

2020 DIETARY GUIDELINES ADVISORY COMMITTEE

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PUBLIC MEETING

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FRIDAY
MARCH 13, 2020

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The Dietary Guidelines Advisory Committee met via webinar at 9:00 a.m. Eastern Time, Barbara Schneeman, Chair, presiding. The meeting allowed for public viewing by webcast.

MEMBERS PRESENT

DR. BARBARA SCHNEEMAN, PhD, Chair
 DR. RONALD KLEINMAN, MD, Vice Chair
 DR. JAMY ARD, MD, Member
 DR. REGAN BAILEY, PhD, MPH, RD, Member
 DR. LYDIA BAZZANO, MD, PhD, Member
 DR. CAROL BOUSHEY, PhD, MPH, RDN, Member
 DR. TERESA DAVIS, PhD, Member
 DR. KATHRYN DEWEY, PhD, Member
 DR. SHARON DONOVAN, PhD, RD, Member
 DR. STEVEN HEYMSFIELD, MD, Member
 DR. HEATHER LEIDY, PhD, Member
 DR. RICHARD MATTES, PhD, MPH, RD, Member
 DR. ELIZABETH MAYER-DAVIS, PhD, RD, Member
 DR. TIMOTHY NAIMI, MD, MPH, Member
 DR. RACHEL NOVOTNY, PhD, RDN, LD, Member
 DR. JOAN SABATÉ, MD, DrPH, Member
 DR. LINDA SNETSELAAR, PhD, RD, Member
 DR. JAMIE STANG, PhD, MPH, RD, Member
 DR. ELSIE TAVERAS, MD, MPH, Member
 DR. LINDA VAN HORN, PhD, RDN, LD, Member

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P-R-O-C-E-E-D-I-N-G-S

(9:01 a.m.)

DR. STOODY: All right. Good morning and welcome to Day 2 of Meeting 5 of the 2020 Dietary Guidelines Advisory Committee.

Just as a reminder for those of you who are not with us today, this is a virtual meeting for members of the Committee that is being webcast to the public.

Please note similar to yesterday, that there is a different webcast link for the afternoon session today. So make sure to keep that link handy. It is also available at DietaryGuidelines.gov, and we'll also remind you at the end of the morning session.

Members of the public are joining the webcast in listen-only mode. We do want to note though, if you have any technology issues, please use the question box to the left. And that will be the only use for the "Ask a question" box throughout this meeting today.

All 20 members of the Committee are

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trying to join us at some point throughout the discussions today.

I will note that we have at least 16 members with us right now. We do have a few members who are needing to hop on and off the discussion due to coronavirus activities within their hospitals and universities, but they are joining as much as they are able.

So with that, I'm going to turn it over to the chair of the Committee, Dr. Barbara Schneeman.

CHAIR SCHNEEMAN: Great. Thank you, Eve. And thank you to all the Committee members again for joining this morning. And I would just, once again, point out that our Committee members come from all over the United States, including Hawaii.

And so some of you are here at --- we're calling it morning, but it's very early morning, and we appreciate that participation from the western states.

So just to recap Meeting 5, our purpose

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and yesterday's agenda, our purpose then is to describe the status and provide updates on the work of the Committee and discuss next steps as we finalize our work.

And we commented yesterday, that between the public meetings the Committee breaks into subcommittees to accomplish the work that can then be brought back to the full Committee for discussion.

And in yesterday's discussion, we had updates from the cross-cutting working group on the data analysis piece, the Birth to 24 Months subcommittee, the Pregnancy and Lactation subcommittee, Dietary Patterns and the Frequency of Eating subcommittee. So those were part of yesterday's meeting.

And in today's agenda, we will focus on --- first, we will have again the cross-cutting working group, but this time focusing on the food pattern modeling, and then the Dietary Fats and Seafood subcommittee, the Beverages and Added Sugars subcommittee.

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And then we'll move into a discussion of next steps, which will include the discussion on the peer-review of the Committee's systematic reviews. We have Dr. Klurfeld from ARS to provide information.

And then we'll be talking more about the outline of the Committee's report and where we are with developing that report and, of course, to also stimulate some Committee discussion about that report.

So we're starting now at 9:00 a.m., we will break for east coast lunch at some point and we will begin again at 1:00 Eastern Time.

We will likely take a break in the morning and take a break in the afternoon, but those times are not fixed. So we just go based on how we're moving through the agenda.

And I will also want to start our discussion today by again reminding the public particularly about some particular dates of interest.

So if the public has comments related

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to the discussion at this meeting, they will be most useful to the Committee and the subcommittees if they can be submitted by Friday, March 27th.

There is an ongoing written public comment period which was opened in March of 2019, and that will close May 1st. 11:59 p.m. May 1st.

So that can be general comments. But again, if it's specific to the discussion at this meeting, we encourage you to get them in by March 27th.

There is one more session scheduled for the Dietary Guideline and that's the meeting on the draft scientific report, which will be held May 11th and will be webcast only.

So again, let me remind you of the website. It's always important to keep in touch with the website because the FAQs are updated in terms of providing the public more information; but also that's where you can find the protocols and information, the status reports on the work of the subcommittees. So it's a very valuable resource at DietaryGuidelines.gov.

And with that, we can begin our

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subcommittee reports. And the first one then will be by Jamy Ard, a member of the subcommittee on the cross-cutting working group. And he will talk about the food pattern modeling and where we are with those conclusions and recommendations.

Jamy.

MEMBER ARD: All right. Good morning.

Hope everybody is doing well this morning. This is a report out from our Data Analysis and Food Pattern Modeling working group. And Regan Bailey is our fearless leader, and everybody else that you see there on the slide.

So let me jump right in. What we will do this morning is report out on three questions, but, most importantly, most of what I'll be talking about are methods and analytic framework plans for addressing these three questions.

We will have a few results to present related to how USDA Food Pattern variations meet nutrient recommendations for each stage of life, but you can expect that we'll have full results and analyses for the three questions in the report

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presented in May.

So what I'll do is walk you through these three questions and the analytic frameworks for each of the questions, and talk about some of the methodologies within each of the analytic frameworks so that everybody can have a good understanding of what we hope to get from these exercises.

So let's go to the first question, which is for 2 plus: Are changes to the USDA Food Patterns needed based on relationships identified from the systematic reviews that we're doing in other subcommittees? How well do the USDA Food Pattern variations meet nutrient recommendations for each stage of life? And if nutrient needs are not met, is there evidence to support supplementation and/or consumption of fortified foods to meet nutrient adequacy?

So the approach to that question is going to be using food pattern modeling. So you'll see this slide several times during our presentation.

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This is the analytic framework, and I'll just kind of walk you through the basic steps to remind you -- you've seen this before.

So the steps that we will use for updating and developing the patterns related --- or for food pattern modeling include these five different steps:

So the first is basically identifying the energy levels, and those levels range from 1,000 kilocalories to 3,200 calories per day. And that covers the majority of the population and there's 200-calorie increments for those steps in between.

The second step then is to look at nutrient goals for each level. And within each calorie level we're looking at things like the macronutrient targets, minerals, vitamins, et cetera.

And then once those are established, that gets mapped to food groupings. So our basic food groups in terms of fruits, vegetables, grains, et cetera, dairy. And once those food groups are established in terms of the amount of foods

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necessary to meet the calorie targets, then the nutrients obtained from those food groups are calculated.

And so that then leads to the last step, which allows you to compare the nutrient levels that you've obtained from those food groupings at those calorie targets to establish nutrient goals to determine nutrient adequacy.

So those are the five steps to -- that will be used for food pattern modeling process in terms of the analytic framework.

So the data sources --- and again, you'll see this slide a couple of times just as a reminder, but this is population 2 and older, including women who are pregnant or lactating.

And the data sources include the USDA Food and Nutrient Database for Dietary Studies, the Food Pattern Equivalence Database, and the National Nutrient Database for Standard Reference, SR 28. So those are our data sources for the foods and nutrients that we'll be using.

All right. So let me walk you through

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a couple of key definitions so we're all on the same page. Food groups and subgroups, you've heard TusaRebecca describe this in some detail before.

This is just a reminder of the five major food groups and some subgroups that are part of that. And then next we have nutrient profiles.

So I'll spend a second on this just to make sure everybody understands.

So nutrient profile basically is a way of creating a weighted average of nutrient-dense forms of foods. So the nutrient profile basically says how many nutrients do we expect from a representative food in a given food cluster or item cluster?

So if we were to take dairy, for example, and say we're going to use milk, yogurt and cheese as representative --- or as foods in that item cluster, and we know that on average someone in my age group, you know, eats 50 percent of their dairy as milk, 25 percent is yogurt and 25 percent is cheese, we would take the nutrients from a representative food of milk or of yogurt

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or --- and in cheese and multiply those nutrients by the percent that they contribute to the overall item cluster and sum those up to get a particular nutrient profile.

And so someone like TusaRebecca had to do this by hand for each one of these nutrients. So it's a lot of work, but she's got it all figured out, and there's a weighted average that then is calculated that considers a range of food choices for Americans in a nutrient-dense form.

And so that nutrient dense piece is really important because if we go to the next slide, the nutrient-dense foods, or representative foods, are food items in a cluster that are basically the foods with the least amount of added sugars or sodium and solid fats.

So it's the most nutrient-dense form of the food with the least amount of added sugars, sodium and fat in terms of additional non-nutritive energy, so to speak.

That is compared to a typical choice representative food. A typical choice food is

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something that is most frequently consumed within an item cluster and includes whatever the added sugar, solid fat and sodium might be.

Now it's important to note that a typical choice representative food is not necessarily the worst choice. So that's something I think was important to point out because I think we might assume that a typical choice, given the way we generally eat, is, you know, not necessarily the, you know, is usually on some extreme.

But, you know, for example, for sweets, a typical choice might be an oatmeal cookie whereas, you know, there are plenty other worse choices like a fried Oreo, for example.

So added sugars are sugars that, you know, are added during the processing or packaging of food. And that includes regular sugar like a bag of sugar or syrups and honey, concentrated fruits or vegetable juices in terms of sugars from those sources that are in excess of what would be expected from the same volume of 100 percent fruit or vegetable juice of the same type.

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All right. So I think that covers all of our definitions. So now let's get back to the analytic framework and kind of walk through the steps for what we're talking about in terms of this particular question.

And just to remind you, what we're looking at are changes to the USDA Food Pattern based on relationships identified in systematic reviews and then how well do those food pattern variations meet nutrient recommendations for each stage of life.

And if nutrient needs are not met, is there evidence to support supplementation for, you know, consumption of four or five foods to meet nutrient adequacy? So that's what we're going to be focused on right now.

So Stage 1 --- or Step 1 is establishing energy levels and basically taking the DRI formula to estimate energy requirements for each age-sex group, including women who are pregnant or lactating.

And as I said before, that leads to 12

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energy levels going from 1,000 calories to 3,200 calories in 200-calorie intervals, and that's intended to cover the majority of the population from 2 plus.

So the second step then is establishing nutrient goals. And the nutrient goals for each food intake pattern are age- and sex-specific.

And generally what happens is individuals who are sedentary represent sort of a, you know, worst-case scenario, so to speak, in terms of being able to meet those needs that's at the lowest energy level.

And so in that type of scenario, the lowest energy level is rounded to the nearest calorie pattern, and that's set for the age-sex subgroup and used to evaluate the pattern against nutrient goals.

And so then goals are set for three macronutrients, fatty acids, cholesterol, vitamins, minerals and fiber based on the DRIs that were produced between '97 and 2018. And so the food patterns are designed for individuals. And

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so the goals are the RDA amounts. And when an RDA is not available, AI is used.

So the third step then is to establish food groupings and amounts. And so for this work the initial updates will use the USDA Food Pattern established from the last cycle of the Dietary Guidelines.

But we might expect, in terms of additional testing or other updates, work that's coming out of the Dietary Pattern subcommittee or other subcommittees might inform additional patterns that would be tested to create different food groupings in food groups and subgroup compositions for those respective patterns.

So the next step is to then determine the nutrient profiles. And so as we remember, nutrient profiles are basically that weighted average of contribution of different nutrients from foods within a given item cluster.

And that weighted average is based on the percent of the food items in that cluster in terms of how they're consumed by specific age-sex

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subgroups.

So this is important because the intake of certain foods varies by age-sex subgroup and the --- it's important to note that the nutrient-dense representative food doesn't change.

So for milk, that will always be skim milk, but the proportion of energy that people consume, you know, will vary --- the proportion of the energy consumed from the milk subgroup will vary based on age. And this graphic here is just an example of that.

So for example, in the burnt orange here, 59 percent is the group of individuals who are 4 to 18 years old. And you can see that they're consuming a higher proportion of their dairy as milk compared to, say, individuals who are 19 to 70.

And then it goes back up or it's higher --- I should say that it's higher for individuals who are 71 plus compared to individuals in the middle category who are 19 to 70.

So for each one of those age

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subgroups --- age-sex subgroups, you would vary the contribution of calories and nutrients from those different food items in the item cluster.

So what that means then, it leads to a different nutrient profile specific to each life stage. And here is an example: Again, if we are staying with the dairy group, you can see that in the 4 to 18 year olds, 82 calories are coming from the dairy group or for a cup-equivalent essentially.

And then --- I'm sorry, not a cup-equivalent, just 82 calories are coming from a dairy group for that nutrient profile, whereas for 71 year olds it's 99 calories. And you see the variation in the amount of things like potassium, vitamin E, vitamin D and saturated fats as a result of differences in those intakes.

So if you recall, individuals who were 71 were consuming more of their dairy as either milk or yogurt and slightly lower on cheese. And so that translates into a higher potassium intake and slightly more vitamin A and, you know, a little

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bit lower than the overall population in terms of saturated fats.

So those differences in proportion of intake then have an impact on the anticipated nutrient amounts for the dairy food groups based on the stage of life.

All right. So Step 5 then is evaluating the nutrient levels in each pattern against the nutrient goals. So now we've established the nutrient intake profiles. Again, it's comparing those nutrient levels to what you want to actually accomplish based on the dietary pattern.

And so in this particular example, we're using the Dietary Guidelines USDA Food Pattern from 2015-2020. And so we know that when we look at that particular pattern, that meets most of the goals for nutrients for most people.

And Step 6 would be to go back then and say for anywhere -- any place where you don't see achievement of the nutrient goals, what types of changes can be made and modifications can be made

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to get to the potential -- get to the goal? And so any food group amounts could be modified or adjusted to achieve all or most of the established goals.

So let me take you through a few of the analytic results related to nutrient profiles just to give you a sense of what those look like in terms of comparing previous goals or previous years to current year. And this is draft. So analytic results here show that for 2 plus, differences in energy estimates coming from the various food groups, you can see the difference in the column to the right there.

And again, these are calories. And you'll see that for fruits, that's a small increase in calories. And then there's small changes within other subgroups for vegetables.

For meat, for example, part of that decrease for meats might be because there are --- or is because there's a leaner ground beef available that now has a new code and is added to that subgroup. And so that decreases the calories in

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terms of its contribution for protein foods by 5-1/2 calories.

And you see dairy has increased in terms of its calories by about 8 calories. And that's the result of a new food code from, say, Greek yogurt that is a little bit more energy-dense than other varieties and the proportion of intake of Greek yogurt has gone up.

So these nutrient profiles are, you know, shifting over time as a result of things like introduction of new foods in the food supply as well as changes in consumption pattern.

Additional results. So if we were to look at these relative to life stage, what we see is that there's some differences again --- and this goes back to differences by consumption pattern across the different life stages. And you can see the contribution of energy from the different subgroups --- or food groups and subgroups about --- for 4 to 18, 19 to 70, and 71 plus.

So when we look at that Step 5 of evaluating the nutrient level against nutrient

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goals, as I mentioned before in the general nutrient profile, or the life stage-specific profile, the Healthy USDA Style Pattern meets the RDA or AI for the majority of nutrient goals, and it stays within the upper limits --- or it stays within the limits for the UL and the chronic disease risk reduction for most nutrients as well.

There are some notable exceptions, iron being one of the main ones, where the patterns typically have less than 90 percent of the RDA for females and women who are pregnant, females in those age categories.

Vitamin D and vitamin E are typically not met, as well as choline. In vitamin D, there was an exercise from the 2015 DGAC that showed how vitamin D from dietary sources could be met, but in the general sort of current USDA Food Pattern it's not consistently met.

So there will be a draft conclusion --- or a conclusion statement, I should say, provided in the May report that summarizes all those data for nutrients across the board.

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And as I said, this step in particular --- or this question, in particular, will be informed based on the work being done in the other subcommittees.

So as dietary patterns of interest that are identified in the Dietary Patterns group, or other groups identified, foods in food groups of interest that would want to be -- that they want to be included in unique patterns, then those are the things that I think could be discussed for modeling to then provide this type of exercise to understand how well those types of other patterns meet nutrient needs. And then if there are shortfalls, where those shortfalls can be made up.

All right. So let's see. We are at Question 2. So we'll move forward with that question. So Question 2 is basically for those who are under 2 years. So this is birth to 24. Same type of question.

Can the USDA Food Patterns be established based on the relationships identified in systematic reviews? And then similarly, do those patterns meet nutrient recommendations for

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infants and toddlers? And if not, what can you do to make up for that? And so the process is going to be food pattern modeling. This is the same framework that you saw before.

The only difference here is that the energy levels are now going from 600 calories to about 1,000 calories, but all the other steps are the same in terms of identifying the nutrient goals for each level, and then the food groupings associated with that, nutrients obtained and then comparing the nutrient levels versus the goals.

So this is the easy part of the presentation, just reminding you again of the population and data sources which are the same. And then the same type of framework where, again, establishing those energy levels. And as I mentioned before, there are five energy levels from 600 to 1,000. But instead of 200-calorie intervals, this time we're looking at 100-calorie intervals. And again, that covers the majority of the population from ages 6 months to 24 months.

Now for nutrient goals, as we heard

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yesterday, there are not a number of recommended daily allowances. There are only three, and that includes protein, iron and zinc. All other nutrients have an adequate intake. So those are the established targets.

Now the other big difference here is that for this age group we are considering the contribution from human milk in relation to complementary foods and beverages. And the way this will be approached is basically modeling what we would expect to be, you know, sort of an average ratio between complementary foods and beverages and human milk consumption, and that's what you have in the middle column there.

And if you start at 6 months --- and then on either side you bracket 15 percent below in terms of the contribution from complementary foods and beverages, and then 15 percent above --- well I should say that's actually human milk. So 15 percent below the mean for human milk consumption, and then 15 percent above.

And so in this particular example at

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6 months if the mean is 20 percent from CFB and 80 percent from human milk, then 15 percent less would be 65 percent from human milk and shift those 15 percent of calories into the CFB.

On the upside of that basically it's just sort of rounded to 100 percent, since it's 95 percent, would be from human milk if you, you know, add 15 percent to 80.

And so that's the way you would basically then create sort of three scenarios for each age grouping. And that would give you a way to sort of understand where the variations might be.

There can also be a sensitivity sort of analysis here where we look at instead of using human milk, actually look at formula-fed infants or follow-on formula to sort of look at what the range of intake might look like and the nutrient would be.

All right. So once that's done, then you establish the food group amounts for the 1,000 calorie pattern. And then for the patterns that

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are less than 1,000 calories, you reduce the food group amounts in a similar proportion so that you can keep the same food group density of the 1,000 calorie pattern.

