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FOOD AND DRUG ADMINISTRATION AND

DEPARTMENT OF HEALTH AND HUMAN SERVICES,

OFFICE OF ASSISTANT SECRETARY OF PLANNING AND EVALUATION

"EXPLORING THE LINK BETWEEN WEIGHT MANAGEMENT AND FOOD LABELS AND PACKAGING"

Thursday, November 20, 2003

Lister Hill Audutorium
National Institutes of Health
Bethesda, Maryland

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P R O C E E D I N G S

WELCOME

MR. LEVITT: The microphone is working up here. Are we on? Rich Williams, can you hear me back there?

MR. WILLIAMS: Yes, I can.

MR. LEVITT: Okay. Terrific. Good morning, everyone. My name is Joe Levitts. I am Director of the Center for Food Safety and Applied Nutrition at the Food and Drug Administration, Department of Health and Human Services. And it is my pleasure to welcome you to today's workshop entitled "Exploring the Link Between Weight Management and Food Labels and Packaging."

Today's meeting is being co-sponsored by the Food and Drug Administration, led by the Obesity Working Group, which Dr. Lester Crawford chairs, and I'm the vice chair, as well as the Office of the Secretary, Office of the Assistant Secretary for Planning and Evaluation in the Department of Health and Human Services. And in a moment, I'll have the pleasure of introducing Ms. Ann-Marie Lynch, who is a Principal Deputy Assistant Secretary for Planning and Evaluation.

This reflects the very top priority that the obesity issue is receiving by the entire Department, led by

Secretary Tommy Thompson, as well as within our agency, led by our Commissioner Dr. Mark McClelland.

This past summer, FDA established an obesity working group, and we are moving ahead rapidly. We've already held a public meeting in October, also on the NIH campus. And, of course, our workshop today. We have a public docket, and we are receiving comments; and we'll urge additional comments following this meeting to be submitted there for our collective use.

And, as people I think by now know, we're moving on a fast track, and our final report is due to the Commissioner on February 12th of 2004.

Today's agenda has three parts. Part One is short opening session. As I said, following me, we'll also have a welcome by Ms. Ann-Marie Lynch, followed by our keynote presentation by FDA Deputy Commissioner Lester Crawford and our charge to the group by Tomas Philipson, Senior Advisor in the Commissioner's Office and a Visiting Scientist.

The bulk of the morning will be devoted to prepared presentations. We have a blue-ribbon list of people from FDA, from industry, from academia, from the weight loss community, even from foreign countries. And in

the afternoon, we are going to get a little more informal and convert the session into two roundtable discussions, one dealing with the food label and packaging, and the second dealing with restaurants.

We want to be very clear that FDA is looking at both of these areas. What can we do dealing with food labels and packaging, and what can be done vis a vis restaurants, recognizing that we need to look at the obesity issue as a whole, looking at both diet issues, as well as exercise issues. And, yes, somebody asked me, I do have on my pedometer today. And was able to walk over from the Metro.

So, we're trying to do our part.

As always, a lot of work goes into putting together a meeting like this. I want to thank three people in particular. First, is Rick Canady from FDA, who's sitting right over here. Second, is Lana Bush, from ASPI, who is right behind him. And the third is Amber Jessup from my center, who is right back there in the middle. So, thank the three of you. We know how much work it is to put on a meeting like this.

Finally, I have just a few housekeeping announcements from the house here, so it's listed up here. Number one, no food or beverage is allowed in the auditorium. Number two, there is a message desk phone number. It is as follows: 301-496-4062. Three, pay phones are located behind the Visitors' Center. Four, when we do get later into the area of interactive discussion, there is a microphone. You need to press the "MIC" button, and I think you'll see it flash up red, so you know your microphone is on. I think by now all presenters have checked in at the preparation room. And finally, for those who do not have an NIH or a FDA ID, even though I have one, everybody in the building is required to wear their pass for--visitor's pass for security purposes.

With those introductions, it is my pleasure to introduce to you Ann-Marie Lynch, Principal Deputy Assistant Secretary for Planning and Evaluation, DHHS. I need to embarrass her for just one moment with her background.

Ann-Marie advises the Secretary, Tommy Thompson, on health policy initiatives and is responsible for major activities in the areas of policy coordination, legislation development, policy research and evaluation economic

analysis. She joined the Administration in June 2001 as a Deputy Assistant Secretary, Office of Health Policy. Prior to joining the Administration she had significant public and private sector experience, including serving as staff director of the Health Subcommittee of the U.S. House of Representatives Ways and Means.

Ms. Lynch holds a master's degree in economics from Duke University, and a bachelor's in economics from Fairfield University. Please, a warm welcome for Ann-Marie Lynch.

[Applause.]

MS. LYNCH: Great. Good morning. I'm delighted to be here, and welcome you to this wonderful conference. I just wanted to start with a few comments.

First, in looking at the latest available information, we find that seven out of ten individuals die each year of a chronic disease. More than 300,000 Americans will die this year from obesity-related heart disease, diabetes, and illnesses directly affected by overweight or obesity.

In the year 2000, the total annual cost of obesity in the United States was estimated to be $117 billion--that includes direct medical care costs.

Currently, about 15 percent of children and teenagers are already overweight, and excess weight significantly increases our children's risk factors for a range of health problems, including diabetes, heart disease, asthma, and emotional mental health problems.

The good news is that obesity and co-morbidities are preventable through healthy eating, nutritious food in proper amounts, and physical activity. And the bad news is that many Americans are not taking the steps to prevent obesity and its co-morbidities.

The Administration has put forth a prevention agenda focused on a healthier U.S., which promotes four fundamentals of good health. These are: physical activity, healthy eating, regular preventive checkups, and avoiding risky behaviors.

Secretary Thompson supports the Administration's prevention agenda through the Steps to a Healthier U.S. Steps emphasizes innovative community activities, in cooperation among policy makers, local health agencies, and

the public to invest in disease prevention. And in September of this year, the Secretary announced 12 Step grants, totaling more than $13.7 million, strictly to promote community initiatives to promote better health and prevent disease.

Our Administration is committed to community-based, evidence-based, scientifically-sound public health policies and initiatives that ensure that our nation's health and well being exist for today and most important for the future. And we are pleased to have a role here today in helping the Secretary achieve his goal of ensuring that Americans are strong, healthy, and independent.

We're working with the FDA to explore the connections between food labeling and weight management; and, to assist them, we've developed a focused research agenda addressing fundamental questions about the association, if any, between nutrition information on food labels and weight management in the U.S. population.

We're pleased to sponsor the workshop, at which we hope will examine the available evidence to identify the options for providing information to consumers' weight management decisions.

of the slides. We probably are going to move our little cursor around here. That's okay.

MR. LEVITT: Of course, figuring out how to move it is challenge.

DR. CRAWFORD: I think I'd use my middle finger.

MR. LEVITT: It's the one that says Koestler on there.

DR. CRAWFORD: All right, Rick, the next thing is the second slide. We'll just do it this way. Perfect. Yes. You do the left to the right. The thing in the middle.

We had a meeting this past weekend in Boston that many of you are familiar with is the Harvard food meeting that takes place every year under the leadership of former Secretary Glickman of Agriculture and Professor Ray Goldberg of Harvard. And in that meeting, this is the 10th year of it, and a careful glance at the record, which is memorialized in a book I suppose each year, reveals that throughout the preceding nine years, there's never been a mention nor a paper on obesity. This past weekend, 10 of the 16 presentations were on obesity and several interesting things came out of that.

There was a person invited who was from the National Health Service in England, and her summary comment was that she believed that in the very near future that obesity, as it occurs today in England, which is about what it is here, would wreck their National Health Service; that there was no way they accommodate the increase in health claims and payments and in the infrastructure of that system. She thought it was going to be compromised by the obesity epidemic in that country.

And then the Deputy Minister of Agriculture of Canada made an even more ominous conclusion, based on his study of the situation in Canada. We always think of ourselves as the only one having this major public health problem. He believed that in their country and perhaps in others that for the first time in the last 100 years that the longevity increases that are announced at the end of every year by the World Health Organization were going to decrease in their country and perhaps in much of the developing world.

In our country, we're having 300,000 obesity-related deaths per year. We believe that can only escalate, and we have to be prepared. Now, the other thing that must

be said is that out of the flavor of that meeting and out of our general meeting on this subject, which we held earlier, it is clear that it is very easy, very tempting and facile, and, I think, useless to continue to blame the food industry as a victim in this kind of thing for some reason. We all eat the food. We all have freedom of choice. This country is certainly free in that respect. And if the portion size is too large, it doesn't take a very high intellect to understand that if you're gaining weight at the rate of 12 pounds a month or something like that, that this might be a little too much for you. So I think we need to stop--we need to hold harmless the food industry as they join together, as they certainly are today, they did in the first meeting, and they did in some follow-up meetings to this as we move forward towards a mutual solution. If we blame the psychiatrists of the United States or the food industry of the United States or the medical profession or the dietetic profession, than we will get nowhere, because we'll balkanize those interests, and there won't be any unifying message that we'll go forward with. So let's get off that, and in order to begin that, we're going to go forward.

Now, the obesity epidemic, as is mentioned here--we have now completed our circuitry through the slides.

[Laughter.]

And with many thanks to you for being here today, Mr. Levitt.

[Laughter.]

Here we go. I got it. Don't worry, Rick. You can--over 30 percent of the U.S. population--Ann-Marie mentioned some of this, and the body mass index of 30 or higher is what we're going with here. Thirteen percent of children, which is a doubling of what it was when NLEA was passed some 10 years ago, and the deaths I've already mentioned. And we'll talk further during this session and elsewhere about co-morbidities.

The Obesity Working Group has a charge for the Commissioner, which is from the Commissioner, which is publicly available. Also, his excellent speech at the general meeting, which was held about a month ago, is still getting a lot of currency. It was mentioned this morning in the Washington Post, in the A-section, and will be again around the world, and that is something that we believe is

an enlargement of our charge and also an indication of the seriousness that he and Secretary Thompson take this to be.

The--we have a six-month time frame. We met yesterday with the Department officials about whether or not we're going to achieve this, and what we're going to do with it when it's accomplished. But we're on that time frame, and we're obligated to finish by then. And we haven't talked yet, Mr. Levitt, it was reamplified yesterday. We have only that amount of time.

