Transcript

First Meeting, Day 1 of 1: https://www.youtube.com/watch?v=O2gycV7xnUM

Janet de Jesus: 00:04 Welcome to the 2025 Dietary Guidelines Advisory Committee meeting one. I'm Janet de Jesus, the designated federal officer of the committee. And on behalf of HHS and USDA, a sincere thank you for agreeing to be on this committee. We are thrilled to get this work underway. And each of you bring such an important expertise on the proposed scientific questions, including nutrition and health outcomes across the lifespan from infants to older adults. Your committee possesses experience in the examination of ultra-processed foods, in health and research, and practical experience and strategies to support weight loss and weight maintenance. Your committee possesses such a wealth of knowledge in health equity and diverse populations in America. And finally, your collective committee brings valued wisdom and experience in the approaches of examining evidence, such as systematic reviews, food pattern modeling, and data analysis. So on behalf of HHS and USDA, we are honored that you've accepted the appointment to the 2025 Dietary Guidelines Advisory Committee.

Janet de Jesus: 01:17 In the first meeting, we will aim to set the stage, describing the committee's charter, operations, and timeline. Our chair and vice chair will provide opening remarks. We will describe the history and the evolution of the dietary guidelines process and the approaches to examining evidence, including nutrition evidence, systematic review, food pattern modeling, data analysis. And we'll round out today with a committee discussion. So in this first meeting, there's going to be a lot of staff presentations. We're trying to set the stage as the committee begins its work. But the following meetings will be the committee working together and presenting your work to each other. So I'd now like to introduce Sarah Boateng, our principal deputy assistant secretary for health, who will conduct the committee swearing-in.

Sarah Boateng: 02:13 Thank you so much, Janet. And hi. It was wonderful to meet so many of you this morning. And just echoing Janet and all of HHS and USDA's thanks for you agreeing to serve on this committee and bringing your collective expertise to us as we embark on this important effort. So as was shared, I have the pleasure to swear you all in here in just the next moment. And I'm joining on behalf of admiral Levine, our assistant secretary for health, who I know that you'll have a chance to hear from tomorrow, along with under secretary Dean. And I want to share that we are heavily invested in improving the health and well-being of this country. Good nutrition is paramount to health and a major factor in our well-being. Having strong evidence-based guidelines that serve as the basis for our national nutrition programs and educational efforts to guide people in developing and maintaining healthy eating habits is an essential building block to ensure that all Americans thrive. As the HHS lead for the dietary guidelines, the Office of the Assistant Secretary for Health, through the Office of Disease Prevention and Health Promotion, works very closely with our partners at USDA. However, the development of these guidelines would not be possible without your hard work, the hard work of this committee I'm about to swear in. We have an esteemed group of nationally recognized scientists here today, and I want to personally thank all of them for agreeing to serve on the 2025 Dietary Guidelines for America Committee. We deeply appreciate the unique expertise that each of you brings to the committee. And we look forward to your contributions over the next two years. So now I'm going to administer the oath of office. So please join me and

please stand. And I also need you to each raise your right hand and repeat after me. You can see the cheat sheet right there as well. [laughter] I do solemnly swear.

Multiple speakers: 04:33 I do solemnly swear.

Sarah Boateng: 04:36 That I will support and defend the Constitution of the United States.

Multiple speakers: 04:40 That I will support and defend the Constitution of the United States.

Sarah Boateng: 04:45 Against all enemies, foreign, and domestic.

Multiple speakers: 04:48 Against all enemies, foreign, and domestic.

Sarah Boateng: 04:51 That I will bear truth, faith, and allegiance to the same.

Multiple speakers :04:55 That I will bear truth, faith, and allegiance to the same.

Sarah Boateng: 04:58 That I take this obligation freely.

Multiple speakers: 05:01 That I take this obligation freely.

Sarah Boateng: 05:04 Without any mental reservation or purpose of evasion.

Multiple speakers: 05:08 Without any mental reservation or purposes of evasion.

Sarah Boateng: 05:12 And that I will-- and that I will well and faithfully discharge the duties.

Multiple speakers: 05:18 And that I will well and faithfully discharge the duties.

Sarah Boateng: 05:22 Of the office on which I'm about to enter.

Multiple speakers: 05:25 Of the office on which I'm about to enter.

Sarah Boateng: 05:28 So help me God.

Multiple speakers: 05:29 So help me God.

Sarah Boateng: 05:30 We did it. Great. Well, congratulations. Please sit back down. And I'll turn it back over to Janet.

Janet de Jesus: 05:37 Thanks so much. Thank you so much, Sarah. And congratulations. So this morning I'll be discussing the committee charter, operations, and timeline. So just to give some information about the dietary guidelines. So the guidelines provide advice on nutrition intake to meet nutrient needs, promote health, and to prevent chronic disease. The guidelines serve for a cornerstone of federal nutrition programs and policies providing food-based recommendations to help prevent diet-related chronic disease and promote overall health. And it includes recommendations for the entire lifespan, including pregnancy and lactation.

Janet de Jesus: 06:31 So some background on our mandate. The National Nutrition Monitoring Research Related Act from 1990 mandates that the Dietary Guidelines for Americans shall contain nutrition and dietary information for the general public. It is mandated that

it's published jointly by the secretaries of HHS and USDA every five years. That it be based on preponderance of scientific and medical knowledge which is current at the time it's prepared. And finally, that it be promoted by federal agencies in carrying out federal food, nutrition, and health programs.

Janet de Jesus: 07:11 So this committee is convened to review the current body of nutrition science. It is formed and governed under the Federal Advisory Committee Act, also known as FACA. FACA outlines a formal process for establishing, operating, overseeing, and terminating federal advisory committees. Under FACA, committees may serve as an advisory function only, provide advice and recommendations that are relevant, objective, and open to the public, and provide independent and not inappropriately influenced by the appointing authority or special interests. So as you just witnessed in the oath of office, members of the committee are appointed as special government employees. So this wonderful committee here had rigorous background check, including from our HHS ethics office. So they are considered federal employees. So I ask the public to treat them as federal employees and please give them respect as they conduct their work over the next two years. They were brought on based on their recognized expertise and knowledge relevant to the work of the committee.

Janet de Jesus: 08:28 The Federal Advisory Committee Act requires a charter be filed with congress. And this describes the committee's mission and function. That charter was filed with congress on December 9th, 2022. And you can find that on dietaryguidelines.gov. This committee is established to provide independent science-based advice and recommendations to be considered by HHS and USDA in development of the next edition of the Dietary Guidelines for Americans. The committee will examine the evidence on topics in scientific questions identified by the departments. And if the committee identifies modifications or additional scientific questions needed to inform your advice, a limited number of questions may be added to the evidence review scope. These questions must meet the appropriate prioritization criteria that we've used for the existing set of proposed questions. The committee will develop a report that outlines its science-based review and recommendations to the departments along with rationale. And finally, the report is submitted to the secretaries of HHS and USDA. The committee will focus its review and advice on dietary guidance for human nutrition on the topics that we've specified, in addition to any that the committee decides on. The committee does not receive compensation. So they are volunteering their precious time. And we're so appreciative of that. We do provide per diem in reimbursement for travel expenses when the committee travels.

Janet de Jesus: 10:19 So operations of the committee. The committee may establish subcommittees. And these subcommittees can do work outside of the parent committee. They must present their work periodically to the parent committee in public meetings. The purpose of subcommittees is to review evidence and provide advice to the full committee. Each committee will conduct work in between meetings and provide updates for deliberations and decisions during public meetings. The departments will offer support for the approaches for reviewing evidence. And you will hear these three many times; you'll have them memorize: systematic reviews, data analysis, and food pattern modeling. Each of these approaches are rigorous, objective, and protocol-driven and designed to minimize bias. Federal staff will absolutely support the committee in your work, but the ultimate conclusions and recommendations are of the committee. The committee's task is time-limited, and the work of the committee will end after the delivery of the final report to the secretaries or two years from the date that charter was filed, which is December 9th, 2022. We do request that the report be submitted in October of 2024 if possible.

Janet de Jesus: 11:49 On this slide is a general timeline for committee activities and the development of the guidelines over the next three years. So as you can see, the committee will be working throughout 2023 and 2024, submit their report towards the end of calendar year '24. And then in '25, our federal teams will work on updating the dietary guidelines. Public comments will be accepted throughout the duration of the committee's work. You can find this link at dietaryguidelines.gov. We request that any public comments be submitted to the docket. And we also request that you don't email committee members. So we have a contractor that will be collating all the public comments and providing them to the committee on a regular basis.

Janet de Jesus: 12:43 The committee will meet publicly approximately six times throughout the duration of their work. The next meeting is May 10th, '23. We are polling for October. There will be an opportunity for oral public comment at the October meeting. After that, we have January, May, and September. So as you can see, we have a nice regular cycle. The meeting dates will be published in the Federal Register and on dietaryguidelines.gov at least 15 days in advance of the meeting.

Janet de Jesus: 13:24 The committee completed administrative training prior to this meeting. During this training, the committee was introduced to the Federal Advisory Committee Act, as well as information on the charter, operations, and timeline that I'm describing here. They also completed ethics training, which was led by the HHS Office of Ethics. Also, during the administrative training, the committee received guidance on interactions with the media from our communications team at the Office of Disease Prevention and Health Promotion. Generally, committee members are asked not to speak on behalf of the committee since the report is in progress. They're also asked to direct stakeholders to the written public comment process, which I just described, and also to direct media requests to the departments and to only disclose information that is publicly available.

Janet de Jesus: 14:23 So we value our partnership with USDA. So HHS and USDA have a close partnership since 1980. HHS is responsible for chartering the 2025 Dietary Guidelines Committee. We alternate this leadership every five years and work very closely to support the committee to develop the advisory committee's work.

Janet de Jesus: 14:49 So now I'm going to go through our leadership. And then I'm so excited to share the staff that will be supporting you. So at HHS we have secretary Becerra, Admiral Levine, who's our assistant secretary for health, who's going to be here tomorrow. We are Admiral Paul Reed, who's the deputy assistant secretary for ehalth and director of my office. At USDA we have secretary Vilsack and also deputy undersecretary Stacy Dean, who will be here tomorrow. And Jackie Haven, who's in the room, deputy director of Center for Nutrition Policy and Promotion. And Jackie will also have remarks tomorrow.

