

## Nutrient Analysis Services

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Dr. Houser mentioned this morning that there were two major areas that had to work together in order for computer analysis of dietary intake to work. One is the computer system and the other is the data bank. Our company has a very flexible computer system, therefore I'm not going to talk to that area because we can customize our service to suit almost anybody. So I am focusing, today on the nutrition data bank.

The first point I would like to speak to is the question of missing data. Many years ago when I had to do my first compilation of computerized food composition table, the first obstacle I encountered, which everyone had mentioned over and over today, is what does one do for missing data. And I had to make a decision. At that time there were some other organizations that were dealing with this problem, as is being done here at Case Western Reserve. They just said "Well, we acknowledge we have missing data and we in some way flag it and let you know, but otherwise we just go on and give you the results", and then of course you have to evaluate these results. I took another path, recognizing that it is very difficult to evaluate results with missing data. But today when I raised the question from the floor, the speaker said that in terms of their particular needs, it didn't seem to matter. What they were concerned with was that dietary intakes meet the RDA. As long as the RDAs were achieved, even with some missing data, they've met their objective. However, I think we've got to go beyond that.

If we're going to do some real research in terms of the relationship of nutrition and disease, we have to have nutritional data for the foods that we're considering. I'm not saying that we're going to do this overnight; we all know the pressures of money and so forth and so on. But what I am saying is that when we take a food composition table and decide on a certain number of nutrients, we should in some way fill up those holes. And this is what I've always done. For instance, we know there is not going to be any sucrose in meat; don't put down unknown, put down a zero. There are going to be errors. But I think a collective educated guess, and not just an educated guess on my part, or with each colleague doing it individually, is necessary. I am suggesting that this be one of the functions of our organization in the future. We should have a committee to make these educated guesses. Thus we would have the best minds in the

country tackling the problem - people who have good experience in developing a standardized food composition table with no holes, hoping that we can fill them in with accurate data as quickly as possible. But until such time let's use these educated guesses. I think they are far superior to trying to figure out, well, just what does this mean. It has an asterisk, there are holes in it. Where are we going? I think that is where the thing would be very useful. That was the first point I wanted to speak to today.

The next thing I would like to do is sort of dream. We are all unsatisfied with the state we are in and I think that's why this organization was formed. To accomplish our purposes, we must move ahead. This doesn't mean it is going to happen tomorrow. But the way I like to work is to dream ahead so that we have some real ideal objective, but then take it step by step. So that by next year we'll have done this much toward that objective and the next year that much more toward our goals. The first part of my dream is that with the cooperation of members of this group we can have some kind of standardized computerized nutrient data bank that we all will be using. We already have a marvelous start with the nutrient data bank developed by the USDA and everyone uses that initially. But then instead of each of us going off in different directions for our own purposes, let's all pull together so we are using more of a standardized food composition table system. I haven't thought this through to the nth degree, but I'm just going to throw out some of the ideas that I have that we might work towards. I'm sure in the course of time it will be thought through, refined and may not even resemble what I'm thinking about. But perhaps we can aim towards it.

We have a nutrient data bank in the USDA. And today everyone takes that, and I think from what Dr. Rizek said this morning, he's responded very well to our initial request four years ago to fill in the holes. For instance, he mentioned that there was one table that he is not giving out yet because there are still holes. That was our first complaint - fill in the holes. So we know we are getting to that point. However, every time dietary data is coded, there are new food items to be added to an existing table and always some questions about foods that you don't know quite how to handle. Instead of each one of us using personal judgment, there should be a centralized source to make these decisions. Dietitians have fun doing this. I've heard dietitians say "Oh, it's great fun deciding how to code a food item" and that sort of thing, which is really nice for the staff. But it's not giving us the kind of data we want to use for research, educational and health purposes.

My proposal pertains to food items that are not in the USDA data bank. I am not talking about individual nutrients because that would have to be a laboratory analysis and we know this is coming as fast as everybody can give it. But I'm talking about recipes, versions of recipes, exotic foods. For example, one of you who is sitting here today sent me a letter about two weeks

ago and said that someone authorized her to have my company calculate the items on their menu which was just out of this world with many exotic foods. I said "You know we must really set a price for this". They said just go do it. I could have done it and sent them the bill, but I don't think that's the way to approach this sort of thing. Instead, I went back and said we have a minimum cost because I could see that for me to simply get these foods onto our table would be a tremendous effort in terms of money. I could have done it easily but I don't think they understood that the computer is not a magic button you press, but you must have these foods in the food composition table. The point of this illustration is not only that each of us is individually duplicating efforts unnecessarily, this wasting time, energy and money, but that each one would do it in a way sufficiently different to end up with a wide range of nutrient values for these same menus even though each were to use the USDA nutrient data bank as the original reference source.

We certainly have the technology today to quickly give people the nutrient values for recipes and foods not currently in the USDA data bank. But our group should set up a procedure for systematically incorporating new foods into one standardized food composition table for the United States. New users could select portions of the table for their purposes and each user would request the addition of new items to be incorporated as needed. I am proposing that this be one of the achievements of this group, perhaps to be finally achieved ten years from now, but a standardized food composition table should be one of our main objectives.