And then you would do the same thing we talked about before, which is looking at the nutrient profiles and using the, you know, same type of calculations in terms of percent of a contribution from a food in an item cluster and the nutrients in that representative food. This would include baby food, but excludes infant formula and follow-on formula.

And then you would take a look at the nutrient level achieved for each of those energy levels and compare that against nutrient goals. And usually you want to get to at least 90 percent of the RDA or adequate intake.

And then Step 6, which is basically iteration and reevaluation. So adjusting --- if there are shortfalls, if there are areas where you feel --- or you find that you're not meeting nutrient goals, then what types of adjustments

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could be made in order to meet those nutrient goals.

All right. And as noted before, there will be conclusion statements presented in the May report.

All right. So let's move to Question 3, which is about added sugar, and focused on how much added sugar could be accommodated in a healthy diet while still meeting food group and nutrient needs. And again, we're focused on food pattern modeling.

So the way this question is going to be addressed is using an analytic framework that basically is divided into three separate exercises.

So the first exercise is about estimating the number of calories in the USDA Food Patterns that could be used for added sugar or other --- quote/unquote, other uses.

The second exercise is about understanding how to redistribute calories from the top sources of added sugar to foods and beverages that actually help to meet food group and nutrient goals. And then the third exercise

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is around estimating excess calories from sugar when the USDA Food Patterns are used comparing typical choice versus the nutrient-dense choices.

So I'll explain each one of those exercises in some detail on the next several slides here. So again, you've seen this before. Population and data sources are the same. For Exercise 1 related to estimating the calories remaining in a pattern, the way I think about this is this would potentially tell you, at the end of the day, how many of those calories can be used for a splurge, so to speak.

Of the calories that are allocated, say, in a 2,000-calorie level, if I meet my nutrient goals, what might I have left over for the occasional splurge? And we're focused on added sugar, but I think we're sort of talking about, in most instances, kind of a combination of solid fats/added sugars in this analysis.

So the way this will work is the base pattern is developed the same way as we talked about in the previous protocol for looking at the nutrient

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adequacy and assessing the various USDA Food Patterns for ages 2 plus. And so calories from all food groups and oils, which are, you know, from the nutrient-dense forms, are considered essential calories.

And then remaining calories for other uses that include additional nutrient-dense foods from some food groups, solid fats, added sugars or alcohol, those are calories that are assigned based on a proportional intake of solid fats and added sugars in the population.

And then the assigned calories were added sugars for each of the 12 patterns that are reported using nutrient profiles for the 2 plus, so the overall population, and then for each life stage.

So that will give us a sense, again, of the number of calories that are available, after nutrient needs are met, for other uses and might be informative in other parts of our discussion.

All right. So Exercise 2 is the redistribution calories from the top reported

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sources of added sugars to other more nutrient-dense food groups and with the goal of meeting nutrient goals. So this takes a few steps to walk through. So in the first step --- and what we're going to do is basically use an example using 14- to 18-year-old females.

So one specific age-sex group, and we're going to look at dairy foods with the idea of if we understand how many calories are coming from sources of added sugar, and if we say let's redistribute that to help meet the dairy foods group goal for this age group, what would that look like?

So here's one example. So if we were to estimate the number of calories coming from the top sources of added sugar in this age-sex subgroup --- and it's pretty consistent across most age-sex groups --- it's 70 percent of added sugar comes from sugar-sweetened beverages, desserts and sweet snacks, coffee and tea, candy and sugars and breakfast cereals and bars.

So those are the top five sources of

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added sugar, and that accounts for 70 percent of the calories from added sugar.

So not even --- you know, so you still got 30 percent of those calories remaining, but 70 percent of those calories is about 267 calories.

And so --- or I should say the current mean intake of added sugar total is 267 calories. And if we took the top five sources, which is 70 percent of that, that would be 197 calories.

And so we would redistribute that 197 calories from added sugar towards meeting the food group goal. And we know for dairy there is a -- somewhat of a shortfall for females in this age range.

So the current mean intake for the target for a female 14 to 18 years old assigned to an 1,800-calorie pattern, the goal is three cup-equivalent of dairy, but the current mean intake in the population is 1.6. So that's a shortfall of 1.4 cup-equivalence for dairy.

And so if one cup-equivalent of dairy foods for this age-sex subgroup is 85 calories,

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that means in order to get a 1.4 cup-equivalence we need about 119 calories of additional dairy foods to meet the food group goal of 3.

So if you remember, we said we had 197 calories to work with. And so we're going to spend 119 to basically get that additional dairy --- 1.4 cups of dairy. And now, that means we've got about approximately 80 calories remaining, and that 80 calories could be used towards meeting different food group goals such as fruits, vegetables or protein foods.

So we've been able to, with this exercise, shift calories from less nutrient-dense foods, i.e., added sugars, to more nutrient-dense foods like dairy to make up a particular shortfall in a food group. And we still have 80 calories remaining. So we've been able to do that in an isocaloric way.

So instead of saying to the, you know, the 14- to 18-year-old, you should just eat more dairy, it's actually, no, let's make this particular substitution to move it into the dairy

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food groups to give you more room to actually be able to accommodate that without exceeding the calorie target of 1,800 calories.

So what you then do is estimate, okay, what type of impact does that have in terms of nutrition for females 18 to 14 if you add that additional 1.4 cup-equivalence of dairy foods?

And what you see here is an increase in protein, calcium, potassium and vitamin D, which are all, you know, meaningful increases here especially with this age-sex subgroup where, I believe, in the past, we talked about protein being an issue that was --- a nutrient that was underconsumed and calcium, potassium and vitamin D also being low in this particular group.

Okay. So the last exercise here is related to understanding --- if we have excess calories from added sugar, what does that look like in terms of the number of calories when you're using typical choices versus more nutrient-dense choices?

And if you recall, when we talked about

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the analytic framework, or the process for developing the food patterns, the food patterns are developed using the nutrient-dense --- the most nutrient-dense choices. And so this is, okay, instead of using the nutrient-dense choice, let's actually use a typical choice.

And TusaRebecca has used this example before: A nutrient-dense choice for, say, a sweet would be animal crackers because that has the least amount of sugar for something that's in the sweet/dessert category whereas the typical choice would be something like an oatmeal cookie.

So there's clearly going to be a difference there in terms of the amount of added sugar. And so what we want to do is be able to estimate what's the difference and how much might that impact especially with regard to energy balance because you --- the concern is you might be meeting nutrient goals with typical choices, which is, you know, definitely possible because it's not that they don't have nutrients, they're just not in the most nutrient-dense form.

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The problem is, is that you may be exceeding the calorie targets in order to meet the nutrient goals. So this exercise has been done in a previous cycle in a 2010 DGAC, and this example just illustrates what this might look like and what we might be able to learn from this type of exercise.

So basically what you see here at the top of this graphic is the calories from solid fats and added sugars are in the lighter colors for each of the food groups. And ultimately, this contributes about 20 percent more calories when people are consuming foods in the typical food choice group versus the most nutrient-dense form consistently across these food groups.

And so what it means is the calories for other uses are already used up. That's number 1. And number 2 is if you are meeting nutrient goals using typical food choices, you are getting 20 percent more calories than you need on a daily basis.

So you know, this exercise I think illustrates what, you know, may be reflected in

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some of the comments we heard during public comment periods where people talked about, well I followed the Dietary Guidelines and I gained weight and developed chronic disease.

And I think this is a data-driven way of showing, well that's likely possible if you were making choices that are not the most nutrient-dense versions of the foods that we're talking about.

Because if you choose less nutrient-dense or higher energy-dense forms of these foods, then you are likely to exceed your calorie intake even though you may be meeting nutrient goals. So I think this is really important to clearly articulate the results and the implications of this type of exercise.

I think there's another point to be made from this type of exercise, which is there are clearly differences in the amount of solid fats and added sugars that are being added to or a part of typical choices for various food groups.

And you can see the proportion of those calories that are being added to, say, fruits and

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vegetables is relatively low compared to grains, protein foods or dairy. And as several others, including Rick Mattes, have made the point before, palatability may be an important consideration in terms of increasing intake of food groups that we know that are underconsumed.

So we may consider or think about the implications of saying, you know, the calories for other uses may be used to increase palatability with the goal of increasing foods that are underconsumed and decreasing their use for foods that are already overconsumed such as grains and protein foods.

And then using lower energy-dense versions of foods that, you know, may not change the palatability as much especially for things like dairy foods. So I think this is a really interesting potential example of how we might be able to bring together the issues around energy balance and nutrient density with the idea of helping people meet their nutrient needs, but not exceed their calorie target.

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So that exercise will be presented in full in the May report as well. And I believe that is the last slide.

MEMBER BAILEY: Thanks, Jamy. That was a really nice talk. This is Regan. I think these food patterns are the foundation of the HEI, and the HEI and similar patterns have been consistently shown to be related to reduce risk of chronic disease in systematic reviews by the Dietary Pattern subcommittee.

And I think you did a really great job highlighting how nutrient-dense choices and typical choices will really vary in how total energy is consumed.

And I just wanted to say thanks for pointing that out. You did a really good job explaining all that.

MEMBER ARD: Great. Yeah, I think this is really important. And I'm hoping that we can take some additional steps beyond where previous Committees sort of left off with regard to, you know, if I could shift calories from higher

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energy-dense foods to lower energy-dense foods, but I really want us to try to get closer to what those shifts need to look like and where we think people might get the most bang for their buck.

Because the general --- the general information, I think, we now have more data, and I think we have the ability to refine, you know, some of the recommendations to, you know, be even more specific with the goal of, you know, doing exactly what you said, meeting those nutrient needs and getting people closer to what we know in terms of dietary patterns that are associated with disease risk reduction.

MEMBER BAILEY: Yeah, I agree.
Thanks.

MEMBER MATTES: This is Rick Mattes. Jamy, can you help me understand? If I recall, part of the definition of "nutrient density" involved a sodium contribution. And given that much of what you talked about here was density relative to meeting --- staying within energy bounds, to what extent does sodium factor into this?

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And I have a second question, too. If adjustments are made that impact beverage consumption, is there a consideration for meeting hydration needs in the modeling?

MEMBER ARD: Okay. So on the sodium factor for the purposes of modeling, the lowest sodium option is generally chosen; but it's really I think an important question around how does it impact energy intake because I think there are some data that suggest, you know, higher sodium intakes are associated with higher energy intake.

But I think that's something that we need to talk clearly about because I think it's just built into the definition of the most nutrient-dense form as also the form that is associated with the lower sodium intake.

On the hydration status, I'm being told that we don't really address hydration needs, but we can assess water estimates in the foods. So the moisture content of the foods can be assessed.

One of the other, I think, challenges is that, you know, beverages are not necessarily

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included. So beverages that are not part of a food group are not included. So that's things like sodas and so forth are not part of the dietary patterns here. And so that may be an area for future research I imagine, is to start to think about consumption of beverages in the sort of food pattern plans.

VICE CHAIRMAN KLEINMAN: Jamy, just to drill down, I was a little surprised to see that milk intake in the 70-year-old-plus group rises.

And it looks like it rises to a level that you see in adolescence. I may be remembering that wrong. And I realize that there are no volume measures in this. It's just consumption, right?

MEMBER ARD: Yeah.

VICE CHAIRMAN KLEINMAN: Yeah.

MEMBER ARD: So this is just percent of the --- or proportion of the calories that are coming from milk in that particular item cluster. So it could be ---

VICE CHAIRMAN KLEINMAN: Oh. Oh.
Yeah, go ahead.

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MEMBER ARD: Yeah. So it could be that -- if I understand this correctly, it could be that what may be happening is there may be, you know, say, more cream being used in coffee in the 71 plus. They may not be drinking a lot of skim milk, per se, if I understand that correctly.

VICE CHAIRMAN KLEINMAN: Hmm, okay.

And then the second question was speaking about infant formula. I think you said that that's not included in the 6- to 12-month-old group?

MEMBER ARD: Yes. So in that particular --- let me get to that slide. So this pattern is based on the complementary foods and beverages relative to human milk. And when we do the nutrient profile for the various foods, it includes baby foods, but not human --- not infant formula and follow-on formula.

But as I think I said in a sort of sensitivity analysis, it could be that what we do is use complementary foods and beverages and do a comparison between if we used human milk versus infant formula, because I think one of the concerns

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we talked about is overconsumption of some nutrients because infant formula is fortified.

And so we would want to make sure that we're not exceeding the upper limit on some nutrients, and that would be more of a, you know, sort of a test case to understand, in that particular scenario when people are using infant formula plus complementary foods and beverages, what the nutrient profile looks like there.

VICE CHAIRMAN KLEINMAN: Yeah. That's great as long as you're doing that extra validation or test step, yeah. Thank you.

MEMBER DEWEY: This is Kay Dewey. I wanted to add to that. It was something that we discussed in a subgroup.

The first step was to look at the human milk-fed infants knowing that we had the most challenges in terms of nutrient gaps there. And then as Jamy mentioned, depending on time and all that, go on to looking at mixed-fed and then formula-fed.

At the 12- to 18-month ages -- formula

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isn't recommended after 12 months. So that wouldn't really be a scenario. So it really only applies to 6 and 9 months. But I realize when looking at this slide, that we actually have a mixture of things going on in that table below that's not quite right.

And so we may need to have another call to straighten that out. And I apologize if I didn't catch this earlier, but the middle column, the percent of energy from human milk, it is the mean as shown there for 6 and 9 months, but the mean percent at 12 and 18 months is actually 35 percent, not 20.

And so the --- I think what --- for 12 and 18 months, what's shown there is a zero human milk low estimate and high estimate, whereas the estimates shown there for 6 to 9 months are a low, a mean and a high estimate. So it's kind of two different ways of looking at it, and we'll probably need to discuss that again to straighten it out.

MEMBER NOVOTNY: This is Rachel Novotny. I really --- this is a great way for us

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to pull things together. I really like this direction. I am a little confused, kind of following up on Rick's question I guess --- and I guess another area for clarity about the beverages because clearly we've got milk and we've got coffee and tea.

So we do have some beverages in there, and so I think just in terms of talking about this and the next steps, if need be, to identify clearly what are beverages that are included, and which are not.

MEMBER ARD: Yeah, I agree. It's feeling like we need kind of a beverage food pattern, so to speak, right? You know, something that really sort of models out when people are consuming a certain proportion of their calories as beverage from the top sources, coffee, tea, you know, that includes added sugars plus sugar-sweetened beverages in fruits and juices --- fruit juices, energy drinks, those types of things, what does that, you know, start to look like especially with displacement of other

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nutrients and those types of things.

Yeah, so is TusaRebecca able to comment?

CHAIRMAN SCHNEEMAN: Yeah. I think this is a great discussion because it's identifying some needs that we have, but certainly needs for the future. But I think, TusaRebecca, can you add ---

DR. PANNUCCI: This is TusaRebecca Pannucci. Jamy, you did a nice job describing that. I think one thing to clarify, just for simplicity for now, is that not all beverages contribute to food group amounts.

Those beverages that do, like dairy or 100 percent fruit juice or 100 percent vegetable juice, their contributions are accounted for in the patterns because they contribute to a food group.

But other beverages that don't contribute to a food group like some sugar-sweetened beverages or some even coffee or tea that are consumed and may provide some

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nutrients, but don't contribute to a food group, any energy contribution from those would be accounted for in those remaining calories. So we can talk more and clarify in the protocol how those are handled.

MEMBER DEWEY: This is Kay Dewey again.

I had a question about slide 18 in terms of the calories coming from the different food groups.

I saw for legumes, 240 or so calories.

And I'm just not sure I understand, you know, why that's so high compared to all the other ones. Could you discuss that?

MEMBER ARD: You know, so I think, again, my understanding would be that what you're looking at is with --- and I'm not --- I admit I don't know the number of --- I guess this is one cup-equivalent, right, TusaRebecca?

DR. PANNUCCI: Yes.

MEMBER ARD: Okay. So that's a cup-equivalent of legumes, and they're just energy-dense in terms of the, you know, sort of calories because you can see starchy vegetables

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are similar in terms of their contribution of calories just because of the amount of starch within a legume, complex sugars, complex carbs.

MEMBER DEWEY: Okay. So then for the protein foods like nuts and seeds, I'm assuming that's not a cup-equivalent, that's some other unit?

MEMBER ARD: Yeah. Nuts and seeds are ounces.

MEMBER DEWEY: Okay. So yeah, it would just be helpful on this table to show what those servings or estimates are based on, just for clarity.

CHAIRMAN SCHNEEMAN: Yeah. Yeah. That would be helpful.

MEMBER DEWEY: And then I think you mentioned that one of the nutrients that wouldn't be met is choline.

MEMBER ARD: Uh-huh.

MEMBER DEWEY: Is there going to be some sort of discussion about perhaps some other models where that's considered a little bit more?

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I know for the pregnancy and lactation subgroup, we're pretty concerned about choline.

MEMBER ARD: Yeah. So we can absolutely talk about that. I think, you know, the nutrients that are evaluated and identified either as nutrients of public health concern or specifically very important for certain age-sex subgroups, I think that would be where we would talk about, you know, what are the strategies or alternative food groupings or use of supplements in order to be able to meet those particular needs.

MEMBER DEWEY: Okay. Thanks.

CHAIR SCHNEEMAN: Great. Jamy, this is a great presentation, and I think sets up a lot of other discussions with the various subgroup reports. I just want to see if there are --- is there any more comments or questions from the Committee members?

MEMBER SABATÉ: This is Joan Sabaté.

I have a question. I think you presented one or two slides showing the USDA results of using the healthy American pattern.

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And my question is: based on the previous Dietary Guidelines and while we are working on the current one, I mean are we going to see the results of using different food patterns such as the Mediterranean diet or the vegetarian diet, and to see how these changes as far as the distribution of the nutrients and as well as far as the distribution of the foods within each food group that represent the people in these two patterns?

MEMBER ARD: Yes. So I think that's the --- the idea is that as work emerges from the Dietary Pattern subcommittee, which we're on, and other committees put forth ideas related to the systematic reviews, then we would run this type of exercise using those patterns to evaluate nutrient adequacy, and then make determinations about where those food groupings, you know, in terms of the amounts and the various nutrient contributions from those different food groups and subgroups come from.

But that's the idea is, yeah, if we

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identify some novel dietary pattern within our systematic review that's associated with decrease the outcome mortality or lower risk of diabetes or weight gain, excess weight gain, then we would I think put that forward for consideration in terms of food pattern modeling to look at how well it performs across all age-sex subgroups.

MEMBER SABATÉ: Thank you. A subsequent question would be if I understood the methods employed, I think there was a food representative of a particular food group that was the most nutrient-dense and the other one, the most typical choice.

These do vary according to people in age groups, different ethnic groups in America because there is a variety of cultural patterns. So it would be very informative if this exercise is done within the different cultural patterns or ethnic groups here in the U.S.

MEMBER ARD: I think that's ---

MEMBER BOUSHEY: This is --- Carol Boushey just came in. I heard some of this. I

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just got to the phone.

So one of the -- you know, actually the thing about the cultural groups and different ethnic groups, that actually is really important. And I just wanted to mention that a lot of the work that's been done in this space at least with -- at the University of Hawaii Cancer Center, the work represents five ethnic groups, you know.