Janet de Jesus: 15:35 I'm so happy to share the staff that will be supporting your committee. As I've stated previously, we have such a wonderful partnership with HHS and USDA. It's very unique. And they are very diverse departments. And we're so proud of our partnership. I'll start off with ODPHP. We have a small but mighty team. My division director, Katrina Piercy. I function as the designated federal officer. And then we have a wonderful team, including detailees from the Food and Drug Administration and the Indian Health Service. We're very glad that they've lent their staff to help support our leadership in this work. The Center for Nutrition Policy and Promotion is our direct partner. And Eve Stoody is my wonderful counterpart, and her wonderful team. So Eve and I work hand in hand. And then our teams collaborate throughout this entire processing. And you'll see that as you begin within. We also have communications

staff at ODPHP and CNPP that support the committee and all communications related to the committee. And finally, we have a science writer, Emily Calahan, who's going to be supporting the committee in the development of the report and also keeping our meeting minutes that will go to the public.Nutrition Evidence Systematic Review staff, Julie Obbagy, who's here and will be providing remarks today, and her wonderful evidence review team also includes librarians as well as all of the evidence review staff. We have a data analysis team that's led by Dana DeSilva and Collin Fidek. And Dana's going to present today on data analysis. So this is our internal team. We also have a federal data analysis team that includes staff from across the federal government that lead all of the data that you'll be utilizing in your report. We have a food pattern modeling interest group. TusaRebecca Pannucci leads the food pattern modeling work, and she'll be presenting today. This is a very exciting interest group that has done a ton of work on food pattern modeling and very excited for you to hear about it.

Janet de Jesus: 18:12 So each edition of the dietary guidelines develops and build upon the previous edition, with scientific justification that informs any changes. We also utilize input from our federal agencies and public comment in the development of the next edition. So on behalf of HHS and USDA, we thank you so much in advance for your time and expertise in your development of the scientific report. So I'm happy to take any clarifying questions. And if we don't have any, we can take a brief break. All right. You guys are all experts. So we are going to take a 15-minute break, and we will resume right after that. Thank you.

Janet de Jesus: 19:07 Welcome back to the Dietary Guidelines Advisory Committee meeting. Now we are going to have remarks from our chair and vice chair, Dr. Sarah Booth and Dr. Angela Odoms-Young.

Sarah Booth: 19:25 Thank you, Janet. Thank you, everyone, for being here. I am very humbled for this honor to serve on what we are going to call the 2025 DGAC team. I'm really excited to be part of this team. And I want to thank you all for your volunteer efforts. And I also want to thank the HHS and USDA staff for their support. And I am also so grateful that my partner, my co-chair, Dr. Angela Odoms-Young, is beside me through this entire process.

Sarah Booth: 20:10 So in my position, I have the honor and privilege of working with the Tufts University design practice team. And when we have meetings, when we do team activities, they always start the meetings with guiding principles. So they have generously prepared this graphic for us and some guiding principles for us that I hope we can embrace during our journey together, starting today through to, we have heard Janet, October 2024 when we deliver the final report. So for everyone, part of why we are here today is the high level of mutual respect we share for each other. Let's acknowledge though that we are all people. And people often disagree. So we will strive to maintain that high bar of mutual respect even in moments when we disagree. Creative spaces are judgment-free zones. Let's make this committee one of those. We will strive to defer judgment, let the ideas flow, and build from each other's ideas, maybe even wild ideas. Now, while we recognize divergence as natural, sometimes even helpful, in conversation, we really need to strive to stay focused on the topic at hand and to have one conversation at a time. And please note I do have the power to mute all of you. [laughter] We also are here to foster understanding and make progress on change, and that requires candid conversations. So please, let's make this committee a safe space for candor. Now, for each of us, and I include myself in this-- in fact, this is for me-- I follow this whenever I am in one of these group meetings. Comfort is a human desire. It's a human need. But if we are going to have rich discussion and

we're going to benefit from this group of expertise, the foundation for change sometimes requires that each and every one of us steps out of our comfort zone. So let's establish that it is safe as a committee to do that. We will take some chances. And let's encourage each other to take chances. We will approach our conversations with curiosity first, as opposed to certainty. Today is different. Let it be different. We don't get to meet as a group often. Let's strive to fully engage with each other throughout this process. But most important, let's have fun in being with each other's company. And go 2025 DGAC team and hand it over to you, my co-chair.

Angela Odom-Young: 23:48 Thank you so much, Sarah. And I echo Sarah's remarks just about how important this is. I'm humbled and honored to be a part of this committee. And I want to just pick up on something that Sarah said about staying focused. And it's so important, because we are a scientist, but we're also people. And we come from communities. We come from families. And I pull this from the 2020 census. Each of these dots represents 7,500 Americans. And it's amazing when you think about the diversity across the country and be able to inform-- be a part of a process that informs guidelines that are attainable, that are accessible, that help people achieve great health and wellbeing. You can go to the next slide. And so guidelines that really meet a diverse population. A lot of times, we really think about race and ethnicity, but it's family structure, gender identity, gender, income, socioeconomic position, ability and disability status. So we have these intersecting identities that are so important. And although I know we're going to go through this process, we may agree at times, disagree, but really the end result is really making sure that our colleagues, our families, our communities are able to make good decisions, and they're able to make decisions that are supportive to their goals that they want to achieve. Next slide.

Angela Odom-Young: 25:36 And so just from a personal standpoint, and I think this is all of ours perspective, one of the things that we need to do is center equity. And that's fairness and justice. This, the picture on the left, is Chicago. I just left Chicago. The picture on the right is Ithaca. And I can't think of two places that are very similar, but also very different. And as scientists, I know we move around a lot. We've been at many different places. And so when we think about equity, really distinguish from equality, where equality means the same for all. But how do we recognize that we're not all starting at the same place? But be able to develop something that's very science based by acknowledging this diversity that exists and inequities that exist across the country so we can help achieve equity and really have this ongoing process that we overcome systemic structures that have made some people be able to have access and others not. So I think centering equity-- and I'm so glad. I know that this has been part of the guidelines, to really think about having an equity lens. And I'm just excited to lean in.

Janet de Jesus: 27:02 Thank you so much, Sarah and Angela. I really appreciate it. So now I'd like to introduce Liz Rahavi, who's going to be discussing the history and evolution of the dietary guidelines and also approaches for examining evidence. Eve Stoody was unable to make it today, so Liz has graciously offered to deliver this presentation. Liz is the branch chief of nutrition guidance at the Center for Nutrition Policy and Promotion.

Elizabeth Rahavi: 27:35 Thanks so much, Janet. And thanks so much. I'm delighted to be here and to represent CNPP on behalf of Eve Stoody. And also just want to say on behalf of USDA and the Center for Nutrition Policy and Promotion and all of our staff. That we're just absolutely delighted to have all of you in the room and to have this wonderful brain trust here to help inform the development of the next edition of the dietary guidelines. And, with that, just also want to echo some of the remarks that you heard earlier today from Janet, as well as others, just recognizing how much USDA just

values and appreciates the partnership that we have with HHS and coming together and developing the Dietary Guidelines for Americans. And so looking very much forward to working with all of you.

Elizabeth Rahavi: 28:23 So in my time here today, I'm going to talk a little bit about the history and the evolution of the dietary guidelines. So I'll talk a little bit about some background and just how the guidelines has changed since 1980 and the first time that the guidelines were issued. We'll talk a little bit about the current approaches to examine the evidence. I'm just going to touch very briefly on that because you're going to hear three presentations on all three of those different approaches. But I do want to touch on how those different approaches are complimentary in helping you to develop your advice to departments that will inform the dietary guidelines. And then just some considerations, much like Dr. Odoms-Young just mentioned, around some things that we want you to consider as you're doing your work to prioritize the scientific topics and as you're going through your evidence review. And then some work that we're doing while you're doing your work to advance the dietary guidelines process as well.

Elizabeth Rahavi: 29:21 So the dietary guidelines provides nutrition and dietary information for the general public. And you heard Janet earlier this morning talk about the National Nutrition Monitoring and Related Research Act that requires that we develop the dietary guidelines every five years. And they're updated by USDA and HHS. And they're really intended to inform the needs of federal programs across both of the departments. So the first edition was published in 1980. The most recent edition is the 2020-2025 Dietary Guidelines for Americans. Since the 1985, we have established a Dietary Guidelines Advisory Committee to review the scientific evidence to help support each edition of the dietary guidelines. And so that's what you see here on this slide. Behind each of those colorful designed documents, you have those very serious scientific reports that really help to underpin and support the scientific review that supports each edition of the guidelines.

Elizabeth Rahavi: 30:27 So the guidance has evolved as nutrition guidance has advanced. And early additions, those brochures focused very much on nutrients. And starting with 2010, our Dietary Guidelines Advisory Committee acknowledged that dietary patterns was an evolving area looking at, not just single foods that people eat, but the combinations of foods that people eat over time and said it was time to start looking in this direction. And that vision was more fully realized with the 2015 Dietary Guidelines Advisory Committee as well as our 2020 committee. And the past few editions of the dietary guidelines has really focused on this dietary patterns approach. The guidelines have also evolved over time to provide more quantitative recommendations when it comes to what to eat as well as refinements in the guidance, too.

Elizabeth Rahavi: 31:23 So the publication has also evolved. The first few editions were brochures that were written for consumers, and the last five editions have been technical documents that are written for health professionals as well as policy makers so that those could be tailored to individual program and audiences to better support their needs. They were accompanied by consumer brochures that acknowledged nutrition education tools that were current at the time. So those consumer brochures at one point included the food guide pyramid. In 2011, we introduced My Plate. And that has been really a key feature of our nutrition guidance since then and promotion of how we translate that technical document of the dietary guidelines into consumer education tools.

Elizabeth Rahavi: 32:15 So this is just one example of why it was important for us to make that transition from the guidelines being a consumer brochure to a more technical document to help

support federal program and policy needs. So as I mentioned earlier, the guideline serves as the cornerstone for federal nutrition programs and policies. And so one example of this technical transition that's been made is the Thrifty Food Plan, which describes the cost of nutrition. Nutritious practical cost-effective diet. And it really serves as the basis for the supplemental nutrition assistance program, the maximum benefits that are allotted based on the lowest cost of a healthy diet. And it's required by law that the thrifty reflect current dietary guidance. There's some other examples as well. If you look at the Special Supplemental Nutrition Program for women, infants, and children, the food packages reflect the work of the dietary guidelines. And if you saw last week, the Food Nutrition Service just released new proposed rule to update the school nutrition standards for the school meals program, which also reflects the latest dietary guidelines.

Elizabeth Rahavi: 33:26 So the focus of the guidance has also evolved over time. Early editions were intended for people who were already healthy. In 2010, as we were seeing rates of obesity and overweight increase within the population, our Dietary Guidelines Advisory Committee said we really need to focus more on this risk of overweight and obesity. And there was a real recognition that the evidence support more than just addressing the needs of healthy population. And so the dietary guidelines are now applicable to the overall US population, including those who are healthy, as well as people who are at risk of diet-related chronic conditions, such as type 2 diabetes, cardiovascular disease, and obesity. And in addition, for people who are living with a diet-related chronic disease, we know there's clinical guidance to support those individuals, but health professionals can adapt the dietary guidelines to help develop a diet that's appropriate for individuals who are dealing with a specific health concern.

