

Are we all Speaking the Same Language - A Reprise

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At the Eighth National Nutrient Data Bank Conference in Minneapolis in 1983, I presented a review of the documentation of nutrient data bases and nutrient analysis systems citations in the Journal of the American Dietetic Association and the American Journal of Clinical Nutrition published from January 1983 through June 1983. (Petot, 1983). At that time, I stated that "nutrient data base systems continue to proliferate in attempting to meet the needs", and that such "activities are the basis for our common interests but we persist in speaking different languages as we separately pursue them". Today, eight years later, the situation has changed with respect to the numbers of nutrient data base systems available, but it has not really changed with respect to the descriptions or documentation of data sources.

The discussion today will focus on "Publishing and citing papers concerning nutrient data". I will summarize a review of documentation of nutrient data systems or data sources in the 1990 issues of the Journal of the American Dietetic Association, The American Journal of Clinical Nutrition and the American Journal of Epidemiology. I hope that this review will raise some questions for consideration and discussion.

Each of the panelists will also identify issues. We probably won't produce any solutions to the problems today, but we offer a forum for communication and, even if we don't all speak the same language, at least we may offer some translations which may be better understood by the creators of nutrient data base systems, the variety of users, and the entire research community which is the ultimate consumer of the data.

DOCUMENTATION OF COMPUTERIZED NUTRIENT ANALYSIS IN PUBLISHED RESEARCH

In the 1982-83 survey, 42 investigations in which

computerized nutrient data bases were used were reported in the Journal of the American Dietetic Association and the American Journal of Clinical Nutrition. It is quite astounding today to realize that no one was using microcomputers in these investigations. The data base systems in use then were all on mainframe computers. At that time, 22 of 42 authors identified the data base system by name (Table 1). Only two of those 22 cited a date or version number of the system, and 11 of 22 did not cite any references of documentation for the data used. Twenty of 42 did not identify the systems used.

In 1990, seven years later, the situation was quite different. All 1990 issues of the Journal of the American Dietetic Association, Volume 90, the American Journal of Clinical Nutrition, Volumes 51 and 52, and the American Journal of Epidemiology, Volumes 131 and 132 were surveyed to identify all reported investigations which used dietary intake information for calculated analyses using computerized nutrient data bases or nutrient data base systems (Table 2 and APPENDIX).

These journals were selected because they contain numerous dietary intake reports which seem to be representative of similar reports which may be scattered among many other research journals. There were 119 articles in which computer calculations were made for 1 - 31 nutrients in 24-hour recalls, diet diaries, weighed diet records, weighed diets, and quantified food frequency records. The number of subjects in the reported studies ranged from 1 - 88,837 (Table 3).

Summarizing the documentation of sources of information presented an even greater challenge than it did 8 years ago. In a 12 month period there were almost three times as many reports of computerized dietary intake analyses as there were during the eighteen month period eight years ago.

Sixty reports identified a nutrient data base system by name; twenty-seven of those reported a date or version of the system (Table 4). Thirty-six different United States systems were identified. Nine studies used foreign systems.

Many different methods were used to cite or reference food composition tables and data base systems (Table 5). Eighty three food tables and systems were named in the text or cited in references. Twenty seven data base systems were documented by date of the system or by a version number. For twenty nine computerized data bases, it was stated (usually in the text) that it was developed by the user or at the institution where the work was done. For most of these data bases, references to food composition tables were made. There was such a mixture of these that it was not possible to tally accurately all of the references to data sources. The only consistencies noted were that in the JADA, in 15 of 46 reports, a footnote was used in the text for the name and address of proprietary data base systems; and in the AJCN, in 18 of 66 reports, parentheses were used to enclose the name and address of these data base systems. Otherwise, there seemed to be no consistency or policy with respect to documenting food composition data used for analysis. In Table 6 is a list of data sources mentioned in the articles. Many of them were expressed in different ways; some were mentioned both in the text and with references; others were mentioned only in the text; many different names were used for the same food tables, etc. A list of some examples of expressions used in the text is in Tables 7.1 and 7.2. Note that for many, there was no further documentation.

