

Prepared Statement of Oral Input for the FDA Obesity Meeting

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I want to address the topic of food fats and oils and their impact on health because fat represents an important nutrient for which there is massive misinformation being presented to the public since 1969. This misinformation is promoted in the form of the U.S. Dietary Goals/Dietary Guidelines, which have been largely responsible for promoting an unbalanced intake of the fat components of our diets.

Natural fats such as butter, tallow, lard, and palm and coconut oils have been relegated to the garbage heap, and the replacement manmade fats such as the widely used partially hydrogenated shortenings and margarines and excessive omega-6 polyunsaturated oils have been promoted as if they were magic medicine. That is just the opposite of what we should be doing. Those natural fats and oils listed above have important components found only in them; these components are health promoting, and their replacements are now known to be disease-causing.

The 1969 White House Conference on foods and nutrition produced the New Foods Document, which promoted the acceptance of imitation foods as if they were real foods. This has led to a major decline in the quality of our foods and especially in the quality of food fats. It has led to the open promotion of genetically modified foods that suit the production of processed fats, and has also led to a decline in quality and uses of our farm-produced animal fats.

We are confronted with the problems of widespread obesity, runaway diabetes in adults and increasingly in children, ever-increasing cancer incidence rates, immune dysfunction, a continuing increase in heart disease incidence rates, and growth and development problems in our young.

In 1970, the FDA prepared an internal memo that said the *trans* fatty acids in the food supply should be identified. More than thirty years later the FDA proposed the cloudy labeling of the *trans* fats under an unsuitable saturated fats umbrella. In the intervening 30 years, during part of which I was a fats, oils, and lipids researcher in a university lipids laboratory, I have frequently pointed out to various agencies, through reports to the appropriate dockets, that ignoring the levels of *trans* fatty acids in foods has prevented us from having accurate data on fat composition of our diets. As a result of being misled, we have a consuming public terrified of natural fats and oils -- a public, which, by its avoidance of these natural saturated fats and oils and its consumption of the fabricated, man-manipulated fats and oils replacements such as the *trans* fats and the unstable polyunsaturates, is becoming increasingly obese and ill.

In 1993, a University of Pittsburg researcher (Kuller 1993 *The Lancet* 341:1093-1094) reported that women who consumed more *trans* fatty acids were several kilograms heavier than women who consumed less *trans* even though the calorie intake

2003N-0338

TS 15

Mary Enig, Ph. D.

October 23, 2003

Page 2

was the same for both groups. Other research over the last several decades has pointed to the involvement of the omega-6 polyunsaturates in increasing fat cells (work of J. Raulin in France), and recent work by Pan and Storlein (1993) shows that omega-3 fatty acids are needed to avoid weight gain. *Trans* fatty acids promote the adverse effects of linoleic acid (the common omega-6 polyunsaturate) and decrease the important omega-3 fatty acids in tissues. The natural saturates protect the omega-3 fatty acids.

This attempt by the FDA to tar the wholesome saturated fats with the sins of the *trans* fats so as to promote in the minds of consumers the idea that they are both the same is not supported by real science. Biologically, the saturates and the *trans* have totally opposite effects: the effects of the saturates are good, and those of the *trans* are undesirable.

Many of you at this meeting may not have been born by 1969. Those of us who were adults at that time know the extent to which the "new foods" really are imitation foods even though they are not labeled as such. The consumption of these imitation foods needs to be looked at very carefully for the roll they play in causing overeating and consequent obesity. It is the lack of natural fats in the current diets that lead to inappropriate hunger, and only appropriate research can verify that this is so.

In addition to promoting obesity by loss of satiety value from natural, more-saturated fats, there is also a loss of the only reliable source of Vitamin D, namely, the more saturated animal fats.