Elizabeth Rahavi: 34:33 So each committee review builds on the previous review. And nutrition science continues to grow and strengthen. And this just a really nice contrast of how-- the 1985 edition was developed by nine members. That scientific report included 28 pages and about 70 references. That doesn't include references that were included in existing reports. In contrast, our 2020 advisory committee had 20 members, their scientific report was 835 pages plus another 1,000 pages of online supplementary material. Not to scare anyone. And it included 2,000 references that were informed by science-based advice, including additional systematic review. So those references aren't even counted in that number. So there's a lot of evidence that supports the work that you're doing and then, ultimately, the dietary guidelines.

Elizabeth Rahavi: 35:37 So the elements that make up a healthy dietary pattern have remained relatively consistent over time, including vegetables of all types, fruits, especially whole fruits, grains, at least half of which are whole grains, dairy, including fat-free and low-fat milk, yogurt, and cheese, as well as lactose-free versions, and fortified soy beverages and yogurt, recognizing that there's some individuals who are unable to consume dairy products or choose not to. Protein foods that include lean meats, poultry, eggs, seafood, beans, peas, lentils, nuts, and seeds, and soy products as well as oils, including vegetable oils, and foods such as seafoods and nuts. We also have limits that are recommended in the guidelines. So added sugars are recommended to be less than 10% of calories per day, starting at age two. Oh, and for those that are younger than two, they should just totally avoid added sugars. Saturated fat, it should be less than 10% of calories starting at age two. And then sodium is less than 23 milligrams per day, and even less for children younger than 14. And then for alcoholic beverages, adults can choose not to drink. If they do drink, we recommend drinking in moderation, which is less than two drinks a day for men, less than one drink a day for

women. And drinking less is better for health than drinking more. And there's some adults who just shouldn't drink, including women or individuals who are pregnant.

Elizabeth Rahavi: 37:05 So what we've learned from the evidence based over time is that healthy eating's been shown to improve health and reduce risk of disease across the lifespan. The most recent edition of the dietary guidelines took a life-stage approach. And what you see on this slide is really the many different benefits that healthy eating can provide for the birth to 23 months population, children and adults, people who are pregnant or lactating, as well as adults, including older adults. So the approaches used to review the evidence also continue to advance. Early editions of the dietary guidelines, as I mentioned before, were really based on narrative reviews of the literature. In 1985, we introduced the approach of data analysis, which really allowed us to have a better understanding of what's the population doing and where are some shortfalls that we might need to address with our food-based recommendations. And then in 2005, we introduced food pattern modeling. And then 2010, our formally named Nutrition Evidence Library came into the process to help us do systematic reviews of the literature. That's now our nutrition evidence and systematic review team. And then our 2015, 2020, and 2025 committees have all used all three of these approaches to help inform their advice and recommendations to the departments. So with each round, the methods used for each of these approaches have a continuous quality advancement process that they undergo, so we continue to make refinements to these methods as we develop each new addition to the dietary guidelines. We've also taken recommendations from the National Academies of Sciences who's looked at the process to develop the dietary guidelines and consider those recommendations to make refinements to our work over time. We've also heard from stakeholders and have taken those considerations as well into advancements, into the process. So for the 2025 committee, we're excited about a few new advancements that we have in store, including systematic reviews with meta-analysis, assessing research availability, and some advancements to the food pattern modeling methodology as well. So you'll hear more about those. And as you get further along in your work, we'll also be providing more information about this on dietaryguidelines.gov so that the folks that are following along will also get more information about this as well.

Elizabeth Rahavi: 39:41 So just very briefly, because Dr. Obbagy, Dr. Pannucci, and Dr. DeSilva are going to be going into this in more detail, this is just a very brief introduction to these three approaches. So systematic reviews, our gold standard, evidence synthesis project, the answers, and nutrition question of public health importance, using a systematic, transparent, rigorous, and protocol-driven method to search for, evaluate, and grade the strength of the eligible body of evidence. Data analysis is a collection of analyses that uses national datasets to describe the current health and dietary intakes of Americans. And these data really helped to make the dietary guidelines practical, relevant, and achievable. And then food pattern modeling is a way to evaluate the impact of specific changes on the amounts or types of foods and beverages within a dietary pattern on energy and nutrient needs while reflecting the health-promoting patterns that you identify in those systematic reviews. The food pattern modeling analysis really help to inform USDA's development of relevant dietary patterns for the American population. So the conclusions that you draw from these evidence review are the advice of the committee. And they are the committee's work. We have, as Janet mentioned earlier, a wide variety of staff from both USDA and HHS who stand ready to support your work as you do these evidence reviews.

Elizabeth Rahavi: 41:12 So I'm just going to talk a little bit, more at a higher level, about how these different approaches can help you with examining the evidence and how they complement each other so that you can make advice and recommendations to the departments.

So here's an example on dietary patterns. The systematic review work found that strong and consistent evidence demonstrates that dietary patterns are associated with decreased risk of cardiovascular disease. And those patterns are characterized by higher consumption of vegetables, fruits, whole grains, low fat, dairy and seafood, and lower consumption of red and processed meat and lower intakes of refined grains and sugar-sweetened beverages relative to the healthy dietary pattern. And the regular consumption of nuts, legumes, and moderate consumption of alcohol were also shown to be components of beneficial dietary patterns in those studies. So they took that and then data analysis looking at how the Healthy Eating Index and how dietary recommendations meet-- how population is meeting dietary recommendations and have a sense of where the population was falling short in terms of intake as it relates to healthy dietary patterns. And then through our food pattern modeling work, you can create diets that help to meet the evidence found in the systematic reviews and that account for those foods that are nutrient dense at various calorie levels.

Elizabeth Rahavi: 42:51 So from that, the committee was able to provide advice to the departments, noting that the overall body of evidence examining healthy dietary pattern is higher in vegetables, fruits, whole grains, low, nonfat dairy, seafood, legumes and nuts, and moderate in alcohol, and lower in red and processed meats, and lower in sugar, sweetened foods and drinks and refined grains. But on average, the US diet is low in vegetables, fruit, and whole grains, and high in sodium, calories, saturated fat, and refined grains, and added sugars. And it's going to take a concerted effort to achieve and maintain healthy dietary patterns. And this will require a dramatic paradigm shift through which healthy lifestyle choices are easy and accessible and normative, both at home and away from home.

Elizabeth Rahavi: 43:38 So here's another example, looking at added sugars. The systematic review work found that strong and consistent evidence shows that intake of added sugars from food and/or sugar sweetened beverages are associated with excess body weight in children and adults. And the reduction of added sugars and sugar sweetened beverages in the diet reduces body mass index in both children and adults. In comparison, groups with the highest versus the lowest intakes of added sugar in cohort studies were compatible with the recommendation to keep added sugars intake below 10% of energy intake. And then the data analysis work found that current intakes of added sugars remains high at about 268 calories, about 13.8% of total calories per day among the population ages one year and older. And so the food pattern modeling work really looked at the question of how much added sugars can a healthy dietary pattern have while still meeting nutrient needs at various calorie levels. And so from there the advice to the departments from the committee was that the DGAC encourages the consumption of healthy dietary patterns that are low in added sugar, and that the goals for the general population should be a maximum of 10% of calories from added sugars per day. And that in general, added sugars should be reduced in the diet.

Elizabeth Rahavi: 45:00 So one more example. Looking at complementary feeding and iron, the systematic review work found that strong evidence suggests that consuming complementary foods and beverages that contain substantial amounts of iron, such as meats or iron-fortified cereal, helps maintain adequate iron status or prevent iron deficiencies during the first year of life among infants with insufficient iron stores or breast fed infants who are not receiving adequate iron from other sources. However, the benefit of these types of complementary foods and beverages for infants with sufficient iron stores, such as those consuming iron-fortified infant formula, is less evident. The data analysis work looking at infants from 6 to 12 months, those who were fed infant

formula or who were mixed fed, they typically met the estimated average requirement for iron, zinc, and protein. However, for children who were mostly fed human milk, the proportions of children 6 to 12 months were not needing the EAR. So then the food pattern modeling work that the committee did really looked at how-- it really confirmed the challenges of meeting iron and zinc needs for infants who are fed human milk. And the example combinations of complementary foods and beverages described by the committee support consumption of fortified infant formulas to meet nutrient adequacy for infants whose milk source is human milk and aren't receiving infant formula. So the advice that the committee provided to the departments is to provide a variety of animal source foods, fruit and vegetables, nuts and seeds, and whole grain products beginning at age 6 to 12 months. And continuing thereafter to provide key nutrients to foster the acceptance of a variety of nutritious foods and build healthy dietary habits. And for infants fed human milk, at ages 6 to 12 months, consider providing iron-fortified infant cereals or similar products to ensure adequate iron intake. So those are just a few examples. Hopefully, get your brain kind of wrapped around how these different approaches help to complement each other and form your overall advice that you'll provide to the department.

Elizabeth Rahavi: 47:20 Just for the remainder of my presentation today, want to just talk a little bit about some considerations that we'd like you guys to keep in mind as you go forward and start working on the scientific questions. So tomorrow you're going to hear a presentation on the proposed topic and questions that are going to be presented to you for continued review, refinement, and prioritization. As you look at those questions, we'd like you to refine the patterns based on life stage and just ensure that any special considerations for each life stage are taken into account if and where appropriate and as evidence is available to inform that. We'd like you to continue to explore the variability in intakes and the range of possible helpful die. Because the dietary guidelines is a framework that's intended to be customized to individual needs and preferences, as well as the different diverse food waves across the US population, if there are things that can be teased out from your evidence review to help support that type of guidance, we'd like you to have that in mind as you're doing your work.

Elizabeth Rahavi: 48:35 And then continuing to conduct work through a health equity lens. This is actually the third step in a five-step process to develop the dietary guidelines for Americans. And in those earlier steps where we identified the scientific questions and when we appointed the committee, we are putting health equity as an important part of our process to develop the dietary guidelines. And we would like to ask you as well to also center health equity in the work that you're doing, too. In fact, several of you have expertise in health equity. And we would propose establishing a cross-cutting work group around health equity to help ensure that it's being addressed in a consistent manner across the committee.

Elizabeth Rahavi: 49:27 So also, as you work on the topics and questions, we'd also like you to think with the end in mind. So how can the question that you're prioritizing help to inform your advice to the departments? And then beyond that, how can that inform the next edition of the dietary guidelines? And as you're providing advice to the departments, we want to make sure that your advice is based on one, the most recent addition of the dietary guidelines; and, two, the preponderance of the evidence in your reviews across the different questions and approaches that you're using to review the evidence. So an example of this would be the examples that I showed you just a few minutes ago. So based on systematic reviews, food pattern modeling, and data analysis, we recommend Y for the next edition of the Dietary Guidelines for Americans. And then also, as you're looking across that work, doing some integration

and summarizing of your evidence reviews as well to help inform your advice. We'd ask for that, too.