Editorial policies for most peer reviewed journal reports require scientific documentation for research methods and procedures. The science community should require it of food composition data. The task for us, as ones who are interested in appropriate and accurate uses of food composition information, is to help create some order to the confusion and inconsistency and to assist researchers, grant reviewers and editors with guidelines.

Petot, G.J. Commonalities and differences: Are we all speaking the same language? In: Tobelman, R., Editor. Proceedings of the Eighth National Nutrient Data Bank Conference. July 25-27, 1983. Minneapolis, MN. U.S. Department of Commerce, NTIS. Springfield, VA

**Table 1 - NDB Systems Used
Cited JADA, AJCN 1/82-6/83**

Sources Documented	Unidentified N = 20	Identified N = 22
Bulletin 72	3	0
Handbook 8 1963	6	2
Handbook 456	10	3
Rev Handbook 8	5	0
Bowes & Church	5	1
Literature	6	5
Industry	4	2
Laboratory analysis	0	1
Imputed	1	0
Other	7	4
None	3	11*

* Only 2 w/date or version no.

Table 2 - Journals Surveyed

Journal of the American Dietetic Association
Vol 90 Jan - Dec 1990
American Journal of Clinical Nutrition
Vols 52,52 Jan - Dec 1990
American Journal of Epidemiology
Vols 131, 132 Jan-Dec 1990

**Table 3 - Journal Survey Summary
46 JADA 66 AJCN 7 AJE**

119 journal articles
1-31 nutrients
1-88,837 subjects
54 studies diaries
12 studies weighed food records
10 studies quantified food frequencies
9 studies 24-hr recalls
9 studies weighed menus or meals
8 studies QFF + diaries
7 studies recalls + diaries
10 studies miscellaneous methods

Table 4 - Nutrient Data Base Systems Named

60 studies identified a system by name
27 studies cited date/version of system
36 different U.S. systems identified
9 studies used foreign systems

Table 5 - Method for Citing in Text or References

Documentation	Number
NDB or NDB System Named	83
NDB/NDB system date or version	27
Developed by user	29
Cited only in references	23
No name, source or reference	4
Footnote in text JADA (n=46)	15
() in text AJCN (n=66)	18

Table 6 - Nutrient Data Sources Cited in Text or References

Handbook 8 1963
 Revised Handbook 8
 Standard Reference NDB/Tapes
 Handbook 456
 Bulletin 72
 Bowes & Church
 Pennington
 Literature
 Manufacturers
 Laboratory Analysis
 Calculated Recipes
 Foreign food tables (by name)
 Journal references (not nutrient data)
 Unpublished manuscript

Table 7.1 - Nutrient Data Sources as Mentioned in Text I

- * "based on USDA nutrient data"
 - * "computer analysis"
 - * "continuously updated with USDA data"
 - * "based on USDA and manufacturers nutrient composition data and other sources"
 - * "system based on USDA and other published references"
 - * "3500 brand name and generic...plus decisions on 45 foods added"
 - * "plus user added items"
 - * "developed at" (name of institution)
 - * "1500 foods to which additional items could be added"
- * no further documentation

Table 7.2 - Nutrient Data Sources as Mentioned in Text II

- * "based on Handbook 8 and supplemental data from the research literature and manufacturers"
- * "calculated from standard food tables" (Bull 72 1986, Pennington 1980)
- * "nutrient data base at the CRC" (Hdbk 456, Bowe & Church 1980)
- * "computer file of more than 3000 food items"
- * "3500 brand name and generic...plus decisions on 45 foods added"
- * "using an updated version of a computer data base"
- * "the results were presented as mean daily intakes of..."
- * "multiple references available on request"