And so I think --- but I do agree with you that more should be done, but the parity across the ethnic groups is fairly strong the way that these patterns work, just as an FYI.

Not that it shouldn't be done more, but just to let you know that that has actually started, and, you know, people could use that as a model to continue forward also.

MEMBER ARD: So yes, I think that's definitely something that we can discuss. And it may be, given our time frame, difficult to do within the current context, but certainly an area for future research.

And we'd have to think about how to sort

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of look at that sort of cultural interaction across either, you know, the entire 2 plus population or is that within certain, you know, sex and age subgroups.

That gets to, you know, sort of smaller kind of representative estimates for, you know, typical choices, but I think it's important to look at the variation in intake patterns based on other important demographic and cultural factors.

CHAIRMAN SCHNEEMAN: I think another consideration along these lines is that particularly as we've identified things that are useful in terms of how to use food pattern modeling, we can also, as part of our advice to the Secretary, talk about how this kind of thinking can be used in the implementation of the Dietary Guidelines, particularly as that flexibility is needed for different age groups, different ethnic groups and, you know, the choices people make.

CHAIR SCHNEEMAN: Okay. So any more questions or comments? Carol, we're glad you're with us now. Good morning.

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MEMBER BOUSHEY: Thank you. Good morning.

CHAIR SCHNEEMAN: I think it might make most sense though to go ahead and take our break now because the next report will be the Dietary Fats and Seafood subcommittee. And once we start with that, we'd like to be able to finish that whole report.

So why don't we plan to be back at 10:30. We'll plan for a 15-minute break. 10:30 Eastern Time, sorry. A half hour, whatever time zone you're in.

And I again remind folks, please mute your phones, do not close out. Because once you close out, you're closed out. So please just put things kind of on mute or whatever you need to do, and then we'll be back in about 15 minutes.

(Whereupon, the above-entitled matter went off the record at 10:16 a.m. and resumed at 10:30 a.m.)

CHAIR SCHNEEMAN: Okay, welcome back. We're ready to start the next part of our morning

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session. So our next presentation will be from the Dietary Fats and Seafood subcommittee, and Dr. Snetselaar, I'll turn it over to you.

MEMBER SNETSELAAR: Thank you, Barbara. I want to begin by recognizing my subcommittee members, Dr. Regan Bailey, Joan Sabaté, and Linda Van Horn; and additionally, Dr. Barbara Schneeman, who is our advisory chair representative.

Our subcommittee presented three seafood systematic reviews at previous Advisory Committee meetings, and today we will be presenting the revised conclusion statements related to seafood and neurocognitive development and health, and new evidence and conclusion statements related to dietary fat and cardiovascular disease systematic review.

At the January public meeting, the subcommittee presented the evidence and draft conclusion statements from the three seafood reviews. Based off of feedback from other Committee members during the discussion at the

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meeting, we have decided to revise some of the conclusion statements after reconvening as a subcommittee.

The feedback included the evidence base being solely from prospective cohort studies, and modifying the language so as not to imply a treatment effect.

Additionally, the subcommittee decided to indicate that the associations are with measures of each domain's development as neurocognitive development is still a difficult outcome to capture definitively.

The first of the four revised conclusion statements shown here on the slide. -- So from the question; what is the relationship between seafood consumption during pregnancy and/or lactation and neurocognitive development of the infant?

The conclusion statement, as it was presented in January, is shown above, and the revised conclusion statement with red text indicating changes is below. The revised

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conclusion statement for the cognitive development domain is: limited evidence suggests that seafood intake during pregnancy may be associated favorably with measures of cognitive development in the child. And we graded this as limited.

So the same question dealing with seafood consumption during pregnancy, a conclusion statement as it was presented in January is shown above, and the revised conclusion statement with red text indicating the changes, is below.

The revised conclusion statement for the language and communication development domain is: Limited evidence suggests that seafood intake during pregnancy may be associated favorably with measures of language and communication development in the child. And we graded this as limited.

This is the third of four revised statements, and it is from the second seafood question: what is the relationship between seafood consumption during childhood and neurocognitive development and health?

The conclusion statement as it was

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presented in January is shown above, and the revised conclusion statement with red text indicating the changes is below.

This is for the cognitive development domain: Insufficient evidence is available to determine whether seafood intake during childhood and adolescence is favorably associated with measures of cognitive development in children and adolescents. The grade here is non assignable relative to favorable association.

Moderate evidence suggests that seafood intake during childhood and adolescence has no unfavorable association with measures of cognitive development in children and adolescents, and the grade here is moderate in regard to no unfavorable association.

This is the third of four revised statements, and it is from the second seafood question: what is the relationship between seafood consumption during childhood and neurocognitive development and health of the infant?

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The conclusion statement, as it was presented in January is shown above, and the revised conclusion statement with red text indicating the changes is below. This is for the cognitive development domain.

The revised conclusion statement for favorable association is insufficient evidence is available to determine whether seafood intake during childhood and adolescence is favorably associated with measures of cognitive development in children and adolescents. The grade here is grade non-assignable for favorable association.

The revised conclusion for no favorable association is: Moderate evidence suggests that seafood intake during childhood and adolescence has no unfavorable association with measures of cognitive development in children and adolescents, and so the grade here is moderate for no unfavorable association.

Now I will present the evidence and conclusions from the subcommittee's review of the question: what is the relationship between types

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of dietary fat consumed and risk of cardiovascular disease?

This is the analytic framework for the systematic review on dietary fats and CVD. We presented this at a previous Advisory Committee meeting, so I will not review this in detail; however, I will highlight the types of fat included: saturated fats, polyunsaturated fats, PUFAs, mono-unsaturated fats, MUFAs, and dietary cholesterol.

We included studies that compared types of fat with different sources, amounts and proportions of fat, and replacement with other types of fat or other macro nutrients.

Due to the short time frame relative to the workload volume, the subcommittee updated the following exclusion criteria to narrow and strengthen the review. These additional exclusion criteria were applied prior to the completion of screening.

We excluded studies that assessed serum lipid ratios solely of outcomes. We also excluded

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studies that only assessed blood pressure as an intermediate outcome in adults. We excluded observational studies that only examined intermediate outcomes. For these types of studies we only included those that evaluated endpoint outcomes.

We also excluded RCTs with interventions that lasted less than four weeks, and we excluded studies that only examined human milk or infant formula as the only source of dietary fat.

This flow chart illustrates the literature search and screening results for this review. After screening, there were 238 articles which met the criteria. As a reminder, the review built upon the 2015 Committee's review on saturated fat and cardiovascular disease outcomes in adults.

Therefore, there were different date ranges used in the search.

For children, the literature search included articles published in January 1990 or later. This resulted in 37 included articles

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focusing on children and CVD outcomes. For adults, the current literature search included articles published in January 2010 or later, and this resulted in 201 included articles to add to the evidence review by the 2015 Committee, with 94 included articles focusing on endpoint outcomes.

Our review of the evidence of studies in children included 37 articles with 22 of these articles from seven RCTs. Sixteen articles from 14 prospective cohorts that is, and it should be noted here that one RCT was also analyzed as a prospective cohort study.

For population characteristics, the studies predominantly were conducted in the U.S. and Northern Europe, and that included Finland, The Netherlands, and the UK. The majority of RCTs and prospective cohort studies were conducted during childhood and early adolescence, ranging in age from four to 13 years and had one to five years of follow-up.

One RCT, the STRIP study, was initiated at a very early age: seven months, and it continued

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for about 19 years. Some prospective cohort studies had longer-term follow-ups, and those follow-ups ranged from 15 to 20 years.

Then focusing on intervention and exposures, most articles from RCTs came from two trials: the STRIP cohort in Finland and the DISC cohort in the United States. These trials provided dietary counseling to reduce or limit saturated fat and dietary cholesterol intake. They included increased PUFA intake and that was encouraged, but was often not the central focus of these interventions.

The remaining RCTs modulated dietary fat intake by providing different food products.

Among the prospective cohort studies, most of the studies focused on saturated fat and PUFA, with fewer studies focusing on MUFA or dietary cholesterol.

Only a few studies directly addressed replacement of the fat or dietary source of fat, and there were a variety of methods used to assess diet. That included food frequency

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questionnaires, diet records, and 24-hour recall, with about half of the methods being validated.

For outcomes, the majority of the studies assessed intermediate outcomes, predominantly blood lipids. Few studies assessed blood pressure, and for CVD endpoint outcomes there was only one study which was limited by use of indirect measure of exposure.

For saturated fats and blood lipid outcomes, the evidence from RCT showed that consuming less saturated fat and less dietary cholesterol resulted in a lower blood total cholesterol and LDL cholesterol throughout childhood, particularly in boys. The evidence from prospective cohort studies was consistent with RCTs.

For PUFA, the evidence showed that higher PUFA intake resulted in lower total blood cholesterol. And this, again, was particularly in boys. There is less evidence that prospective cohort studies on this topic were important in terms of this particular outcome, but this was broadly

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consistent with RCTs.

For MUFA there were few studies, either RCTs or prospective cohort studies which focused on MUFA intake, and for those the results were predominantly null.

The effects of type of fat on blood pressure were difficult to discern, and this is due to the advice given to reduce sodium consumption in one of the RCTs, the STRIP study. Additionally, there were fewer prospective cohort studies on this topic and their results, again, were predominantly null.

We have six draft conclusion statements for dietary fats and risk of cardiovascular disease in children. The first that was shown here focuses on CVD endpoint outcomes. Insufficient evidence is available to determine the relationship between intakes of types of dietary fats during childhood and CVD health outcomes during adulthood, and here the grade was not assignable.

The second draft conclusion statement pertains to blood pressure as an intermediate

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outcome, and insufficient evidence is available to determine the relationship between intake of types of dietary fat during childhood and blood pressure throughout childhood, and here the grade was not assignable.

These three draft conclusion statements focus on types of dietary fats, so there's strong evidence to demonstrate that diets lower in saturated fat and cholesterol during childhood results in lower levels of total blood cholesterol and LDL cholesterol throughout childhood, again, particularly in boys, and the evidence here is strong and the grade is strong.

Moderate evidence suggests that diets higher in PUFA during childhood result in lower levels of total blood cholesterol throughout childhood, particularly, again, in boys, and the grade here is moderate.

Insufficient evidence is available to determine the relationship between MUFA intake during childhood and total blood and LDL cholesterol throughout childhood. The grade here

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is not assignable.

The last statement refers to replacing saturated fat with other types of fat or carbohydrates. Few articles examined replacement of types of fat in children, and therefore our draft conclusion statement is: Insufficient evidence is available to determine the relationship between replacement of saturated fat with PUFA, MUFA, or other macronutrients during childhood, and total blood, LDL, HDL cholesterol or triglycerides throughout childhood and adulthood. And here the grade is not assignable.

That wraps up the evidence for studies in children, looking at dietary fats and risk of cardiovascular disease, and now we will turn to studies in adults. As a reminder, this subcommittee's review of dietary fats and CVD in adults is building upon the 2015 Advisory Committee's review of saturated fats and CVD outcomes.

The 2015 review considered evidence prior to January 2010 and included studies dating

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all the way back to the 1960s. The 2015 conclusion statements are shown here on this slide, and these were our starting points as we reviewed and sent the sites the evidence from the 201 articles in adults which were included in our own search. And that included 94 studies on CVD health outcomes.

I'm going to pause here so you have a moment to review and read these conclusion statements.

(Pause.)

MEMBER SNETSELAAR: I will first review the evidence pertaining to adults studies with endpoint health outcomes. These outcomes include cardiovascular disease, CVD, myocardial infarction, coronary heart disease, coronary artery disease, congestive heart failure, peripheral artery disease, stroke, and cardiovascular-disease-related mortality.

Ninety-four articles met inclusion criteria for our current review. There were 90 articles from 48 prospective cohorts, and four articles from nested case controls.

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In terms of population characteristics, most studies were conducted in the U.S., Scandinavia, southern Europe and Japan. A majority of participants were middle-aged or elderly adults with overweight.

Focusing then on exposures, the studies predominantly measured dietary exposure with validated food frequency questionnaires. The studies focused primarily on saturated fats, omega-3, polyunsaturated fats, total polyunsaturated fats, or mono-unsaturated fats. There were fewer studies that focused on n-6 PUFA or dietary cholesterol, and only a few studies directly addressed dietary source of types of fat.

In terms of outcomes: Many studies examined incident CVD inclusive of multiple, fatal, or non-fatal events such MI, CHD, and stroke, while other studies examined specific subsets of CVD outcomes. And then finally the common limitations. The majority of studies did not control for all key confounders, and many studies did not have CVD as a primary outcome, but rather

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as a secondary outcome.

Our subcommittee decided to break up our review of dietary fats by types of fat, and I will start by summarizing the evidence pertaining to saturated fats. There were 35 articles from prospective cohort studies that focused on saturated fats. Evidence since January 2010 showed that replacement of saturated fat with PUFA was primarily significantly associated with lower risk of CHD and CVD mortality.

These findings are consistent with conclusions made from the 2015 Dietary Guidelines Committee report, which considered systematic reviews including RCTs, prospective cohort studies that dated back to the 1960s.

There were fewer, more current studies which examined other specific CVD outcomes such as heart failure and stroke alone. Studies which looked at replacement in saturated fat with total carbohydrates tended to be inconsistent, with mostly null associations with CVD outcomes.

Among these studies, most studies did

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not specifically differentiate between the type of carbohydrate, such as complex or simple, and this was related to replacing saturated fat. In this situation, that idea of looking at the complex and simple carbohydrates was very important.

Based on our review of the evidence, we have drafted the following conclusion statements: Strong evidence demonstrates that replacing saturated fat with PUFA in adults reduces the risk of CHD events and CVD mortality, and the grade here is strong.

Insufficient evidence is available to determine if replacing saturated fat with PUFA in adults affects the risk of stroke or heart failure due to inconclusive results. The grade here is not assignable.

Insufficient evidence is available to determine if replacing saturated fat with different types of carbohydrates, complex and simple, in adults affects the risk of CVD, and the grade here is not assignable.

Next, I will summarize the evidence

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pertaining to mono-unsaturated fats. There were 26 articles from prospective cohort studies, and they focused on MUFA. Evidence that we examined was broadly consistent with conclusions from the 2015 Dietary Guidelines report, and studies where total MUFA intake was examined, predominantly null associations between total MUFA intake and risk of cardiovascular disease were observed.

In studies that assessed replacement of saturated fat with total MUFA, predominantly null associations were also observed. There were only a few studies which examined and reported the specific food source of MUFA. The source of fat is important because MUFA is found in both animal sources and plant sources, and often the animal sources are also associated with saturated fats.

Among the few studies that examined food sources, MUFAs from plant sources were generally associated with lower risk of CVD compared to MUFAs from animal sources.

Because our review of the evidence resulted in similar findings regarding replacement

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of saturated fats with MUFA as in the 2015 Guidelines conclusion statement, we decided to carry that conclusion statement forward. And it currently reads: Evidence is limited in regarding whether replacing saturated fats with MUFA confers overall CVD or CVD endpoint benefits.

One reason is that the main source of MUFA in a typical American diet is from animal fat, and because of that co-occurrence of saturated and mono-unsaturated foods, it is difficult to tease out the independent association of MUFA with CVD.

However, evidence from RCTs and prospective studies has demonstrated benefits of plant sources of mono-unsaturated fats such as olive oil and nuts on CVD risk. And the grade here is limited.

Moving on to summarize evidence pertaining to Omega 3, polyunsaturated fats, as a reminder because this evidence is building upon the 2015 Dietary Guidelines report, which focused on saturated fats, but also provided evidence on other types of fat, this search went back to January

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2010.

There were 47 articles from prospective cohort studies that focused on omega-3s, and these studies found predominantly beneficial or null associations between intake of n-3 PUFAs and CVD risk. In particular, the total EPA and DHA from food sources were mostly consistently associated with lower risk of CVD.

Based on our review of the evidence, we have drafted the following conclusion statement:

Moderate evidence suggests that total intake of n-3 PUFA, particularly EPA and DHA from food sources in adults is associated with lower risk of CVD, and here our grade is moderate.

Topics still under review by our subcommittee are m-6 PUFA and CVD health outcomes, dietary cholesterol and CVD health outcomes, dietary fat with a focus on food source and CVD intermediate outcomes.

The next step for our subcommittee will be to complete the topics still under review as outlined on the previous slide, submit the review

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of dietary fats and CVD for peer review, and complete our draft report.

And that concludes our presentation today. Thank you all of the subcommittee members and the support staff who have made this work possible, and I do want to especially thank the NESR team, who has done a great deal of work in terms of providing us with data to allow us to make the conclusion statements and the grades. Thank you.

CHAIR SCHNEEMAN: Great. Thank you, Linda. So we'll open the discussion up from the Committee members for comments, questions, even for Committee members if you want to amplify on any particular point.

MEMBER MAYER-DAVIS: So this is Beth Mayer-Davis. I have a question if I can do that. Can you hear me?

CHAIR SCHNEEMAN: Yes.

MEMBER MAYER-DAVIS: Okay, thanks. So I'm curious about the findings in kids regarding fats and cholesterol where it was emphasized that

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the association seemed to be particularly true for boys. I'm wondering if that was driven by results from the STRIP study in particular. I'm wondering if those results really had to do with the situation pre-puberty.

You know, because I'm not thinking of a reason that there would be a sex differential, especially before puberty, and I didn't note any discussion or any comments about a sex differential for adults. So I'm wondering if that might be real or some sort of artifact.

MEMBER SNETSELAAR: Yes. I think puberty makes -- certainly plays into this. We were certainly seeing that in the DISC study too, which both Linda Van Horn and I were involved in.

And I might ask Linda to comment on this as well, but I think that definitely was at play when we were looking at children. Linda, would you comment also please?

MEMBER VAN HORN: Yes. Thank you. Hi, this is Linda Van Horn, and thanks Beth, good question, and we've spent a lot of time thinking

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about this.

The STRIP study, you know, as everyone is probably aware, is truly phenomenal in the fact that they have followed their children from seven months of age to -- in fact, they still have to publish papers of this past year in this age group of now 20-year-olds.

And the point that you're making is one that also was of interest to us because of the duration of the time and life course events, including puberty. The STRIP data are particularly useful because, of course, it helps to open some black boxes that have been in existence for quite a while in regard to the role of hormones in regard to influencing lipid levels and differences that we see in men and women as adults in the future.

And so what we really recognized -- primarily, you're right. The majority of those data were derived from the STRIP study. That illustrated this point.

DISC, unfortunately, we did look at

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Tanner staging, but unfortunately the study ended before Tanner 5, so we were not able to get a clear picture from the beginning of puberty to the end of puberty to determine whether dietary intake during those pre-adolescent years ultimately resulted in a lower LDL cholesterol level in either boys or girls after they completed puberty.

So the STRIP data really are the best and the only data that we have to confirm those kinds of observations, and it's definitely derived primarily from their data, suggesting again that in boys there seems to be a particular benefit.

I think the other little interesting twist that I'll just throw in here because we don't have sufficient data yet to really look at these questions, but I think as we go forward with additional research related to medical wellness and microbiome issues, it's possible that we will be able to further identify pathways or do additional deeper investigation related to some of the mechanisms that might potentially underlie those associations.

