Notes

Presentation on Nutrition Education in Schools of Public Health

Food and Nutrition Board, NRC *

Wood's Hole, 23 July 1986

DA Henderson

- Pleased to have the opportunity to offer views as a "generalist educator - not an expert in research, training and programs in the nutrition sciences in the schools of public health.

I recognize that your bookshelves are all full to overflowing with reports and analyses of the past, present and future problems and needs in nutrition and that this Board itself has offered many thoughtful and analytical reports. Thus, I would not propose to provide, in 15 minutes, a comprehensive historical perspective on research and training programs in the diverse group of graduate institutions which in the aggregate are called schools of public health. Let me instead refer to the special problems posed for nutrition in public health and share with you the current, unfortunate state of affairs in which it presently finds itself as well as its needs.

Dr. Hegsted, in his Atwater lecture, well-characterizes the evolving scene in nutrition beginning initially with concerns for energy metabolism and moving on in its second stage to the era of "vitamins and the balanced diet" - an era in which E.V. McCollum of my own institution and a few of the then existing schools of public health, played a leading role in research and practical applications.

The period immediately past WWII, as he notes, marked the end of widespread clinical malnutrition in the industrialized world and the end of an era of traditional nutrition research. It marked, as well, I believe, the beginning of a diminished role of scientists in shaping nutrition policy in public health. For medicine, as a whole, it was the beginning of a revolutionary era of change in biomedical research - an era whose progress was defined primarily in terms of improved diagnostic methods and therapies for the afflicted patient; in a greatly expanded

* National Research Council, Natl Academies of Science

curative care delivery system; in a much greater pool of medical manpower; and new insurance schemes to cover the costs. It has been a remarkable era which continues as molecular biologists dissect and characterize the magnificent inner workings of the living cell. But it has been an era in which, until recently, our focus of interest and our resources both in this country and in the developing world, have been directed far more to the cure and rehabilitation of those who were ill than to the prevention of disease and the improvement of health of the population at large. Not surprisingly, these challenging new frontiers in curative medicine captured the best and the brightest; funds of hitherto unimagined magnitude flowed in support; public health issues, with a few notable exceptions, were largely ignored; and the field languished. The fate of the nutrition sciences and public health nutrition, as Dr. Hegsted points out, have paralleled this experience. A survey in 1980 shows there were an estimated 2,000 nutritionists working in public health agencies - perhaps half of whom were trained in public health programs. Demand was high/salaries were low. There were few doctoral level public health nutritionists (perhaps 100) and we have no data as to what they were doing.

Change appears to be on the horizon, however - questions have arisen as to whether the benefits to population health have been commensurate with expenditures and epidemiological studies, as well as some field observations, have suggested that a more appropriate balance might be struck between treatment and prevention of disease. Nutrition, as you well know, is at center stage in such a scenario. What might be done?

To us at Johns Hopkins what appeared to be needed was a center encompassing multidisciplinary groups engaged in basic biomedical research and in epidemiological analysis and assessment but, added to Dr. Hegsted's construct, a group concerned, as well, with the practical consequences of implementation of nutritional policy - Conceived was a program balanced towards doctoral level versus masters level education which would educate students at the science/policy interface.

And, indeed, five years ago, with substantial input from Dr. Hegsted and Dr. Winick, as well as others, we reviewed the status of research and

education in public health nutrition and formulated a program for a Department of Public Health Nutrition at Hopkins.

From our review of programs at other institutions, it seemed, at the time, that there were a number of centers well-engaged in laboratory research and training in biochemical nutrition; a number of clinical research centers devoted primarily to nutritional problems in the hospitalized and chronically ill; a number who were engaged in food science. Little was being done, however, in terms of basic nutritional science policy, evaluation methodology and epidemiology and to educate those who could serve in this area - in brief - to measure needs in larger populations and to design and assess programs appropriate to the need. We could identify only two programs which endeavored to address this need, however superficially - most so-called public health nutrition programs having drifted substantially toward basic nutrition - a technical training school - or vanished altogether.

The situation since that time has not improved.

(TABLES 1 - 5)

(Tables - indebted to Judith Brown, University of Minnesota)

With the elimination of project grants and traineeships, our own hopes of a Department of Public Health Nutrition dissolved. While we do have a Division of Nutrition in our Department of International Health and some ten (10) full-time faculty engaged in nutrition research, resources do not permit the necessary core support or funding for graduate students which would permit a department to be created. This holds for other schools as well. Partial solution - joint program with Cornell. Meanwhile, I need not recapitulate for you the perceived strengths or weaknesses of food assistance programs in this country whose costs are approaching $20 billion per year - whose achievements and failures are little documented and whose rationale is driven by other forces or

simple inertia to change. However problematic our own programs, of course, the international scene is perhaps more dismal.