We have an act--developed an action plan, and this is from the charge, to develop a clear, coherent, and effective public health message. And the rest of that sentence was that unifies all the various sectors in solving this problem.

We need a public education program. Many people believe that the "E" in NLEA has never really been fully utilized, and I would be one that would agree with that. I remember when we were working on NLEA--the--my part of it was in the Department of Agriculture. We did not need the law in FSIS for meat and poultry. What we needed was simply a declaration by the Administrator through the delegation of authority from the Secretary. And we imposed this. I

remember when we were talking about it, we planned a major public health information program just from FSIS, which was funded at the $4 million category. And I don't think that was ever completely funded, and it needs to be; and then perhaps even that figure was modest, because as we looked through this particular exercise that we're going through now and how many people actually read the food label, we find the figures to be disturbingly low. And we also find it to be associated with people who have a real medical need to read the food label, like diabetics and people with metabolic diseases of other sorts. And I think that we have to take some of the blame for that in the Government and probably also in the food industry and in the supermarkets.

But the--we don't need blame. We need a positive message going forward. Enhancing the food label, if you're going to enhance it, it can't be like the Sears Roebuck catalogue. It must be targeted. It must be readable. It has to accommodate people that have to wear bifocals. It has to be something that gets the job done, and just changing it willy nilly is not what we're about. But I would be surprised if in the Obesity Working Group report on

February 12th of 2004, we don't have something in there about recommendations on the food label.

The dialogue with the industry is going on. We're following this up with two other focus group sessions before the end of the time that we have to finish the report.

Then we're also facilitating the development of more and better therapeutics. The Center for Drug Evaluation and Research is very much a part of our obesity working group, and they're weighing in with the latest information, and also the realistic projections of how good these medical devices and drugs are going to contribute to the solving of this problem.

And I think we can't rule out the fact that there is some sort of magic potion there. The research on leptins and various other compounds is very encouraging, but there's nothing in the bottle yet, nor in the syringe.

Then identifying research on healthier foods and consumer behavior is certainly going to be a major part of it. Then we have to enlist the help of the stakeholders. When it's all said and done, the authority of FDA to solve this problem is not the same as we have to solve an illegal drug problem or an illegal food supplement problem, or

something like that. This is going to be involved I think for a long, long time, and the tools that we have at our advantage are some regulatory power, but mainly moral suasion and scientific suasion.

The public meeting, which was held on October 23rd, just about a month ago, explored six key questions. And the respondents, for those of you who weren't there, were asked to comment on these things.

The effectiveness of the education campaigns. Has that ever been vetted? Has it ever been evaluated and audited. And the answer seems to be no. But the question is, how do you do that?

What are the most urgent research needs of the National Institutes of Health.

Evan Hubbard is here today, and he has been very much a part of the planning of this and the development of it. And there are certainly research needs that will be listed in the final report. We need to know about those from you, and we need to include them in the report in terms of the recommendations to the Commissioner, and ultimately to the Secretary.

Data. What data exists on obesity prevention and treatment through behavioral and medical interventions. That also should be a major part.

Changes needed in food labeling to stimulate development and consumption of lower calorie foods. When we talked about calories at the time of NLEA, when the Commissioner of FDA and the Administrator of FSIS did a country-wide tour of hearings at major medical centers and elsewhere, which took about six grueling weeks, we heard a lot about the calorie content. But we heard mostly about fats. And we heard almost nothing about carbohydrates. And the passion about fats in the year 1993 was extraordinary. It was, I think, we deluded ourselves into believing that if we could just get prominent labeling about fats and the division between saturated and unsaturated fats that people would read the label and wind up being svelte and happy forever. That did not turn out to be the case, and we probably erred, if we erred, we erred on behalf of the prevailing sentiment in the medical and nutrition community. And I would say also, looking back on those hearings and rereading some of the transcripts, we heard inspired commentary from just rank and file individuals. And that's

what we need to hear again. They weren't necessarily nutritionists. They weren't physicians, but they were impassioned about the problem of not being able to look on the label and find out what was in the food, from a nutritional point of view.

And then what opportunities are there to develop healthier foods and what can FDA do to reduce overweight and obesity. Within our authority and within what expect FDA to do, what can we do?

Now, the stakeholder engagement, we've already--I mentioned these first two meetings, of course. We're having a consumer roundtable to follow this up. All of these meetings are open to the public. They're not--we're not sequestering any group. And then we're having the medical community roundtable, and then the Secretary's Prevention Summit is in early 2004. And Ann-Marie and others in the Department will be heavily involved in that. And I suspect that our report, if it's well received, will be major part of that.

The qualified health claims initiative also is part of this. That came out of the first task force that Joe and I headed up.

Putting more information on the food label, stimulating competition based on health effects, a part of that. Increased consumer consciousness of food's impact on health.

We think we're getting there. Commissioner McClelland has, again, made a number of speeches in various sectors, particularly within the medical community, and he's proclaimed, convincingly, that, of all the things that FDA is inspired to do and required to do, that prevention through nutrition is probably the most effective public health tool at our disposal.

You can mention vaccines as something that's very important, but no less important is nutrition and nutrition information.

We have to meet three conditions. We have to have some degree of scientific evidence for health claims. It has to be pre-approved by FDA, and the labeling cannot be misleading.

Now, at this point, I'm going to pause, with gratitude to the Chairman and to everyone involved in this, particularly the audience; and introduce Tom Philipson, who is an economist working at FDA, on a sabbatical, who has

brought commonsense, good judgement, and fine taste to the Food and Drug Administration. He's from the University of Chicago, and, Tom, it's all yours.

FRAME WORKSHOP AND CHARGE TO PARTICIPANTS

DR. PHILIPSON: I'm going to be very brief, sort of setting the charge of the conference and also taking care of some logistical details because I'm going to be the main time police once we get going here, to discipline people to stay within their time.

As Lester mentioned, the Obesity Working Group has organized this conference. This is part of--this is a part of the effort of the Working Group, which, again, was launched in August, and we'll have a final report in mid-February.

And in sort of setting the stage for today's conference, it was--we sort of came to this with a belief that the emphasis should be very much on the science as opposed to sort of opinionating around the topic. So, we're really interested in what people have to bring in terms of facts to bear on this topic of labeling obesity.

We're coming to the topic of labeling obesity in a sort of--on the Obesity Working Group in a sort of

perspective where we're currently labeling products. And, for good or for bad, that's very difficult for some consumers to be able to handle, to learn about their diets, which are daily diets or weekly diets, in an efficient manner. So the type of labeling that we currently have is sort of not as consumer friendly, if you want, as you would like it be in order for people to understand the impact, in particular, for example, the caloric impact of their diet, and the [inaudible] on obesity.

So, the conference was organized to try to understand, better understand, how current labeling is actually used by people in managing their weight and also whether new forms of labeling can help them do so better.

And, as you noted on the program, we've included restaurants in this conference. And the whole basis for that was that we wanted to think about, in a constructive manner, how to go from product-based labeling, which we're currently doing, into higher level labeling of meals, which could potentially more easily be used by consumers to learn about their diets.

So, as Lester emphasized, this is not a blame of a restaurant in any way or another. It's all about trying to

facilitate for consumers to learn about their overall diets instead of using current product labeling to go up on a more aggregate level by potentially thinking about ways in which information could be provided, whether through the private sector or public sector, about their meals or potentially about their overall diet.

So, in that--with that background, we have sort of two agendas within that--we're considering the package foods, both in the morning and the afternoon, and then additionally, we're considering restaurants, which is, of course, sort of the new area that we're trying to learn about here.

There's going to be a report of this conference that will most likely be part of the final report of the Obesity Working Group. But also we're accepting comments for the conference until December 12th, and there should be a web site in the packet indicating where public comments are available.

We're particularly interested in those for the morning session, because there will be--due to time constraints--there will not be any public comments or public participation or audience participation in the morning.

There will be some limited audience participation in the afternoon regarding the panels.

There will also be a transcript of the minutes--or minutes of the conference also on a web site provided in the packet.

With those logistics in place, I'd like to start the program, and, like I said, I will be sort of prodding people. There's a pretty--very tight schedule if you open the program, you'll see that we have a lot of speaker to go through, both in the morning and in the afternoon.

But I'd like to start off with introducing Christine Taylor. She's Director of the Office of Nutritional Product Labeling and Dietary Supplements in the Food Center for Safety and Applied Nutrition at FDA. She will talking about current FDA food labeling policies.

"CURRENT FDA FOOD LABELING POLICIES"

MS. TAYLOR: Good morning and thank you very much. It's indeed a pleasure to be here, and I confess I'm going to need some technical help to get my program up.

I'm pleased to be here despite the fact I have the rather daunting task of in 15 minutes trying to set the whole context for the label and what it does in terms of

calories. So, bear with me as I try to set that context, because I think it's an important.

UNIDENTIFIED SPEAKER: Use the wheel. Go down.

MS. TAYLOR: Excuse me, I'm doing a remedial read. If we can start at the beginning. Great. Thanks an awful lot.

Anyway, please do bear with me as we try to make a kind of contextual background for the discussion we'll have today. I think it's always good to start off with a few simple definitions, and that is the fact that when you say "the label," you're really talking about a lot of things. There is, of course, the nutrition label, which is the infamous facts panel that I suppose most of us are very much aware of, at least those of use that work at the agency. It's a required component of the packaged food label in the U.S. It had its start really for very different reasons than perhaps we're talking about today in 1971. But it really got its basis in 1990 with the Nutrition Labeling and Education Act, which allowed the agency to create this mandatory component of the food label.

With that, we also got voluntary provisions for claims on labels, which I think also plays a role in some of the issues we're tackling today.

But when you do say the label, just to keep in mind there are other things that are part of the label. You have product identification. You have ingredients statements. You have manufacturer contact information. You have other statements on the food label; things such as may contain peanuts, and other things such as that.

So, the label itself is a fairly diverse unit.

What I'm going to try to do today--these are my touchstones--is to give you a little bit o the conceptual underpinnings for how the label got started in 1990, talk specifically about the current provisions for calories, and then, at least from my perspective, talk a little about what we've been hearing and what the future might hold in store.

Again, background definitions just so we are all aware we're talking about the same thing.

When you talk about food labeling, you have the packaged foods component, which is under the purview of FDA. And it is generally required, with some exceptions.