APPENDIX

REFERENCES CITED IN LITERATURE SURVEY

1. Buzzard, M.I., Chlebowski, R.T., Jeffery, R.W. et al. Diet intervention methods to reduce fat intake: Nutrient and food group composition of self-selected low-fat diets. *J Am Dietet A* 90:42 1990
2. Briley, ME., Montgomery, D.H. and Blewett, J. Dietary intakes of police department employees in a wellness program. *J Am Dietet A* 90:65 1990
3. Shah, M., Laing, B., Savre, S.G. et al. Hypertension prevention trial (HPT): Food pattern changes resulting from intervention on sodium, potassium, and energy intake. *J Am Dietet A* 90:69 1990
4. Hou, S.C. and Khan, M.A. Comparative assessment of sodium intake from meals and snacks consumed by selected American and British students. *J Am Dietet A* 90:97 1990
5. Harkey, A.L. Clinical effects of mandibular fixation on cholesterol intake and serum lipids: a case study. *J Am Dietet A* 90:102 1990
6. Kristal, A.R., and Hololy, A.L. Patterns of dietary behavior associated with selecting diets low in fat: Reliability and validity of a behavioral approach to dietary assessment. *J Am Dietet A* 90:214 1990
7. Demark-Wahnefried, W., Bowering, J. and Cohen, P.S. Reduced serum cholesterol with dietary change using fat-modified and oat bran supplemented diets. *J Am Dietet A* 90:223 1990
8. Larkin, F. A., Basiotis, P.P., Riddick, H.S. et al. Dietary patterns of women smokers and non-smokers. *J Am Dietet A* 90:230 1990
9. Hickson, J.F., Johnson, T.E., Lee, W. and Sidor, R.J. Nutrition and the precontest preparations of a male bodybuilder. *J Am Dietet A* 90:264 1990
10. Chima, C.S., Miller-Kovach, K., Zeller, M. et al. Lipid management clinic: Dietary intervention for patients with hypercholesterolemia. *J Am Diet A* 90:272 1990
11. Pennington, J.A.T. and Wilson, D.B. Daily intakes of nine nutritional elements: Analyzed vs. calculated values. *J Am Dietet A* 90:375 1990
12. VanHorn, L.V., Gernhofer, N., Moag-Stahlber, A. et al. Dietary assessment in children using electronic methods: Telephones and tape recorders. *J Am Dietet A* 90:412 1990
13. Wilson-Goodman, V., Taylor, M.L., Mueller, D. and Palmer, J. Factors affecting the dietary habits of adolescents with cystic fibrosis. *J Am Dietet A* 90:429 1990
14. Engle, A., Hebert, J.R. and Reddy, B.S. Relationships between food consumption and dietary intake among healthy volunteers and implications for meeting dietary goals. *J Am Dietet A* 90:526 1990
15. Alford, B.B., Blankenship, A.C. and Hagen, R.D. The effects of variations in carbohydrate, protein, and fat content of the diet upon weight loss, blood values, and nutrient intake of adult obese women. *J Am Dietet A* 90:534 1990
16. Sutor, C.W., Gardner, J.D. and Feldstein, M.L. Characteristics of diet among a culturally diverse group of low-income pregnant women. *J Am Dietet A* 90:543 1990
17. Greene, G.W., Achterberg, C., Crunmbaugh, J. and Soper, J. Dietary intake and dieting practices of bulimic and non-bulimic female college students. *J Am dietet A* 90:576 1990
18. Fong, A.K.H. and Kretsch, M.J. Nutrition evaluation scale system reduces time and labor in recording quantitative dietary intake. *J Am Dietet A* 90:664 1990
19. McIntosh, W.A., Kubena, K.S., Walker, J. et al. The relationship between beliefs about nutrition and dietary practices of the elderly. *J Amer Dietet A* 90:671 1990