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But the idea that male/female differences can certainly exist is something that I think we, as a community, are very interested in and are only now beginning to truly focus on in a variety of different diet relationships.

MEMBER SNETSELAAR: Thank you, Linda.

And just to add one more comment, please know that we did try to continue to follow the DISC population, which would have provided, I think, some very interesting data. But those requests to NIH were not funded, and I think it's just important to keep in mind that some of these longitudinal studies can be so incredibly important to our understanding of exactly what you were talking about.

MEMBER TAVERAS: Linda, this is Elsie.

I had a quick question which I think you answered. Do you know when and how they assessed for puberty? How did STRIP measure pubertal development, because I wonder if that began at -- is it how early there was -- I'm just thinking of pubertal effects that could determine, or could explain some of these

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sex differences that we've seen in some other studies, but just what Beth was saying, we see that a little later.

So I wondered if you saw in any of the studies how early they began assessing pubertal development, and how they were -- was it just Tanner staging? And was it self-reported Tanner staging?

MEMBER VAN HORN: Linda S., do you want to address that one?

MEMBER SNETSELAAR: I certainly know what we did in DISC, but Linda, please respond to the STRIP study.

MEMBER VAN HORN: Yes. Well you know, again, STRIP started earlier than DISC did, and to my knowledge they were not using Tanner staging, or at least not as reported. I believe there was a lot of self-report that was involved with that determination, but exactly what methods were used really were not addressed in the literature that we reviewed.

I'm sure we can go back and look at that, but recognizing that the difficulty or the

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complexity of achieving that even in the DISC study which came at a later time, took a bit to implement.

So whether that was something that was done at some later time during the STRIP study or not, I really don't know. But I believe self-report was definitely involved.

Be that as it may though -- sorry, just to finalize that -- be that as it may though, the differences were in regard to blood lipids: total cholesterol, LDL cholesterol, et cetera.

MEMBER SNETSELAAR: Yes. Good point.

VICE CHAIR KLEINMAN: So this is Ron.

I have followed DISC and STRIP actually from the beginning, and I find them very convincing, and so I appreciate what you're recommending here.

Then I just pulled up this letter that we just saw the other day from the group from this expert workshop on saturated fats and health, the letter to the Secretary, and it comes to really just the opposite conclusion: that saturated fat in the diet doesn't impact heart disease or stroke.

So I was just wondering: how will we

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discuss that or reconcile these differences of opinion in the report?

MEMBER SNETSELAAR: Very good question. I think that what we are trying to do, at least in our subcommittee, is look very carefully at the studies that have been done. We are also looking very carefully at who may have funded studies in terms of some of the results that we're looking at, and just being very, very careful to try to base our thoughts and our ideas on what we see as the current evidence.

We are going back to what was done in the past because many of those studies were very expensive, long-term clinical trials conducted at multiple sites, and those studies still hold and are incredibly important. And I feel that we just have to be true to what we're seeing in terms of the data that are out there right now in terms of the studies that are being done. I would love for my other Committee members to respond to this as well.

VICE CHAIR KLEINMAN: I will add that

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unfortunately they didn't provide any references in this letter, so the studies and meta-analysis are a little hard to evaluate.

MEMBER SNETSELAAR: Exactly. It would be much easier to respond if they had done that, yes.

MEMBER VAN HORN: Yes, and this is Linda Van Horn. To add to that, and Ron, you're raising of course very important points that I know are top of mind for a lot of individuals. But again, as Linda pointed out, we're really trying to be true to the evidence base on the systematic review that was done to derive the manuscripts that we're looking at.

So we're reporting on the basis of what we've reviewed, and I think for myself it was fascinating, with this vast number of papers to look at, that variability in terms of assessment methodologies. Certainly diet assessment using a food frequency questionnaire, things we know is not always as specific can detailed as other methods, is one thing.

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The other thing that I think is something we are trying very hard to tease apart is that the term cardiovascular disease is intended to be sort of a multi-factored term that includes not only coronary heart disease, but also heart failure, stroke, PAD, and a variety of different aspects of cardiovascular disease.

And what we're finding, at least on the basis of the studies that we're reviewing, is that one size doesn't necessarily fit all. And just as we were talking about male/female differences, it's very likely that there are differences in terms of subgroups as well as realizing that one of the very important distinguishing features is BMI and looking at a diet high in carbohydrate, for example, in BMI in a population with a BMI in the 20s, BMI 20 to 25, is a very different story than looking at a population like ours where the average BMI is well above that: 25, 26, et cetera.

And so recognizing that, again, dietary approaches that are consistent with improvement and prevention of cardiovascular disease,

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especially looking at the intermediary endpoints: lipids, blood pressure, et cetera, really does factor into the ultimate evaluation of those studies and where and how diet is measured in the outcomes that were reviewed.

So I think, again, as Linda points out, we've worked with the evidence. We worked with the papers as we read them, and those other statements related to inconsistencies, et cetera, in those data, really should be evaluated head to head before any further conclusions could be reached.

VICE CHAIR KLEINMAN: Well, I appreciate what you're saying, and also I appreciate your review of this because it's very informative. I guess that you just described it, Linda, in the discussion it's going to need to go through some of these methodologic consideration which may lead to different interpretations. It will end up being a pretty nuanced discussion, I imagine, given the complexity of this literature.

MEMBER VAN HORN: That's why we need

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a little more time to do that.

(Simultaneous speaking.)

CHAIRMAN SCHEEMAN: I just wanted to add to this -- okay, go ahead, Joan.

MEMBER SABATÉ: Okay. I just wanted to add to the discussion that we have to recognize that, yes, indeed, there are a few recent articles that seem to indicate that saturated fats may not have the effect we once thought in the past. However, I mean, there are other reasons that may explain these results.

I would say one is that the background diet or the context is deeper now than it was in the traditional OSA cardiovascular clinical trials done in the '60s. And another issue is that, in some of these papers, what they are comparing is the replacement with simple carbohydrates. So saturated fat may have an effect when it's compared with simple carbohydrates as far as cardiovascular disease, and this may mask or this may complicate interpretation of the results.

And is I read the third one, it is true

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that there is a clear difference between CHD and CVD, and we have to be very careful to what of these two entities or group of diseases we're referring to.

So the relationship between saturated fat and CHD I think has been clear for many decades, and probably still is the same; however, when we go into CVD, maybe not as clear. And also when we compare saturated fat with -- decrease in saturated fat but then increase in simple carbohydrates, maybe we'll then see the advantage that it is evident when it is replaced with unsaturated fats.

So I think this could be some of the situation that now it makes things more complicated, and we have to be very clear as far as what we are particularly comparing to.

CHAIRMAN SCHNEEMAN: And indeed, Joan, I think you were referring to the public comment that was submitted. And I just wanted to add to the discussion that part of the protocol and consideration in developing the protocol has

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been to look at intermediate outcomes that could be considered surrogate endpoints.

And we tried to work closely and interact well with NIH on some of their clinical guidelines to make sure that what we're identifying when we look for these intermediate outcomes are consistent with what NIH has used in their clinical guidelines as well. And so that's another consideration in terms of the protocol and how we can look at the evidence.

CHAIR SCHNEEMAN: So very good. Go ahead.

MEMBER SNETSELAAR: I was just going to add one more comment that Joan was relating as far as things have changed. I think the other very interesting factor that we're facing at this point, and I'm sure everyone's aware of the literature showing that the overall population, LDL cholesterol has come down over the past decade or so but has also kind of leveled off.

And when we think about what kind of changes have occurred in the U.S. dietary intake,

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probably one of the most major changes has been the identity of *trans* fats being equal, if not worse, to saturated fats as adversely affecting blood lipids.

And I believe in many ways we're seeing some benefits from the removal of *trans* fats from various products in the American food supply, and that has helped as far as that goes.

But we're also, as I mentioned, recognizing that this has leveled off and also appears to be almost increasing at this point.

And so trying to work with the current dietary intake, and looking at levels of various fatty acids becomes newly important as we go forward and recognizing even within the current situation, what are those drivers that continue to increase blood lipids and affect risks for cardiovascular disease.

So from the fatty acid perspective as we've just reviewed, saturated fat replaced with polyunsaturated fat continues to be a major benefit when we look at the totality of the evidence.

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CHAIR SCHNEEMAN: Great. This is very good information. Linda Snetselaar, I have a very minor thing; it's on, I believe, slide 16.

Where we have this draft conclusion statement coming from our look at children. It says -- the end phrase there says, throughout childhood and adulthood. I think the reference was -- I'm just worried about that phrase, throughout childhood and adulthood. I don't want it misinterpreted.

Do you understand my concern? It's really the impact is the children moving into adulthood as we discussed. I think it's just a wording thing; to make sure it's clear, we could perhaps handle it in a discussion or

MEMBER VAN HORN: Right. I think I see what you're saying, Barbara and, yes, the intent is -- the question is, if diet that has been replaced with polyunsaturated or other fatty acids or macronutrients during childhood results in improved blood LDL or HDL cholesterol triglycerides in adulthood, there really are insufficient data

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yet to be able to really draw a meaningful conclusion. Isn't that right, Linda? That's our -- yes.

MEMBER SNETSELAAR: I'm sorry; I got cut off, and I just got back on. What was the question again?

CHAIR SCHNEEMAN: I think we've got it now.

MEMBER SNETSELAAR: Okay.

CHAIR SCHNEEMAN: Thank you, Linda. Thanks, both Lindas.

VICE CHAIR KLEINMAN: I think just real quick again; I think there's a typo on slide 6. It's cognitive outcome childhood and adolescents, and the last words are infant. Oh, wait a minute.

I think that's slide 6, yeah. Yes, seafood consumption during childhood and neurocognitive development of the child and adolescent, right? They're consuming the seafood during childhood, and you evaluated these outcomes in children and adolescents.

-- So that last word, that word infant in the

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box there should be replaced by children and adolescents.

CHAIR SCHNEEMAN: Yes. I think you're referring to the blue box right underneath the other.

VICE CHAIR KLEINMAN: Yes.

MEMBER SNETSELAAR: Oh, yes. I see now. Yes, thank you. We'll change that.

VICE CHAIR KLEINMAN: Once a copy editor, always a copy editor, right?

MEMBER SNETSELAAR: We will change that, thank you.

MEMBER DEWEY: And while we're at it -- this is Kay Dewey -- I think there are two slides that were the same; this one and the next one. I think maybe one of them was supposed to be language and communication, but cognitive was shown in both.

MEMBER SNETSELAAR: Okay; we will make that change too, thank you.

MEMBER ARD: This is Jamy Ard. I had a question that is more about the question than the sort of conclusions relative to the question.

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So the conclusions are focused on substitutions of one type of fatty acid for another: so replacing saturated fatty acid with PUFA or, in some cases, replacing it with carbohydrates.

But it doesn't quite get at the question of, well, is there a certain amount of saturated fat intake that's reasonable? Because at one level, if we take the conclusions to their natural sort of extension it would be, well, eat as little saturated fat as possible and replace it with these types of things.

But it doesn't quite get at, well, how much is okay? Because we know with *trans* fats, basically that's the case. There's no amount that we would say is acceptable; as little as possible.

And I think to me, that's what the letter from that group was sort of getting at: right there is a target for saturated fat intake. But the way we've got the conclusions drafted, it doesn't quite get at that issue of, well, how much is reasonable in terms of still being associated with a lower risk of cardiovascular disease? Is

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that something that we could actually glean from the literature that you had to review, or is it all relative to changes in one fatty acid for another or one type of food group for another?

MEMBER SNETSELAAR: So are you sort of thinking about dose effects; going in that direction? Because we certainly could go back to the research and look at that more closely.

MEMBER ARD: Yeah, I guess it is sort of a dose relationship. I guess if we were to use upper tolerable limit for saturated fatty acids.

Assuming a background dietary pattern that is generally associated with a lower risk of cardiovascular disease.

MEMBER SNETSELAAR: Well, you know --
(Simultaneous speaking.)

MEMBER SNETSELAAR: Go ahead.

MEMBER VAN HORN: So more broadly, the recommendation is under 10 percent of total fat intake is recommended. And in fact, the American Heart Association recommends seven percent or less.

To our knowledge, there is no biologic

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requirement for saturated fatty acids, and because of the fact that this group is also reviewing eating patterns, what we recognize is that, in order to achieve all of the other nutrients Regan and Jamy and the group that just described all of that, is our concern.

The fact of the matter is that in order to achieve the levels of LDL cholesterol population wise, dietary intake of saturated fat that is seven percent or lower is consistent with meeting all of the other nutrient density recommendations related to dietary fiber and from fruit and vegetable intake and whole grains, et cetera, et cetera.

So I think, in fact, the DISC study was specifically designed to look at reductions in saturated fat intake in pre adolescent children, specifically looking at growth and development over the course of puberty in order to conclude efficacy as well as safety in growing children. And of course, there was no concern whatsoever in regard to adherence to that level of intake.

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So I think, population wise, and looking at the equations that still hold up; you know, for every one percent reduction in saturated fat there's a 52% percent improvement in overall risk.

I think the benefits of keeping total saturated fat intake lower and achieving the replacement issues that we've been identifying, poly fat, mono fat, plant protein, et cetera, is consistent with the overall dietary pattern recommendations that we're also trying to make.

And you know, again, we still have yet really to look at some of the specificity in regard to carbohydrates and protein. It just is that saturated fat and fatty acids have sort of been the focus for so long in terms of cardiovascular disease, and we're only now fine tuning all of the macronutrients, and their best combination, in order to achieve the health and longevity we're looking for long term.

MEMBER SABATÉ: If I may add, I think Jamy, you asked a very interesting question and

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a very poignant one that I think deserves consideration. My immediate reaction is, with what Linda just said, that to our knowledge, there is no biological need for saturated fat. So, is not an essential need there.

With respect to your question if there is a safe intake, I think most of the epidemiological studies kind of take this question in a monotonic or linear relationship, and in the spectrum of the studies that I do remember, there is not a threshold or lower limit that you can go, as far as saturated fat beyond which there is no related effects as far as cardiovascular disease, or particularly coronary heart disease.

So my immediate idea is that, yes, indeed, the lower the saturated fat, the lower the risk of coronary heart disease, based on the literature that we have available.

MEMBER ARD: So should we have a conclusion statement that says that, or is that necessary?

MEMBER SABATÉ: I think I said,

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saturated fat is part of the foods that we typically consume. Even plant sources of fat also contain some saturated fat, so saturated fat is not only present in animals, but is also present in many plant foods, and nuts to some extent also, a small percentage of saturated fat.

So I think I would say practically impossible to have a diet completely rid of saturated fat, so I would not go to the extreme, telling you to state a limit, but that's my opinion, and I'd like to see what others think about this issue.

MEMBER VAN HORN: The other thing, Jamy, is that as Linda pointed out, we have yet to really finish the evaluation, given the magnitude of papers that we're still looking at.

I think the point you raised is a good one; I don't believe that on any of the given papers that we're reading, that very answer is likely to come forward. We really do have to rely on the totality of the evidence that continues to point to the percent of. Saturated fat associated with

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improved population wide lipid levels is less than seven percent of saturated fat intake, with intake of unsaturated fatty acids included to derive the eating pattern that we're trying to recommend.

So because, again, this is our Advisory Committee report, and the Dietary Guidelines themselves will be made as a result of this report, I think certainly in our discussion we can raise that very important issue and perhaps reiterate the value of having a saturated fat intake that is no more than seven percent, and there's no limit on how much, how low the saturated fat intake could be.

But again, in order to meet all the other nutrient needs required across the life's course, the eating pattern that will ultimately result as the U.S. Dietary Guidelines for 2020 will take all of those factors into consideration.

CHAIR SCHNEEMAN: So this is Barbara.

I'm also reflecting back on how this very type of issue was handled in the 2015 report, and we can certainly look back and see what they did.

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I think that Committee was also probably looking very closely at the DRI report, the macronutrient report, which dealt with different types of fatty acids, but then also had to factor their recommendations into the kind of dietary patterns that were being encouraged and recommended at which some saturated fat is going to be a part of those dietary patterns.

So I think there -- and, Linda, I appreciate your comment of, these are the kinds of things that we're probably going to have to address in our discussion.

So additional comments or questions?

So maybe we're ready for another non controversial topic.

(Laughter.)

CHAIR SCHNEEMAN: Beverages and Added Sugars, and that's my favorite -- the chair for that subject. So, Beth, are you ready?

MEMBER MAYER DAVIS: Sure, after that introduction to this non controversial topic

CHAIR SCHNEEMAN: Let me just observe

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that -- I just want to note that I think we should go ahead and get started with the presentation. We can go a little bit after noon to finish up the presentation, and we can always have more discussion after lunch.

The hard time is that we have to re-engage at one o'clock for the webinar. Okay?

MEMBER MAYER DAVIS: Yes. So I'll try to do this efficiently but clearly. So of course, here's the subcommittee, and it's been wonderful to work with this group of people.

So at the previous meeting, we talked about beverages during pregnancy and birth weight.

And so today we have quite a bit to cover: beverages and growth size and body comp, plus added sugars and cardiovascular disease. Then we'll turn our attention to alcohol and alcoholic mortality, as well as an update of our plan between now and when the report is finished.

So I just want to remind everyone that at the end of the day we will be bringing together information from the data analysis approach, the

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food pattern modeling, as well as work done by the 2015 Committee and the systematic review. And it's really the systematic review piece of this that I'm going to be talking about today, but that's not the only piece that we'll be considering ultimately.

So first, what is the relationship between beverage consumption and growth size, body comp, and risk of overweight and obesity?

So this is a reminder of our analytic framework, and since we last spoke about this, we did sort of refine our comparators so that we'll be looking at different amounts of the different beverage of interest, or looking at a particular beverage versus a solid form of that item, or looking at beverage versus water.

We also will be doing a comparison of sugar sweetened beverage versus the lower, no calorie sweetened beverages, either specific and only example of comparing two different beverages head to head, and then for dairy milk, we also do have interest in different amounts of fat because

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that's obviously of considerable importance just from a public health perspective.

As we're starting now with sugar sweetened beverages, because the 2015 Dietary Guidelines included articles up to December of 2011, we focused on the literature published since January 2012 rather than going all the way back to January 2000.

Again, that was partly because of where the Dietary Guidelines from 2015 left off, and partly just as a matter of reasonable workload and trying to focus our attention on them the best way possible in the time that we had.

So with that, for all beverages with the start of some 17 trials and after removing duplicates going through the screening process for titles and abstracts and full texts, we ended up with a total of 214 articles, 61 for milk, 41 for juice, 72 for sugar sweetened beverages, 37 for low- and no calorie sweetened beverages, and then eight for the comparison between those two.

So looking now towards the summary of

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evidence, a couple of notes. First, when we were looking at children, we did want to be careful between healthy growth versus excessive growth that would be considered to be unhealthy.

So for healthy growth, we focused on height and lean mass, whereas otherwise we focused on adiposity. Across studies there were lots of different ways to measure what would be considered as a component or a marker of adiposity, and we see some of those measures there.

But we did need to be careful to discern between those two, healthy growth versus adiposity.

And that's where adults were focused, completely on adiposity and again, a variety of ways in which different studies measured adiposity in some way or another.

So let's start with milk. There were 61 articles related to milk and growth, size, and body composition. In total, 29 for children, and these included studies covering ages two to 14. That wasn't our exclusion criteria; that was just what was in the literature. But there were 25

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prospective cohort studies and four RCTs with analytic sample sizes ranging from 49 to over 13,000.