Why the Current US Dietary Guidelines are Making Americans Fat

The McGovern Committee Senate Hearings, held in the 1970s, grew out of the ideas for developing nutrition policy that were put forth at the 1969 White House Conference on Foods and Nutrition. Some of the recommendations that came out of the White House conference were orchestrated by lawyers and lobbyists from the food industry. The McGovern Committee originally planned to hold hearings on heart disease and diet, but evidently changed to hearings on all the "killer diseases" and their nutritional causes, although the major emphasis still came from the National Heart and Lung Institute (as it was called at that time) and the American Heart Association, with much testimony orchestrated by the American Health Foundation. Behind the scenes, the edible oil industry and the Grocery Manufacturers of America played a major role in lobbying efforts.

The McGovern Select Committee heard erroneous testimony from various research "scientists," most of whom had particular biases against animal fat and meat. For example, Dr. Gio B. Gori from the National Cancer Institute and Dr. David M. Hegsted from Harvard School of Public Health testified that there was "a direct relationship between dietary intake and forms of cancer and that it was their recommendation that Americans should cut down on the amount of food they eat, and specifically, eat less meat and fats" (Congressional Record 9/16/76 p S15993-4).

The animal fat and cancer connection was first introduced by Dr. Ernst Wynder

Mary Enig, Ph. D.

October 23, 2003

Page 3

from the American Health Foundation using processed vegetable fat data mistakenly labeled animal fat. Colon cancer was also tied to beef in an erroneous interpretation of the National Cancer Institute Japanese-Hawaiian study which actually showed macaroni, green beans and peas to have higher risk associated with colon cancer than beef or lamb.¹

Committee members ignored testimony debunking the anti-animal fat agenda even though the testimony defending meat and animal fat was supported by science and came from highly qualified researchers. The meat and dairy lobbies were very ineffective in defending their products.

The Select Committee produced a report that called for the decrease in consumption of animal fat, dairy fat and eggs. If you decrease the amount of fat in the diet, something has to increase to take its place and that something was to be the carbohydrates.

Once mandated, no government employee or government-funded researcher could contradict the US Dietary Goals. All the research from that point on had to be geared to creating educational material to match the US Dietary Goals and to produce a science to support them. If a researcher wanted another grant, the results he or she came up with would have to fit the guidelines.

Even though these goals/guidelines originally had no science to back them up, and still have no clear science to support them, they have become the law of the land. Thus the Senate, with the help of the food industry and the complicity of a major part of the nutrition community, came up with a low-fat, high-carbohydrate Rx that produced profound changes in the way Americans ate. Vegetable oil and carbohydrate (mostly refined carbohydrate) calories replaced animal fat calories resulting in massive obesity in the populace. The US government is now proposing more of the same to combat . . . the massive obesity epidemic among Americans!

Low Fat Diets

When it comes to low fat diets, many questions can be asked. What comprises a low fat diet? Is one man's "low fat" diet another man's "moderate-fat" diet? And if fats are so important, why do some people feel better when they go on low fat diets?

Sixty years ago, recommendations for the amount of fat allowed in therapeutic diets could range from the very low fat (high-protein) diet used to treat nephrosis, a type of kidney disease, (18 percent of the energy as fat) to the very high-fat diet used to treat epilepsy in children (88 percent of the energy as fat). In between was the "low fat" diet used for treatment of obesity (32 percent of energy as fat) and the relatively high-fat therapeutic diets used for convalescence from serious illness (49-56 percent of energy as fat).²

By analyzing menus from turn-of-the-century cookbooks, we can estimate that the fat content of the diets at that time was about 35-40 percent of energy as fat. Fats contain about twice as many calories per gram as protein or carbohydrate foods. In a diet of 2500 calories, 35 percent of calories as fat translates to 97 grams of fat (slightly

Mary Enig, Ph. D.

October 23, 2003

Page 4

less than 1/2 cup) per day, as added fat or distributed in the foods. Pictures of the general populace at the time do not show large numbers of obese individuals, and in fact they showed mostly healthy-looking people unless the scene was one of poverty.