20. Morrow, S.R. and Mona, L.K. Effect of gastric balloons on nutrient intake and weight loss in obese subjects. *J Am Dietet A* 90:717 1990
21. Gorbach, S.L., Morrill-LaBrode, A., Woods, M.N. et al. Changes in food patterns during a low-fat dietary intervention in women. *J Am Dietet A* 90:803 1990
22. Potosky, A.L. and Hartman, A.M. The apparent validity of diet questionnaires is influenced by number of diet-record days used for comparison. *J Am Dietet A* 90:810 1990
23. Treiber, F.A., Leonard, S.B., Frank, G. et al. Dietary assessment instruments for preschool children: Reliability of parental responses to the 24-hour recall and a food frequency questionnaire. *J Am Dietet A* 90:814 1990
24. Sanjur, D., Garcia, A., Aguilar, R. et al. Dietary patterns and nutrient intakes of toddlers from low-income families in Denver, Colorado. *J Am Dietet A* 90:823 1990
25. Manore, M.M., Vaughan, L.A. and Lehman, W.R. Contribution of various food groups to dietary vitamin B-6 intake in free-living, low-income elderly persons. *J Am Dietet A* 90:830 1990
26. Mangels, A.R., Moser-Veillon, P.B., Andon, M.G.B. and Reynolds, R.D. Vitamin B-6 intakes of lactating women: Analyzed vs calculated values. *J Am Dietet A* 90:857 1990
27. Beriman, M.K., Taylor, M.L. and Freeman, E. Vitamin B-6 in premenstrual syndrome. *J Am Dietet A* 90:859 1990
28. Kleiner, S.M., Bazarre, R.L. and Litchford, M.D. Metabolic profiles, diet, and health practices of championship male and female bodybuilders. *J Am Dietet A* 90:962 1990
29. Pike, S., Prati, R.C., Cochran, C. et al. Lack of effect of vitamin B-6 supplementation on the lipoprotein profile of post-menopausal chronic hemodialysis patients. *J Am Dietet A* 90:968 1990
30. Carrillo, T.E., Gilbride, J.A. and Chan, M.M. Soup kitchen meals: An observation and nutrient analysis. *J Am Dietet A* 90:989 1990
31. Howat, P.M., Varner, L.M. and Wampold, R.L. The effectiveness of a dental/dietitian team in the assessment of bulimic dental health. *J Am Dietet A* 90:1099 1990
32. Martinez, J.A., Urbistondo, M.D. and Velasco, J.J. Assessment and implications of the dietary intakes of hospitalized psychogeriatric patients. *J Am Dietet A* 90:1111 1990
33. Ashraf, H., Schoepel, C. and Nelson, J.A. Use of tofu in preschool meals. *J Am Dietet A* 90:1114 1990
34. Teufel, N. I. and Dufour, D.L. Patterns of food use and nutrient intake of obese and non-obese Hualapai Indian women of Arizona. *J Am Dietet A* 90:1229 1990
35. McCorkindale, C., Dybevik, K., Coulston, A.M. and Sucher, K.P. Nutritional status of HIV-infected patients during the early disease stages. *J Am Dietet A* 90:1236 1990
36. Luder, E., Ceysens-Okada, E., Koren-Roth, A. and Martinez-Weber, C. Health and nutrition survey in a group of urban homeless adults. *J Am Dietet A* 90:1387 1990
37. Witschi, J.C., Capper, A.L. and Ellison, R.C. Sources of fat, fatty acids and cholesterol in the diets of adolescents. *J Am Dietet A* 90:1429 1990
38. Bergman, E.A., Boyungs, J.C. and Erickson, M.L. Comparison of a food frequency questionnaire and a 3-day diet record. *J Am Dietet A* 90:1431 1990
39. Gropper, S.A.S., Anderson, K., Landing, W.M. and Acosta, P.B. Dietary selenium intakes and plasma selenium concentrations of formula-fed and cow's milk-fed infants. *J Am Dietet A* 90:1547 1990
40. Tsui, J.C. and Nordstrom, J.W. Folate status of adolescents: Effects of folic acid supplementation. *J Am Dietet A* 90:1551 1990