And then For adults, there were 32 articles, including 24 prospective cohort studies, seven RCTs, one randomization study and analytic sample sizes ranging between 31 and almost 53,000.

So for children, most of the studies looking at various markers of adiposity did not find any statistically significant results, and the few that did were not consistent as to the direction of the associations.

There were four studies that focused on height as a marker of healthy growth; one RCT finding no effective milk intake on height compared to water, but that study was only 12 weeks which, when you're looking at height, was not obviously particularly long.

And there were three cohort studies that did show a significant positive association between milk intake and height in children, but had a much longer duration of follow up.

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There were seven cohort studies looking specifically at different types of milk with regard to fat level and also flavored milk in relation to adiposity outcomes in children, but those results were not consistent.

For adults, the studies of milk found no significant association between milk intake and adiposity for most of them. The few that did find a significant association were inconsistent in their direction of effect.

So the body of evidence for both children and adults had quite a few limitations related to consistency and definition of the exposure. Many of the studies had approaches to assessing intake that were not validated. There were certainly a lot of studies that did not well control for confounding; and again, there were inconsistencies in findings.

So the conclusion statement then for children: limited evidence suggests that milk intake is not associated with adiposity in children. Limited evidence suggests that higher

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milk intake is associated with greater increase in height compared to lower intake in children. And there's insufficient evidence to draw conclusions about the relationship between the type of milk, either milk fat content or flavoring, and adiposity in children.

For adults, limited evidence suggesting that milk intake is not associated with adiposity in adults.

So moving to juice, the body of evidence included 41 articles, 22 articles for kids; 21 of those were prospective cohort studies, and one was an RCT with analytic sample sizes from 21 to over 15,000.

For adults there were 19 articles with 14 prospective cohort studies and four RCTs, along with one non randomized control trial. Again, sample sizes ranging from about 26 to a little over 50,000.

For children, the studies that were of higher quality found little or no effect in the relationship between juice and growth size or body

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comp, and inconsistent findings otherwise. You see here a list, a pretty substantial list, of limitations in that particular body of evidence.

For adults, the RCTs that were available were of rather short duration with modest sample sizes. And the cohort studies, although there were large sample sizes, there were some consistent findings there, but quite a few limitations in terms of adjustment for confounding in particular, and also some problems with definitions of the exposure.

And so for conclusion statements for children, we have that limited evidence to suggest that 100 percent juice intake in children is not associated with growth size, body composition, or risk of overweight or obesity in children.

For adults we have as a draft statement limited evidence suggesting 100 percent juice intake is not associated with measures of adiposity in adults.

All right. For sugar sweetened beverages -- and here I will just remind everyone

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that this, again, is just part of the evidence that, in total, we'll be looking at. We're also considering the data analysis, the food patterning, and the work of the 2015 Guidelines.

And so here what's offered is the evidence review that we did according to our inclusion/exclusion analytic framework.

So for sugar sweetened beverages, there were a total of 79 articles, 46 in children, including ages two to 15, with 43 prospective cohort studies, just two randomized control trials, and one non randomized control trial with sample sizes ranging from 40 to over 15,000.

For adults, there were 26 articles, 23 prospective cohort studies, three RCT, and again, one non randomized control trial with analytic samples from 47 to 49,000.

These studies looked at different amounts of sugar sweetened beverage or sugar sweetened beverage intake compared to water.

So for children, the RCTs showed a relationship between a decrease in sugar sweetened

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beverage and a decrease in BMI or other similar measurements, BMIC for example.

The prospective cohort studies showed a positive relationship between sugar sweetened beverage intake and measures of adiposity. There were quite a few limitations with this literature, we should note. There were some inconsistencies across subgroups, inconsistency in methods, particularly regarding definitions of exposure, age of the kids, duration of follow up, and quite a number of the studies had very high attrition.

For adults, the experimental studies had inconsistent results and various limitations related to definition of exposure and generalized ability in particular, and some small sample sizes.

The prospective studies showed a positive relationship between sugar sweetened beverage and at least one measure of adiposity. This relationship, though, was not consistent (telephonic interference) markers of adiposity.

And so our conclusion first for children: moderate evidence suggests that high

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sugar sweetened beverage intake is associated with greater adiposity in children. And for adults, limited evidence suggests that higher sugar sweetened beverage intake is associated with greater adiposity in adults.

So turning now to low and no calorie sweetened beverages, there were 37 articles; 17 for children aged two to 16 years, and these are all prospective cohort studies with durations ranging from six months up to 12 years, and analytic sample sizes from 49 to 11,654.

Let me stop here for just a minute because we have one of our Committee members saying that they can't hear anything. Can others hear me, or am I talking to the air?

MEMBER MATTES: I can hear you.

MEMBER MAYER DAVIS: Okay, thank you. All right. Okay, great. I'm sorry; everyone's talking about interruptions so, okay.

CHAIR SCHNEEMAN: Heather and Jamy are saying --

(Simultaneous speaking.)

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MEMBER MAYER DAVIS: So it seems that there are two Committee members who are not able to hear right now. Okay, and it looks like maybe the two of those are linked. Okay. We will let the technical folks take care of that, and I will carry on unless, Barbara, you tell me to do otherwise.

(No response.)

MEMBER MAYER-DAVIS: Okay, I will carry on.

All right. So for adults we had 20 articles with 14 from prospective cohort studies and six from RCTs with analytic samples ranging from 50 to over 51,000.

For children, the majority of these studies showed no association for main outcome measures in study populations with similar limitations that we've seen in some of the other bodies of literature, particularly inadequate adjustment for potential confounders and, in some cases, short study duration and again, a number of studies with quite high attrition.

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For adults, a well designed RCT and a large prospective cohort found associations between low and no calorie sweetened beverages and reduced adiposity. There were limitations in experimental studies, though, with regard to study duration and some gaps in terms of any assessment of compliance with the intervention, as well as differences in the comparators.

There were also limitations in the cohort studies, including again high attrition as well as differences in assessment methods and difficulties relative to insufficient adjustment for potential confounders.

And so our conclusion statement for children: limited evidence suggests no association between low and no calorie sweetened beverage consumption and adiposity in children. For adults, limited evidence suggests that low and no calorie sweetened beverage consumption is associated with reduced adiposity in adults.

Okay. There was a small body of evidence that compared directly low and no calorie

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sweetened beverages versus sugar sweetened beverages. So For children, these are two articles. They actually were both from the same RCT, and for adults there were six articles, five from RCTs and one prospective cohort study.

For children, the evidence was too limited to draw a conclusion about the relationship between or a comparison between the low and no calorie sweetened beverages versus sugar sweetened beverages in regard to adiposity. And for adults, the evidence is relatively consistent, suggesting no association for sugar sweetened beverages compared with low and no calorie sweetened beverages with regard to adiposity. The studies had quite small sample sizes and a variety of problems, as you can see on the slide.

So for conclusions for children: insufficient evidence is available to determine the relationship between sugar sweetened beverage consumption compared to low and no calorie sweetened beverages on adiposity in children, so grade is not assignable there.

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For adults, limited evidence suggests no association between sugar sweetened beverage compared to low and no calorie sweetened beverages on adiposity in adults.

Okay. So now we're going to move to the next topic which is, what is the relationship between added sugar consumption and risk of cardiovascular disease?

And this is our analytic framework, and there are just a couple of things I want to point out here. Which is that, with regard to the intermediate outcomes, we looked at intermediate outcomes across the age range; to cross through adulthood, four experimental studies, but with regard to observational studies we only looked at intermediate outcomes for the kids.

The reason for that is obviously the RCTs have strong design no matter what, and it's just in the adults where we had more data to work with, where we had outcomes that are listed over here in terms of the actual clinical events related to cardiovascular disease, stroke, et cetera. So

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that's how we dealt with that. And that's really the main thing I need to point out here, I would say.

All right. So for inclusion and exclusion, we also added some criteria since the last time that we met regarding study duration and sample size criteria, and we also focused the intervention or exposure criteria, just covering a majority of total sugars intake.

So for duration, for inclusion, the duration of a minimum of four weeks for experimental studies, although we didn't impose a duration for the observational studies that we used for intermediate outcomes for kids, but we did stick to observational studies that involved at least 1,000 participants.

For intervention exposure, we looked at consumption of added sugars, particularly sugars from the overall diet or from the food or beverage that represented a large portion of overall added sugar intake, particularly sugar sweetened beverage.

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We did not, for this question of added sugars and CVD, we did not look at the issue of low and no calorie sweeteners or sugar alcohols.

Okay. So with that, the literature search started with over 5,000 papers. And then, through the screening process we ended up with 26 papers. Again, the publication range here was September of '14 to September of 2019, and that was picking up from the previous Dietary Guidelines work. So that's important to note too, this publication date range, limited to September of '14 to September of '19.

Okay. So with that, we had 26 articles, including three on kids, one RCT, two prospective cohort studies, an analytic sample from 478 to 2,000-plus, and then 23 papers for adults; six RCTs, including two that were crossovers, plus 17 prospective cohort studies with sample sizes ranging across those designs from 47 to almost 354,000.

So in terms of exposure, something that turned out to be important in this literature;

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several of the stronger studies, the higher quality studies, measured exposure at multiple time points and incorporated that information appropriately in their statistical analysis.

But many studies only assessed added sugars once, and some of the studies with particularly long follow up times, you can imagine this creates a weakness in the design, something that we all paid attention to.

For outcomes again, children, we just had intermediate outcomes. For adults, CVD, CHD mortality was the most commonly assessed outcome in the body of literature.

For children, there was one RCT and one high quality prospective study that documented detrimental effects of added sugars on total and HDL cholesterol which, by the way, were the only two measured in the respective studies, those two markers, whereas there was one weaker prospective study that found no effect of added sugars on blood lipids. But that particular study had significant study design limitations.

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In adults for RCTs, there were mixed results, but there were multiple limitations, including some very small sample sizes, and also one study with a behavioral intervention in which there turned out to be no difference in sugar sweetened beverage intake between the intervention and control, as well as some inadequate adjustment for confounders.

For prospective cohort studies, there were mixed results. But studies with multiple measures of added sugar over time did show an association with CVD mortality.

For concluding statements here -- and again, these are drafts like everything today -- limited evidence suggests that higher intake of added sugars is associated with worse lipid profiles in children, and again, this is limited for the grade.

For adults, limited evidence suggests that higher intake of added sugars in adulthood is associated with increased risk for CVD mortality.

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Continuing now, there was insufficient evidence available to determine association between added sugars in adulthood in terms of cardiovascular disease risk profile -- intermediate outcomes, that is -- risk of stroke; risk of incident ischemic CVD events; risk of PAD, and risk of heart failure. And across all of these you can see that we had either one or two studies available, hence our insufficient evidence. Grade not assignable for those.

Now for added sugars and growth size, body comp, and risk of overweight and obesity, this is the body of evidence that we're actually not reviewing, partly -- and it was partly addressed in the last review of sugar sweetened beverages and this outcome, so we've not gone further with that. We've also not addressed added sugar consumption and risk of type 2 diabetes.

For added sugars and growth, size, and body composition, I want to draw your attention for a moment to the 2015 DGAC in which it was found that there was strong and consistent evidence to

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show that intake of added sugars from food and/or sugar sweetened beverages were associated with excess body weight in children and adults, and that reduction of added sugars and sugar sweetened beverages in the diet reduces BMI in both children and adults.

And so for the 2020, this literature that we're addressing includes literature from 2012 to 2019, focused on sugar sweetened beverages as the key source of added sugars. So thus far our evidence review for sugar sweetened beverages and growth size and body composition does align, in part, with the 2015 conclusion. Our committee is also looking forward to more information that we'll have regarding dietary analysis and the food patterning work.

All right. Now, turning to a different topic

CHAIR SCHNEEMAN: Beth

MEMBER MAYER DAVIS: Yes?

CHAIR SCHNEEMAN: Can I interrupt?

MEMBER MAYER DAVIS: Yes.

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CHAIR SCHNEEMAN: I'm wondering, given the time, can we basically start this discussion after the lunch break? Would that

MEMBER MAYER DAVIS: Sure, yeah.

CHAIR SCHNEEMAN: Would that work? And maybe why don't we check in and see if there are any questions or comments right now with respect to what you have covered. Because it's kind of shifting to a different topic.

MEMBER MAYER DAVIS: It is; that's a perfect time, sure.

CHAIR SCHNEEMAN: Yeah. Okay. So are there any comments or questions at this point from the Committee members? Hearing none

MEMBER MAYER DAVIS: I think everyone is hungry.

CHAIR SCHNEEMAN: Well, at least the east coast people

(Simultaneous speaking.)

CHAIR SCHNEEMAN: Well, I was going to say, if we go ahead and break and start again at 1:00 p.m. Eastern Time and whatever time that is

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in the different time zones, and then we can start here but also have a broader discussion of the whole presentation.

MEMBER MAYER DAVIS: Sounds good.

(Simultaneous speaking.)

CAROL BOUSHEY: And we can do the time calculations. Just to confirm, we have to log off now, correct? And start over in the afternoon?

CHAIR SCHNEEMAN: Yes, but I'll let Eve explain it.

DR. STOODY: Yes. So the public, as well as the Committee members; the Committee members, you'll log in with the information for the Friday p.m. session: similar instructions, just different link and phone lines. And then the public, you'll have a separate link as well, and that was emailed to our delivery is also available at DietaryGuidelines.gov. So, yes, everybody will log off for now, and then sign in using the Friday p.m. information. So thank you.

CHAIR SCHNEEMAN: Great. I appreciate your comments, Beth. Okay? Talk to

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you all later.

(Whereupon, the above-entitled matter went off the record at 12:05 p.m. and resumed at 1:01 p.m.)

CHAIR SCHNEEMAN: Okay. I think we're live now. So, welcome back, everyone. We were in the middle of having the report from the Beverages and Added Sugars subcommittee.

And, Beth, if you don't mind, I'll just see if there are any questions that people wanted to bring up at this point before we go into the alcohol discussion.

MEMBER MAYER-DAVIS: Sure.

CHAIR SCHNEEMAN: Anything from Committee members to bring up at this point?

(No response.)

CHAIR SCHNEEMAN: Okay. It sounds like you can proceed. Everyone's anxious to hear about alcohol.

(Laughter.)

MEMBER MAYER-DAVIS: All right. All right, we'll do it.

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Okay. So, here is the question that we looked at the literature to address: what is the relationship between alcohol consumption and all-cause mortality?

So, NESR analytic framework. And I wanted to point out a couple of things here that were important in our review of the literature, which is to say, for comparators, our primary comparator had to do with different average alcohol consumption, or different patterns of alcohol consumption among current drinkers. In other words, binge drinking as an example of a pattern of drinking. And we did have, as a secondary comparator, individuals who were never drinkers.

And, in our framework, if the comparator group was a combination of never and former drinkers, then we did not look at that, because, as you would well appreciate, individuals who are never drinkers versus those who are former drinkers are really quite different in many respects. And so they really can't be commingled as a reference group. So, that was one type of

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study that we did, actually, not look at.

And in terms of end point, again, this was all-cause mortality. And we were focusing on adults primarily age 21 and older.

Considering inclusion and exclusion criteria for this literature review, we limited the observational studies to those that enrolled at least 1,000 individuals. And the dates that we worked with were January 2010 through March of 2020.

And so this was the result of the screening of this literature. We started with about 10,000 articles after removing duplicates. And then, after the screening process was complete, we ended up with 55 articles included for the systematic review.

So these 55 articles, we had no randomized control trials. There was one Mendelian randomization study. Fifty-four prospective studies. And most of these were quite large in the sample size, over 10,000 participants.

And several that were over 100,000 or had a few

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hundred thousand individuals.

Most of the studies focused on average alcohol consumption. And some, though, did look at patterns of consumption, particularly binge drinking. Not very many studies did both, but a few did.

Most of the studies assessed consumption only at one point in time. But there were a couple that looked at lifetime consumption in one form or fashion, or repeated the assessment of alcohol intake over time.

And there are a number of challenges, as we can well appreciate, in the measurement of the amount of alcohol consumed. And in comparing studies against studies from different countries, that was particularly an issue, because a unit of alcohol intake, or a drink, varied in terms of the actual grams of alcohol in the drink from country to country, from eight to 12 or 14 grams, for example. So, you know, that was just some issues that we had to work through in looking at the literature.

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Most of the studies included middle-aged and older participants, but some included younger. Which, for this topic of all-cause mortality, actually turns out to be important because of the impact of alcohol on, basically, injury-related deaths in middle age; younger individuals or middle-aged, particularly. So, that was important here.

And then, for data on current drinkers, again, you know, I already mentioned the issue of nondrinkers, but even for current drinkers, there are quite a lot of limitations in the literature with regard to potential for confounding, especially. And so that was something that we, you know, were certainly aware of as we looked at this literature.

So, the one Mendelian randomization study wasn't as helpful to us, frankly, as we would have hoped, because it was quite a small sample size, three thousand and some, as I recall, which for this type of design, you know, was not nearly as large as you would expect. And the advantage,

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generally, to this type of study is that you have a much better sense of the actual exposure. And yet, in this relatively small study, lower mortality was observed in those who had lower genetically predicted alcohol consumption. And so that was supportive, but not as definitive as an MR study, you know, might have been, because of the small sample size here.

For the cohort studies, most of the studies found higher mortality in those consuming relatively high volumes of alcohol compared to those consuming relatively low volumes. And, generally, there was a consistent dose response relationship.

Among drinkers, studies quite consistently found that binge drinking was associated with increased all-cause mortality compared to not binge drinking, and that more frequent binge drinking was associated with increased risk compared to less frequent binge drinking.

And binge drinking, by the way, was

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defined as consuming five or more drinks for men, or four or more drinks for women, during a drinking occasion. Which is almost -- which turns out to be something along the lines of half of all drinkers at some point will report binge drinking.

There are Mendelian randomization studies that address alcohol and CVD mortality or cancer. We are going to be taking a look at those to help us with context as we, you know, write about this topic of alcohol and all-cause mortality. So we won't be doing a full review of alcohol in relation to CVD or cancer, but we'll have some context.

(Telephonic interference.)

MEMBER MAYER-DAVIS: So, I'm hearing some very loud beeps. It just stopped. Okay. I think we're okay now. I don't know if I was the only one who heard that. But, anyway. Okay.

CHAIR SCHNEEMAN: No. I heard it, too.

MEMBER MAYER-DAVIS: So, moving on.

CHAIR SCHNEEMAN: We all heard.

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MEMBER MAYER-DAVIS: Okay.

CHAIR SCHNEEMAN: But it's now gone.
So, yeah, I don't know, it might have been --

MEMBER MAYER-DAVIS: It did end, so,
okay.

CHAIR SCHNEEMAN: Yeah.

MEMBER MAYER-DAVIS: Okay. Anyways.
So, our draft conclusion statements here.
Moderate evidence finds that high average alcohol
consumption is associated with an increased risk
of all-cause mortality compared to low average
alcohol consumption among drinkers.

And moderate evidence finds that binge
drinking -- again, five for men and four for women
during a drinking occasion -- is associated with
increased risk of all-cause mortality. And that
more frequent binge drinking is associated with
increased mortality risk compared to less frequent
or no binge drinking among drinkers.