You also have labeling on raw meats and poultry. That is withing the U.S. Department of Agriculture. Labeling for fruits, vegetable, and fresh fish is a kind of voluntary program. It's voluntary unless it's not done. So, it's a hybrid in many ways. And that's implemented through the use of poster signs, placards, where fresh fruits, vegetables, and fish are sold.

And then there is the issue of restaurants. NLEA, the Nutrition Labeling and Education Act, did not direct the agency to do anything about restaurants. And currently, there are no provisions in place for restaurant labeling.

Probably the starting point for any kind of contextual background would be the nutrition facts panel. The theme, I think, we'll sound today, and you'll hear it from a variety of FDAers, is that a lot of work went into developing that nutrition facts panel, as well as the claims that were a component of NLEA. But there was a full recognition at the time that we were just beginning; that it was a flexible environment in which we were working. We were doing the best we could with what we had at the time, and that things would change. We would get a better understanding of how consumers interact with such things as

food labels; and that, in the future, there would be a set of issues that would need to be addressed in terms of how best to improve the label. And I think that's part of what's happening today.

Certainly, at the time research was done, the question is: was there enough research? No, there's never enough research done for any of these things. But a considerable amount of research was conducted at that time so the best possible label, as we understood it, could be put out. There was full recognition that to be useful, this is a label that had to be used on all packaged foods, and I can't emphasize enough how the universal mandatory requirement does influence what you can and cannot do with the label. And there was full recognition at the time that it was to serve as a tool for a variety of endpoints. It had to derive from the health initiatives we had at that time. But also there was considerable interest in its being stable over time so that consumers could have a uniform way of getting the message.

For those of you that need to be reminded what we're talking about when we talk about the facts panel, this is the shortened version of it. Larger packages are allowed

to--or required to have additional information. But this is basically the nutrition facts panel in its simplest form.

The conceptual underpinnings for the facts panel I think are important as we begin to think about the changes that might be in place if calories are a particularly important component or some other kind of information.

At the time, there was a great deal of interest in making sure that this tool, the nutrition facts panel, matched what were current recommendations for health initiatives. And so, examination of dietary guidelines, health recommendations from the Government, those things became the core component of the facts panel. And I do want to emphasize that many other declarations were allowed voluntarily; that there was not at all an effort to restrict it, but rather, given limited space, what was the absolute core amount of information consumers used, and then, at the manufacturers' discretion, if they wanted to list the 20 or 15 or however many nutrients that they felt were important for their product. The label had that flexibility.

The other component to keep in mind is that by going with what were the general recommendations put out by authoritative bodies that allowed the label to be stable

over time, but we recognized that those recommendations would change and that someday we'd gather in a room just like this to begin to talk about modifying the label.

Another important part of the conceptual underpinnings for the nutrition facts panel is a consistent format. I remember those heady days very well where the design people were probably as powerful as anyone else in the room in terms of how that label would look. There was considerable interest that it be the same kind of label for each and every food with the things in the same place so that consumers could use it as easily and as readily as possible.

There was a considerable amount of research done on the design, and one of the other components at that time was a complete realization that we were dealing with a lot of constraints in terms of space. And those were things that get lost sometimes in the shuffle as you think about the label. But it is being asked to do an awful lot in a very small space, and that's something to keep in mind.

Now, as we did think about the core component of the nutrition facts panel, we did think a considerable amount about the consumer interface. What we found from

focus group research was that the most useable information was, in fact, the numbers, coupled--and that's an important thing to note--coupled with some kind of context.

NLEA had told us to present the nutrition information within the context of the total daily diet. And that meant for us that we had to not just only give the numbers, because there was evidence in front of us that if you put the number 100 milligrams in front of a consumer, they're likely to read 100 milligrams as more than one gram. So they needed it in some kind of context. But quite clearly, what we got from the focus groups was consumer interest in having those numbers anyway. So you needed the numbers, and you needed the context.

They felt that if we used pie charts, pictures, graphic signals alone, they were somehow being manipulated. They kept saying give me the numbers. They wanted to feel empowered that they could make choices.

The context, though, we found was extremely important for how these numbers were then interpreted by consumers, and, as it says here, we coupled the numbers with the percent daily value.

That being the context.

Now, when we did the research in 1992, we did check to make sure that the percent daily value, given that any tool you'll use will have limitations and perhaps not work for all groups all the time, at least that the percent daily value was better than the other options we had available--bar graphs, pie charts, adjectival descriptors--high, low, medium in fat; high, low, medium in sodium. Quite clearly, the research at that time indicated that consumers felt much more comfortable with the numbers and felt that the pie charts, the pie graphs or whatever were in some way fooling them. We'd also found from earlier research that things such as stars and smiling faces and thumbs up and thumbs down, those kinds of things came out through the research we had as being vague, condescending, and childish.

So we were finding that the consumers needed some kind of numeric context; at the same time, we could see from how they were using the label and interpreting the label, that they needed a context.

We also were faced with the issue of some of our context being in the domain of a percent of calories; that many of the recommendations we had were being driven by your

caloric intake. We had gone then through the National Academy of Sciences' referenced daily allowances, dietary intakes, in order to try and come up with a number for calories. And when we did a weighted average of the Academy's caloric recommendations, we got a number in the neighborhood 2,300 calories. We did propose that number, but were convinced by comments that we should round it down. And so, as you can see from today's label, we're using as basis for the label, when calories are an issue, the 2,000 calorie diet. You do see it listed at the very bottom--whoops, the very bottom here, and then what it does say is the percent daily values are based on a 2,000 calorie diet. This is for a slightly label where they can also put the context of the 2,500 calorie label.

Finally, returning to conceptual underpinnings and the consumer interface, as we've worked with consumers in the food label, as much as you'd like to think that they would use the food label to build their diet, track it during the day, that's very unusual. You have to be a highly motivated person in order to use the food package for that purpose. And they get frustrated because frankly packaged foods are not the only thing they eat. You do have

restaurants and other sources of food that are not necessarily labeled. So, the notion that the label has to address someone keeping a diary, while it's a desirable endpoint, for some anyway, it's not really pragmatically how the label gets used.

What we've seen is that they use the label to compare two like foods. They use it to make a choice, which really when you look back at NLEA that was part of what the purpose of the label was for is to help consumers make choices. If they're going to eat cookies, they obviously compare, from what we've seen, two packages of cookies. They might compare ice cream to frozen yogurt, but they're not going to compare ice cream to frozen broccoli. It's just not a transition they make. And consequently, you need to keep that in mind as you think about it. If you're thinking about red lights, green lights, what does a consumer do if both bags of cookies have a red light on them? What they're really wanting to do is be able to compare them numerically. At least that is what they've told us now, and I think there's always room for more consumer research.

Lastly, in terms of conceptual underpinnings, the nutrition facts panel is a tool. It assists consumers in implementing dietary choices, and it was never intended to do the whole job. That's different than being able to do a better job. But there is an expectation that people come to the food label both motivated and perhaps informed. And we have to look at ways of how that interface affects flexibility in terms of modifying the food label.

Also, clearly, it's a tool for many purposes. Consumers vary a lot. Their interests vary a lot. Their needs vary a lot, and the use of the label undoubtedly varies.

One last footnote before we actually talk about the label itself if that the Nutrition Facts Panel is based on serving size. We recognized early on that when the food label was being constructed, the nutrition information had to be presented per some amount. And, for a long time, there was a considerable exploration of per recommended serving sizes; that it would be incumbent on the agency to develop recommended serving sizes. We explored that option and ran into incredible snags from someone saying, what do you mean you've got a recommended serving size for

cheesecake, all the way down to what would that mean for a single label value.

So based on notice and comment rulemaking, as well as our own efforts, we found that per recommended serving size was not a very viable option at that point in time.

The other option that was also considered was per unit measure. Many of you who may be familiar with the European approach to labeling, it's in the domain of 100 grams. Our tests indicated that consumers, in fact, had trouble with the per 100 grams because per 100 grams of soup is not necessarily is per 100 grams of cookies. And so there was a comparison issue.

What we ended up with was on amounts customarily consumed, and we had to go to existing food consumption databases and, through an incredible resource-intensive effort, try to get average serving sizes for the data we had from the 1980s.

By necessity, this is a very complicated, but critical, component to the food label, and it had to go across the food supply. So, the notion here that serving size is an easy thing to fix is something I want to just put

on the table. But there are some questions about serving sizes that I think do need to be addressed.

We have definitely had limited resources, and I would venture a guess that there are a number of products out there that are inappropriately labeled for our own rules, and we do need to up our resources to try and take care of that. We do recognize there's been a change in manufacturers' packaging practices. They're definitely using large single-serving containers than they were in the 1990s, when we set this up. And, while manufacturers can voluntarily declare the contents of the entire package for their nutrition label, many don't. So, there's a question of what we need to do about that requires such declarations, and then, of course, go back and consider in the last 10 or 12 years are Americans really eating a lot more and do we need to reconsider what we've got for serving sizes.

Let me then just quickly so that I run out of time and eat into Sue Borra's time, I'll go through then what we do have in place for calories on the food label.

Starting right off, you can have calories per serving, and that has already been mentioned by Dr. Crawford. It's there, but, at the time, there was a

considerable emphasis on fat rather than on calories. And we even included calories from fat. Also, at that point in time, we didn't put any context for the calories. There is no daily value for calories. So the question is, is there a need for more emphasis and do we need a percent DV.

Also it includes calories from fat. Just so you can visually see it, you have up in the very top of the label calories, and then calories from fat. And here it is within the context of the whole label. You see it up there under amounts per serving.

There is also the option or nutrition claims. Admittedly, they're done voluntarily, but they do exist. There are nutrient content claims, which characterize we've provided for calorie-free, low-calorie, which is less than 40K cal per serving, and, of course, the infamous if it's low in calorie naturally, then it needs to make reference to that. Celery a low-calorie food.

We have comparison claims. Reduced calorie, an example being 25 percent fewer calories than our regular yogurt. So, you have not only the facts panel; you have these claims.

There's also, too, the option for other information for nutrients that would contain, the maximum nutrients that would contain calories. There are declarations for fats, carbohydrates, and proteins, but you also have claims for fat, fat-free, low and fat reduced, lite, and claims related to sugar.