In brief, it seems to me the time has come in nutrition - as it has in the environmental health sciences, in vaccine development, in technology development, in health care financing and in other fields germane to public health - to foster the creation of centers which encompass basic research in nutrition and the social sciences, epidemiology and the translation and study of the observations in the field of public policy.

DAH/dm

Table 1

Funds from Bureau of Health Manpower/Health Professions, (HHS) for Public Health Nutrition - 1973-1983

o Competitive Project Grants for Public Health Nutrition

FY	No.	Funds ($)
1973	3	156,000
1974	2	86,000
1975	4	238,000
1976	5	270,000
1977	5	274,000
1978	7	329,000
1979	7	354,000
1980	8	389,000
1981	5	247,000
1982	0	0
1983	0	0

o Traineeships for Professional Personnel

	Grants	No. of Trainees	Funds ($)
1973	8	34	58,000
1974	8	50	370,000
1975	15	88	528,000
1976	13	75	467,000
1977	13	81	472,000
1978	NA	154	NA
1979	NA	187	NA
1980	13	161	NA
1981	10	130	397,000
1982	10	74	119,000
1983	0	0	0

Ref: Brown, J.E., "Public Health Nutrition: A Review of the Field and Training Programs, Feb. 1985"

Table 2

Other Support for Nutrition Training

o Title V - MCH

	Funds ($)*				Trainees	
	FY'73		FY'83		FY'73	FY'83
Public Health Nutrition	350,000	(128,000)	128,000	(87,000)	32	13
Adolescent Nutrition			174,000	(15,000)	0	7
Specialized MCH Training						
MCH, Schools of Public Health	44,000		141,000	(25,000)	0	5
Pediatric Pulmonary Centers			200,000	(38,000)	0	6
Perinatal Nutrition			84,000	(3,000)	0	0
University-Affiliated Programs	155,000	(36,000)	643,000	(48,000)	4	18
Pediatric Nutrition	55,000		60,000		0	0
Total	604,000	(131,000)	1,562,000	(215,000)	36	49

*Total nutrition component (funds for traineeships)
Average support per trainee = $439

o National Health Service Corps Scholarships

	FY'78	FY'79	FY'80	FY'81	FY'82	FY'83
Nutrition Trainees	19	25	28	20	15	0

(from Brown, J.E., ibid)

Table 3

Graduates from U.S. Schools of Public Health

Year Ending	Total (doctorate)	Nutrition (doctorate)
1975	2262 (190)	120
1976	2897 (232)	145
1977	2774 (207)	131
1978	2813 (237)	140
1979	2917 (265)	164
1980	3326 (289)	167
1981	3168 (282)	209 (10)**
1982	3196 (306)	204.5*
1983	3492 (306)	158.5*
1984	3299 (354)	120.5*

* Dual majors
** 10 doctorate level graduates expected in 1985
(ref: Brown, J.E., ibid)

Note: Total doctoral graduates in nutritional sciences in 1984 was 109 (NAS Summary Report on Doctorate Recipients from U.S. Universities)

From: Magee, J.H., "U.S. Schools of Public Health: Data Report on Applicants, Students, Graduates and Expenditures, 1983-1984 with Trends Analysis for 1974-75 through 1983-1984," ASPH, September 1985.

Table 4

Faculties of Graduate Programs in Public Health Nutrition

Active Membership in Association (1983)

Schools of Public Health (10)	Other (10)
U. of California, Berkley	Case Western
U. of California, Los Angeles	Columbia
Harvard	Cornell
Hawaii	Eastern Kentucky
Loma Linda	M.I.T.
Michigan	Penn State
Minnesota	Southern Illinois
North Carolina	Tennessee
Puerto Rico	Toronto
Tulane	Virginia Polytechnic

Prospective Memberships

Schools of Public Health (3)	Other (12)
Alabama	Arizona
Columbia	Brigham Young
Illinois	Connecticut
	Georgia State
	Hunter
	Howard
	Michigan State
	New York Medical
	Oklahoma
	Syracuse
	Tufts
	Washington

n.b. The graduate program should employ at least one full-time faculty member qualified as an educator in public health nutrition. Curriculum guidelines provided by Graduate Faculties of Nutrition Program (ref. Brown, J.E.).

Table 5

Faculties of Graduate Programs in Public Health Nutrition
(as reported from 12 of 20 programs - 1984/1985)

Total faculty of the 12 programs - 49 (73% hold doctorates)
Average: 4.1 full-time (range 2-12)
1.1 part-time (range 1-6)

	Number
Professors	9
Associate Professors	17
Assistant Professors	10
Other	13
Total	49

(Ref: Brown, J.E., ibid)