So, the next steps that our
subcommittee will take will be to, you know, go
back and re-review these conclusion statements and

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grading in order to finalize these. Because these, especially the alcohol work, was quite recently done.

And then, as with all of the other subcommittees, the systematic reviews will be peer-reviewed. And we'll be, as I mentioned, collaborating and working with the data analysis and pattern modeling group for our question areas of beverages, added sugars and alcohol, for context along with the Dietary Guidelines from 2015. And then, with all of that put together, we will be drafting our report for the topics that we covered.

And I think that is my last slide, isn't it? Yes. Yeah. All right. Happy to answer any questions. Myself or any other subcommittee members can do that.

And others have acknowledged the incredible support of the rest of the team, the NESR team, and others. And I want to do the same, particularly because of the amazing good cheer all the time. It's just been a pleasure to work with

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them. So, thank you.

MEMBER BOUSHEY: Liz, this is Carol.

That slide about three times ago that gave an amount, gave some amounts, I just want to clarify, if you go back, I think, two, three slides. The one that gives -- you have an amount of -- oh, this one. Okay. So the top conclusion, it was high average. So was that a descriptive nature because some kind of absolute amount could not be -- just didn't make sense? Because it's --

MEMBER MAYER-DAVIS: Yeah, as I mentioned earlier --

(Simultaneous speaking.)

MEMBER BOUSHEY: Is there any -- yeah.

Go on.

MEMBER MAYER-DAVIS: Yeah. So, binge drinking is a different phenomenon than average intake. So, you can have the same average intake and have some small amount every day. Or you can have that same average with infrequent consumption of a lot of alcohol.

So, the first piece really is about

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average intake. And, as I mentioned earlier, it was a little bit tricky with this literature because different studies quantified exposure differently.

And so this really is just this general conclusion.

Again, moderate evidence that higher average consumption was associated with increased risk of all-cause mortality compared to lower average alcohol consumption among drinkers.

MEMBER BOUSHEY: Got it.

MEMBER MAYER-DAVIS: The amounts in the conclusion below relate specifically to binge drinking. Yeah. And that's the pattern of drinking as opposed the average amount.

MEMBER BOUSHEY: I see. Yeah. So, that must be making a bit of this and -- I see. Thanks.

MEMBER NAIMI: If I could just add to that. This is Tim Naimi. Just like Beth said, you know, the binge amount tends to be defined consistently. Whereas, across studies the definition of "light," "moderate," and anything above that being, let's say, "heavy," vary quite

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a bit from country to country or even within countries.

So, but, I mean, on the good side, it is a consistent finding that if you pretty much compare kind of light or moderate drinkers to people who drink more than that, regardless of where that cut point falls, it's a pretty generally solid conclusion across all those different levels.

In the context, you know, in the paragraphs we write up describing this, we will be kind of drilling down into more -- into the details about different kind of levels of average consumption. Because, in many cases, it's also challenging because they tend to be categorical, and in some cases include rather broad categories.

MEMBER BOUSHEY: Thanks for both of those explanations. Not having, you know, participated in this, thanks for that.

CHAIR SCHNEEMAN: Other Committee comments or questions?

Okay. Hearing none, we can move forward with the agenda. And so we're actually

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on the agenda; we're going to move to the next slide, to the next steps for the Committee. And I just want to remind you -- I'm going to remind everyone that the way that we're looking at the evidence is across three different types of evidence: the data analysis, the food pattern modeling, and the NESR systematic reviews.

And I think, Beth, you did a good description of showing how, while answering the question might rely on one type of approach -- say, the systematic review -- as we worked into the reports themselves we need to be integrating across the different types of analysis, analytical frameworks that we've been using. And that integration will be a part of our making our final recommendations.

Also, as the systematic reviews are finished, they do undergo peer review. That's a new step for the Dietary Guideline process. And so it's been, really, I think adding some value to the overall process. And the first round of systematic reviews went to peer review after

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Meeting 3. And the final round will occur after this particular meeting.

That peer review is being coordinated by USDA's Agricultural Research Service. And we really appreciate their stepping up to coordinate this aspect of the Committee's process. And the draft conclusion statements will be posted online, but after that peer review has been completed in the process.

So, to describe and give a little bit more background on the peer review of the Committee's systematic review, David Klurfeld, who is the National Program Leader at the Agricultural Research Service, Dr. Klurfeld has been coordinating this effort of peer review. And so we've asked him to make a few comments about the process, and how it's being handled.

So, Dr. Klurfeld, I'll turn it over to you.

DR. KLURFELD: Okay. Thanks very much, Barbara. There was a recommendation from the National Academy of Science, Engineering, and Medicine review of the Dietary Guidelines process

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that a peer review step should be added. But there were really no guidelines for this. So, a lot of this just fell to me to determine, based on many years as associate editor of the American Journal of Clinical Nutrition, how this would be handled.

And one of the things I decided early on is that the peer reviewers should wait to receive the systematic reviews until the draft DGAC conclusions were available.

So, we've done maybe a dozen complete reviews, to date. And the floodgates will open after this meeting to get the rest of them handled.

And we're only asking federal scientists to participate in this. And they're serving in a totally anonymous fashion. So, there are two reviewers assigned to each systematic review. And those two people don't know who the other reviewers are.

And I will point out that I've excluded scientists from USDA's Food and Nutrition Service, since CNPP is part of FNS. I didn't want there to be any appearance of a conflict of interest.

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So, there are a number of other federal scientists from other agencies assisting in the DGA process. None of them are being asked to participate in the peer review system.

So, the agency's scientists are from -- and I'm going to not just use the alphabet soup of abbreviations, since I know the public is listening to this. So we have NIH, the National Institutes of Health; ARS, the Agricultural Research Service; FDA, the Food and Drug Administration; CDC, Centers for Disease Control and Prevention; VA, the Veterans Administration; the Department of Defense; and the Economic Research Service of USDA are all participating in this.

I want to point out an important factor that, having been in Washington now for several versions of the Dietary Guidelines, I will tell you that no political appointee from any agency has contacted me about this process. My boss, the Administrator of the ARS, has, on occasion during this process, asked me if I need any protection

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or political cover. And I've told her everything is good.

And nobody from the food industry has contacted me, either. That's another thing I hear all the time, that the Guidelines say what the food industry wants us to say. And there's been zero contract from anybody who shouldn't be talking to me.

I will tell you that I did get one email from a university faculty member volunteering to help with the peer review process. And I sent an email back saying "thanks, but no thanks; only federal scientists are doing this."

The reviews are not agency positions. They're based on the personal expertise of the reviewers selected to do this. And there is no specific format. I basically asked reviewers to treat this just like they would review a journal manuscript.

And the reviews have varied from one paragraph to several pages. But I have to tell you, I've been really impressed with the care and

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the detail expressed in the vast majority of the reviews.

So they've been very helpful. And I've sent -- once I get the two reviews, I send them back to Dr. Obbagy. And her staff is actually preparing responses to the reviewers. But I'm assuming we're not going to make those public. Just the way when a draft manuscript is submitted to a journal, you don't have draft number one and the reviewer's comments and the response. You only see the final manuscript. And that's what I expect will be made public.

In the cover email that we sent to reviewers along with the systematic review, we actually suggest that they focus on several components of the systematic review. And I will give you those in order priority, with the most important being the conclusion statement and the grade, to be sure that that represents the strength of evidence supporting the conclusion statement and that it's coherent with the findings of the systematic review.

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The summary of the evidence, the bullets that provide the key points; the description and synthesis of the evidence; and all the text, the tables, and the figures that you folks saw, were sent to the reviewers.

So there was inclusion/exclusion criteria, the reasons for excluding certain studies, the evaluation of the risk of bias consistency, precision generalizability, all of that was provided. If there were research recommendations based on gaps and limitations identified, that was included. And then the list of all the articles, either included or excluded, was provided.

In addition, each document included components of the protocol used in conducting the systematic review, which viewers have seen today and yesterday, such as the analytical framework, the inclusion/exclusion criteria, the search strategy, and the screening results. So the flow charts that were shown by the subcommittee chairs were provided to the reviewers.

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And as part of the preparation for this activity, Julie Obbagy presented a one-hour webinar. And we have about 86, I think it is, reviewers. We had 70 people on live. Dr. Obbagy recorded the webinar. And we sent a link out to the scientists and we know that a number of people who weren't available during the initial presentation did log on to view it. And her remarks were actually similar to the remarks she gave to the DGAC two or three meetings ago.

Reviewers were asked to return their comments within 14 days. And almost everybody made that time. I was actually pleased to see quite a few folks return their reviews early. We sent those comments to the NESR staff already. They, obviously, were working overtime to get you folks to where we are today. So they will be sending me back responses to the reviewers, which will be distributed by me to all of them.

And if they actually disagree with the reviewer comments, they will provide a rationale for that. And if the reviewer disagreed with the

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draft conclusion, that will come back to the DGAC, as well.

So, I made the decision not to review those questions for which a conclusion of no available evidence was found. And Julie sent me 13 questions like that. And there was one yesterday on neurocognitive development that there was no evidence, from Dr. Donovan in the Pregnancy and Lactation subcommittee.

So, as of now, we have 14 with no evidence. And we just heard that there were, in the Beverages and Added Sugars subcommittee, there are a couple of questions that it appears will not be reviewed. I don't know if there's an edit review or not. But it's all relevant for me juggling assignments of the remaining reviewers and getting things done.

I will tell you that a number of federal agencies are being to telework for one day to one month. So, that shouldn't affect timing, but if somebody has to print something out for review, it may affect the timing.

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We actually have finished our assignments for the Frequency of Eating subcommittee. There were two questions that had no evidence. And the remaining four questions have been peer reviewed. We haven't gotten back the response from the NESR staff.

So, we're hoping to get the remaining questions available for the reviewers about two weeks from today. And I will send them out within a couple of days of receipt of that.

And so that's the end of my prepared remarks. I'm happy to take any questions from the Committee.

CHAIR SCHNEEMAN: Great. Thank you, David. And we really appreciate the effort that, not only you in coordinating this, but all of those scientists who are contributing.

MEMBER NOVOTNY: This is Rachel Novotny. I have a question. Did I understand that -- so the Committee will only see the reviews if there's a disagreement with the conclusion? Is that how I understood that process to go?

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DR. KLURFELD: That's the correct interpretation. And that was a plan that I came up with simply to not burden you folks with lots of additional reviews that you need to do.

MEMBER NOVOTNY: Okay. Thank you.

CHAIR SCHNEEMAN: Okay. Any other questions or comments for David?

DR. STOODY: This is Eve. I was just going to note, too, for the Committee members. So, as Dave noted, the NESR staff, and all of you, were very engaged in preparing for this meeting.

And I will just note Dr. Obbagy is not on the line, so I'm kind of speaking on her behalf. But they did send Julie the peer review comments that have been completed, to date, and actually, in the last day, have shared them with the respective NESR staff.

And I think definitely think things that would require a change will definitely come back to the subcommittee, or come back to the Committee. I think if it's some kind, you know, editorial or something like that, you know, they

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can help support that in tracked changes and show it. But it's really the discussion items more around things that there's a change or there wasn't clarity in the description or something like that that would come back to the Committee.

DR. KLURFELD: This is Dave. I'm glad to hear Frequency of Eating is under review and on the way.

CHAIR SCHNEEMAN: Great. Well, if there are no other comments or questions for Dave right now, again, thank you for coordinating this.

It's something new, and it's a major effort given the size and scope of the evaluations that are coming forward for the scientist reviews. So, thank you very much.

And I know we have to do a little bit of reshuffling to get everyone back on discussion, but what we want to talk about now are some of the next steps beyond the peer review. And so I'm going to start by talking about the Committee report itself.

DR. STOODY: And, actually, if you'll

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just make sure your line is on mute. There's a little bit of feedback. Thanks.

CHAIR SCHNEEMAN: I'm not going to put my line on mute.

(Laughter.)

CHAIR SCHNEEMAN: So we'll talk first about the outline of the Committee's report. And then I want to talk a little bit more about the integration chapter to get some input and discussion from the Committee. So the Committee discussion we'll do after I go through these particular slides.

So, the overall outline for the scientific report, I think we've all seen this before. The executive summary, setting the stage and integrating the evidence, the methodology, the evidence on diet and health, future directions, and then the appendices that support our work.

So, if we look a little bit more at how we're organizing the evidence on the diet and health section, the Committee has recommended, and we're focused right now, on organizing by life stage,

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beginning with pregnancy and lactation through birth to 24 months, and then two years and older.

And the topic area chapters that will provide the Part D evidence on diet and health include the conclusion statement, summary of evidence, the links to the NESR.USDA.gov, the relevant data analysis, food pattern modeling report. So, some things will be in the physical report; some things will be handled through links.

And then discussion of our findings in relation to the 2015 Committee's work. And the summary of evidence related to the topic area with recommendations to the Department based on our review.

So, this just outlines a chapter template that will be used for that evidence on diet and health. Introduction, list of questions, methodology, review of the science, discussion, summary, and references. And I know as you've given the subcommittee reports you've been talking about when is something in a conclusion, what are some of the elements you want to make sure are a

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part of your discussion of your findings and conclusions.

So, now I want to shift and talk about the Part D, the setting the stage and the integration chapter. And just to remind you that the purpose of this integration chapter is to synthesize the major themes and findings from our report, and really provide an overview or kind of big picture of our advice to the Department for the upcoming edition of the Dietary Guidelines for Americans.

In terms of a process, this is something that Dr. Kleinman and I have been working on. And so we decided that it would be useful to have a working group that would work with myself and with Dr. Kleinman to draft the chapter. And the working group members that we've identified, or that have agreed to serve: Jamy Ard, Teresa Davis, Richard Mattes, Jamie Stang, Elsie Taveras, and Linda Van Horn.

And we think they'll be able to bring perspective from the various subcommittees to help

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in crafting the integration chapters so that it will reflect the synthesis of the work of the Committee as a whole.

I would note that Dr. Kleinman and I have been keeping notes from the discussions at each of the public meetings. And, of course, we have the minutes from each of our meetings. However, we do know that, over the past few weeks, everyone has been involved in a hands-down, full-out intensive work at the subcommittee level to complete the work prior to this meeting to complete as much as possible. And so we deferred having a discussion with our working group until after this public meeting. And so we will start that process later this month.

So, what I'm going to do in the next few slides is highlight some of the themes and issues that we have compiled, to date. Some of it is probably still at a high level, but I think it would be very useful to me, and certainly to the working group, to get your input. You know, this is intended to reflect our work as a Committee.

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And so your input is very valuable as we proceed.

So, if we focus on some of the major themes under discussion, I think part of setting the stage for our report is to identify the public health challenges, and particularly those public health challenges that are diet-related and for which improvements in the American diet can have an impact on promoting health and reducing risk of disease.

The prevalence of overweight and obesity across life stages has certainly been an overriding challenge. And I think for most of the topics and questions that the Committee has reviewed, and for which we looked for evidence, we've seen it related to this particular area. And the Committee has also repeatedly brought up the concerns that the prevalence of overweight and obesity can in fact be a driver for the prevalence of chronic diseases in the American population. And we know that these chronic diseases are associated with diet and lifestyle. And that this is another major public health challenge that our

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Committee has examined in its evidence reviews.

Clearly, diseases such as type 2 diabetes, CVD, certain cancers, are known to be among the leading causes of morbidity and mortality in the U.S.

In addition, we are certainly learning that dietary factors that influence pregnancy outcomes, as well as dietary factors that impact the health during infancy and early childhood, are also important public health challenges for us to consider.

The other aspect of setting the stage is looking at the typical dietary pattern among Americans. So, in addition to the health outcomes, our work has determined the nutrients and food group consumption patterns that are of public health concern. We've used a systematic approach to identify nutrients that are either under-consumed or over-consumed and associated with the public health problems that we've documented, as well as this notion of problems in food choices or food groups that can result in public health problems.

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That overall feeding into the dietary pattern thinking.

So, and as a part of our analysis of dietary patterns, we've come to understand that it's important to understand how the typical food choices for many Americans within the food groups can limit the nutritional quality of the dietary pattern. And we certainly heard that earlier today.

So, another part of, then, our major theme is obviously the theme of life stages. And, for this cycle of the Dietary Guidelines, it will be the first time that a full picture of life stages will be used as an important organizing principle.

And we've been discussing how making healthful food choices carries across all life stages and that introducing foods into an eating pattern early can influence choices over the lifetime.

We have discussed key transitions in dietary patterns, beginning with infancy and dependence on a single food, and then building a variety of foods throughout childhood, as well as

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more independence in making food choices as children develop, become adolescents, the sort of metabolic changes that are important. And then the importance of building awareness and acceptance for food choices that promote health and reduce risk of overweight obesity and chronic disease over the life span.

Within adults, we've discussed the importance of meeting needs for pregnancy and lactation, as well as understanding how to adapt dietary patterns for special dietary needs or food choices, including the importance of making adjustments for the needs of older Americans, as well.

In addition to the transition in diets between life stages, each life stage contains its own unique transition point. And this was discussed quite a bit at the Houston meeting. Some examples include children moving into day care or school, adolescents or young adults with a transition from living at home to more independent living, variations in physical activity, as well

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as special nutrient needs or dietary patterns that are important for accommodating specific nutrient needs, health status, and lifestyles.

So, the other major theme for organizing has clearly been the focus on dietary patterns. We certainly recognize that previous Dietary Guideline Advisory Committees, DGACs, and subsequent Dietary Guidelines have focused on the importance of dietary patterns as a framework for the Dietary Guidelines. And we're also now seeing from our work that using this focus is then important within and across life stages.

And I think, of particular importance, and has been noted in the subcommittees, the expansion of literature and evidence related to dietary patterns in this area has really been very valuable for the work of our Committee building on previous reviews.

So, the work of our Committee has found that dietary patterns can be characterized in various ways and have different names and descriptions. However, it seems that the most

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important characterizations of the pattern are the foods to encourage within the pattern, and those to limit within each of the eating patterns or dietary patterns. So the patterns remain the focus.

I would observe that, related to this characterization, we have discussed that characterizing only a macronutrient profile, doing that alone does not seem to be enough to evaluate the value of a dietary pattern to promote health and reduce risks as knowing the quality of the underlying food choices. That's what seems to be most important to provide an assessment of quality.

In other words, a reductionist approach may help us to tease apart certain dietary components related to health and disease risk, but we need to have a bridge from that knowledge to dietary patterns to understand those components in the context of the full pattern.

And I just want to give a couple of examples that I think come out of the discussion today and previous meetings. So, for example,

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we've addressed the food components, such as added sugars as a food component to limit in the diet.

But the bridge to the dietary pattern is the evidence that highlights the importance of limiting foods that are top sources of added sugars. The sugar-sweetened beverages, sweets, and desserts, for example.

The other side of something to get enough of, we know that few Americans achieve or exceed the AI for dietary fiber intake, which highlights a food component; however, a dietary pattern that addresses fiber will focus on whole grains, fruits, vegetables, legumes, and other plant food.

Even in our examining the saturated fatty acids, we've had that discussion that it's important for us to consider the type of dietary patterns that result in a pattern that enables replacing saturated fatty acids with polyunsaturated fatty acids.