41. Nieman, D.C., Onasch, L.M. and Lee, J.W. The effects of moderate exercise training on nutrient intake in mildly obese women. *J Am Dietet A* 90:1557 1990
42. Stanek, K., Abbott, D. and Cramer, S. Diet quality and the eating environment of preschool children. *J Am Dietet A* 90:1582 1990
43. Davis, M.A., Murphy, S.P., Neuhaus, J.M. and Lein, D. Living arrangements and dietary quality of older U.S. adults. *J Am Dietet A* 90:1667 1990
44. Brown, J.E., Tharp, T.M., Dahlberg-Luby, E.M. et al. Videotape dietary assessment: Validity, reliability, and comparison of results with 24-hour dietary recalls from elderly women in a retirement home. *J Am Dietet A* 90:1675 1990
45. Dubois, S. and Boivin, J. Accuracy of telephone dietary recalls in elderly subjects. *J Am Dietet A* 90:1680 1990
46. Rhodus, M.L. and Brown, J. The association of xerostomia and inadequate intake in older adults. *J Am Dietet A* 90:1688 1990
47. Kottler, D.P., Tierney, A.R., Brenner, S.K. et al. Preservation of short-term energy balance in clinically stable patients with AIDS. *Am J Clin Nutr* 51:7 1990
48. Haste, F.M., Brooke, O.G., Anderson, H.R. et al. Nutrient intakes during pregnancy: Observations on the influence of smoking and social class. *Am J Clin Nutr* 51:29 1990
49. Coulston, A.M., Mandelbaum, D. and Reaven, G.M. Dietary management of nursing home residents with non-insulin-dependent diabetes mellitus. *Am J Clin Nutr* 51:67 1990
50. Mattes, R.D., Cowart, B.J., Schiavo, M.A. et al. Dietary evaluation of patients with smell and/or taste disorders. *Am J Clin Nutr* 51:233 1990
51. Forster, J.L., Jeffery, R.W., VanNatta, M. and Pirie, P. Hypertension prevention trial: do 24-h records capture usual eating behavior in a dietary change study? *Am J Clin Nutr* 51:253 1990
52. Pusateri, D.J., Roth, W.T., Ross, J.K. and Shultz, T.D. Dietary and hormonal evaluation of men at different risks for prostate cancer: Plasma and fecal hormone-nutrient interrelationships. *Am J Clin Nutr* 51:371 1990
53. Motil, K.J., Montandon, C.M., Thotahuchery, M. and Garza, C. Dietary protein and nitrogen balance in lactating and nonlactating women. *Am J Clin Nutr* 51:378 1990
54. Harris, W.S., Rothrock, D.W., Fanning, A. et al. Fish oils in hypertriglyceridemia: A dose-response study. *Am J Clin Nutr* 51:399 1990
55. Greger, J.L., Davis, C.D., Sutti, J.W. and Lyle, B.J. Intake, serum concentrations, and urinary excretion of manganese by adult males. *Am J Clin Nutr* 51:457 1990
56. Kretsch, M.J. and Fong, A.K.H. Validation of a new computerized technique for quantitating individual dietary intake: The Nutrition Evaluation Scale System (NESSy) vs the weighed food record. *Am J Clin Nutr* 51:477 1990
57. Allman, M.A., Stewart, P.M., Tiller, D.J. et al. Energy supplementation and the nutritional status of hemodialysis patients. *Am J Clin Nutr* 51:558 1990
58. Minghelli, G., Schutz, Y., Charbonniew, A. et al. Twenty-four-hour energy expenditure and basal metabolic rate measured in a whole-body indirect calorimeter in Gambian men. *Am J Clin Nutr* 51:563 1990
59. deGroot, L., van Es, J.H., van Raaij, J. et al. Energy metabolism of overweight women 1 mo and 1 y after an 8-wk slimming period. *Am J Clin Nutr* 51:578 1990
60. Worme, J.D., Doubt, T.J., Singh, A. et al. Dietary patterns, gastrointestinal complaints, and nutritional knowledge of recreational triathletes. *Am J Clin Nutr* 51:690 1990
61. Frusztajer, M.T., Dhuper, S., Warren, M.P. et al. Nutritional status and the incidence of stress fractures in ballet dancers. *Am J Clin Nutr* 51:779 1990