Finally, before I end, the notion of health messages can't go unmentioned. There is, of course, always within the NLEA, the option for health claims, which is about a relationship between a substance and a disease. None are now specifically authorized that I see as being specifically related to the obesity problem, and I guess the question I have is how attractive are these really. A claim such as low-calorie diets may reduce your risk of obesity may not be what's most grabbing for consumers.

We may need to look more at dietary guidance messages, things along the lines of food patterns. Diets rich in fruits and vegetables may help you avoid overweight, and those are options I think the agency very much wants to put on the table as a way of exploring the obesity communication issue.

Finally, my last two slides. I do want to point out we have some lessons that we learned in developing the food label, and that is very clearly anyone who worked on the label will tell you that there was a plethora of commonsense suggestions that made a lot of sense as we sat and listened to them for how the label would be developed or implemented. I can't emphasize enough the importance of research here. We had such surprising outcomes when very logical things blew up on us, and I think that's because the label doesn't operate in a vacuum. Consumers did need to feel empowered in using the label. They were not entirely comfortable with a no-brainer approach, and I think we have to be careful of that as we consider our options for the future. But skepticism crept in the strangest of ways. A health claim on lasagna was not sellable to people. They would accept a health claim on yogurt, but not on lasagna. Lasagna is not a healthy food from their perspective, at least the research we had in front of us.

The message about transfat that was tentatively put out by the agency what it did in terms of detracting from the larger effort on saturated fat. So, there's a certain need to be wary as you move through this. There are

strengths to the label; that it's consistent and generally effective, and its format is very iconoclastic, if you well, or iconic. And it has sustained itself over time. Its weakness is, and this is the message I do want to leave you with, is that the calorie signal on the food label is not as strong as it should be and certainly as it could be, and that we do need to think about matching calorie declarations with this newer packaging. There are suggestions offered to FDA. They're not, in any way, meant to preclude a larger discussion here, but just so you know that we have been receiving messages from groups such as this. Larger type size, bolding, more space, why eliminate the percent calories from fat--is that really any longer appropriate. Provide a context for calories. Look at an accompanying graphic. If people like numbers and are having trouble with the context, take a look at that. Address the single-serving containers, which can be very misleading to consumers and encourage health messages.

The challenge, as I see it, is to sharpen the calorie signal without losing the desirable components of the food label.

So, thanks a lot, and I look forward to hearing the discussions today.

[Applause.]

MR. PHILIPSON: It's going to move right along. We have Sue Borra. She's Senior Vice President and Director of Nutrition, International Food Information Council.

"CONSUMER INTERFACE WITH THE FOOD LABEL"

MS. BORRA: Thank you very much, and thank you for the opportunity to talk about my favor subject, the consumer and how they interface with not only nutrition, but certainly the food label. And thanks to Chris, because she set an excellent stage to then take it from the standpoint of let's look at the consumer and how they are viewing this. What's going on in their world, and what are some of the consumer realities that we have to keep in mind.

And I did congratulate the meeting planners for putting the consumer right up front in these discussions, because if we forget our ultimate audience being the consumer, we will not succeed in this endeavor.

To understand that organization that I work with, the International Food Information Council, our mission is a communications mission. We want to communicate science-

based information on nutrition and food safety. And the work that we do is supported by the broad-based food and beverage and ag industries.

However, to do a good job in communications on nutrition science and food safety, we have to do consumer research. And IFIC does a tremendous amount of consumer research, as well as looking at consumer research that's out there and available that we can learn from as well.

So, for today, what I would like to share with you very quickly is talking from the consumer perspective, what do consumers currently believe about nutrition and healthful eating. Where are they at in that continuum of information and knowledge? What do they say about using the food label? What are they telling us that they're doing? And, I think the final and most important question that we have today: can consumer understanding and use of calorie and serving information on food labels, can that be improved and what do we have to do to get there?

So what are consumers' beliefs about healthy diets? I think this looks like the typical consumer in the grocery store, trying to figure out what to do for that afternoon meal or evening meal, and the questions that they

come up as they're facing the food shelves: things like I can't eat any dessert snack foods or my favorite foods. If it taste good, it must be bad for me.

Healthy eating takes way too much time and then 30 percent of what? So that gives you an idea of how they are faced with decisions in the marketplace.

From the FMI consumer trends, this is the 2003 data, a general question was asked of consumers: how concerned are you about the nutritional content of the foods that you eat? And in this year, we saw, what is that, 92 percent of folks saying that they were either very or somewhat concerned. But it's important to look at this trend over a period of time of how people have been relating to issues related to nutrition. This is the trending of the folks saying they were very concerned since 1990. You see it reached a peak of concern, if you will, in 1992, at 64 percent, and we've been hovering around the mid-50s. But it means that we have a receptive audience to nutrition information.

Probably more importantly about this question is what is it specifically about nutrition that concerns you most, is the question that's asked. And this is an unaided

answer. They can answer anything they want. And, for the most part, dietary fat, the concept of fat, is still top most in the mind of consumers when you ask that question.

You seen some changes over the years; however, fat is far ahead of anything else in that lump of the list towards the bottom. As you can see, calories is the purple circle, and that's still not as top of mine as dietary fat.

So, if we're talking about issues about obesity and how people can manage weight, we're going to need to see that calorie information and interest move up.

Now, consumers--the good news is that they say that nutrition and diet are important to them personally. Eighty-five percent--that's a high level of folks--saying that they think this is very important, and this is from ADA trend survey that was released last year.

However, when you talk to them about are you making significant changes to achieve a healthful diet. Less than a third say that they're really able or making that change to do something. So, we find that there's a high level of interest, but the ability to put it into action is the key that we have to understand and understand

how can we bridge that gap for consumers. How can we help them do a better job?

And those of you who do focus group research and work with consumers, this is the common thing that you hear. They believe it's highly confusing when you talk about nutrition, and they always talk about--and "they." I always put "they" in quotes. Who's that? "They" keep changing their minds. This is exactly what they tell us all the time, and this is what they're faced with on just even on bookshelves in terms of how to eat a healthful. Everybody has a different answer they feel.

Now, what are consumers views on weight and health, because I think this is important as we're talking about this idea of weight management and how they're going to deal with this is in a labeling context. And this year, my [inaudible] Foundation did conduct some consumer research with adults on how they were approaching this whole issue of weight and health. And some of the things that we found in this qualitative research is first of all that consumers do have a broad view of health, and it includes things like weight management and weight control and wellness. But it's a very broad definition for them on health. They see that--

they have a commitment to healthier living to improve their overall life adjustment, and they think that this needs to be something that they have to do to make it last. So, while we still have an interest in quick fix, when they really start to think about it, they know it's about lifestyle. They know it's about commitment. And one of the quotes there, it's really a commitment to overall lifestyle is what we heard them talking about.

Interestingly out of this research, we talked about information needs, and consumers are feeling overwhelmed and bombarded with information. They actually told us, I think we know what we're supposed to do. We--I have information that I know I'm supposed to eat better. I know I'm supposed to get more physical activity. But I'm not doing it, so please help me get to that point. And it's things like motivation, helping them give the tools, the how-to's, versus just general information; and they said that they would hopefully then be able to do it in both terms of nutrition and physical activity.

Some qualitative research that we conducted this year, getting into--we were actually doing some research on how they were perceiving transfat labeling information, but

in getting them ready to talk about it, we asked how often did they look at the list of ingredients and nutrition information when deciding which foods to purchase or eat. And certainly, 54 percent said they always or almost always do it in at least in this context; though about half of them do, half don't is probably what the answer is.

We asked them what kind of information were they aware of on the food package label. And this was interesting to me were--can--the caloric information actually rated higher than the dietary fat information. On other surveys that I've done in the past, when you talk about food labels, they usually talk about fat first. And this was one of the first times that I heard them talking about calories first, so that's showing that there is some changes that are occurring in the mind set.

And then we asked which of the following contents listed on the nutrition label do you consider when purchasing a food, and this was another interesting fact that calories did come up on top. Calories and fat were the top two, but they were definitely up in there, and calories did rank.

Another fact from FMI trends of last year--consumer knowledge and use of food labels. What do consumers say they're doing. Well, almost 80 percent said they are looking for and purchasing low-fat products so that fat concept is still out there. And 54 percent said they've started purchasing a product due to information on a food label, just another way to look at how they're using this information out there.

But while we're talking about nutrition and health, I think this is one of the most important slides that I can put out all day; that the reason folks choose foods, taste is the ruling component of it. We can have the greatest nutrition information and motivation in the world, but if the food doesn't taste good, it's not going to make it through the consumer's purchase habits.

Now, the concept of consumers understanding and use of calorie and serving size, and there is lots of information out there for them. There's lots of resources, but this is where I think we have a huge void in consumer research and consumer understanding, and that we are going to have to do this research in order to be able to be helpful in this process.

Last year, the Dietary Guidelines Alliance did some research on consumers and portion size and serving size. Just a couple of quick findings from that.

Consumers use those terms interchangeably. Portion size, serving size, they were aware of these terms, but they were not concerned that they were that much different. However, some would talk about it and say, a serving size is what somebody's recommending me to eat, or a portion size is what they actually do eat. Very interesting in this research: a lot of folks had really strong recommenda--feelings about who the heck is telling me how much food I should eat. It was almost indignant about who are they to tell me how much food I should have in my diet, which we found that was very interesting and something that we're going to have to deal with as we come up with information for consumers. And one of the consumer comments here: I think it's equal. If you take a portion of chicken, that's a serving. One serving equals one portion. However, another consumer said: when they say serving size, typically that's smaller than an average adult would eat. But a portion for me, if it's something I like, might be the whole plate as opposed to the portion for somebody else.

They looked at, and I think you'll find this in many research about consumers, is that they talk about serving size information on nutrition facts panels as being impractical, and they don't really say--they say they don't really use this information unless they're following a dietary regime. They talk about it in terms of if I was on a special diet, or if I was really trying to reduce my weight, I might use that. But most people, even if they're overweight, don't think that they even necessarily have to be in that category.

They didn't feel that it was representative of what people eat. Here's a great quote: the serving size on the box is always too small. It's more for a child. You got itty-bitty servings. And then when you--they say, if I think you're trying to watch your weight, then the serving size guidelines will be very helpful. If you're not counting calories or on that type of plan, then they're not much use.