Elizabeth Rahavi: 50:35 So looking ahead, this is some things that USDA and HHS are working on, along-- as we're also working on developing-- working on supporting you in your evidence reviews, we have initiated work with a contractor to study the applications of systems science and how that can inform the development of the Dietary Guidelines for Americans. We're meeting with both federal as well as nonfederal experts to help inform that work, and we expect a report to be due by the end of this year. We are also continuing to consider the National Academies' recommendations and reports on the process to develop the dietary guidelines. And we're also monitoring topics and research for future editions. Some examples including precision nutrition, the microbiome, and more. And we really encourage the committee to identify research recommendations and topics for future consideration in your report. Those research recommendations are really important in helping to set research agendas, both within and outside of the federal government, and also help to inform work that's needed for futures editions of the dietary guidelines. So with that, I will see if you guys have any questions or discussion.

Sarah Booth: 51:56 Thank you so very much for that overview. That's just so helpful. I have a question for you. When you talk about the data analysis, the data, the evidence, is there a window of published data that can be used for a current DGAC to review? And how has that evolved over the DGA process?

Elizabeth Rahavi: 52:25 Yeah. Dana's actually going to talk about that in her presentation. But absolutely, we look at that window. And there some things that have to be considered in terms of just having the data ready for your use. And so that can take some time. And there can be a little bit of lag between datasets because it does take some time to do that. But Dana will speak more to that in her presentation later today.

Sarah Booth: 52:52 Thank you.

Elizabeth Rahavi: 52:53 Yeah, absolutely.

Fatima Cody Stanford: 52:55 So thank you so much. I saw that there's a lot of focus on health equity and I think that's extremely important. Of course there is also a focus on using systematic reviews. And if we look at these, really, interest in health equity, particularly as it relates to nutrition guidelines, that has been more of a newer phenomenon for which we wouldn't necessarily have substantial systematic reviews to inform the work. How do you reconcile that with how we would do this literature search, recognizing that systematic review data from a health equity focus would be limited?

Elizabeth Rahavi: 53:29 Yeah. I think that's an excellent question. We recognize that there are some gaps in the data when it comes to that. And that's one of the reasons why we established a committee with health equity expertise, because we want you to be able to bring that expertise to the evidence base as you're doing those reviews. And so if there are things that you can bring out as you're doing your work, and identify those things, that would be great. Or if there is recommendations that you see, where more work needs to be done, I think we want to hear that too so that either inside or outside of the federal government, that type of work is being identified. So I think it's a little bit of both. Knowing that the data's going to be limited, what can you tease out? And I think having a health equity cross-cutting work group will really help to think through that before you even get into some of the evidence reviews so that it's something that's consistently being done across the committee as much as possible. Not a

perfect answer, but. All right. Well, I will hand it back over to Janet. Thank you all so much.

Janet de Jesus: 54:49 Thanks so much, Liz. Now, it's my pleasure to introduce Dr. Julie Obbagy, who's the branch chief of Nutrition Evidence Systematic Review team.

Julie Obbagy: 55:06 Good morning, everyone. [inaudible] myself organized here. But really glad to be here to talk to you all about the Nutrition Evidence Systematic Review team and our methodology for conducting systematic reviews. Here we go. So I have a few objectives today with my presentation. First is to introduce you to our team. We are the Nutrition Evidence Systematic Review team, though we very frequently use the abbreviation NESR. So if you hear NESR, that's our team. And then talk a little bit about our methodology for conducting systematic reviews that you'll be using to conduct your reviews over the next two years. And then I'll share some approaches that we have developed more recently to evaluate research availability. That's something you're going to be, I hope, finding very useful in the next coming weeks as you work through that process of prioritizing your systematic review questions. And then finally, I'm going to share some information about how everyone can access more information about NESR and our methodology and your systematic review work as it starts rolling out over the next months and years.

Julie Obbagy: 56:17 So NESR was launched about 15 years ago now within the Center for Nutrition Policy and Promotion to support the center's mission, which you can see at the top of the slide here. And we conduct various evidence synthesis projects that provide the evidence base to support federal decision-making related to various federal nutrition policy efforts. Of course, with that ultimate goal of improving health and well-being of Americans. So systematic reviews have always been at the core of what we do, but in recent years, we have expanded our work to start doing rapid reviews and evidence scans. Because your committee work is really focused on systematic reviews, that's what I'll focus on in my presentation today, though I will spend a little bit of time later talking about our evidence scan methodology as it pertains to evaluating research availability. So before I talk more about the methodology that we use for conducting reviews, I did want to take a moment and acknowledge our amazing NESR team. So this is a group of federal career scientists who are really looking forward to supporting your work over the next two years. This team has a lot of experience. Many have been through the dietary guidelines process before and really bring a unique combination of expertise to the table. So our team has a lot of expertise in systematic review methodology and technology, but we also have backgrounds in nutrition science. Our librarians, of course, have a lot of expertise in library science, as well as a biostatistician who can support the work. And it really is an honor to work with this team every day and represent the team today. And everything that I share with you today really is the work of this team, so just wanted to acknowledge their hard work and dedication that went into preparing for supporting your work ahead.

Julie Obbagy: 58:13 In addition to those evidence synthesis projects that I mentioned earlier, a major emphasis of our team's work is continuous quality advancement, or CQA. CQA is something that NESR has done in an ongoing way since we were formed, essentially. The field of systematic review methodology has really evolved rapidly in the last decade or so, and we want to make sure that our processes and tools remain state-of-the-art and are as strong as possible, given the impact that our work has. So our CQA involves a number of different things: staff training, development, we do a lot of collaboration and engagement with other groups that conduct systematic reviews, both within the United States and globally. And then, of course, we invest in technology whenever we can, to make our lives easier.

Julie Obbagy: 59:04 This slide at the bottom shows you some of the areas where we've really done focused work on CQA in the last two to three years, so since we finished working with the 2020 committee. We've developed quite a bit of new methodology. You'll hear about some of that later. We've updated existing methodology. And then we've taken a number of steps to enhance transparency of our work and extend the reach. So as I progress through the presentation, I've tried to highlight some of the new and updated areas so you can sort of see where these CQA advancements have been integrated into the process that we'll be using to support your work.

Julie Obbagy: 59:44 So now I'm going to transition to talk more about our systematic review methodology. I'm going to sort of take a high level approach with this overview. We have recently, yesterday in fact, posted our full methodology manual on our website. We'll provide you with that as well. And our team is prepared to support you through each of the steps. So this is an overview. You don't have to remember every detail because we're here to provide that support as you move forward. And like I said, we have the manual that really details what is entailed with each step. Before I talk, though, more specifically about each of those steps, I did want to make a comment about the roles and responsibilities, both of you as the committee, and of our NESR team. So our systematic review approach is highly collaborative. And we think that this collaborative approach that we've used over the years is a really effective way for you to to get the work done, while maintaining sort of that rigor, integrity, the independence of your work, and the transparency of your work. So you as the committee make all substantive decisions throughout the process. You're responsible for developing your protocols. You're responsible for synthesizing the evidence, developing conclusion statements, grading the evidence, and identifying research recommendations. Our NESR team is here to support your work. We make sure the methodology is being followed, that the work you're doing is being documented, and then we also play a pretty key role in some of those really labor-intensive steps of literature search and screening, data extraction, and risk and bias assessment. And then as I've noted here, the public does provide comments through that public comments database during the course of your work that gets sort of integrated into the approach as well. And then I just wanted to note, just this week, we have an article in press that provides a lot more discussion about this collaborative approach. And we'll certainly share that when we have a copy that's shareable and post that on our website.

Julie Obbagy: 01:01:49 So now I'll walk through the steps of the process. And I have tried to indicate roles and responsibilities throughout, but definitely keep in mind those roles and responsibilities that I just spoke to on the previous slide. So the first step really begins with developing a protocol. A protocol is the plan that details how you'll be using NESR's methodology to conduct your reviews. And it's prespecified, essentially meaning it's created upfront before you've reviewed any of the evidence. And it really describes the methodology you're planning to use and specifically includes an analytic framework, a synthesis plan, and inclusion/exclusion criteria that you will tailor to each of the questions that you're addressing. So for some of the questions, and you'll hear more about the questions tomorrow, you will be reviewing and updating existing protocols that were developed and implemented in systematic reviews conducted by previous committees or expert groups. And for others, you have been assigned a brand-new question. So you'll be developing brand-new protocols that have not been developed before for a NESR review. Regardless, all of those protocols are posted online, and they're discussed at your public meetings. One update here is that in 2025, NESR will be launching, in coming weeks, a dedicated protocol webpage, which is where all of your protocols will be posted. We have posted protocols before, but

they were on dietaryguidelines.gov. So this is a new component of our website that will house all protocols going forward, starting with your protocols.

Julie Obbagy: 01:03:28 So the first part of the protocol is an analytic framework. And this framework is sort of the visual that defines the core elements of the systematic review question, sort of those PICO elements - you may have heard of that framework before - where you define the population of interest, the intervention exposure of interest and what it's being compared to, as well as the outcomes. A few other key parts are the identification definitions of key confounders, definitions of key terms, and then it lays out the synthesis plan. And the synthesis plan is something new for 2025. I'll show you kind of what that looks like on the next slide. But essentially, it's an outline of how you'll plan to organize and synthesize the evidence. And this component of the protocol is really foundational. It sort of guides the rest of the systematic review process, so it's a upfront investment of time, but it's sort of the critical roadmap for how you'll go about conducting the review.

Julie Obbagy: 01:04:28 So here's an example of what the analytic framework and synthesis plan will look like. This is actually a new format that we're using in 2025. It's all the same content that were in our previous analytic frameworks, if you've seen those, but in a new format that we designed to try to more clearly spell out the elements of the framework, so those PICO elements, in a way that shows how the evidence will be organized and grouped for synthesis. So this example is for a question that looks at the relationship between dietary patterns and bone health. So as you can see, based on the analytic framework and then the synthesis organization that's just below the table, the evidence will be reviewed by life stage. So looking at consumption of a dietary pattern during infancy and toddlerhood, during childhood and adolescence, and during adulthood and older adulthood, to look at how consumption of those dietary patterns during those various life stages might be related to outcomes related to bone health. So bone mass, osteoporosis, osteopenia, rickets fracture. And you can see that some of those outcomes are really more relevant to certain life stages than others. On the right-hand column is the list of key confounders that will be examined and considered throughout the process. And then at the bottom is the definition of dietary patterns. So again, this is just an example. We drafted this based on the 2020's committee's protocols for this particular question. But of course, in the coming weeks you will have the opportunity to review and revise this for your systematic review work.

Julie Obbagy: 01:06:06 So next, as part of the protocol, another really important part of the protocol is establishing inclusion and exclusion criteria. And this criteria will guide which articles get included in the reviews. And they're designed keeping in mind that the evidence should be applicable to the US population and federal public health nutrition programs, namely the dietary guidelines. And then, of course, we want to make sure that the evidence you're reviewing is the strongest available evidence. So criteria to ensure that it's rigorous from a scientific perspective. So criteria can be established for a variety of different study characteristics. On the left-hand side is criteria that are established pretty much for every review that NESR does; study design, publication date, publication status, language, country. And then criteria that analyzes those PICO elements. So criteria related to population characteristics, criteria that define and operationalize the dietary intervention and exposure and the comparators as well as the outcomes. And then criteria can be established for other things as well. And on the right-hand side, you can see some examples of criteria that previous committees have established for different reviews. Again, these are tailored to the questions. So something to think about as you start working on your protocols, whether there's

additional or more unique criteria that you might consider developing and applying for a particular question.