62. Klesges, R.C., Eck, L.H., Isbell, T.R. et al. Smoking status: Effects on the dietary intake, physical activity, and body fat of adult men. *Am J Clin Nutr* 51:784 1990
63. Barbosa, J.C., Shultz, T.D., Filley, S.J. and Nieman, D.C. The relationship among adiposity, diet, and hormone concentrations in vegetarian and nonvegetarian postmenopausal women. *Am J Clin Nutr* 51:798 1990
64. Wardlaw, G.M. and Snook, J.T. Effect of diets high in butter, corn oil, or high-oleic acid sunflower oil on serum lipids and apolipoproteins in men. *Am J Clin Nutr* 51:815 1990
65. Tordoff, M.G. and Alleva, A.M. Effect of drinking soda sweetened with aspartame or high-fructose corn syrup on food intake and body weight. *Am J Clin Nutr* 51:963 1990
66. Kesaniemi, Y.A., Tarpila, S. and Miettinen, T.A. Low vs high dietary fiber and serum, biliary, and fecal lipids in middle-aged men. *Am J Clin Nutr* 51:1007 1990
67. Anderson, J.W., Gustafson, N.J., Spencer, D.B., Tietyin, J. and Bryant, C.A. Serum lipid response of hypercholesterolemic men to single and divided doses of canned beans. *Am J Clin Nutr* 51:1013 1990
68. Childs, M.T., Dorsett, C.S., King, I.B., Ostrander, J.G. and Yamanaka, W.K. Effects of shellfish consumption on lipoproteins in normolipidemic men. *Am J Clin Nutr* 51:1020 1990
69. Lukaski, H.C., Hoverson, B.S., Gallagher, S.K., and Bolonchuk, W.W. Physical training and copper, iron, and zinc status of swimmers. *Am J Clin Nutr* 51:1093 1990
70. Colditz, G.A., Willett, W.C., Stampfer, M.J. et al. Patterns of weight change and their relation to diet in a cohort of healthy women. *Am J Clin Nutr* 51:1100 1990
71. Jacob, V., LeCarpentier, J.E., Salzano, S. et al. IGF-I, a marker of undernutrition in hemodialysis patients. *Am J Clin Nutr* 52:39 1990
72. Kenler, H.A., Brolin, R.E. and Cody, R.P. Changes in eating behavior after horizontal gastropasty and Roux-en-Y gastric bypass. *Am J Clin Nutr* 52:87 1990
73. Lovelady, C.A., Lonnerdal, B. and Dewey, K.G. Lactation performance of exercising women. *Am J Clin Nutr* 52:103 1990
74. Moser-Veillon, P.B. and Reynolds, R.D. A longitudinal study of pyridoxine and zinc supplementation of lactating women. *Am J Clin Nutr* 52:135 1990
75. van Beresteijn, E.C.H., Brussard, J.H. and van Scheik, M. Relationship between the calcium-to-protein ratio in milk and the urinary calcium excretion in healthy adults - a controlled crossover study. *Am J Clin Nutr* 52:142 1990
76. Reilly, C., Barrett, J.E., Patterson, C.M. et al. Trace element nutrition status and dietary intake of children with phenylketonuria. *Am J Clin Nutr* 52:159 1990
77. de Castro, J.D. and Orozco, S. Moderate alcohol intake and spontaneous eating patterns of humans: evidence of unregulated supplementation. *Am J Clin Nutr* 52:246 1990
78. Flaten, H., Hostmark, A.T., Kierulf, P. et al. Fish-oil concentrate: effects on variables related to cardiovascular disease. *Am J Clin Nutr* 52:300 1990
79. Bandini, L.G., Schoeller, D.A., Cyr, H.N. and Dietz, W.H. Validity of reported energy intake in obese and nonobese adolescents. *Am J Clin Nutr* 52:421 1990
80. Miller, W.C., Lindeman, A.K., Wallace, J. and Niederpruem, M. Diet composition, energy intake, and exercise in relation to body fat in men and women. *Am J Clin Nutr* 52:426 1990
81. Snyder, D.K., Underwood, L.E. and Clemmons, D.R. Anabolic effects of growth hormone in obese diet-restricted subjects are dose-dependent. *Am J Clin Nutr* 52:431 1990