So, in this need for consumer research, what are some of the questions that we need to look at? How do consumers, how do they actually really utilize calorie information on a food label? Do they understand this

concept of energy balance or what can--does energy balance understanding really help them in any way? Can calorie information on a food label, can it impact behavior? Will it make some--help them improve their caloric intake? Are there ways to more effectively communicate calories in the context of single-serving, multi-serving packages that makes more sense for consumers? And then what messages about calorie and serving size would be truly motivational, not just informational, helping them to bridge the gap between what they know and what they're doing. And, in fact, I'm very pleased that GMA is going to make--Grocery Manufacturers of America will be making a grant to the IFIC Foundation to conduct this research that we're hopeful to begin in the beginning of the year, so we'll be able to share that with our colleagues.

So, in summary, I think these are the key points I'd like to take away with today that consumers are telling us that nutrition information is important, but they are certainly telling us that it's difficult to achieve healthful eating; and certainly the statistics on where we were on overweight and obesity bear that out; that they tell us that they are using the food label in making their food

decisions, so it still has some relevance in use in today's consumer world. But I do believe that we do need consumer research to understand how consumers are using calorie and serving information and how can we make that more relevant and useful for the consumer in the future.

Thank you very much for the opportunity to talk today.

[Applause.]

"FOOD INDUSTRY PERSPECTIVE ON CALORIE MODIFIED PRODUCTS AND FOOD LABELING"

MR. PHILIPSON: Thank you very much. Next speaker will come from industry, which is we're very happy to have here, and there's a lot of discussion on what consumers want in terms of both foods and information. And, as opposed to my job, where my income is not dependent on delivering what consumers want, industry actually has that contingency. So we're very interested in learning from them.

We're going to hear from Robert Earl, who's going to talk. He's the Senior Director of Nutrition Policy at the National Food Processors Association, and he's going to talk about the food industry's perspective on calorie modified products and food labeling.

MR. EARL: What do we have to do to--anyway, while they're getting the technology up and running, I want to thank the Food and Drug Administration and the Department of Health and Human Services, Dr. Crawford, and Ann-Marie, and the FDA Obesity Task Force for convening this important workshop to discuss these topics today.

I'm with the National Food Processors Association, and we are the principal scientific and trade association representing the broad base of the food industry, focusing on food science, food safety, food security, nutrition, and health. And we have four locations: here in Washington, D.C. Our laboratories and support facilities in Dublin, California, and in Seattle, Washington, and also in the past year we have opened an Asia office in Bangkok, Thailand to represent more global food interests in science and technology.

What we're involved with doing? We're the voice of the $500 billion food processing industry on science and public policy issues, on the issues ranging from food safety to nutrition, technical and regulatory affairs, and consumer issues.

Our members produce the widest variety of food products, from foods packaged and processed ranging from containers of glass cans, et cetera, from beverages through dried, and boxed and canned other products. And also our members include suppliers of technology to the food industry.

We represent the food industry on issues such as obesity, food labeling, food science and technology issues, and provide research technical services, education, communications, and crisis management support.

So the food processor's role in food labeling and also its use in weight management. We produce a full range of high-quality nutritious food products for American consumers. These products meet consumers' desire for health nutrition, convenience, taste, and value. And just underscoring that taste and value are up there at the top of the list, as Sue has mentioned, but also we're very much involved in responding to consumer needs related to health and nutrition.

We're firm believers nutrition facts and other label elements provide information that is there to be able to make caloric choices and choices among food products.

And this is via on and off package nutrition education messages, not only through information that our members use on food products, but also in other advertising and marketing.

Back right around the passage of the Nutrition Labeling in Education Act, NFPA was a leader in education about nutrition information on foods. We led initial efforts about using nutrition facts for food choices in our label facts for healthy eating program. This was a joint cooperative effort reviewed by the Food and Drug Administration, and by the U.S. Department of Agriculture.

And just to underscore, again, that all food products, virtually all of them, carry nutrition facts information. And this was a key effort in putting the "E" in the NLEA, as several of our government speakers have already this morning, and to provide a synergy between government and industry in overall labeling and education efforts.

But again, Chris has used the food label, and just to highlight, based on the topics that we're looking at today, the red circle. Serving size information up at the top of the nutrition facts panel. Calories from fat per

serving. With it, where I have the green arrow and circle. And dietary pattern information--that's okay, I think--given the time, don't need to turn around. Dietary pattern information, down at the bottom when the full nutrition facts label is used.

But one of the other areas that Christine discussed earlier this morning was that we have foods, and they are used in dietary modification. The food industry has responded to consumer concerns and abundant options to meet diet and health needs, and these are done principally through the use and formulation of all food products, but also through the use of tools in nutrient content claims that appear on food products. And we have nutrient content claims that help consumers make choices, such as healthy, lean, light, and lite related to fat and calories. And we have reduced and low related to calories, fat, saturated fat, and sodium.

It's very difficult to assess the numbers of products that are sold in the marketplace, but it is very clear: all you have to do is to walk into a supermarket, open a consumer magazine, listen to radio, or watch television, and you know that there is an abundant and

strong and vibrant sector of the marketplace in these types of calorie, fat, and other modified products for diet and health.

And it's very important to underscore that the use and understanding of nutrient content claims on food packages is a very important aspect and key part beyond the nutrition panel in helping consumers make choices.

Now, Sue has talked about use of food products and consumer beliefs related to the importance of nutrition and health, and I want to just highlight a couple of different sources of information to look at how consumers use and feel there is an importance related to calorie information.

And this information comes from the Calorie Control Council lite product survey. Consumers prefer descriptors on these food products: low calorie at 32 percent; sugar free, 29 percent; reduced sugar, 23.9; and diet at 13.8.

But what also is interesting how different sectors of the population perceive and utilize these terms. Individuals on diets and older adults preferred sugar free as the term for signaling calorically modified foods, and adolescents preferred low calorie.

Again, other findings: they also ask questions about fat descriptors and fat free was highest in recognition and preference and then low fat, reduced fat, and lite hovered around 20 percent each. But overall, in both categories, for fat and for caloric information, approximately 78 percent of consumers felt that nutrient content was very important in making food choices.

And looking also at nutrition and self help. Prevention Magazine and the Food Marketing Institute in 2001 did their shopping for health survey. One in seven consumers feel that eating and choosing foods is important to staying healthy. Seventy-percent of consumers believe their diets could be better.

Barriers exist over confusion about nutrition, cost, and convenience outside of the supermarket. And some of these barriers perceived by consumers. There was a perception that healthier foods are not readily available outside the grocery store. Healthier foods may cost more. Inconvenience of preparation and their desire for pre-prepared foods and innovative packaging.

There was also this confusion that appears in the media and the scientific literature about the ongoing debate

and evolution of nutrition and health information; that we have one study saying one thing one week, and the other saying something may be bad for you the next week. And there's consumer confusion about changing health and nutrition messages.

But in looking at how the industry has responded, I think it's important to return back and look at some of the experience in food product development and bringing foods to the marketplace. And one of the areas where there was collaboration and response by the food industry to government recommendations is to look back at the Healthy People 2000 objectives.

Objective 2.15 in those objectives requested that the food industry increase to at least 5,000 brand items the availability of processed food products reduced in fat and saturated fat. The baseline was 2,500 food products in 1986, as they were developing the health objectives for 2000 and the decade beyond.

But interestingly, by 1991, there were 5,618 products, a growth of over 125 percent. That category continued to grow across the decade, and this one of the few objectives that was met in the Healthy People 2000 series.

And I think this underscores that industry can respond, both to consumers' desire for healthful foods and information about diet and health, and also to government requests to build healthful diets and to help educate consumers.

But when we look at Healthy People 2010, we no longer have an objective for modified food products. There are weight and obesity goals. We have a breadth of food consumption goals, both to increase consumption of foods and to decrease other categories, very consistent with the dietary guidelines for Americans' messages.

There's also not really a calorie message in the Healthy People 2010 objectives. But there are also other areas related to physical activity and other lifestyle factors.

But, again, just to briefly go through some of the issues of what we're confronted with in dealing with preparing food products for the public to help modify and make diet and health selections and also to address weight issues.

We have a growing problem of overweight and obesity in America. It's also a growing concern in the international arena, but it's very complex.

Food is often seen as the target. Processed foods, restaurants, and fast food. But I think we all can agree, and, as we heard from Dr. Crawford this morning some of the government's role, but there must be a concerted effort to look at this on all fronts, from a biological, medical, environmental, behavioral, and educational arenas in nutrition and health, and looking at obesity and weight management. We cannot overlook that it is both nutrition and physical activity that are important. Also, information is needed about how to eat and how to build healthful diets and incorporate them into healthful lifestyles versus the good food bad messages and what to eat issues.

We need to avoid and underscore that we need to avoid the good food-bad food concept. But education has been stated by our previous speakers, and we concur that it is important and needed by all parties--government, industry, health professionals, and consumer advocates. Because, again, what is essential for healthy weight? It's that balance between nutrition and physical activity.

But it goes beyond that. There are other factors in the nutrition and obesity paradox: environment and biology, genetics, environment and behavior, prosperity versus poverty, knowledge and unknowningness, awareness and unawareness. Other factors in this paradox: time versus no time. We're all very active we say, but is that really that we are busy. There's care versus apathy. Social activities versus--excuse me, physical activities versus sedentary activities and behavior. Information and no information. And societal aspirations versus stagnant process.

Again, to underscore at NFPA and our members, we believe that we need to move forward and look at how to eat, not what to eat.

But again, the food industry response: over the past several decades in meeting consumers' desire for diet and health. In the '70s and '80s, there was a focus on sodium, fat, and cholesterol, and we responded with modified products.

In the '80s and '90s, fat saturated fat and cholesterol continued, of course.

In the 1990's and early into this new millennium focus on transfat. But also as we embark in the new

millennium, we're in sort of a dietary limbo at this point, between fat and carbohydrate. Which is best? Which is maximized? Which is minimized in diet? Science is evolving, and the debate will continue.

And for 2000 and beyond, there needs to be a continued focus on health and wellness, look at overall diet and calories and also the energy balance issues.

So now, what are some of the food label issues? Christine Taylor, this morning, did talk a bit about this, but I want to underscore that, from our perspective, we agree that perhaps the architecture of the nutrition facts panel needs some revisiting. Need to look at what the appropriate focus is on fat and heart disease risk reduction. Does there need to be a change or amplification of calorie information?