Julie Obbagy: 01:07:40 So some of the inclusion and exclusion criteria that we include in the reviews are standard. What we mean by that is that we aim for consistency as much as possible across the reviews. And these standard criteria have been developed and implemented over the years, trying to align with common practice among systematic review organizations and to reflect the fact that NESR reviews are used to inform US federal policy and programs. However, if there is a strong rationale to consider tailoring or changing one of these standard criteria, that is certainly something to consider and discuss within your committee.

Julie Obbagy: 01:08:22 So just walk through a couple of these criteria, give you a sense of what is sort of part of the criteria. For study design, we do recommend including designs that offer the strongest available evidence to establish relationships. So of course, randomized control trials as well as nonrandomized control trials, observational cohorts, and nested case-control studies. But it means that we typically exclude uncontrolled trials, case-control studies, cross-sectional studies. More ecological-type studies, reviews, modeling, simulation studies are generally excluded. Our reviews typically include peer-reviewed studies that have been published in journals, published in English, and as well conducted in countries that are classified as high or very high on something called The Human Development Index. This is an index that classifies countries based on a summary measure of health education and economics. And we apply that criteria based on the year that the intervention was conducted or that the exposure data were collected.

Julie Obbagy: 01:09:31 In addition, our reviews also apply a standard criteria for the health status of study participants. This criteria was developed and has been applied over the years, with the purpose of the dietary guidelines in mind, to ensure again that those studies included in the reviews are conducted with participants who are representative of the general public and that examine diet through a health promotion, disease prevention lens, given the purpose of the dietary guidelines. So based on this criteria, we do include studies that enroll participants who have not been diagnosed with a disease or who are at risk for a chronic disease, who have various chronic disease risk factors. We would also include studies that enroll some participants who may have been diagnosed with a disease. So sort of a mixed population with various different health statuses. What it also means is that studies are excluded if they exclusively enroll participants who have been diagnosed with a disease or the outcome of interest that sort of aim to use diet as more of a treatment-- in more of a treatment paradigm. Also excludes studies that are done in preterm infants, hospitalized individuals, people pre and postbariatric surgery. Given that nutrient absorption and metabolism are altered in these kinds of situations, nutrition really becomes more part of a specialized medical treatment plan for the disease and isn't really examined through that health promotion, disease prevention lens. I will say though that the exception to this rule is obesity. So despite obesity being classified as a disease, NESR systematic reviews will include studies that exclusively enroll participants with obesity.

Julie Obbagy: 01:11:20 So that's sort of the completion of your protocol development. Once that protocol is in place, we move to that next step of literature search and screening. And this is where our NESR librarians come into play with their expertise for developing literature search strategies. So they take your protocol and use that to develop a search strategy that will capture all potentially relevant studies. And that search strategy includes a few things: electronic databases, search terms, and any filters or limiters that might be applied. And each of these is developed by one of our

librarians, and then it's peer reviewed by one or more NESR or other federal librarians. We have a great partnership with the National Library of Medicine and NIH to make sure that the reviews are comprehensive yet as targeted as possible.

Julie Obbagy: 01:12:10 So this slide will just gives you a sense of what types of electronic databases are commonly searched in our reviews. We always searc PubMed, Embase, and Cochrane. Often we'll search CINAHL too for certain questions. And then we can search other specialty databases as appropriate based on the question. We also do do a manual search, which is a pretty standard step in systematic reviews. We'll search the reference lists of the included articles just to make sure we haven't missed anything. Sometimes articles just aren't very well indexed in PubMed or another database and we just take that step to be extra sure that we haven't missed a key piece of evidence. On the right hand side of the slide, you can just see what one of these search strategies looks like. This is an example from PubMed. It's a pretty sophisticated combination of search terms and filters. And that's really the expertise that librarians with that systematic review training, what they bring to the table. So the librarians will take that search, they'll run it in the various databases that have been selected, and then two of our analysts independently screen all of the search results. And there's typically a lot of search results, upwards of thousands, tens of thousands in some cases, depending on the topic and how well that topic is indexed in the databases. And we do this using a web-based tool called DistillerSR, which really makes our lives a lot easier. And we screen using that tool at title abstract and full text levels. Essentially, ultimately studies that meet all of the inclusion criteria are the ones that get included in the review. And so this process of searching is really critical. It's very detailed. So we do do thorough documentation to ensure it's reproducibility. So it includes that search strategy that I just showed you earlier, a flow chart with all of the screening results, and then we do document all of the articles that are excluded in a table like the one shown, with the reason for their exclusion. So if anyone has a question about a particular article, it's easy to go see if that article was captured in the search and why it might have been excluded.

Julie Obbagy: 01:14:29 So now we have all of your included articles. That's where our NESR analysts will step in and do the data extraction process. So we'll extract key data relevant to the question and summarize that data in various evidence tables and figures. And so you can see here common data that we usually exclude or extract. Everything from study design, study cohort, countries, information about the sample, participant characteristics, the methodology used to conduct the study results, and funding source. And we'll present them in a table like the one shown. We can certainly tailor, though, of course, the types and formats of data extracted based on your preferences. We want to make sure you have the information that you need to be able to synthesize the evidence and answer the questions.

Julie Obbagy: 01:15:23 Also, as part of this step is a risk of bias assessment. So this is done for every included article as well. Risk of bias is an evaluation of how well each of the studies has been designed and conducted. It's really looking for issues that might lead us to not trust the results of the study or lead us to think there might be an error in the reported results. And again, we do this in a duplicate process where two analysts will independently assess each study using a tool. And then we reconcile the results. So it is a little bit time-consuming. But the results of this assessment are really important and provide you with some important information to start thinking about during synthesis. And then it plays a big role in rating of the strength of the evidence.

Julie Obbagy: 01:16:10 And we'll be using three different tools. They're listed here on the screen. Cochrane's risk of bias tool for randomized trials. It's called the Risk of Bias 2.0. The ROBINS-I tool,

which is for risk of bias in non-randomized studies. And then new for 2025 is that we'll be using a brand-new tool - it just came out this past fall - called the Risk of Bias in Non-randomized Studies of Exposures Tool. Essentially, this is a tool for observational studies. And these tools, as you can tell from their names, are tailored to specific study designs. So they're really designed to address the major risks of bias specific to a certain study design. So you can see the types of bias that are addressed: randomization, participant selection, confounding, various issues related to the measurement of interventions or exposures, missing data, outcome measurement, and selection of the reported results. So they're pretty thorough in their evaluation. And we do document the results in a few different ways. One is this color-coded table. We find it's really nice to get a visual snapshot with the color-coding of where issues are within a body of evidence. So that's really helpful when you're evaluating risk of bias across a body of evidence. But we do also document specifically what the issues were within each of these studies that led to these particular ratings. And those are typically found in the evidence tables where you get more details about each individual study. So it's a helpful sort of combination of information. So you kind of get that big snapshot of where the issues might be, but then a little more context and specificity around what might have led to some of those issues.

Julie Obbagy: 01:18:00 So now we've done all of this work to extract the data and do risk of bias assessments and we hand it off to you. This is where you come into play. You'll take all of that extracted data, the evidence tables, the risk of bias assessments, and use that to synthesize the evidence. So this is a process that's guided by that synthesis plan that was developed upfront during the protocol. It involves a number of things: looking for themes from the body of evidence or key concepts, looking for similarities or differences. And if there are differences, can those be explained? And are there factors that might be impacting those relationships that you're examining in the review? Considering, of course, the design and conduct of the studies. And throughout this process, you'll identify various gaps and limitations in the evidence as well.

Julie Obbagy: 01:18:53 So as Liz eluded to earlier, a new component of our synthesis process for 2025 is meta-analysis. The majority of our NESR reviews do involve qualitative evidence synthesis. But new for your committee, we will be able to support a limited number of meta-analyses. And our staff over the past few years has really been working hard to establish methods and procedures for when a meta-analysis is appropriate and how to conduct those meta-analyses. And we've acquired the support of a really great bias statistician to help with this work.

Julie Obbagy: 01:19:34 So the ultimate goal of the synthesis process is the development of a conclusion statement. And this is somewhat unique, I think, to NESR's process. You've probably read many systematic reviews where the findings are discussed but not sort of isolated into a single statement or summary statement that gives you sort of their final answer or final conclusion. And that's really what the conclusion statement is. It's a statement or a series of statements that is the result of your synthesis, and it's written as an answer to the systematic review question. Unfortunately, there are also cases where it might state that there's just not enough evidence available to answer the question. But really, it's your sort of final assessment of the body of evidence that you've been reviewing, in relation to the question that you've been attempting to answer by looking at the evidence.

Julie Obbagy: 01:20:27 And another key step that takes place at this point is the grading of the strength of evidence underlying each of those conclusion statements. So our grading process is very similar to others that you might be aware of in the field. It just was recently

described in a publication that I've noted here at the bottom of the slide. But just in short, the process involves consideration of five different factors: consistency of the evidence, precision, risk of bias - so this is where risk of bias comes back in - directness and generalizability. And study design is also taken into consideration. Part of the process involves sort of looking at the evidence grouped by different study designs and doing an assessment of these factors with study design in mind. But I'd also say that because our risk of bias tools are designed so specifically to capture risks of bias for certain study designs, that study design is really captured as part of risk of bias as well.

Julie Obbagy: 01:21:34 And this step of grading the evidence is a really critical step of the process because it's your opportunity to communicate your level of certainty in the evidence to the end user. So here you can see the options to grade a conclusion statement are strong, moderate, limited, or grade not assignable. And there's different interpretations of each of these. But essentially, they are looking at how certain you are in the conclusion statement that you've developed. And we sort of frame that as, thinking about if new studies come out, do we think that those new studies might result in a change in the conclusion? So if your grade is strong, there's less likely to be a change in the conclusion is sort of how we think about that grade. As you move into moderate or limited, there may be changes that are considered in a conclusion. So when bodies of evidence are moderate or limited, you just have a little less certainty and may need more evidence to kind of give you more certainty in the future. And then finally, we have that grade not assignable. As I mentioned earlier, sometimes there's no evidence available. Sometimes the evidence that's available has pretty serious limitations, and you just don't feel like you can draw a conclusion. And so in that type of scenario, a grade not assignable would be assigned. There we go.

Julie Obbagy: 01:23:08 So throughout the process of conducting the review, there are always gaps and limitations in the evidence. And you will document those along the way. And you can use those to draft research recommendations that become an important component of your final systematic review report. I've noted another recent publication here where we used research recommendations that were identified over the years in systematic reviews to draft a paper that describes ways to strengthen nutrition research. And so these research recommendations really are a valuable output to the process, valuable to the research community, grant makers, and that sort of thing. So while the conclusion statement and grade are really important, I also think that the research recommendations are a really valuable output of the process as well.

