Quantifying My Food Nutrient Intake, February 8, 2007

To take control of my food nutrient intake, I must convert what I eat into numbers. The need to have numbers is expressed forcibly by the following quote from Lord Kelvin, "When you can measure what you are speaking about and express it in numbers, you know something about it --- and when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind".

Starting in the 1970s when I was working with Dr. Ansel Keyes, I have been trying to convert the food I consume into numbers. In that period, Dr. Richard Holcomb and others working in the Environmental Sterilization Laboratory developed what we called the "Nutritional Inventory" Program. This was a computer based food nutrient calculation system. In the computer memory was stored the USDA data base of nutrients for each food item for a specified serving size. After completing a food intake record, I would code each food item in the record with the item's food code and a serving size factor. These data would be fed into the computer which would carry out the calculations and produce a food nutrient table for each day. The printout would show the important nutrients for each food item, sum the important nutrients for the day and calculate the percentage of calories from protein, fat and carbohydrate, as well as calculate several other interesting parameters. The system was used as a laboratory exercise in a Public Health course I was teaching at the time and in Dr. Labuza's General College "Food for Health" course. In my opinion, this was one of my most successful student projects. Unfortunately, within a decade it was no longer used by Dr. Labuza because it required too much work by both the student and the TA. By 1990, the university computer system had changed requiring that our system be reprogrammed. The system was allowed to pass out of existence because of a shortage of resources plus a lack of departmental interest.

During the last 15 years I have continued, on an intermittent basis, to keep a personal food intake record. To analyze the daily food intake records I first used the Nutritionist Five™ program from FirstDataBank; it has been workable but was difficult to use. Recently, I have started using the program, "Kathleen's Diet Planner 12.3," written by Paul Lagasse of The Better Byte Software Co. (betbyte.com/kdiet.htm).

In a general way, the wide use of a personal food nutrient intake record as an important part of the evaluation and planning for personal health has failed. If you believe as I do (and at least a few others) that our food choices, quantity and quality are critical to our health way beyond our general understanding, then there must be some strong reasons why personal food nutrient intake records are not more widely used and are not high on every Public Health worker's list of health aids. The Food Nutrient Intake Record is a personal measurement, perhaps as personal and important as a blood analysis, but it requires much more effort and discipline on the part of the individual.

I believe there are many reasons why the Food Nutrient Intake Record area is not as popular as hamburgers and french fries. Foremost may be the fact that there is no profit to be made in a commercial sense, the Food Nutrient Intake Record only profits the individual who makes the record (thus far the marketing of computerized nutrition record programs has not been as successful as Game Boy). Another general reason is that it is number based; a large fraction of our population lacks enthusiasm for number data, some are even hostile to number data. Still another reason is it requires a large amount of work on the part of the individual, both in making a food record and in carrying out the analysis.

Carrying out an accurate food intake nutritional record requires of the individual both a mental commitment and a time commitment.

Mental Commitment. In the mental commitment area, firstly, the person must be a "true believer", that what we eat has a significant effect on our health and, secondly, that it is possible to do an accurate nutritional inventory. It is possible that 40 to 60% of our population will not make this mental commitment. We have individuals who believe in and almost live with numbers, a.k.a. Lord Kelvin; there are others who dislike and perhaps distrust numbers. We have others who work in and are only comfortable with descriptive terms

Time Commitment. The time commitment is large and again requires a dedicated believer who will put their nutritional intake project very high on their priority list. The commitment required is exemplified by a reader quoted in Tara Parker-Pope's "Health Mailbox" (WSJ, 23 January 2007) who said, "she writes down everything she eats and even used an Excel spreadsheet to analyze her eating habits and to take inventory of the food in her house. She also keeps a spare set of measuring cups and spoons at work, and uses the Web site, www.calorieking.com, to look up calories in the food she eats".

The time requirement is very large; there is (1) the time requirement of keeping the record (in my opinion, the person going down this path should start with at least consecutive 7-day records) and (2) the time to input the food intake record data into the analysis system. We have the record keeping part, reasonably accurate serving size estimate, finding a computer and computer program, inputting the data in the program. A part of this is trying to match the item we consume with an item in the computer program food directory and then having an output that is meaningful.

There are several computer data analysis systems available. All computer programs reflect the objectives of the specific computer programmer, consequently each system is different. Most of the systems I have examined were more complex and had too many bells and whistles for me. I personally only want a print out of the calories and quantity of critical nutrients I have consumed.

My basic unit of food intake analysis is the record for a day. For each day's food intake record I primarily want to know my total calorie intake, the percent of calories that are protein, that are fat and that are carbohydrate. Secondly, I want to know saturated fat, cholesterol and sodium. I have found that examining each day's food intake tells me the most about my eating habits and my success or failure in meeting my food intake goals. The basic elements of "Kathleen's Diet Planner" food intake analysis computer program work for me.

Conclusions

I have been involved with food choice, food intake records and health for a long time and have developed some very strong beliefs; they are summarized below:

- My choice of food, quantity and quality are critical to my health. There is quite a lot of data available to guide me in making healthy choices; however, I must have number data to guide me in my choices.
- A Food Nutrient Intake Record is a valuable tool in helping to guide the individual's health plan. I do not believe there is any other way to really know our nutrient intake.
- In the big scheme of things, I do not believe that accuracy is a problem. If I know my nutrient intake ± 10% over 10 or 20 days, I will have a good idea of where I am nutrient wise.
- The big problems are the mental commitment and the time commitment required of the individual. It is sad to think that only 20% (maybe only 10%) of the population is able to make the commitment necessary to do Food Nutrient Intake Records.