So, some of the other topics that are more general that I want to highlight, because I

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think they are going to be important to pull out: for several of the topics and questions that our Advisory Committee has been focused on, we've been providing an update to the evaluation that was done in 2015, or sometimes even earlier. In some situations we have concurred with the evaluation of the 2015 Advisory Committee. And in some cases we've been able to update their work by adding more evidence to that review. Often, we've seen that this may be strengthening the nature of the recommendation. But certainly pointing the way to where we still need some additional evidence.

So, these are topics, then, that should be carried forward from the 2015 to 2020. And those will be addressed in the report itself.

We also have noted in our discussions that there's some topics that have been a part of the Dietary Guidelines, and remain of public health importance, but our Committee was not asked to review evidence. Those weren't the topics and questions we were asked. However, because of the public health importance, it is important that

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these areas remain a part of the Dietary Guidelines.

And just to give some examples that have come out of our discussions: certainly *trans*-fatty acids, dental caries, the importance of physical activity as part of the healthful lifestyles. And I think there are probably others that have been identified in the subcommittees.

In our report, we also have discussed the importance of acknowledging comments from the public, as well as our own Committee discussions, on the implications related to the food system and food environment for the Dietary Guidelines for Americans. Such topics have touched on areas such as sustainability, food insecurity, access to healthful dietary patterns, aspects of food environments that influence choice, as well as the importance of understanding approaches to encourage behavior change to better meet the recommendations in the Dietary Guidelines.

We recognize that we have not evaluated evidence related to these topics. So they're not part of our conclusions and recommendations. But

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certainly I note, and I think we can note, that in the National Academy report on the Dietary Guidelines process there was a specific recommendation to the Secretaries of USDA and HHS to commission research and evaluate strategies to develop and implement a systems approach into the Dietary Guidelines. And that the selected strategy should then begin to be used to integrate systems mapping and modeling into the DGA process.

So, again, it's something that we can point to.

Okay, next slide. So, then there are also emerging topics related to the Dietary Guidelines for Americans. And I think that the integration chapter should reflect some of the discussion that the Committee has had on these types of topics. I think the depth of this topic will be covered in the future directions, but there's some overarching themes that should be considered here.

So, several of the questions that we've been trying to tackle began to address topics related to how we eat, not just what we eat. And

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I think we often found that there was insufficient evidence to tackle some of those questions. But it's likely that, prior to the next cycle, there may be more evidence available. So we don't think it's a topic that should go way, but something where new research can help us understand if there are recommendations that are needed in this area.

I think we should be able to highlight areas of consistency across cycles of the Dietary Guidelines for Americans. And such consistency, I think, can strengthen the message of the importance of nutrition and food choices in health promotion and disease risk, disease prevention, prevention of chronic diseases.

Illustrating this consistency is important to support the motivation through changing behavior. In a sense, the body of evidence can provide some motivation to improve dietary choices, but such motivation needs to be coupled with opportunity and ability to change behavior.

Throughout our discussion we have

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highlighted the values of certain resources to provided data and the evidence for updating and adding to the scientific base that supports the Dietary Guidelines. Certainly, examples include the Dietary Reference Intakes. We, as a Committee, have benefitted from updates to sodium, potassium, calcium and vitamin D. But, as we've continued our work, I think we've become aware of the needs for updates related to macronutrients, and certainly the nutrient requirements in infancy and childhood, including the upper levels for certain nutrients.

And, of course, a key research -- a very key and important resource is the research that addresses the topics and questions of high priority for the Dietary Guidelines that we've been identifying throughout our report. And I think we had some discussion earlier of ways that we can help magnify the importance of that research.

So, that's sort of my run-through of just, again, sort of high level. I want to have some opportunity for comments from the members of

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the Committee. But I'd like to first turn to Dr. Kleinman for any additional comments or perspectives that you would like to add.

VICE CHAIR KLEINMAN: I think you've done a wonderful and complete job, Barbara. So I really don't have anything additional to add.

CHAIR SCHNEEMAN: Okay. Well, we will open it up to other members.

(Simultaneous speaking.)

MEMBER MAYER-DAVIS: Hello, this is Beth Mayer-Davis. Oops, somebody else jumping in?

(Simultaneous speaking.)

MEMBER HEYMSFIELD: -- I'll wait for you to do it.

MEMBER MAYER-DAVIS: Okay. So, I'm just really pleased to hear that, not only will you be addressing integration across the specific work that our various subcommittees have done, but that you're really thinking so broadly about public health issues, about context, about, you know, issues related to diet and chronic disease that are very relevant in terms of health equity or

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health inequity. You know, thinking about, you know, issues with food access, thinking about all of the many, many issues that you outlined that I know you're going to cover.

So, I think that will provide a really full context for the report, which I think will be extremely helpful. So, I just wanted to make that comment and thanks for the breadth of your thinking, you know, for this chapter. I think it's really, really important.

MEMBER HEYMSFIELD: Okay. This is Steve Heymsfield. I think this integration chapter is a wonderful idea.

I just want to mention a few things.

And I'm not sure they need to be in the chapter, but, in my world, I was president of the Obesity Society last year. There are a lot of issues swirling around that are sort of in orbit around the Dietary Guidelines and people come to me and ask me about.

And I'll just give you a few examples. The environmental impact of the foods we eat and

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grow. Things like that seem to be coming center stage now. Things like high versus low carbohydrate diets, keto diets, time-restricted feeding. These are all issues that we didn't deal with, at least in the committee I was on, two committees I was on.

And I just wonder, I know you don't want to take up a lot of space in that document, but I think these are topics that are hard to ignore and I think a lot of people in the public are interested in them. I just wondered, is there any way these topics might be alluded to in some way, Barbara?

CHAIR SCHNEEMAN: Yes, thanks, Steve.

Yeah, thanks for the comment. Certainly, my point that we need to acknowledge those comments and acknowledge our discussion, while we haven't been the body to look at the evidence, I think we can point to the Academy recommendation of the importance of a food systems approach, which begins to pull in certainly the environmental impact.

And also, you know, there are other

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federal agencies that could be, at a government level, there could be the opportunity to start working amongst federal agencies on some of those topic areas.

Again, it's not something where we're making a recommendation, because we haven't reviewed the evidence. But we can point to the fact that this is something we've observed from the comments we've received and the discussion.

And with respect to what you've pointed out on the different dietary patterns, high/low carbohydrate, keto, you know, we certainly have seen that a lot of comments have addressed those types of diets.

And oftentimes they are being presented in the context of a treatment for chronic disease such as type 2 diabetes, or as a part of a weight loss program. And so certainly our focus has been on maintaining health, reducing risk.

I think we can point to the fact of the interest in this area, and the need for the federal government perhaps to start thinking about -- what

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is the process to deal with this?

If it's not the Dietary Guidelines, where else can it be dealt with?

MEMBER HEYMSFIELD: Yeah. Those are great points.

MEMBER DONOVAN: So, this is Sharon Donovan. Thank you, Barbara. I think that was a really good summary of a lot of discussions across many subcommittees.

I have just a couple of comments. One, I think that our research recommendations, as you've noted, are going to be critically important for us to help inform, you know, the next process, which as we've talked about in many meetings, needs to be funded by the research.

And to do those randomized controlled trials, so we're not so dependent on prospective cohort studies, are very expensive and they request -- they require time. And they are not appropriate, obviously, for some outcomes.

So, you know, I hope that's -- just like we saw from the, you know, the initial B24 that

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there will be funds requests for applications. That's going to help us to fill in some of this evidence.

The other thing I was thinking about, in the saturated fats discussion, and I think it makes sense from this idea of the conflict you talked about. You know, bridging from nutrients to food patterns is -- perhaps I'm thinking about the food matrix.

And so, you know, something that I've heard, for example, Arne Astrup, talk about in terms of saturated fat, it's like all saturated fat is not equal, right? Not only in a fatty acid composition, but the food matrix in which it exists.

And so there is some evidence comparing, for example, dairy saturated fat with meat saturated fat, or with butter, with cheese.

And I'm not sure in the evidence if it's sufficient to analyze that.

But at least perhaps to bring that into the fact that is -- I totally agree with the Dietary Guidelines taking a food based approach.

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But, I think that, you know, to fully flesh that out, to think about the matrix in which these nutrients exist. And you know, certainly in the infants, the B24, we think about that a lot in terms of the nutrients as they exist in human milk versus infant formula, which are typically in very different forms and concentrations.

So, just something that I thought that maybe we could -- if we don't have the evidence to support it, then at least maybe part, mention it in the discussion. Because there are some reviews and systematic reviews that have actually attempted to investigate that.

CHAIR SCHNEEMAN: Great. Thanks.

MEMBER DEWEY: This is Kay Dewey.

MEMBER VAN HORN: Barbara, this is Linda -- oh, sorry. Go ahead.

MEMBER DEWEY: Okay. Yeah. I just wanted to mention that it may be useful to include some discussion of physical activity, not in depth, but when the integration chapter is discussing prevalence of overweight obesity and chronic

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diseases, you know, making sure not to forget about the physical activity side of the equation, I think is important.

And then I'm assuming that at some point today we'll have a chance to maybe talk a little bit more about the nitty-gritty of the chapters.

I have a couple of questions about getting those written.

But this is probably not the right time right now.

CHAIR SCHNEEMAN: Sure. We can come back to that. But that's a good point.

MEMBER VAN HORN: Barbara, this is Linda Van Horn. And I would just echo the accolades, your very comprehensive overview of this integration chapter and all of the details related to it. And I certainly support everything that you said.

But I'm wondering if, just in terms of organization of this approach, while we consistently talk about building from the 2015 Guidelines, et cetera, I would love for us to sort

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of highlight the totally new direction that this report is taking, in the sense that we really are initiating a life course overview of diet and health for the first time.

And I think that the emphasis that we have -- you started out, I believe, I don't see the slide in front of me right now, but you very appropriately started out with overweight and obesity as being a major public health problem.

But I think that, you know, now that we are at a point where we recognize that the origins of overweight and obesity actually do start very early in life, in fact, potentially in utero, you know, I would love that, you know, we were able to fully capture the importance of starting with healthy diet behaviors that, you know, are supported and then continue throughout life for prevention of chronic disease.

And recognizing that again, the current or traditional approach of dealing, you know, diagnosing and treating a problem after it's developed, is not necessarily in the public's best

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interest.

If we know more and more that these, again, origins begin with early diet behaviors and, you know, taking the opportunity to fully support and encourage a life -- a life course view of these dietary recommendations.

So, you know, it's not in any way different from what you were saying, as much as maybe capturing why this is a unique set of recommendations based on this new view that we've included.

CHAIR SCHNEEMAN: Great. Thanks.

MEMBER NOVOTNY: Hi, this is Rachel Novotny. I'm very pleased to see the range of topics and ideas that you're thinking about for that chapter.

It sounds like a lot of what we talked about is there. One thing that I'm wondering about, and I'm wondering out loud is, if it goes there, it goes in the report at all?

And where -- any comments from us about the process? You know, since the process has

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changed and a few things are being developed as we go, for example, as we just heard from Dr. Klurfeld, about the review process.

Whether -- and perhaps in the context of thinking about DGAC cycles and just whether that will be there? Or what -- if you've given that any thought, as to whether we comment on that, whether you think it's appropriate?

CHAIR SCHNEEMAN: It's a good point, Rachel, because certainly I've thought about that.

And I know Jamy Ard and Carol Boushey and I were on that National Academy Committee.

And so we've sort of been sensitive to where recommendations have come into play. I think there probably could be an opportunity in the future direction to highlight some of those things.

And the challenge is, you know, we don't have a formal discussion about that. But certainly, in working with the drafting group, we may be able to pull together some ideas that we would want reflected.

I think my hope is it would be useful

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to the Department too, to -- since they've instituted a lot of new things. So, we'll figure out a

MEMBER NOVOTNY: Well, and also that -- Yeah. And also that there just seems to be a lot of, I don't know, misunderstandings about what the process is.

So, to kind of lay it out. Use this opportunity to lay out what is and isn't, and so on. It seems like an opportunity.

But, yeah. Thanks.

MEMBER DAVIS: And this is Teresa Davis.

CHAIR SCHNEEMAN: Yeah. And

MEMBER DAVIS: I think it's important -- it's important to consider for the next Dietary Guidelines, that, if possible, the process would start a little bit earlier, because we've been rather limited in the amount of time that we've had to evaluate all this evidence. So, I don't know if it's appropriate to put into the chapter.

But certainly, you know, I think if the

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next Dietary Guidelines Advisory Committee could be given a little bit more time, it would be helpful in, you know, coming to the -- some of their conclusions and then -- and evaluating the evidence.

CHAIR SCHNEEMAN: Yeah. Good point.

I did want to -- I think some things we can also make sure in the methodology, that may be a way to address part of this.

And Teresa, to your point, I have to tell you, part of my sense is just recognizing how valuable it was to have the B24 working group, and have that feed into our process, as opposed to having to start all of that from scratch.

So I think we can illustrate some examples where there can be things in place that help the Committee in its work.

MEMBER ARD: This is Jamy Ard. Thanks, Barbara, for providing a really nice overview of kind of where that work is going to go.

One thing that I think that's

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interesting to think about that struck me today after sort of summing up all of the presentations, especially related to dietary fats and sugar sweetened beverages and alcohol.

So when we look at those in isolation versus what comes out of the subcommittee around dietary patterns, were there very consistent sort of recommendations around reducing the intake of added sugars in sugar sweetened beverages in those patterns? Or inclusion or exclusion of alcohol?

Or lower intake of saturated fats?

I think one of the things that we will need to be thinking about is how do we integrate or reconcile what seems to be its -- on face value, sometimes conflicting results?

Where we say well, the dietary patterns show, you know, reduction in cardiovascular disease with this type of food grouping and pattern versus when we started to look at the different nutrients or food components in isolation. Maybe the data aren't as always consistent or as strong as they might have been when we think about them being

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included in a pattern.

And it feels to me like that's an important piece for us to communicate very clearly, because that can be confusing when it feels like we're saying two different things based on the evidence that we have available.

And I don't believe that we ultimately are. But it just -- I think we need to really help people understand how to put that together and you know, have a clear way of, as you said, you know, helping people understand what you get from a reductionist view versus a, you know, sort of holistic, systematic view.

CHAIR SCHNEEMAN: Great, thanks. I would like to hear from all the Committee members if possible. I can call names.

But the feedback is important. And you're also talking to the working group members who will be a part of the discussion.

MEMBER BAZZANO: This is Lydia Bazzano. I just want to second what has been brought up already by you, Barbara, and also by

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Jamy.

And you know, the idea that this is -- and also Linda, how complex the task is and what's going to explain and also hopefully prepare for our future Guidelines.

CHAIR SCHNEEMAN: Great. Thanks. Just -- Regan or Carol, do you want to comment?

MEMBER BAILEY: No. I really like your -- this is Regan. I really like your outline and ideas for the integration approach.

I think it's really holistic and really brings together the nutrients and foods in a nice kind of way. And I really appreciate the concept of having some legacy Dietary Guidelines just to continue to stress and emphasize the importance of certain things that we are no longer given the evidence for.

So thank you for all your thought you've put into that, Barbara.

MEMBER BOUSHEY: Hi Barbara. This is Carol. And I just have to echo the, you know, the ideas from others.

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And I do really, I really like this emphasis on foods and how they come together. You know, we have a long history of referring to nutrients.

And it's interesting because nutrients, you can't see. Whereas food is something you can see and you can touch.

And of course, you can see nutrients when they're done as supplements. But, you know, food when you put it all together, you know, to try to make people appreciate and understand that there are these components in those foods, some better than others, that really do, have been associated with a more healthful diet, and therefore a more -- you yourself have better health and less complications. And may even live longer.

So, I really like this. I'm just such a proponent of being very food based. And I thank you for the work that you've done in putting together your thoughts and ideas.

CHAIR SCHNEEMAN: So, Heather and Rick?

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MEMBER SABATÉ: This is Joan Sabaté.

CHAIR SCHNEEMAN: Oh, great.

MEMBER SABATÉ: No, I can wait.

MEMBER MATTES: Yeah, this is Rick Mattes. I couldn't agree more with everybody's views, that context is critical in interpreting anything that we find.

So, we'll do our best to provide that background, to bring it all together and make sense.

MEMBER LEIDY: This is Heather. You know, I just wanted to reiterate a big thanks to Barbara.

I thought the outline and framework of the integration chapter and the next steps were super helpful. It gives us a good direction going further.

But I also really liked Linda's discussion about highlighting how we are building upon the 2015 Dietary Guidelines. So, it's not just we're reiterating, but we're -- there's a, you know, we're branching out in many different aspects, and I think highlighting that would be

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also really helpful. So those were just the two points that I had.

CHAIR SCHNEEMAN: Thanks. So, Joan, did you want to jump in?

MEMBER SABATÉ: Yes. I just wanted to reiterate what has been said. Especially, I appreciate your thoughts and your, I would say, quite detailed outline on what is going into this integration chapter.

And I think that we've pulled together many aspects and discussions that we've had throughout these months.

I don't know if in this chapter, or in the introduction, or in some place -- I think there are two things that repeated in the many comments that we received from the general public. And I think they are of great interest for Americans right now.

And it would be a missing opportunity if we don't address them with a little bit of, you know, detail, and the reasons why they were not taken into consideration in this iteration of the

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Dietary Guidelines.

One is the issue of the low carb diets and the obesity, given that a big segment of the American public is obese. And this is an issue that is of high interest.

And the other one is the issue of the sustainability of -- we can recommend ways to eat, but then saying these are not sustainable and probably in the long range is not going to work.

I know that you have talked about the systems approach. But I'm saying giving and -- quite a lot of explanations and how to proceed, especially in future Dietary Guidelines, that will be very helpful.

And I think it is something that the general public would like to know more about this.

It has to be, if not addressed this time, probably in five years.

CHAIR SCHNEEMAN: Great. Thanks. So, let me see, Tim and -- and yeah, Linda Snetselaar. Oh, okay.

MEMBER NAIMI: I can start. Thanks

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Barbara. That was really nice.

And this integration chapter makes me think, you know -- obviously by its nature that the Advisory Committee report is doing a lot of our work, is very granular and very detail-oriented, and very much in the weeds.

But, I think at the end of the day, the, you know, the Dietary Guidelines, if anything, are still not easy to access and to understand for the American public and need to be boiled down into, you know, a reasonable number of relatively simple things where the evidence allows.

And I think all the presentations over the past couple of days and the integration chapter will hopefully provide the detail.

But then the integration chapter is a nice pivot towards helping to kind of package it up into some clearly discernable, relatively straightforward messages about how to improve the American diet. Both, you know, in terms of what they eat and what they drink. Or -- no.

CHAIR SCHNEEMAN: So, we're seeing

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that it looks like Jamie Stang is having trouble getting heard. Jamie, are you there now?

(No response.)

CHAIR SCHNEEMAN: I can -- I see she's provided us some comments that echo those of -- especially Carol Boushey. Focus on patterns in food intake are especially useful as we think about dietary guidance that can apply across the life span.

And that can be tailored for various racial/ethnic preferences and socioeconomic levels. Okay. Great. Thanks.

MEMBER MAYER DAVIS: And this is Beth.

I just wanted to pick up a little bit on what Tim was saying, that really has to do with accessibility, ultimately, of the final Guidelines.

