PhD, Editor

For more information, contact:

#### **Charlotte Pratt, PhD, MS, RD**

NAA Program Officer

National Heart, Lung, and Blood Institute

Division of Epidemiology and Clinical Applications

6701 Rockledge Drive

MSC 7936, Room 8134

Bethesda, MD 20892 (Overnight 20817)

Tel.: (301) 435-0382

Fax: (301) 480-1669

Email: [prattc@nhlbi.nih.gov](mailto:prattc@nhlbi.nih.gov)

Great work continues to be done by a number of groups to create competencies and improve the overall education



# Limited Medical Training

- **Cross Sectional Study of 133 US Medical Schools in 2012-2013**
- **91% Response Rate(121/133 Schools)**
- **Overall average of 19hrs of education(SD-13.7hrs)**
- **Majority failed to provide the minimum of 25hrs (71%, 86/121)**
- **36% provided less than ½ of 25hrs of minimum education**
- **<50% indicated teaching any nutrition in clinical practice**

Hindawi Publishing Corporation  
Journal of Biomedical Education  
Article ID 357627



*Research Article*

## **The State of Nutrition Education at US Medical Schools**

**Kelly M. Adams,<sup>1</sup> W. Scott Butsch,<sup>2</sup> and Martin Kohlmeier<sup>1,3</sup>**

<sup>1</sup>Department of Nutrition, School of Medicine and Gillings School of Global Public Health, University of North Carolina at Chapel Hill, 800 Eastowne Drive, Suite 100, Chapel Hill, NC 27514, USA

<sup>2</sup>Harvard Medical School, Massachusetts General Hospital Weight Center, 50 Staniford Street, 4th Floor, Boston, MA 02114, USA

<sup>3</sup>UNC Nutrition Research Institute, 500 Laureate Way, Kannapolis, NC 28081, USA

Correspondence should be addressed to Martin Kohlmeier; mkohlmeier@unc.edu

Received 27 October 2014; Revised 23 December 2014; Accepted 11 January 2015

# Residency and specialties training in nutrition: a call for action<sup>1-4</sup>

*Carine M Lenders, Darwin D Deen, Bruce Bistrian, Marilyn S Edwards, Douglas L Seidner, M Molly McMahon, Martin Kohlmeier, and Nancy F Krebs*

## Nutrition in medical education: a systematic review

*Jennifer Crowley, Lauren Ball, Gerrit Jan Hiddink*

*J Am Coll Nutr.* 2008 April ; 27(2): 287-298.

### What Do Resident Physicians Know about Nutrition? An Evaluation of Attitudes, Self-Perceived Proficiency and Knowledge

**Marion L. Vetter, MD, RD, Sharon J. Herring, MD, Minisha Sood, MD, Nirav R. Shah, MD, MPH, and Adina L. Kalet, MD, MPH**  
Division of General Internal Medicine, Section of Primary Care, Department of Medicine, New York University School of Medicine, New York, New York (M.L.V., S.J.H., M.S., N.R.S., A.L.K.), Department of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania (M.L.V.), Department of Ambulatory Care and Prevention, Harvard Medical School and Harvard Pilgrim Healthcare, Boston, Massachusetts (S.J.H.)

### Nutrition Education in Internal Medicine Residency Programs and Predictors of Residents' Dietary Counseling Practices

Stutee Khandelwal<sup>1,2</sup>, Sarah E Zemore<sup>1,3</sup> and Anke Hemmerling<sup>1</sup>

<sup>1</sup>School of Public Health, University of California, Berkeley, Berkeley, CA, USA. <sup>2</sup>Fresno Medical Education Program, Department of Medicine, University of California, San Francisco, Fresno, CA, USA. <sup>3</sup>Alcohol Research Group, Public Health Institute, Emeryville, CA, USA.

Journal of Medical Education and Curricular Development  
Volume 5: 1-10  
© The Author(s) 2018  
DOI: 10.1177/2382120518763360  


**Summary:** *Residents, Fellows, practicing Clinicians **don't feel prepared** to effectively discuss nutrition with patients for disease prevention or management.*

The diagram consists of two dark blue, arrow-shaped boxes pointing to the right, connected by a white arrow shape. The left box contains the text 'Fee for Service' and the right box contains 'Value Based Models'. Both are in a bold, yellow, sans-serif font.