Julie Obbagy: 01:24:03 So that's the general process for conducting reviews. I wanted to now switch gears and talk about the concept of research availability, which is something you're really going to be thinking about in the coming weeks as you start to familiarize yourselves with the questions that have been posed and start to prioritize the scientific questions. And we developed processes for evaluating research availability, primarily on the advice of the 2020 committee, actually, who recognized just how much work goes into conducting these systematic reviews. And they suggested that it would be really great if we could do some preliminary work upfront, just to make sure that there's sufficient evidence available to even go about conducting a review or updating a review. We also think it can be a really helpful source of information to estimate what you can feasibly accomplish during your tenure as a committee. So it's pretty valuable upfront investment of time.

Julie Obbagy: 01:25:00 So the next several slides are going to talk about different approaches for evaluating research availability. And I'm going to distinguish those approaches based on the type of question. Earlier I alluded to there being some new questions and some existing

questions. So there are some proposed questions that are brand new, so they have not been addressed in a systematic review conducted by a previous committee or other expert group that NESR has collaborated with. And there are also some questions that have been addressed by a previous committee. And so the way we've looked at research availability depends on whether the question is new or existing. So here's just a quick-- and I'll go into more detail about these steps, but just a quick snapshot of the steps involved for new questions. So again, these are the brand-new questions that have never been addressed before.

Julie Obbagy: 01:25:50 So first we can conduct a search for existing nonNESR reviews. And if any eligible nonNESR reviews are identified, you can determine whether to use that existing review in place of conducting your own NESR review. Now, if no eligible reviews are identified, we can do something called an evidence scan to estimate the volume or amount of research that's available on the topic or question that you're exploring. And then you can use that information to decide whether or not there is sufficient research to go ahead and conduct the review. And if you decide there's not, that you can document that as a research recommendation.

Julie Obbagy: 01:26:31 So let me talk a little bit more about the process for identifying eligible existing nonNESR reviews for new questions. So we definitely recognize that if there is a review out there that has been conducted on a topic you've been asked to address, that's great. It can prevent duplication of effort, and it can preserve your resources to focus your limited time on some of the other questions. However, we feel that if you're going to use a nonNESR review, it has to be as rigorous and transparent as a newNESR review would have been that you've conducted. And it has to address the proposed question that you've been asked to examine. So we've developed some methods and criteria to try to strike this balance. And those methods that I'll talk about just in a moment were informed by a number of other organizations that do similar work to NESR and the dietary guidelines process that we found very helpful in thinking about how we would go about doing this. So in particular, the group that developed the Nordic Nutrition Recommendations has some really nice criteria. We looked to the Agency for Healthcare Research and Quality or AHRQ, Health Canada, as well as the group that develops the Australian dietary guidelines. So what we can do is to find all potentially relevant existing reviews. We can do an electronic database search, so search PubMed, and then we can also do a hand search of about a few dozen different organizations' websites that conduct reviews and conduct reviews on nutrition-related topics. And then we can apply the following criteria shown on this slide to determine whether any of those existing reviews are eligible to be used in place of a new NESR review.

Julie Obbagy: 01:28:20 So just to kind of give you a sense of what the criteria entails, the review needs to address, first and foremost, a question that aligns with the proposed question that you've been asked to address or that you're interested in addressing. It has to be timely. So we've defined that as being published since 2020 to ensure it reflects the current state of science. It needs to be commissioned by a national food or health authority or an international scientific body not funded by industry or some other business or entity with a business or ideological interest. It has to be transparently described. So it needs to clearly describe the methods that were used and the reported results. It needs to have an evidence grade. Because as I mentioned earlier, that's a really critical part of being able to take the review findings and translate them into future guidance. So it needs to have an evidence grade for the strength of evidence underlying its findings. And it needs to be of high quality, which we can evaluate using something called the AMSTAR 2 tool. This is a very widely accepted tool that's used to access the quality of systematic reviews. So we can do this search,

screen the results, and then provide you with any potentially relevant existing reviews that are eligible to be used in place of a review. But again, if no eligible reviews exist, we can also conduct something called an evidence scan to get a sense of whether-- and how much primary evidence is-- or primary literature is available on a topic. So this is sort of an exploratory evidence description process where we use our systematic methods to search for and describe the amount or volume and characteristics of evidence available on a particular question.

Julie Obbagy: 01:30:11 So our methodology is shown here. You can get a sense that an evidence scan really focuses on those first three steps: developing a draft protocol, searching and screening the literature, and then doing a brief description of how much evidence is available and kind of some information about the nature of that evidence. So there is no extraction of results, no risk of bias assessment, no conclusions grade, none of that. It's really focused on those upfront steps to really systematically search the literature to get a sense of how much evidence is out there. And we think that that can give you a really helpful sense to decide whether or not to go forward with conducting a systematic review on one of these new questions where we're just not sure how much evidence might be available.

Julie Obbagy: 01:30:59 Okay. So those were the approaches for new questions. These are some approaches or this is the approach for existing systematic review questions. We have been conducting continuous evidence monitoring, or we abbreviate that as CEM, on a number of high-priority questions. And based on that information, you can, again, decide whether to update a review or kind of make a determination that that existing review can be used sort of as is. So what I mean by that is that that if CEM shows that there's been little to no evidence published since the original review, you may determine that that existing review still does a nice job of reflecting the state of the science and you don't need to invest your resources in updating the review at this time. However, if the CEM finding shows that sufficient new evidence has been published, then you can go forward with updating the review using our methodology.

Julie Obbagy: 01:31:59 So just a little bit more about CEM. So this is an evidence-gathering process in which we use established systematic review protocols to periodically search for, screen, and prepare evidence for future systematic reviews. And we developed this process for a few reasons. We had some recommendations from the National Academy, as well as from the 2020 committee, who both indicated that it would be really nice to have more of an ongoing review of evidence. That would really help improve continuity between dietary guideline cycles. At the same time, a lot of organizations have started exploring something called a living systematic review. And this actually became really prevalent during COVID, where a lot of organizations were interested in sort of tracking new evidence that was emerging and then updating reviews at a point when an update was warranted, just to make sure that for these high-priority reviews, we had a really good sense of what the evidence was saying to be able to provide people with guidance. And so we really kind of thought about all these different inputs and developed an approach that we thought would work well for our needs and sort of the needs and nature of the dietary guidelines process. So we know that that literature search and screening step and the data extraction, risk of bias step are pretty much the most labor-intensive steps of the processing and can sometimes be a bit of a bottleneck. So that's really where we focus our efforts, especially on the literature search and screening, and establish the methods for how to regularly search and screen the literature for a number of the high-priority systematic review questions. And we've done that for the last year and a half to two years. For some questions, we search almost on a weekly or daily basis. So it depends on how much evidence is coming in from those searches. But we've been able to do that and sort of

stay on top of the evidence. And again, we've done this using the protocols that were established by the last committee or another expert group that we collaborated with on the original review. So it's a way to get a sense of how much evidence has been published on a particular question since that original review was done. And I think it will be really useful for you to kind of decide whether or not to update or whether you feel like the conclusions of the original review still stand. So ultimately, I think all of these different processes for evaluating research availability can be a little bit time intensive. But based on our experience, and I think the experience of the 2020 committee, the 2015 committee even, I think this upfront investment of time that we can provide can give you more objective information to know where to invest your time and resources in reviewing the evidence, since you have sort of a time limited opportunity to do that as a committee.

Julie Obbagy: 01:34:58 So just two more brief things. One is our methodology for updating NESR systematic reviews. This is something that we did some CQA work in the last couple of years, knowing that as of now we've supported multiple Dietary Guidelines Advisory Committees, that the update of the systematic review was going to become more common. And so we made some updates to our methodology based on that CQA work. We've come up with two different options. They both apply our standard systematic review methodology, but they offer different ways to combine the new evidence with the existing evidence. And they both, though, ultimately, result in a conclusion statement and grade that reflects the full body of evidence.

Julie Obbagy: 01:35:46 So in option one, the original review is essentially reopened. And so you're synthesizing the old and the new evidence together as one body of evidence. In option two, the original review sort of remains intact. And so you'll review the new evidence, and then assess it as it relates to that existing evidence and those existing conclusions. And just based on our experience, we do think option one may be the most likely path that most updates take. But that option two can be used in certain circumstances, particularly when the strength of evidence for an existing review is strong or most of the conclusion statements are strong; you may opt to pursue option two. In addition, if resource limitations are a concern, option two may also be something to consider.

Julie Obbagy: 01:36:43 And then just one last word on transparency. Making our methods and our work and your work as transparent and accessible as possible is something that we really value and we put a lot of priority on. And so there's a lot of information about 2025 work now available on our website. We have a dedicated webpage for your review work. Right now it just provides some basic information and some links to helpful resources, but when your reviews are complete, your report has been submitted, that will become the home for all of your completed systematic reviews. In addition, as I mentioned, we've posted our full methodology manual on our methodology webpage. A forthcoming protocol webpage is going to be launched in the coming weeks. And then also our publications page. I alluded to a number of new publications throughout my presentation, but that's a great place to go to find all of our most recent work. And so with that, I'll end my remarks. I know that was a lot of information. But as I said, we have a really amazing team who is looking forward to supporting you and working with you throughout the process. So happy to answer any questions now, but know that we'll be here to support you in the coming weeks, months, years. So thank you.

Fatima Cody Stanford: 01:38:10 Thank you so much. That was a very thorough overview. I have many questions, but I'm only going to ask one. With the new reviews, you talked about 2020 and beyond, which of course we know was the start of the COVID-19 pandemic and a really large

focus on the literature on COVID-19 data, which I think may prevent you from capturing some things that were germane, that were maybe prior to that, since the focus in all the medical journals here in the US and around the world really became COVID-19 focused. How will you reconcile that issue?

Julie Obbagy: 01:38:39 Yeah, I think it's a good question. I think you would be surprised there are a lot o systematic reviews published on nutrition topics that are coming out in the literature. But I think one thing maybe to discuss is, if there is a new question that you feel like the more recent evidence, so like the last two or three years of publications, really would have not moved the needle on previous conclusion statements, then we can certainly discuss that 2020 date. We set that as an original barometer to try to capture things that are most recent because we do know that if something was published in 2020, it probably means the search ended 2019, maybe 2018. And so then at that point you're sort of missing six, seven years of data. So it's sort of striking that balance between wanting to really leverage some of those existing resources but also wanting to make sure that you're really as up-to-date as possible. But it's a really good question.

S9: 01:39:44 Have you identified some of those web pages or organizations that have previous systematic reviews done that you can use?

Julie Obbagy: 01:39:53 Absolutely. Yeah, yeah.

Cristina Palacios: 01:39:53 Like Cochrane, or.