Gradually over the intervening decades, the emphasis from public health "advocates" has been a recommendation for use of "low fat" diets for just about any disease state, and certainly as the accepted and appropriate treatment for obesity, which has become a major health problem in the United States. Not all researchers accept the belief that fat intake causes obesity, and it has been pointed out that ". . . there is no conclusive evidence from epidemiologic studies that dietary fat intake promotes the development of obesity independently of total energy intake."³ The recognition by some researcher that it is the energy content of the diet that is important matches the understanding of clinicians half a century ago. Nevertheless the common recommendation continues to be a "low fat" diet for treating obesity in spite of the numerous research papers reporting better results with the low-carbohydrate diet.^{4,5}

The low-carbohydrate diet by definition cannot be a low fat diet because there is a limit to the amount of protein one can eat. Thus, carbohydrate calories are normally substituted for fat calories in the various diets, and *vice versa*.

When researchers examined the diets of older adults who had successfully maintained "lower-fat" intakes for five or more years, they found that "lower" meant on average 26 percent (+/- 7 percent) calories as fat and that the original diets had been about 44 percent (+/- 6 percent).⁶ Even the American Dietetic Association (ADA) recommends that "diets should provide moderate amounts of energy from fat (20 percent to 25 percent of energy)" and noted that the more restrictive level of 15 percent offered no advantage. However, since typical diets have been found to be closer to 35 percent of energy as fat, even their recommendation of 20-25 percent represents a low fat approach.⁷

When you lower the amount of fat in the diet, you must raise something else. That something else is usually carbohydrate, and invariably today it would be mostly simple carbohydrates such as white flour, corn syrup or refined sugar. High levels of carbohydrate in a diet do not provide the satiety that natural fats do, and the result is that there is a tendency to overeat carbohydrates. Today the carbohydrates come with many undesirable additives and are frequently missing many nutrients. But if the carbohydrates are similar to those available 60 years ago, (that is, whole grains and complex sugars) the situation might not be too bad for a short time.

What happens when a person changes his diet from the typical American diet of processed foods to the recommended low fat diet containing lots of whole grains and vegetables? First the body is no longer taking in all the excess omega-6 and *trans* fats that are in processed foods. And, he is replacing foods loaded with sugars and additives with more natural foods containing a lot of vitamins and minerals. But most importantly, the body turns the excess carbohydrates into saturated fat. This saturated fat can replace omega-6 and *trans* fatty acids in the tissues, which is advantageous and helps the patient feel better. A high-carbohydrate diet is really a high-saturated-fat diet and the various processes on the cellular level work better when there are ample saturated fatty acids available.

Mary Enig, Ph. D.

October 23, 2003

Page 5

Under experimental conditions of overfeeding simple sugars (sucrose and glucose) in a diet that provided 40 percent of energy as fat, the researchers found that the carbohydrate was oxidized and turned into fat in such a manner that the loss of fat was prevented.⁸ In other words, a diet high in both fats and carbohydrates will cause weight gain, especially when these are processed vegetable oils and refined carbohydrates.

So what amount of fat should be in a diet? And does it matter what kind of fat there is in the diet?

Over the long term, low fat diets have not been shown to be advantageous for preventing the diseases they have been recommended for. Most people are at risk for lowered intakes of the important fat-soluble vitamins and other fat-soluble nutrients when they consume low fat diets for any length of time. So it would seem that the fat content of the diet of yesteryear, with an average of 35-40 percent of energy as fat, makes sense. For those who are prone to hypoglycemia, seizures or who are recovering from an operation or illness, the percent of energy from fat should be higher. Growing infants and children also need a higher proportion of fat in the diet. Whatever level of fat works for an individual, it should be a mixture of natural fats that were common in the diets 60 and more years ago.

Perhaps the best way to lose unwanted weight (excess weight in the form of fat, that is) is to change the type of fat in the diet to the type of fat found in the coconut. New research from McGill University in Canada has shown that consuming medium-chain triglycerides (C8, C10, C12, and C14), the type found in coconut oil, leads to an increase of endogenous oxidation of long-chain saturated fatty acids. They note that this "suggests a role for medium chain triglyceride fats [such as coconut oil] in body weight control over the long term."⁹

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Mary Enig, Ph. D.

October 23, 2003

Page 6

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