**Fee for  
Service**

**Value  
Based  
Models**

*Systems can't stand without a renewed  
focus on prevention!*

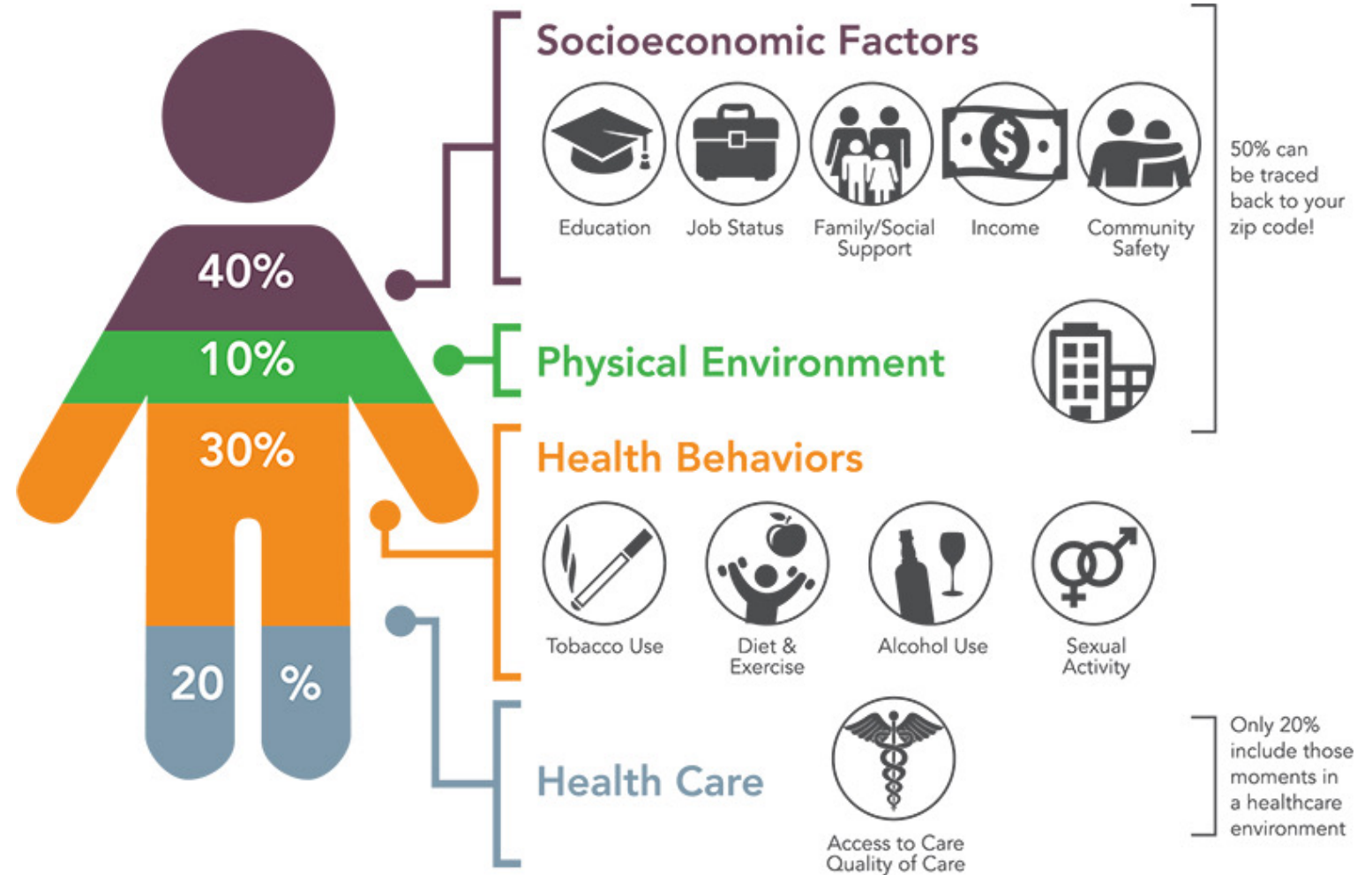


# How we Teach Nutrition in Medical Schools



“Nutrition must be taught through a socioeconomical and diverse cultural context or **we risk worsening inequities.**”  
-KE

---





**Doctors MUST Do Nutrition!**