Julie Obbagy: 01:39:55 Exactly. So Cochrane obviously is a really big one. But there is a full table that lists all those websites in our methodology manual, so we'd be happy to share that. But Cochrane; again, the Nordic nutrition group. So it's sort of not just restricted to the US but thinking globally as well about groups that are conducting reviews that may even be tangentially related to nutrition. Like the Environmental Protection Agency and others. And also not just federal. We've included a number of nonfederal organizations like the Academy of Nutrition Dietetics as well as one of those that's on the list, so. But yep, we can share that.

Deirdre Tobias: 01:40:39 There was a question earlier, I think from Dr. Booth, about kind of the cut-off of inclusion. And I'm curious, if we request a review early in the process, can we have it updated at the end, just to confirm that any recent hot off-the-press papers are either not impacting the conclusion or should be included and updated accordingly?

Julie Obbagy: 01:41:02 That's a really great question that I think we've wrestled with with almost every committee we've with. Because by the nature of your work, some of them will happen earlier and some will happen later. So just general comment on those publications date ranges. They're going to differ depending on the question and depending the time that you actually get to do the review. I think we can certainly discuss updating the search. Now that we have this CEM process developed, there's sort of a lot of technology on the back end where we can monitor publications and have it sort of in an ongoing way. So we may be better able to do some updates. Though it is really time-consuming to stop what you're doing for other reviews and go back to another review. So I think its kind of cost-benefit analysis that we'll have to think about when we can do that kind of update. But I can totally appreciate wanting, at the end of that process, to know that you have captured all of the most current evidence available on the topics that you're addressing. So it's a really good consideration that we can think about.

Angela Odoms-Young: **01:42:08** Thank you so much. Actually, this was really helpful in just digging into the details a little bit to think through. I had a question about the inclusion-exclusion criteria. And one thing that I noticed, that I didn't think about before, was the exclusion of lactating and pregnant people that have become pregnant through assistive technologies. And what do you do when you have sort of maybe a growing population, or two populations maybe, and that's sort of maybe across a life stage? How do you deal with that? Because I could imagine that some of the populations that are growing, or some segments of the population may be excluded from certain types of reviews.

Julie Obbagy: 01:42:51 Yeah, I think that's a great question. That criteria was developed by a pregnancy technical expert collaborative that we worked with about five or six years ago. And I do think that that could be one of the criteria we really think about. Honestly, I don't think many studies report that, and that we don't frequently see many studies that exclusively enroll a population who became pregnant with assistive reproductive technology. But I do think that that's a criteria you can really think about because of your point exactly about prevalence. Yeah.

Sarah Booth: **01:43:32** And echoing the accolades, wonderful presentation. Thank you. So this is more of a process question. You stated at the onset of your presentation that this is a partnership with your team and the Dietary Guidelines Advisory Committee. We know that we are going to be developing a report that will be submitted in October 2024. Thereafter, what is your practice, your philosophy about publications post the report? Thank you.

Julie Obbagy: 01:44:10 Yeah, that's a great-- so every single one of your reviews-- and I'm remiss that I didn't mention this, but every single one of your reviews is documented and will be posted in its entirety on our website. So your report can summarize and mention the conclusions, but we will have these full, very extensive reports. And you can go to our website now and see all of the 2020 reviews that are there. Last time, the 2020 committee did choose to also publish some of those reviews in journals. They went through sort of a prioritization process where they selected some that they thought were really cutting-edge or high-priority. And so three ended up published in Journal of Nutrition, AJCN, and JAMA. So that was really exciting. It was great. And we're more than happy to support publications if that's something you're interested in pursuing.

Sarah Booth: 01:45:04 Great. Thank you.

Deanna Hoelscher: **01:45:08** I have a question, again, about your inclusion and exclusion criteria. And I thought that this was very helpful to give us an idea of the whole process. But I noticed with kids, it's kind of broad in the areas. If there are areas where we might, for developmental reasons or whatever, want to look at specific age groups, is that something that can be accommodated?

Julie Obbagy: 01:45:31 Yeah. For sure. I do think that when-- we sort of broadly lump children and adolescents together. Everyone from 2 up to 19 years of age, I believe is how we define that. So if there are subgroups within that life stage that you think are sort of different developmentally and it makes sense to look at that diet-health relationship in a more isolated way, that is definitely something to integrate into your synthesis plan at that protocol stage, is really defining which groups you really want to look at. So that's a really great question and a good example. Yeah.

Edward Giovannucci: 01:46:11 Oh, hi. Thanks for the nice overview. I just had a question about the utility of the nonNESR reviews. We have to go by their conclusions?Because people have different criteria for the final-- whether it's strong, moderate.

Julie Obbagy: 01:46:33 Yeah, yeah. So it has to have a grade. It does not need to be our grading process, but there has to be some systematic process by which they have gone about developing their conclusions and grading those conclusions. We have not done this in a systematic way before, so what you're asking is a really good question. We'll have to think about, is how to translate some of those grades into your sort of framework when you're putting your report together, is sort of how do you take what another committee has done that might use a grading schema of ABC instead of strong, moderate, limited, or something along those lines. So I think there would have to be a step to sort of translate what you think their grade would be in our language, just so it fits together in the report.

Edward Giovannucci: 01:47:21 Yeah, can I follow up briefly?

Julie Obbagy: 01:47:23 Yeah.

Edward Giovannucci: 01:47:23 I mean, that's true. But even if the criteria are very different. Like, for example, if they say you have to have randomized trials to have a strong grade, and then they'll never give strong grades without that. And we may or may not, but let's say we have different criteria then.

Julie Obbagy: 01:47:42 Yeah, and I think what you're getting at is sort of-- obviously, you don't want to look at the conclusion and make your decision to include or not based on that, but back it up a few steps and think about, did they answer the question you're interested in in the way that you would have gone about answering it? So did they establish criteria that were sort of close to what you would have established? And so just making sure that their methodology that they used in their protocol aligns with how you would have executed the review. Because you can answer the same question in two different systematic reviews but use a different protocol and get a very different body of evidence and different conclusions. And so I think that's a really important part of considering which of the nonNESR reviews you might want to use. And you may have noticed I was very careful about using language about eligible nonNESR systematic reviews. But then it's really up to you, if there is an eligible review, to look at it and decide, did they use an approach that is what you would have done? And if not, it may be worth your time to do your own NESR review.

Heather Eicher-Miller: **01:48:51** Yeah. I have a quick question about the kind of thinking about the synthesis and translating-- like, for example, if there's really strong evidence for one age group, but for other age groups there's not. I know in adolescents, we've had a lack of studies. So I'm just kind of wondering if you could talk about that a little bit more and how we would then consider broadening our recommendation or something to include a group that's not very well covered.

Julie Obbagy: 01:49:22 Yeah, I think your question is really well connected with the previous question about life stages, is really thinking, during the synthesis plan, what is a logical grouping of studies. You want to sort of isolate to make sure that you're doing a focused review and not lumping together evidence that doesn't really make sense to lump together. But in, I think your expert opinion, if there are life stages that you can group together and draw some conclusions from certain younger children to certain older children, then it totally makes sense to develop a synthesis plan that allows you to do that, so you're not having a lot of conclusions to say, "No evidence available to examine X question in a very isolated," say, "adolescent population," if you think that evidence from children is generalizable to maybe the adolescent populations. So I think that's really why the synthesis plan is such a nice new component, as it really allows you

upfront to think about just how you want to group that evidence in that logical way that makes sense. Yeah.

Teresa Fung: **01:50:35** I have a question on your exclusion criteria, if you can maybe give a little more details. Using the diabetes as an example that you have put and you have mentioned that studies that examine disease control will not be part of it. But my question is, sometimes in chronic conditions, the treatment actually goes beyond just disease control. Diabetes is actually a good example because besides glucose control, there's prevention of cardiovascular disease down the road. And the lipid treatments goes beyond the glucose control. So will those kind of studies, prevention of cardiovascular disease among people with diabetes, would those be included or excluded?

Julie Obbagy: 01:51:17 Typically, they are excluded.

Teresa Fung: 01:51:19 Ah, then we--

Julie Obbagy: 01:51:21 So sort like of a secondary prevention type paradigm is-- or it's not even secondary--

Teresa Fung: **01:51:25** It is prevention of complications. That's right. But if a population, in terms of prevalence of diabetes, is going up and then they do eventually get cardiovascular disease, then it actually goes to the prevention part of the equation rather than the treatment part of the equation. And since the dietary guidelines is supposed to be applicable to people with chronic disease as well, wondering if those might be important to be included.

Julie Obbagy: 01:51:56 Yeah, I think it's something to think about. And how the interpretation of those studies may or may not align with other populations. And when something crosses from sort of a prevention promotion to sort of a treatment lens. It's a really good question. I see another question.

Christopher Taylor: 01:52:18 So I just quickly wanted to ask, because I know COVID has really kind of operationally thrown a massive monkey wrench into a lot of research plans. How have you operationalized that into the process of reviewing studies? All the interventions that were set for in-person child, school-based, that now become virtual, how is that being kind of folded in with the evaluation evidence?

Julie Obbagy: 01:52:44 Yeah, I think we're really just starting to see some of those studies coming through the literature now. Where when you read the methodology section of the paper, you get a clear sense of where the interruptions were, if they didn't follow subjects as long as they intended, or changed up some of their intervention approach or measurement timeframe. So I do think that that's something we'll-- obviously, our risk of bias tools can kind of capture potential issues or if there's a power issue or something because they lost subjects who didn't want to participate in a study anymore. So some of those are methodological issues and how the study was designed and conducted. But it's also been really interesting to see how researchers have sort of been nimble and shifted things, in a way, to report what they plan to do in their protocol, but then what they did to amend that preplan protocol for a particular study to accommodate restrictions due to COVID. So we're only just starting to see some of those studies come in, but it's been really interesting to see how researchers have sort of handled that. Yeah. Oh. [laughter] Hi.

Christopher Gardner: 01:53:57 Am I next?

Julie Obbagy: 01:53:58 Yeah, please.

Christopher Gardner: 01:54:00 So Christopher Gardner, I'm so sorry that I can't join everybody today. I'm looking forward to being with you next time. What a great discussion and presentation, Julie. I'd kind of like to build off what, I think Ed, was hinting at, just in terms of grading evidence. I'm really looking forward to this incredible body of scientists. For some of the grading criteria for evidence, such as the grade criteria, which I have a hard time with sometimes, some of the questions that we have in nutrition will never have RCTs ever. Not possible. And so to suggest that we can't have strong evidence for something because there aren't RCTs, as if we're waiting for them to happen, when they will never happen because it's not feasible to conduct some of those, I wonder if grading the evidence and sort of never being able to give a strong recommendation will be discussed in this group. That we have observation, we have mechanistic, we have all kinds of other ways to purchase. And it's the best evidence we'll ever get. What kind of grading can we give it when we have that much evidence? That'll be something I look forward to pursuing with this group. Thanks everybody.