82. Boyd, N.F., Cousins, M., Beaton, M. et al. Quantitative changes in dietary fat intake and serum cholesterol in women: results from a randomized, controlled trial. *Am J Clin Nutr* 52:470 1990
83. Schafer, L. and Overvad, K. Subcutaneous adipose-tissue fatty acids and Vitamin E in humans: relation to diet and sampling size. *Am J Clin Nutr* 52:486 1990
84. O'Dea, K., Trainees, K., Chisholm, K., Leyden, H. and Sinclair, A.J. Cholesterol-lowering effect of a low-fat diet containing lean beef is reversed by the addition of beef fat. *Am J Clin Nutr* 52:491 1990
85. Anderson, J.W., Spencer, D.B., Hamilton, C.C. et al. Oat-bran cereal lowers serum total and LDL cholesterol in hypercholesterolemic men. *Am J Clin Nutr* 52:495 1990
86. Fukagawa, N.K., Anderson, J.W., Hageman, G. Young, V.R. and Minaker, K.L. High-carbohydrate, high-fiber diets increase peripheral insulin sensitivity in healthy young and old adults. *Am J Clin Nutr* 52:524 1990
87. Calvo, E.B. and Gnazzo, N. Prevalence of iron deficiency in children aged 9-24 mo from a large urban area of Argentina. *Am J Clin Nutr* 52:534 1990
88. Schneeweiss, B., Graninger, W., Stokenhuber, R. et al. Energy metabolism in acute and chronic renal failure. *Am J Clin Nutr* 52:596 1990
89. Motil, K.J., Montandon, C.M. and Garza, C. Basal and postprandial metabolic rates in lactating and non-lactating women. *Am J Clin Nutr* 52:610 1990
90. Nieman, D.C., Haig, J.L., Fairchild, K.S. et al. Reducing-diet and exercise-training effects on serum lipids and lipoproteins in mildly obese women. *Am J Clin Nutr* 52:640 1990
91. Turnbull, W.H., Leeds, A.R. and Edwards, G.D. Effect of mycoprotein on blood lipids. *Am J Clin Nutr* 52:646 1990
92. Kestin, M., Moss, R., Clifton, P.M. and Nestel, P.J. Comparative effects of three cereal brans on plasma lipids, blood pressure, and glucose metabolism in mildly hypercholesterolemic men. *Am J Clin Nutr* 52:661 1990
93. Grense, D.A., Bucuvalas, J.C. and Balistreri, W.F. Efficacy of cornstarch therapy in type III glycogen-storage disease. *Am J Clin Nutr* 52:671 1990
94. Himmelstein, S., Clemens, T.L., Rubin, A.E. and Lindsay, R. Vitamin D supplementation in elderly nursing home residents increases 25(OH)D but not 1,25(OH)2D. *Am J Clin Nutr* 52:701 1990
95. Orwell, E.S. and Oviatt, S. Relationship of mineral metabolism and long-term calcium and cholecalciferol supplementation to blood pressure in normotensive men. *Am J Clin Nutr* 52:717 1990
96. Barger-Lux, M.J., Heaney, R.P. and Stegman, M.R. Effects of moderate caffeine intake on the calcium economy of premenopausal women. *Am J Clin Nutr* 52:722 1990
97. Cano, N., Labastie-Coeyrehowig, J., Lacombe, P. et al. Peritoneal parenteral nutrition with lipids and amino acids in malnourished hemodialysis patients. *Am J Clin Nutr* 52:726 1990
98. Tsunehara, C.H., Leonetti, D.L. and Fujimoto, W.Y. Diet of second generation Japanese-American men with and without non-insulin dependent diabetes. *Am J Clin Nutr* 52:731 1990
99. Bennett, F.C. and Ingram, D.M. Diet and female sex hormone concentrations: an intervention study for the type of fat consumed. *Am J Clin Nutr* 52:808 1990
100. Brown, A.J., Roberts, D.C.K., Pritchard, J.E. and Truswell, A.S. A mixed Australian fish diet and fish-oil supplementation: impact on the plasma lipid profile of healthy men. *Am J Clin Nutr* 52:825 1990
101. Fricker, J., Le Moel, G. and Apfelbaum, M. Obesity and iron