Again, any food label modifications require intensive consumer research. We need to go back and revisit and look at the issues from the past, when the label was developed, and build upon those in any future research.

Also, nutrition and lifestyle education in the broad sense, whether it be through dietary guidelines or

through the government's Healthier U.S. initiative, need to use information tools like the nutrition facts panel.

You know, we know that consumers, although it's beginning to change possibly, consumers focus on the middle portion, on the macronutrient parts of the food label. And there's not as much focus on the information on servings and calories at the top of the label. These are some of the architectural issues that may need to be addressed to think about the use of the label as a weight management and toward healthy weight tool.

There's no daily value for calories. You have calories from fat, but not a huge contextual message, except for looking at the top and the bottom of the label, to put those two together in looking at overall diet.

Also, like to say that in the next few weeks, I believe, we should expect the report of the National Academy of Sciences' Institute of Medicine's Food Nutrition Board Study on use of the DRI, information on nutrition labeling and food labeling information, and perhaps their principles and recommendations may be very useful in this debate as well, as we move forward.

But the National Food Processors Association and the food industry should look at believing that there's a synergy of information here, using nutrition facts as a tool to build healthful diets, make food selections, and then combine that with the messages in the food guide pyramid and the dietary guidelines so that consumers can build healthful diets and live healthful lifestyles.

But there's another issue here as well. When we think about the issues related to serving size, there is the disparity between the nutrition labeling information about serving size and serving size as articulated in the food guide pyramid. It is our opinion and belief that there should be a move toward trying to harmonize those two items in the direction of commonly consumed and household unit amounts that are used in food labeling to most--provide most benefit to the American consumer.

Now, to conclude. We do believe that already the presentation of nutrition information on food packages is ample, is abundant on almost all food products and available at point of purchase for many fresh products, and that expands both into the areas of FDA jurisdiction, as well as USDA for meat and poultry.

Education about diet and health is paramount, and this goes beyond the food label.

We need to maximize the synergy between dietary guidance and food guide pyramid messages by using label information.

We need to focus on development of positive messages. Perhaps with the work of the other FDA task force on qualified health claims and consumer messages to focus on positive messages to deliver to the consumer about how to eat, not necessarily so much what to eat.

And we need to provide a climate for actionable behavior change.

Again, the food label provides information, but it does not provide education. Focusing on labeling of single nutrients or food components alone is not going to solve the obesity issue. Learn from past experience with the nutrition label and carry that forward with future research so that we can learn and revisit those important things that Chris described this morning when the format research was done in developing the current food label.

Thoroughly test and evaluate any changes with consumers to ensure that they can use the information as a

tool for making decisions about food choices and then to incorporate them into their diets.

And finally, the "E" in the NLEA cannot be overlooked, even though it is a decade beyond that time, government, industry, health professionals, consumer groups all need to educate and be part of that and really move ahead in educating about diet and healthful lifestyles. Thank you very much.

[Applause.]

"HOW DOES NUTRITIONAL LABELING AFFECT CALORIC INTAKES?"

MR. PHILIPSON: Next we'll hear from the academic community. We're going to hear Rodolfo Nayga, who is a professor of Department of Agriculture Economics at Texas A&M University. He will speak on how does nutritional labeling affect caloric intakes.

DR. NAYGA: Thank you. I'm pleased to be here. What I want to talk about today is part of our research that we did a couple of years ago on determining whether use of nutritional label has an effect on the quality of the diet and on caloric intakes from fats and saturated fats.

this morning, are associated with poor diets. Diet-related health conditions cost society a lot of money; right? Not only in medical costs, but lost productivity, because if you get sick you can't work, obviously.

And we're not proud of this, that we lead the world in terms of this global epidemic; right? I have given a similar talk around the world, and they all are amazed at overweight we are here in the U.S.; right?

These are just some interesting figures, or numbers, if you will. It says here the average number of daily calories successful weight losers probably eat, 1,800. Number of calories in a plain cinnamon crunch bagel, 510. I was amazed by that as well.

But what's interesting is I think the last two over there, it says the diameter, in inches, of a typical restaurant plate 20 years ago, 10. And diameter in inches of a typical restaurant plate today, 12; right? Serving size obviously. This is just to show you that, indeed, the top causes of death are diet-related, so if you can only improve our diet a little, we could save a lot of lives and money, as well.

It costs the food industry a lot of money to do these nutritional labels in the past. So the issue is really pretty simple that we wanted to examine. We wanted to know does it really affect consumer choice; right?

So what we wanted to know, was we wanted to know the effect of general nutritional label use on consumers' intake of selected nutrients. And, for this presentation, we're focusing on calories from total fat and calories from saturated fat.

But I agree with Robert that we also need to, I think, examine the overall diet; right? Not just particular nutrients.

So we also wanted to know the effect of nutritional label use and health claims on the overall diet quality.

In terms of empirical framework, we used Stigler's Economics of Information Search, and a lot of studies have been conducted in this area, which indicated that some variables need to be--are important, indeed, to be examined, as well.

In addition, for your--those of you who are economists, obviously the famous health demand production

model of Grossman is what we used here. So, basically, we're using nutritional label as a choice variable in the utility maximization routine.

The data is from USDA. It's the Continuing Survey of Food Intakes, the CSFII. And we had a sample size of 5,400 nationwide--national sample.

What we did here was examine the relationship of diet between label users and non-label users. And since the characteristics, we found out, of these two groups are different, we had to correct somehow for that econometrically. And really, so this slide is just showing that we did some sample selection models between label users and non-label users, and useful information--maximum likelihood estimation.

This is just to show you as well how we calculated these net impacts of label use, between label users and not label users.

So you're probably asking, how are we going to examine or measure the overall quality of a person's diet? Well, that's a dilemma, but luckily USDA has this measure called the HEI, the Healthy Eating Index, which measures how well people's diet conform with recommended healthful eating

patterns. And this index represents a sum total of 10 different components. So it's an index from 0 to 100; right? Each component will have a range of 0 to 10.

Components one to five measure the extent to which a person's diet conforms with the food guide pyramid recommendations; okay? The sixth component measures fat consumption as a percentage of energy intake. The seventh, saturated fat as a percentage of energy intake. This is just the food guide pyramid. The eighth component measures total cholesterol intake. The ninth measures sodium intake, and interestingly, as well, they included a 10th component, which reflects the variety of a person's diet; okay?

So this is the HEI. It's an index from zero to a hundred. And from this sample that we had anyway, we found out that the average HEI in the U.S. population, as represented by this sample, is guess what? You'd probably say 80; right? No, it's 60s, in the low 60s.

Now, USDA has said that to be considered a health eater, that the minimum HEI must be 80; okay? So we're way below the recommended level or threshhold level.

So these are results from our econometric models; okay? And this is the percentage of calories from total

fat. These are for the non-label users. We found that age has a non-linear effect. It increases positively, and then it declines at a certain age level. We found, at least for the non-label users, that females have a higher percentage of calories of total fat than males by 1.6 percent. This is on a daily, average daily basis.

The whites greater than the others, which are the non-Caucasians and the non-African Americans, by 4.8 percent. Interestingly, employed individuals greater than unemployed by 1.5 percent. Suburban greater than city residents by 1.6 percent on a daily basis. Western residents greater than southern residents by two percent. Regular exercisers greater than non-exercisers by 2.2 percent.

However, there is some--

[End of Tape labeled Side 2]

African Americans higher than whites by one percent. And whites higher than the others, which would include Pacific Islanders, American Indians, Asian Americans.

Non-metro residents greater than suburban residents by 1.6 percent. Midwest greater than southern by

one percent. Those who are not on special diet greater than those who are on special diet, as recommended by a medical doctor, by 4.7 percent. So that's pretty high.

Smokers greater than non-smokers by 1.3 percent, so there's a correlation there between this health behavior.

Non-exercisers, as well, greater than regular exercisers, by 1.4 percent.

Now, these are for the label users in total fat.

We also--non-vegetarians, I think this is pretty obvious, have higher percentage calories from total fat than vegetarians by three percent.

We also examined saturated fat, and these are for the non-label users. Age, non-linear. Whites greater than others. Schooling in years had a positive effect of .10 percent per year, ceteris paribus.

Midwest greater than southern residents, .8 percent. Those not on special diet higher than those who are on special diet by 1.5 percent. Regular exercisers higher than non-exercisers by .6 percent.

And then these are for the label users. The whites greater than others by 1.6 percent. Non-metro residents greater than suburban residents by .6 percent.

Schooling in years now, interesting you have--it has a negative effect. But perhaps we should have included a non-linear component to this, and I think we're going to do that, because I'm curious, as well, about this effect. But it's a good result obviously.

Food stamp recipients we found, for label users, have higher percentage of calories from saturated fat than the non-food stamp recipients, by .7 percent.

Knowledge about diet disease negative effect, which is okay. Not on special diet greater than special diet, by 2.1 percent. Smokers higher percentage of calories from saturated fat compared to non-smokers by .6 percent. Non-regular exercisers higher than regular exercisers. And non-vegetarians higher than vegetarians. So, at least for the label user models, I think they're all pretty consistent with our prior hypothesis.

So we calculated the net effect based, once again, on our econometric models, and this is what we found. Now, this is based on the HEI, right, that we--or based on the percentage of calories from total fat or saturated fats, and the difference between label users and non-label users, net difference, is minus 6.9 percent for the percentage of

calories from total fat. And then for the percentage of calories from saturated fat, the net difference is minus 2.1 percent on a daily basis. Okay, so the signs are obviously the right ones.

We also calculated the percentage of individuals meeting the dietary guidelines. This is for calories from total fat. Not surprising that the dietary guideline for total fat is 30 percent or less. It's not surprising that very few of us meet that dietary guideline. But at least among those who meet the dietary guidelines, a higher percentage are label users compared to non-label users.

But if you go to 31 to 45 percent, that changes a little bit. And it even changes more dramatically once it's over, greater than, 45 percent.

For saturated fat, the dietary guideline is less than 10 percent; right? And once again, very few of us meet the dietary guideline, but at least it's higher, much, much higher, among the label users than among non-label users. And once again, it drastically changes as you go far along, especially when you go greater than 15 percent.

So I think these are really interesting results.