Which is that you know, our brains are in patterns. So when we're thinking about dietary patterns, you know, you might think about, you know, a Mediterranean pattern.

You might think about the DASH diet,

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or you might think about patterns that are data-driven and derived in some way statistically.

But at the end of the day, you know, for this to have meaning to public health, you still have to back translate it to foods and servings of foods. Just because that's what people understand.

I mean, I don't know how many conversations that I, and I'm sure everybody else in the virtual room, have had with regard to Mediterranean diet and how that relates to culture.

In fact I know there's been work done on something called the Med Diet South for example.

You know, to try to figure out how to translate such a dietary pattern for the American south.

So all that's to say that I think that for this to have real public health impact, we do need to find a way. And I think the integration chapter is a great place for this, to translate that into food, particularly in terms of food relative to food security and accessibility.

You know, thinking about cost and

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availability of food products. Again, so that people know how to, you know, make choices that will be consistent with the guidelines in a way that is practical and reasonable in a day to day life.

CHAIR SCHNEEMAN: Great. Thanks. And let me say, I think Linda Snetselaar and Elsie Taveras. If they have something?

MEMBER SNETSELAAR: Yes. I apologize. I was also having some trouble getting off mute.

But I want to congratulate you on a wonderful presentation, and feel that the idea of moving to this focus on foods and food patterns is incredibly important.

My feeling is too that some of what my committee is doing with dietary fats can also play into food patterns. And so that -- I think that whole integration concept around food patterns where we are looking at things in a variety of ways, but yet very much focused on food patterns, the whole concept of replacement, if we're thinking

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about foods and dietary patterns, can be very important. And incredibly important, I think, from a public health impact point of view.

So, thank you again, Barbara.

CHAIR SCHNEEMAN: Great. Thanks Linda. And Elsie, are you on?

MEMBER TAVERAS: I am. And sorry, I was on mute. I just wanted to echo how -- just how important the practical aspect of what our messaging is going to be, that how important that component is. And it is really helpful to see the outline of the integration chapter.

I can't stress enough, one of the things that you mentioned, Barbara, is how helpful it was to have, at least for the B24 work group, to have some of the findings and the reviews that happened prior to the work of our Committee.

That was especially helpful given the limited time that we had for, you know, the truncated time this time around for the Committee.

But really just echoing -- echoing what others have said. And thank you all again for all

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of the work on the integration.

CHAIR SCHNEEMAN: Great. Thanks.
Kay, did you want to comment?

MEMBER DEWEY: Yes. Thank you,
Barbara. I had one more comment.

I really liked the slide on emerging
topics. And the first bullet point there was
understanding how we eat, as well as what we eat.

And I wanted to just mention again, that
for birth to 24 months we didn't have any questions
given to us on the how. So it's important to
mention that that wasn't covered this time.

But issues like responsive feeding and
exposure to a variety of vegetables and fruits on
a repeated basis, those are really critical for
building healthy eating habits and the ability to
self-regulate.

So, I just want to make sure that that's
mentioned in the integration chapter, because we
won't have a chance to really cover it in the other
one. Thanks.

CHAIR SCHNEEMAN: Great. Thanks.

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MEMBER BOUSHEY: And this is Carol. This is Carol, and I just want to follow up on that, because you know, you had -- I wrote down this sentence, understanding how we eat as well as what we eat is important to consider.

And really, we had the, you know, we had a group addressing that. And it was really not -- there really was little available.

So, it's something that we -- it's neat. We thought of it, but needed to put it in. And there really is very little out there. So it really has to be emphasized.

CHAIR SCHNEEMAN: So -- and as we continue to work on this, I'll probably do a little bit more work to share with the working group before the first meeting toward the end of the month.

And then they will have the opportunity to have some dialogue back and forth with the subcommittees. But I know that the subcommittees have huge tasks ahead of them also in terms of pulling everything together for the chapters.

And I think Kay had asked if we could

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talk a little bit more. So -- Eve's nodding her head. Ready to go?

So, any other comments about where we are with the integration?

(No response.)

CHAIR SCHNEEMAN: Okay. Go ahead.

DR. STOODY: I would just be -- Kay, this is Eve. You noted just that you had some questions. Happy to talk through those as much as we can with the information that we have.

And then if we need to coordinate a call with Anne Rogers, happy to do that as well. But, if you would -- have questions raised, we're happy to try to deal with this now.

MEMBER DEWEY: Okay. Thank you very much. I guess the first thing that would be helpful is if we could be sent again the overall outline of the report so we have the most recent version. It's sometimes hard to find in the folders.

And then specifically I had a question about what we do when a particular question did not actually get reviewed.

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So for example, in one of our chapters we were supposed to look at human milk and infant formula and developmental milestones and neurocognitive development. And that review did not occur due to time. So there's a placeholder in the chapter outline, and I'm not sure what we do there.

And then I'm also not exactly sure what we write when we did a review and there was no evidence. I'm guessing that we would say that.

But then when it comes to the discussion, there's not a whole lot to say. So, it would be helpful to get some advice on that. Thanks.

MEMBER BOUSHEY: For the latter one, I would say Steven Heymsfield is probably the expert at that right now.

MEMBER HEYMSFIELD: Thanks for that compliment.

(Laughter.)

DR. STOODY: So, for that first overall chapter outline, absolutely, we can share that.

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I think that, yes, it's the -- we talked about it, there was a revision, and it's been a while.

So now that we're -- we've hit this meeting. And that's going to be really the priority for the remaining months.

I think -- yes, we'll follow up shortly with the chapter, or excuse me, the report outline, the chapter outline, the guidance that the science writer had prepared. So, definitely, we'll follow up with that information.

For the questions not answered, you know, I think this is -- and hearing, continuing to hear the discussions both in the subcommittee calls and at the public meetings, there's just -- there's so much you all have covered.

And there's so much evidence that you have reviewed. And so you know, I think acknowledging questions that weren't completed, I think there is a -- we have talked a bit about having -- if there's something that you want to point to that might be helpful resources for the department in developing these Dietary Guidelines,

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we would welcome you to do that.

So, you're not answering the question, but acknowledging that this is a topic area, and providing references that may be out there, existing reports or guidance that may be useful.

So, I don't know if, you know, if you have something in particular in mind that you wanted to talk about. But, I think, you know, you're welcome to speak to these topics.

I do know for, there might be -- there has been some discussion within beverages and added sugars that recap, you know, having some contextual conversation around a few different topic areas.

So I think we were seeing that more in the discussion area or in the introduction rather than here is a question, here is an answer to that question, but more in the introduction, you know, discussing how for example, you focused on your efforts on the human milk/infant formula and growth size/body composition question. The developmental milestones are an important topic.

Here are some potential resources

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related to that. But then the focus of your discussion really being on the growth size/body comp and other, the existing work from the PB24 project that you all are using.

So I think it could be set up as part of your introduction or as also included as part of your discussion.

But -- so essentially not a part of the list of questions with conclusion statements, but more contextually either in the introduction or the discussion. But happy to talk about that more if you had additional thoughts.

For the reviews with no evidence, there still is -- that's still a question. And it's still a conclusion statement. And there will still be summary bullets. And there will still be the portfolio at NESR.USDA.gov.

Now, what that means for -- at the end of the day, so when you write your chapter, you'll, as Barbara noted, have a discussion and a summary.

I think it would be helpful to say, so what. You know, what is that -- so what does that

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mean for the development of the Guidelines?

And I think in some cases for, like, dietary patterns, you're looking at a series of, I don't know, eight outcomes. And so kind of bringing it all together.

So, and for Pregnancy and Lactation, you know, you have a series of questions on dietary patterns. Some of those have no evidence, but some of them do have evidence. And when you look across those, kind of bringing it all together, I think it would be helpful in the discussion or summary, and I think the summary is where it's noted, to kind of have this discussion about, so what does it mean that there's no evidence?

Does it mean that more research is needed? Does it mean that, you know, this isn't an area of such -- an area of interest in developing the Dietary Guidelines?

You know, what kind of -- what does it mean at the end of the day? Or does it mean we didn't have evidence for this outcome, but we had evidence for four outcomes, and so collectively,

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this is what we would recommend.

So, those are just some thoughts. I do agree, I mean, that the Frequency of Eating has started -- it has started working on their report, if not come close to being pretty drafted.

So, if they have guidance around that piece, that would be -- open that up as well. But, I don't know if that helps. Or if you have additional questions, happy to continue to discuss it.

MEMBER DEWEY: That was very helpful.

Thank you. Yeah.

CHAIR SCHNEEMAN: So, let me just -- are there other questions about next steps, where we go from here?

I think that was a good perspective on drafting the chapters. But that -- we're sort of shifting modes from doing the systematic reviews to now integrating across the various data sets and also -- oh, okay.

And Jamie, my understanding is you're now connected? Is that true?

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MEMBER STANG: I think so.

CHAIR SCHNEEMAN: Oh, great. Do you have anything you want to add in at this point? That would be great.

MEMBER STANG: No. Just thanks for reading my comments that I typed in, Barbara.

CHAIR SCHNEEMAN: Okay. Great.

MEMBER NOVOTNY: I'm so

CHAIR SCHNEEMAN: Go ahead.

MEMBER NOVOTNY: Barbara, this is Rachel Novotny. Just because I know we're all jamming now with lots of writing to do.

I am wondering a little bit in particular about the timeline. Thinking about the integration chapter and kind of hoping we'll all have a chance to review it and contribute a little bit.

But I know, I mean, I know you kind of need that group needs input from -- it would benefit them, that effort to have more from each of the groups.

I'm wondering about how you're

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envisioning the whole timeline working at this point?

CHAIR SCHNEEMAN: I wish I had a crystal ball. So, again, we have the first meeting scheduled with that discussion group at the end of the month.

And so my thought is, they will have something that they're starting to look at from Ron and myself, to start providing input. But they will have that ability to come back into a subcommittee to discuss certain issues.

Or if the subcommittee has some particular thoughts on one particular topic, to identify what it's important for that person to look at where it is in the full report.

So, I think there will be a certain amount of back and forth. But, the working group are the people who are coming out of the subcommittee process.

So they should be able to reflect the work of those groups and how it relates to that integration and overall picture.

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And in terms of the final report, the Committee is going to see the report as a whole before it is released. And Eve can maybe speak a bit to that timeline.

DR. STOODY: Yeah. As we get closer to the report meeting -- you'll all just see. And, I mean, it's the full Committee's report. And so the intent is that everybody has the opportunity. The timeline, I think is a good question.

But yes, the -- there will be opportunities to review before it's -- obviously before it's released. But even before it's discussed at the May 11 meeting.

CHAIR SCHNEEMAN: Right. Right. So, I think we'll be seeing pretty much the whole of what's available.

May 11 there's still not a public version of the report out. That's our making a presentation, and with the idea that by the end of May, the report, the final report, will be submitted to the Secretaries.

And I always like to emphasize that

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everything we've talked about in our public meetings is always draft until we submit that final report. Because the feedback we get is important.

So, other questions or comments about the report itself? Or where we go from here?

So, hearing no further comments, I just -- if we close the meeting, it will be closed at that point.

But I just want to make sure -- if anyone has any additional comments, please bring them up now.

MEMBER HEYMSFIELD: This is Steve

MEMBER MAYER DAVIS: So Barbara, I just have a question.

MEMBER HEYMSFIELD: Go ahead.

MEMBER MAYER DAVIS: Okay. So this is just a practical question about interim timelines related to the draft report. Will there be such?

Because I'm feeling a little bit uncertain about, you know, how much progress at what point in time for that to unfold, because I'm not sure how many iterations of review within the

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Committee we'll have. And you know, that kind of thing.

DR. STOODY: So Beth, you're asking for a timeline to think about milestones and deliverables by, you know, kind of draft, I would say?

MEMBER MAYER DAVIS: Mm hmm.

DR. STOODY: We can certainly do that.

MEMBER MAYER DAVIS: Good.

DR. STOODY: That hasn't been done. But, I think now we're at the point, kind of working backwards and the different pieces. We can -- we can definitely do that.

CHAIR SCHNEEMAN: Right.

MEMBER MAYER DAVIS: Okay. That will help then, thanks.

CHAIR SCHNEEMAN: Yeah, because -- yeah, in our remaining time we really have to focus on making sure we get the report done.

MEMBER MAYER DAVIS: Yes. We do.

(Laughter.)

CHAIR SCHNEEMAN: And, Steve, I think

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you had a comment, question?

MEMBER HEYMSFIELD: Well, maybe I was just thinking out loud. You know, we finished our report fairly early on Frequency of Eating. You know, had very few papers to review. So, it's a fairly simple report.

But, just in retrospect for others who might be interested, I think the guidelines we got on how to write this report, were extremely clear from a, you know, I guess the administration, I'll call it. Very clear, very simple, very straightforward.

And so, you know, I drafted something fairly rudimentary. And I sent it around to my committee, subcommittee members. And they chimed in and really refined it. And the whole process went very fast. So I think the sort of front piece of the report itself is not really that hard to write for any of these committees, and maybe I'm over-simplifying it, but I'd be happy to help if anybody gets lost in doing it. But the bulk of the actual chapter is largely done. The -- all

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the tables and summaries and so on.

So I think it's something that should go pretty fast. That's my thought.

CHAIR SCHNEEMAN: Steve, I need to say I

(Simultaneous speaking.)

MEMBER HEYMSFIELD: Yeah.

MEMBER SNETSELAAR: This is Linda Snetselaar. I was just wondering if we might possibly get a copy of your outline and your finished report just as kind of a template for what we might do?

MEMBER HEYMSFIELD: Sure. Sure. Elizabeth or Ashley. They continued to edit beyond what we submitted, so maybe we could get them to send a draft. And I'm sure it's fine.

MEMBER SNETSELAAR: Thank you.

MEMBER HEYMSFIELD: Okay. Yeah.

MEMBER MATTES: This is Rick. I'll just say, you know, we've all thanked the NESR team for everything they've done with the systematic reviews.

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MEMBER HEYMSFIELD: Yeah.

MEMBER MATTES: But you all have seen nothing yet. Wait until you see how much they help with writing the paper itself.

This isn't the high-stress situation. It really will flow easily once

MEMBER HEYMSFIELD: Yeah.

MEMBER MATTES: Once you get the data together.

MEMBER HEYMSFIELD: That's exactly what I was trying to say, Rick. You're -- that's right.

MEMBER BOUSHEY: Yeah. It's not to be underestimated. But it isn't like you're putting together your thesis.

(Laughter.)

MEMBER HEYMSFIELD: No. No.

DR. STODY: So, Steve, I think -- this is Eve. Maybe be careful what you offer. But you've got -- I think you have a lot of takers on assistance.

But just a note that -- that's helpful

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to note, it was our science writer. We do have a science writer who prepared the -- has really taken the lead on developing the outline for the Committee's report and all of the guidance.

And she's been a help with the Dietary Guidelines Advisory Committee for our last two Committees. And so that's been great to have that kind of history, and kind of thinking about and pulling together those templates and those outlines. So, thanks for that feedback.

CHAIR SCHNEEMAN: but it sounds like people need that template that she provided

DR. STOODY: Yeah. Yeah.

CHAIR SCHNEEMAN: -- sent out again as well.

DR. STOODY: Yes. Absolutely.

CHAIR SCHNEEMAN: Yeah. That would be useful. Okay. Great. Other -- we're -- Steve, we're -- it looks like everyone's going to be quite happy to fill up your remaining time. Not to worry there.

(Laughter,)

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MEMBER HEYMSFIELD: Glad to help.

CHAIR SCHNEEMAN: Yeah. No, I appreciate your comments and your willingness to help. It is valuable.

So, other comments or questions?

(No response,)

CHAIR SCHNEEMAN: So, I -- and are you going to -- okay, I'm going to turn it back to Eve. And you'll be sure and repeat the dates for comments and whatnot too.

So, I'm going to

DR. STODY: Thanks, Barbara. And thanks to all the members too, and for the public and this change of venue and plan -- just, really, thanks for all of the flexibility. So, that is, as we like to say, that's a wrap.

That's a wrap for meeting five. If you want to note that meetings from this -- excuse me, materials from this meeting will be archived on our website.

So we'll try to get those materials up as quickly as possible. At a minimum, we'll move

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to trying to get the recording available as quickly as possible, which is what we did for meeting four as well.

And we will send out a message through our listserv as soon as materials are posted. We know a lot of content was presented over the last two days.

And there's a lot of interest and you know, I know people would like to provide input on that. And so we'll make sure that we get that up as quickly as possible. And let -- send you a notification as to when that is available.

We hope that you will join us for the Committee's report meeting on Monday, May 11. And as we've mentioned before, that this will be the first time for the Committee to hold a meeting that will focus on discussion of its draft report to the Department.

So this is another thing, we'll provide more information as we get closer, but for now, if you'll just hold the date.

So, as Barbara noted a few times as

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well, just a couple of notes around dates of interest, specifically related to the public comments.

If you have comments related to the discussion at this meeting, you're asked to submit them within the next two weeks. And so two weeks is Friday, March 27.

As she has noted, comments to the Committee are welcome anytime. But to be most useful for the Committee's discussion as they move into this -- into finalizing these systematic reviews, please try to submit them within the next two weeks.

Also, as we announced yesterday, we've had an ongoing public comment period that's been open since March of last year. And that comment period will close on Friday, May 1 -- and so just a note to keep in mind.

And so that is to give the Committee enough time. You know, you submit -- the public will submit your comments. That will give the Committee enough time to consider those as they

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go about finalizing their report before the end of May.

As always, we do like to, and really have appreciated the Committee acknowledging the staff. You know, we have a really fantastic team from across USDA and HHS, who do everything from supporting the NESR systematic reviews, teams supporting the data analysis and the food pattern modeling analysis.

Supporting the -- just making things happen within the subcommittees, and helping with keeping things straight with as the Committee develops its report, and with the meeting planning and more.

So, there is -- they know that you all have noted the staff supporting the Committee's work in preparing for this meeting. It was a large amount of work for the staff, and also a huge amount of work for the Committee as well.

So the staff really worked to kind of ensure that a systematic approach was used in identifying literature and then the Committee is

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really responsible for reviewing and coming to their conclusions. And so it's really been a group effort and a large one.

I do want to note just a couple of people. As you know, we made a decision pretty -- not as in advance as -- it would have been great to know a couple of months ago that we were doing a webcast. But, I mean, that's a -- happy that we had the flexibility in these circumstances.

But, I do want to note that we, just a quick acknowledgment to Claire Brown and Jean Altman on our team, who really, it's like we're going to do a webcast. And they all of a sudden, you know, just took a crash course in a platform that we've absolutely never used.

And so really just appreciate our, you know, our nutritionists who are also supporting subcommittees kind of jumping in and being willing and very capable in helping to make this happen.

And then we have three staff at USDA, Kevin Conner, Mansy Pullen, and Mike Johnson, who are with our downtown staff. And as you can

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imagine, they're with our IT team.

They are also getting suddenly a lot more interest and need to move things into a web platform. And they were extremely helpful to us in making this happen. So, just a quick acknowledgment to them as well.

So, with that, again, just thank you to the Committee for all of your work in getting to this point. We know it's huge. We know that there's a lot to come. But, thank you. And we hope everybody has a work-free weekend. And we look forward to you coming all together again on May 11. So, thank you.

(Whereupon, the above entitled matter went off the record at 2:46 p.m.)

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