- stores in menstruating women. *Am J Clin Nutr* 52:863 1990
102. Lutz, J. and Tesar, R. Mother-daughter pairs: spinal and femoral bone densities and dietary intakes. *Am J Clin Nutr* 52:872 1990
 103. Matkovic, V., Fontana, D., Tominac, C., Goal, P. and Chesnut, C.H. Factors that influence peak bone mass formation: a study of calcium balance and the inheritance of bone mass in adolescent females. *Am J Clin Nutr* 52:878 1990
 104. Knekt, P., Albanes, D., Seppanen, R. et al. Dietary fat and breast cancer. *Am J Clin Nutr* 52:903 1990
 105. Patischman, N., McCulloch, C.E., Byers, R. et al. Breast cancer and dietary plasma concentrations of carotenoids and vitamin A. *Am J Clin Nutr* 52:909 1990
 106. Maclure, K.M., Hayes, K.C., Colditz, G.A., Stampfer, M.J. and Willett, W.C.. Dietary predictors of symptom-associated gallstones in middle-aged women. *Am J Clin Nutr* 52:916 1990
 107. Payette, H., Rola-Pleszczynski, M., and Ghadirian, P. Nutrition factors in relation to cellular and regulatory immune variables in a free-living elderly population. *Am J Clin Nutr* 52:927 1990
 108. Kardjati, S., Kusin, J.A., Schofield, W.M. and deWith, C. Energy supplementation in the last trimester of pregnancy in East Java, Indonesia: effect on maternal anthropometry. *Am J Clin Nutr* 52:987 1990
 109. Creed deKanashiro, H., Brown, K.H., Lopez deRomana, G. and Black, R.E. Consumption of food and nutrients by infants in Huascar (Lima), Peru. *Am J Clin Nutr* 52:995 1990
 110. Brown, K.H., Stallings, R.Y., Creed deKanashiro, H., Lopez deRomana, G., and Black, R.E. Effects of common illnesses on infants energy intakes from breast milk and other foods during longitudinal community-based studies in Huascar (Lima), Peru. *Am J Clin Nutr* 52:1005 1990
 111. Bell, L., Hectorn, K.J., Reynolds, H. and Hunninghake, D.B. Cholesterol-lowering effects of soluble-fiber cereals as part of a prudent diet for patients with mild to moderate hypercholesterolemia. *Am J Clin Nutr* 52:1020 1990
 112. Smidt, L.J., Cremin, F.M., Grivetti, and Clifford, A.J. Influence of folate status and polyphenol intake on thiamin status of Irish women. *Am J Clin Nutr* 52:1077 1990
 113. Graham, S., Marshall, J., Haughey, B. et al. Nutritional epidemiology of cancer of the esophagus. *Am J Epidemiol* 131:454 1990
 114. van't Veer, P., van der Wielen, R.P.J., Kok, F.J. et al. Selenium in diet, blood, and toenails in relation to breast cancer: A case control study. *Am J Epidemiol* 131:987 1990
 115. Flegel, K.M. and Larkin, F.A. Partitioning macronutrient intake estimates from a food frequency questionnaire. *Am J Epidemiol* 131:1046 1990
 116. Farrow, D.C. and Davis, S. Diet and the risk of pancreatic cancer in men. *Am J Epidemiol* 132:423 1990
 117. Zeigler, R.G., Brinton, L.A., Hamman, R.F. et al. Diet and the risk of invasive cervical cancer among white women in the United States. *Am J Epidemiol* 132:432 1990
 118. Hartman, A.M., Brown, C.C., Palmgren, J. et al. Variability in nutrient and food intakes among older middle-aged men. *Am J Epidemiol* 132:999 1990
 119. Romieu, I., Stampfer, M.J., Stryker, W.S. et al. Food predictors of plasma beta-carotene and alpha-tocopherol: validation of a food frequency questionnaire. *Am J Epidemiol* 131:864 1990