Now, we also did, as a bonus, we also did the cholesterol, fiber, and sodium, and we found these net differences. Negative 67.6 for cholesterol, which is good. Fiber, we're supposed to eat fiber, so label users, we found, have higher fiber intake on average than non-label users. And then sodium, negative 29.58 milligrams per day.

Now, these are the results for our models related to the overall diet quality, okay, using the HEI that I just explained a few minutes ago. So we examined this for the five different types of nutritional information that I talked to you about earlier. So list of ingredients, the net effect difference is 3.5. Serving size, 4.17. Nutritional panel, nutritional facts panel, 4.51. Nutrient content claims 5.4, and then the health claims, 6.14. I know, Robert, you had a slide there earlier that says that perhaps we should get with those diet health claims or disease health claims. But based on this research anyway, we found that in terms of its effect, okay, or correlation, if you will, that health claims can help.

Now, I'm going to pause here for a minute, because I want to put these numbers into perspective. Now, remember that HEI is from zero to a hundred. The average HEI in the

U.S. population from this survey, from this sample, was in the low 60s. USDA mentioned that the threshold level is 80, so if you're just an average eater, and even if you read health claims or use health claims, that will only put you closer to 70, not 80. So it's not a--these numbers are not as high as some of us would probably hope to be, but at least they're helping.

Now, we have to be reminded as well that, you know, it takes time for these to take the effect, so perhaps if with more education, these numbers can be improved.

We also did some simulations based on some of our demographic factors that we included in our models, and this is what we found out. So this our difference between label users and non-label users for different ethnic groups. So the African Americans have lower HEIs, in average, compared to others for both label-users and non-label users. We did find much significance differences in the region, although the South it was a little bit lower. Education level, we found indeed that there is that positive trend; okay? That the higher the education level, the higher is the diet quality; okay?

However, also included employment status in our model, and this is what we found out. So you're probably thinking now, why is that happening; right? I'm fully employed. Does that mean my diet is poorer than those who are unemployed? Well, I'm fully employed as well; right? And I think this partly reflects what we call in economics as the opportunity costs of time. That means the value of your time. Sometimes if you're fully employed, you don't have time--much--that time to really take your diet into consideration. Another thing I want to mention is we included the full-time mothers in the unemployed category, and we should have probably separated that as a separate category.

Smoking. Smokers have lower HEIs for both label-users and non-label users than non-smokers. We also found that those who exercise regularly have higher HEIs than those who don't exercise regularly.

Not a surprise for special diet; okay? And then for food stamp, now this doesn't reflect the fact--it doesn't mean that the food stamp program is a failure. All it means that despite the food stamp program, that the

quality of the diet of the food stamp participants are still lower than the non-food stamp participants on average.

And I think some future research--this is a great picture; right? I met a Bo earlier from McDonald's, and I apologize, Bo. But the reason I'm showing this is because of obviously the topic in the next session is about restaurants. I think there's obviously a great need for more research in that area, nutritional labeling in the food away from home market. This is just a picture I took in one of our local papers in College Station, Texas. And this is the owner of a restaurant trying to capitalize on this issue; right?

A lot of the restaurants now are also taking this into account, like Wendy's. We all know about the McDonald's and the Appleby's trying to take advantage of this issue. This one, as well.

And I think there's also a need for a lot more research on the new qualified health claims that are--that just have been approved. Thank you.

[Applause.]

"HOW PACKAGING UNKNOWINGLY INFLUENCES CONSUMPTION AND CALORIE INTAKE"

DR. PHILIPSON: Okay. We actually are right on time, a little bit early actually. But we'll take a break. We're continuing this session at 10:35 a.m. here. So, please, be back in time so that we can--

[Recess.]

Illinois in the wonderful City of Chicago.

DR. WANSINK: Champaign. Champaign-Urbana. Thank you, Tomas.

I like what Susan Borra said earlier today, because she said there's a big dis-link between what people think and actually what they do. Everyone wants to eat healthier. Not everybody does eat healthier. And that's going the folks who we talk about today.

Now, there's a couple key take-away on this big slide, and that is the notion of consumption. Everything I'm going to talk about today is related to why people consume the amount they do, but more importantly why they unknowingly consume how much they do.

Now, this is our research that was done at the food and brand lab, which is my lab down at the University of Illinois, and what it is it's an interdisciplinary group of researchers. The notion here is that if you're going to

study food consumption, we can't have all nutritionists do it, because they've got a good angle, but not the whole picture. We can't have our marketing people do it, because they've got part of the picture, but not the whole angle, also. So, essentially, what we do is we bring in psychologists, people from the hotel school, and anthropologists, and we all study why people consume what they do, using either controlled-field situations or actually field situations such as some test kitchens, some restaurants, snack rooms, and things like this we use.

The basic idea is to try to answer these questions not necessarily by asking people what they think they're going to do, but actually seeing what they do do, okay, by looking at lab experiments, field studies, consumer panels, and things like this.

The vast majority of what we do is related to consumption, a little bit is related to food choice. And in getting started, there's three general things I want to talk about. Three general sort of principles we've sort of just found kind of mistakenly through the last few years.

The first is that consumers pretty much follow the law of least effort. We don't like to do more than we have

to do, so that's why we get convenient packaging and that's why we get really wide distribution, and, you know, great fast food restaurant at every major corner, and it's also why we get the chance to essentially buy whatever he wants instead of having to buy and prepare what we want to eat.

We also have the option of value, okay. So we get super-sizes at lower per unit prices, and we get discounted pre-bundled meals; okay? That's not always to say we want value, but we want the option of having value.

We also want a wide variety of choices, which is why we get brand extensions and new flavors, and we get the option of having one dollar BK salads that are less expensive than the fries. But interestingly enough, end up being eaten at a rate of about one to thirty compared to the french fries.

Okay, the two key questions that are sort of implied in this talk is first of all, why does packaging influence consumption? Hey, and why should we care?

Why does it influence consumption? Well, consumption volume is a tremendously low involvement decision. Okay, we may make some decision as to whether we want to eat salad or soup. Okay, but once we get that soup,

we're not saying, really, how much do I want? Do I want eight ounces or really eight and half ounces? You know, we just eat it. It's very low involvement.

And the second thing is we think a lot about what we eat, but not how much. It's very automatic, and we're very impressionable by the environment.

Why should we care? Well, there's a couple of interesting studies that have been--one's been done and one that's forthcoming next year that says that just 50 fewer calories a day for most of us would decrease or result in weight loss over a year's time in 85 percent of all adults. And what's going on there is that most of us, 85 percent of us, yeah, do we eat too much everyday? Yeah, but it's a little bit; it's 25 to 50 calories. Essentially, that doesn't mean anything on a day-to-day basis, but over the course of 365 days, and we've got three pounds right there; okay.

So, essentially, things we can do that can even reverse this a little bit, that can even just cut down what the typical person consumes by 30, 40, 50 calories can result in decreasing the--if you call them obesity epidemic, decreasing that.

And second of all, I think why we should care is that this provides a win-win opportunity for profitable new offerings--new products for people and essentially weight-loss friendly packaging if companies chose to do this.

There's a very important caveat. Like most of today's talks have been about packaging, the packaging is only one driver of food consumption volume.

Now, if I can be so bold to make a prediction, I think that probably in the next six weeks, even if all of us are incredibly vigilant, and even though we think a lot about nutrition, and we're very concerned about this sort of stuff, in the next six weeks, the average one of us is going to gain one and half to three to pounds. Okay. And how much of that is going to have to do with packaging? None of it. Okay.

Here's what it's going to have to do with. It's going to have to do with the eating environment we're going to find ourselves in for Thanksgiving, the holidays, and for New Years Eve. Essentially, we're going to be--we're going to be at the phase where there's less effort. We're going to be eating with others. There's a lot more distractions, and there's great atmospherics that encourage us to eat a

lot more than we otherwise would. And that's one of the big drivers of why we eat.

The other one ends up being the food environment. And you can see that can be the size of packages and portions, but it's also the salience of food, how it's structured and the variety of it, the stockpiling and the shape of things. And so if we want to essentially point at the problem of obesity, it isn't just big packages. Big packages is one little thing amidst a whole lot of other stuff that's sort of going on; okay?

But the two big mediators that I'm going to talk a little bit about today is the fact that, because of these things, we don't watch how much we eat. Effectively, we don't monitor our consumption very effectively. And the second thing that happens is large packages, large sizes, and even the shape of packages can actually influence what we believe is a normal or appropriate amount to eat, and we'll be looking at data related to that.

So, for those of you who had your muffin, and you're saying, I'm just looking for the right time to take a little nap here.

[Laughter.]

Especially with the dim lights, it's a problem.

I'll give the whole presentation in just one slide, and then after that, I'll give a little more details.

The first part of what I'm going to talk about is how does packaging influence consumption. Well, I'll show you that package size influences it, and even influences it with foods we don't like; okay? Then I'm going to show you that package size influence it through visual illusions. Okay, and both of these are ways that unknowingly make us eat more than we want.

Then I'm going to look at three possible solutions, and these are preliminary data and three solutions, and first of all, I'm going to conclude that we can't rely only on label information. And I'll show that it's because we ignore it. Then I'll show that we can't rely only on small portions, making things smaller, because we overcompensate by eating more of those things. Then, I'm going to show some preliminary evidence that shows that structural changes to packages make people much more aware of their eating, and they may help reduce intake.

Okay, first of all package size increases consumption. Back throughout the '90s, I did a lot of

studies related to how if you give people, let's say, a medium, a large, an extra large package how it influences people.

Typically, the studies would go something like this. We might give somebody a half-pound bag of M&Ms, or a full pound bag of M&Ms, or a two-pound bag of M&Ms, and we give them a videotape. We'd say, hey, we're interested in knowing what you think about this videotape. Take it home. Take your M&Ms. And as soon as you finishing watching the videotape tonight, give us a call.

Well, they do that. As soon as they would call, we'd say, great. We're going to be right over to pick up your video and your unfinished bag of M&Ms. We'd do this. We'd get the M&Ms. And what we typically found, and this is over 47 to 48 categories, when you go from one size to another size, when you double the size, effectively that the consumption of these products goes up from a range of about 18 to 48 percent. Okay. Now, eventually these things get so huge that they stop having an effect; okay? Because there's only so many M&Ms you can eat or so much spaghetti you can eat. This is a tremendously, tremendously robust

effect, and it's found across all sorts of categories. I think the only exception was bleach.

[Laughter.]

It didn't work there. So the question is: does this always happen? Well, I'm going to tell you, yeah. What we did, we did a field study up in Chicago, and what we did was we took--we went to a movie called Payback. I don't know if anybody saw that movie. I really doubt it, actually. Other than the people here.

And so when people came in, we gave them, we told them it was Illinois History Week; could have been. And we gave free popcorn, either a huge bucket or a smaller bucket--a large or an extra large size. But the thing was half the people got fresh popcorn, and half the people got popcorn that was 14-days old; okay.

[Laughter.]

And this is--I mean it wasn't rancid, because it didn't have butter on it, but, you know eat it, and you're going to go--aren't these like those packing styrofoam peanuts. I mean, God it's just terrible; okay.

What ended up happening was they--and after the movie what we did is we grabbed their popcorn, and we waited and asked them a few questions; okay.

And what we found is that if people were given popcorn, and you gave them a huge bucket, they ate about 45 to 50 percent more from the huge bucket than they did the moderately huge bucket.

[Laughter.]

Okay. But even if they had this terrible, terrible popcorn, what happened is they still ate 40 to 45 percent more. It still had an impact. And if you said, hey, what did you think of that popcorn, they'd go, oh, God, that stuff was terrible.

[Laughter.]

You'd go, well, why did you eat so much of it, and invariably people don't think that they increased their consumption. And all these studies, if you say, how much do you think you eat, people will tremendously underestimate how much they eat, and they don't realize they're being influenced by these sort of things.

So this basic relationship between packaging and consumption is really automatic, because it's not just in

food. It's not just in foods we don't like, but it's--we've also done this with dog food. People pour more dog food if you give them a big bag of dog food than if it's a smaller bag. We've even found it with plant food. You know that little watery stuff.

And so this is probably is not something that's going to be saved by a label.

Now, the second thing I'm going to talk about briefly is how does package shape influence how we bias our consumption. And I don't know if you can think back, back, back to, you know, Psych 101, but they talked about Piaget, and Piaget would give these kids these bizarre shapes; and what he found if you gave kids something that's tall and skinny, they thought it contained, the package or contained more than if you gave something short and wide to the same volume. And the basic idea, you remember this T-test, and somebody goes, hey, hey. Is it taller or is it wider? You know, we'll go, oh, it's taller by about 20 percent more. Well, you know, in reality it's the same size. And the same basic notion of how we look at packages is also why when we're in St. Louis, we go, wow, look at the height of that arch, and we don't go, wow, it is so wide.

[Laughter.]

Okay. Even though, they're essentially the same size. The fact is you can say, well, yeah, that's just a visual illusion. Those are just parlor tricks. Well, no they're not, because they have a tremendous impact on how much people consume.

Let's take a look at some people who should be vigilant and should know better. These were teenagers at a nutrition and fitness camp up on New Hampshire. I don't know if you know about these nutrition and fitness camps, but, you know, wealthy parents tend to send their kids there to lose a few pounds over the summer, and they, you know, come back losing about a thousand--you know, five pounds, which is about a thousand dollars a pound. But over the course of that time, they're told, they're taught about nutrition size. They're taught about portion size. They're taught about estimating calories and all these sort of things. And what happens is you should think that these people would be immune to a lot of the visual tricks that go around--go on around us.

But what we did is we, at cafeteria time or at breakfast time and at lunch time in the cafeteria, when kids

came through, we gave them either a tall skinny glass or a short fat glass. Now, based on what Piaget said, if people think a tall skinny glass holds more than a short fat glass, we should find people more in short fat glasses than tall skinny glasses, even though they contain the same volume. Well, after they exited the line, we asked them, how much they thought they poured, and we looked at it.

What we found in general was that if you gave these kids these short, wide glasses, they were about 22 ounce glasses, they ended up consuming about 88 percent more than if you gave them a tall skinny glass. But they had no idea that this was happening. So if they poured soda pop, they poured about 88 percent more. If they poured milk, they poured more. If they poured juice, they poured more.

This was also true with adults. And to try to see how ubiquitous this is, just to see if really somebody who's very and who's very attuned to this can do this, we did it with a third population. And we wanted to do it with a very specific target volume, which is 1.5 ounces. Does anybody know what 1.5 ounces is? Oh, yeah. Okay. It's a shot glass; right.

So what we did we went to Philadelphia bartenders and said, look, what we want you to do is pour, we gave them some bottles of gin, rum, whiskey, and I think vodka, and said, hey, pour how much gin in a gin and tonic. Pour how much rum you'd put in a rum and coke. How much whiskey in a whiskey on the rocks and stuff. And the poured these things, and what we find out is even those these guys had, these people had more than five years of experience, bartenders, even experienced bartenders poured about 28 percent more alcohol into these short tumblers than they did the highball glasses. And we said, even experts aren't unaffected by this bias; okay?

So, it's hard enough for us to believe that if we eat more from big packages, even if you don't like the food, and if experts even end up being influenced by biases, that we can influence consumers very easily. So, a key finding: package size and shape influence consumption. They implicitly suggest an amount to eat, and they do so almost automatically, regardless of our experience, regardless of whether we even like the product, regardless of whether it's even edible; okay?

[Laughter.]

Now, there's three possible solutions that have been suggested. There's a whole lot more, but I will just look at three today. One is to provide label information. One is to provide smaller portions, and one is to make structural changes to the packaging.

This first option looks at will label information decrease overeating. And the conventional view is that if people have nutritional information, it will influence their behavior. An alternate view is that many people largely ignore package information, and essentially if you tell people it's healthy, it might even backfire. People go, wow, if Snackwell's are that low in calorie, I'll have ten of them; okay?

So we tested this in an environment versus McDonald's, and the idea here is that Subway is often heralded as being, you know, the information god or goddess, because they have these nutrition facts on napkins, on glasses, on placemats. You walk in, there's posters all over. And McDonald's is supposed to, and they have it in some places in some locations. And the idea is if people read nutritional information, does it really help?

We intercepted 500 people after lunch-- 250 from Subways, and 250 from McDonald's in 10 cities--and asked them, hey, give us some nutritional facts you've learned, and we asked them how much they ate.

And what we found is that the average person could recall less than one nutritional fact from either Subway or McDonald's. And, in fact, what happened is though, as you might guess people ate a little more if they ate at McDonald's than Subway, they were much more accurate in estimating how much they ate than the person at Subway. The person at Subway said--he said, how much do you think you ate. And they go, about 390 calories worth. In reality, they ate about 610, and part of the problem was that they kind of added cheese and mayonnaise and chips and cokes and stuff like this, thinking that essentially they were bullet proof because they were at a healthy place to eat. Okay, and basic--you can't really rely on information because a lot of people really, really ignore this sort of stuff.

Option number two, will smaller portions decrease consumption? Well, the conventional view is that if you give people smaller portions, they'll eat less; okay? And it may not be so. We took 180 adults to see a movie, and we

offered them either big bowels of normal size Chips Ahoy cookies, and said, it's going to take you an hour and a half, take as many Chips Ahoy as you want. Or we offered them a big bowel of really those small bitty ones; okay, the mini Chips Ahoy, which are about a third of calories. And what we ended up finding is that people ate a lot more calories of the small cookies than the regular size cookies. Okay, and they underestimated how much they were actually eating. So what it looks like is we can't really rely on small portions either, because we overcompensate by eating more of these sort of things.

Okay, so far, we know that we can't rely on label information, because we ignore it. We can't rely on small portions, because we may overcompensate for it. Can we structurally change packages to make people more aware of what they're eating and less mindless.

And we just finished this a short time ago, and all of these things are sponsored by either the USDA or the Attorney General has an initiative for childhood obesity. So they sponsored all these studies. And what we did here is to try to make people more aware of their eating. We did a potato chip divider study. We gave people potato chips in

one of these little tubes, and we modified it so that we put in a red potato chip every seven chips, every fourteen chips, or we put in no red chips. And they came in, and they said, hey, you're going to watch a show, sit down, eat away.

And what we ended up finding is that structural dividers in these cans, even though they said absolutely nothing on them, even though they didn't say one serving or whatever, when people ran into dividers, they decreased their consumption. So, you can see kind of walking up the track there, the seven chip divider people ended up eating about, I think it's about eight cookies. They ate about twice that in fourteen. When they hit the no divider condition, they ended up eating about 21. And you can see the gap between the blue and the brown--between the calories they ate and the number they thought they ate, because no divider they were much more inaccurate as to how much they're eating.

Okay. So structural packaging barriers appear to decrease consumption. Okay, they can decrease consumption, and they might even be profitable. For instance, it might

be possible to develop a healthy portion line of package and sort of price it appropriately.

The key is to make people aware of how much they're eating without decreasing their enjoyment in the food. As we know earlier, enjoying food and having it taste good is the number one thing people look for.

So the summary of packaging research is that we can't rely only on label information, because people appear to ignore it. Are there more effective ways it can be presented? Well, we're working on a few different ideas that we hope might be more effective.

We can't rely only on small portions, because people seem to overcompensate when they eat small portions. Well, are there other alternatives to just having small portions?

And the last thing is that structural changes in packaging hold promise. There are lot of other forums, and there may be situations where it does and doesn't work, and that would be the thing to look at next. Thank you.

[Applause.]

"HOW DOES THE CURRENT LABEL AND PACKAGING HELP OR HINDER THOSE ENGAGED IN WEIGHT-LOSS

PROGRAMS?--FROM WEIGHT WATCHERS"

DR. PHILIPSON: Thank you. When we, both in the Obesity Working Group more generally, have thought about how labeling, whether done in on packages or restaurants would help manage people's weight, we were sort of drawn to the question of how actually programs in the private sector interact with the label in terms of guiding, using the label to help people manage weight, and that was sort of the motivation for the two next speakers.

We're going to hear from Karen Miller-Kovach. She's the Chief Scientist of Weight Watchers, International, and she will speak about how does the current label and packaging help or hinder those engaged in weight loss programs, a perspective from Weight Watchers.

MS. MILLER-KOVACH: All right. I'm probably going to need some help here. Thank you.

Great. Thank you.

Well, I'd like to thank you for having me here today, and I am going to speak just briefly in terms of what Weight Watchers has done using the current nutrition facts panel, but really kind of go more into the future, because this is certainly a very future oriented workshop.