Julie Obbagy: 01:55:12 It's something we've really thought a lot about in our process because our process, though it's similar to grade, is different. And while I mentioned that we do take study design into consideration, we do not have a step where you sort of have to downgrade a grade based solely on study design. That is captured in the risk of bias assessment. And actually, the grade methodology has now shifted away from that, given that there are these risk of bias tools that are tailored to study design. But just to give you an example, the 2020 committee did have a systematic review where they looked at dietary patterns in all cause of mortality, and they had 100-something studies. I think 125 and 124 of them were prospective cohort studies. And it did get a grade of strong. So it's not impossible to get a strong grade. But they really thought hard about confounding in particular and some of the risk of bias limitations across that very large body of evidence. But there was so much consistency that they ended up with a grade of strong through their evaluation. So that may be one review for you to take a little look at, just to get a sense of how that grading process might work.

Christopher Gardner: 01:56:24 Thank you.

Julie Obbagy: 01:56:25 Yeah.

Cristina Palacios: 01:56:30 What is your policy on requesting individual data from some of the studies included in the systematic review?

Julie Obbagy: 01:56:36 So we will do that definitely for meta-analysis because that's really critical. So for those questions that you might have a meta-analysis planned, we would reach out to authors for that data. We do not typically do it for other reviews. I think we could do it in sort of limited circumstances, but I think if we had to email authors for every time we just didn't have one bit of data, it would potentially really bog the process down. But if there are key things that we just can't figure out from the publication, I think we can do some follow-up asks of authors for clarifying information. So it sort of depends on the type of nature, I think, of the missing data.

Valarie Blue Bird Jernigan: 01:57:22 I guess I'm just following up on Christopher's question a bit. And I'm wondering if there's been an application of sort of a health equity lens to the risk and bias policies or processes that you apply. I saw a lot of equity issues, just in the ways that we select the articles and non kind of mainstream populations.

Julie Obbagy: 01:57:53 Yeah, I think you're raising a good question. One of the grading criteria that I did mention that we have is something called generalizability. That's not part of other grading paradigms as much, but I think that's a really important place for you to really

think about the populations reflected and the participants and the bodies of evidence that we do have available to review. And sort of similar to the life stage discussion, really think about how generalizable the findings are to sort of the broader US general population. So I think the generalizability criteria is a real opportunity for you to think about and describe where there are some strengths in the evidence, but where there may be some gaps. And then how you've kind of reconciled that to come to your final conclusion and grade and then reflect that in some of the research recommendations. I will say one really exciting thing is, looking at the dietary patterns literature, the diversity of the populations reflected in some of that evidence in particular has been really evolving. So there are massive quantities of evidence being published on dietary patterns, which is really nice to see, because I think that's one place we've seen more diverse bodies of evidence. Hi Cheryl. I think you're next.

Cheryl Anderson: 01:59:22

Yeah. Hi, Julie. Thank you for that wonderful presentation. And hi, committee. I'm really sorry I can't be with you today. I'm looking forward to seeing you all are doing this important work. So Julie, you just really hit on the crux of my question, which is about generalizability or related to our generalizability criteria. And I've heard two questions already posed about pivoting that happened throughout the pandemic years and is now starting to see those data emerge. I do think there's opportunity for us to think about, as we step out to craft the implications of the research, access, and reach that may have actually been enhanced throughout this pivoting to remote, tele delivery of interventions, etc.. And so I just wanted to maybe have a little bit of perspective from you as to how might we effectively go through these emerging data to really maybe take that glimmer of hope, that perhaps if we're trying to more equitably get to a better diet quality and improve health outcomes for the country, we may have the ability to remove barriers to delivering education or to maintaining and sustaining interventions with populations who would have previously been more difficult to reach and to have sustained contact with.

Julie Obbagy: 02:01:06

Yeah, I think that's a really great perspective to have. And if you've had a chance to look at the list of proposed topics and questions, there are a series of questions looking at strategies for achieving a dietary pattern that aligns with the dietary guidelines and for weight loss, weight management types of things. And so those might be questions that really offer some nice opportunities to look at strategies that are really effective and what populations they're effective. But also, I know our team has really been thinking about diversity, equity, inclusion-type issues. But we're really looking forward to a possible cross-cutting working group with you all to make sure that we're fully leveraging your expertise on how best to do that across the review process. And as you integrate evidence from food pattern modeling and data analysis, too. I think there are a lot of opportunities to kind of think about what that health equity lens really means and how you can implement it.

Cheryl Anderson: 02:01:53

Yeah, thank you.

Julie Obbagy: 02:01:54

Thanks. Yeah.

Angela Odoms-Young: 02:01:59

And this may be a question I should know, because I [inaudible] the scientific report. But kind of thinking about Christopher's comment, when it comes to studies, one of the challenges and looking at WIC or food assistance programs is that difficulty were around having RCTs. And I was curious. I really like this thought about rating or grading evidence within its design. And I was curious, since the dietary guidelines do serve as a cornerstone for these programs, is there any sort of special attention or attention to looking at studies within the programs like school lunch, WIC?

Julie Obbagy: 02:02:46 Yeah, I think that's a another really good thought that you could potentially consider in your synthesis plan, is trying to think about certain populations. Not just life stages, but are there other certain types of populations or settings that you really want to explore a particular relationship in? So I think that those strategies, questions, but there may be other places where you think about some of those kinds of factors and integrate it into your synthesis plan as sort of a prespecified subgroup that you really try to target some specific attention to when you're synthesizing the evidence. Yeah. Okay, thank you.

Janet de Jesus: 02:03:48 Thank you so much Dr. Obbagy. She is a wealth of information, soo we're so proud of her to be our systematic review team lead. So I'm sure we all need a break and some nutrition. So we are going to take a break until 12:45. Thank you. And now it's my pleasure to introduce TusaRebecca Pannucci, who's the branch chief of nutrition and economics analysis brand at the USDA Center for Nutrition Policy and Promotion. And she's going to discuss food pattern modeling.

TusaRebecca Pannucci: 02:04:22 Thank you very much. So food pattern modeling is one of the three scientific approaches along with systematic reviews and data analysis that you are going to be using to conduct your rigorous review of the evidence to inform the dietary guidelines for Americans 2025-2030. During this presentation, I'm going to provide an overview, an introduction to the USDA dietary pattern. Then we'll start talking about the USDA's food pattern modeling methodology. And then we'll start diving into the proposed food pattern and modeling questions and analysis. And then we'll end with some information about our collaborative process and accessing information about food pattern modeling and the committee's work.

TusaRebecca Pannucci: 02:05:06 USDA has a long history of providing food-based dietary guidance represented by the images shown here. The guidance, of course, has evolved over time to reflect the available science. And the most recently published guidelines reflect the 2020-'25 edition of the dietary guidelines. The USDA dietary patterns were first published in 2005, and they were developed to help individuals carry out the dietary guidelines recommendations with information on the types and amount of foods and beverages through a flexible food group framework. This approach of providing a framework, not prescriptive details, aims to insure that its recommendations can meet people where they are. From personal preferences to cultural food ways, including budgetary considerations. The development includes considerations of current population intakes, including nutrient-dense forms of food consumed by individuals in our diverse population. They were developed to align with evidence from systematic reviews that show the relationship between diet and health outcomes and include quantitative food group recommendations to meet nutrient needs of individuals of various life stages.

These nutrient needs are developed and published in the dietary reference intake developed by the National Academy. Not only are they intended to meet the DRI recommendations, they also achieve quantitative recommendations in the guidelines, such as making half of your grains whole grains.

So in summary, these patterns allow us to articulate the evidence on the relationship between diet and health and meet nutrient needs to help individuals achieve the guidelines.

TusaRebecca Pannucci: 02:06:51 Shown here is the healthy US-style pattern for ages two and older. It provides food groups and subgroups recommendations across 12 calorie levels. And it's one of three examples of dietary patterns published in the guidelines. The other two are the healthy vegetarian and the healthy Mediterranean-style dietary patterns, which were

developed to provide additional flexibilities and examples for Americans to consume a healthy dietary pattern that might meet their personal needs and preferences. The current edition of the dietary guidelines also includes two new dietary patterns for toddlers, ages 12 through 23 months, who are no longer receiving human milk right in their formula. They includethe healthy US-style and a healthy vegetarian dietary pattern, providing four calorie levels, ranging from 100 to 1,000 calories per day, which is appropriate for most toddlers in this life stage.

TusaRebecca Pannucci: 02:07:51

There are a few key differences between the dietary patterns for this age group versus the dietary patterns for ages two and older. First, the recommendation to limit saturated fat to no less than 10% of calories per day doesn't apply to this life stage. So in this life stage we modeled-- it includes higher fat versions of dairy. Another noticeable difference is that very few calories remain after food group and subgroup recommendations are met. Those are allocated to oils. And we know that no additional calories are available for added sugars. In fact, the recommendation is that children in this age group avoid added sugars. We do note that the 2020 Dietary Guidelines Advisory Committee did not establish a recommended dietary pattern for ages 6 through 12 months for infants receiving human milk and/or infant formula. And we recognize that human milk consumption often continues after 12 months. Approximately 15% of toddlers still receiving human milk at 18 months. We did do food pattern modeling exercises in these age groups but did not establish a recommended dietary pattern for toddlers who are still receiving human milk. The dietary guidelines recommend though that a healthy dietary pattern should include similar combinations of nutrient-dense foods and beverages in the complementary foods and beverages in these age groups.

TusaRebecca Pannucci: 02:09:15

Let's review the structures of the dietary patterns a little bit because it's the underlying components of the dietary patterns that facilitate food pattern modeling. The USDA dietary patterns use food groups as a way to categorize foods with similar nutrient contents. The current food groups include five major food groups with subgroups under the vegetables, grains, and proteins food groups. Each food group and the grains subgroup are provided in a cup or ounce equivalent per day, while the recommendations for vegetable and protein subgroups are provided in cup or ounce equivalents per week. And that healthy dietary pattern is intended to be met over time. The food group structure allows for flexibility of food choices, as noted before, that fit personal preferences, budgetary concerns, and include nutrient-dense culturally relevant foods and beverages, all that count towards meeting recommendations for each of the five food groups and subgroups.

TusaRebecca Pannucci: 02:10:11

The USDA dietary patterns aren't foundational diets, but rather take the total dietary approach, with an emphasis on both adequacy, for the food groups noted in the previous slide, as well as limits on sodium, added sugars, and saturated fats. As such, the patterns include a daily amount of oils and a limit on calories for other uses. These remaining calories can be used to have more of a nutrient-dense food or beverage, to improve the palatability for personal preference. For example, someone might prefer a sweetened yogurt or for less nutrient-dense foods and beverages such as desserts.

TusaRebecca Pannucci: 02:10:50

So how do we arrive at these dietary patterns? The process for developing the guidelines was presented in an earlier presentation by Liz Rahavi. Briefly, we have the three approaches that you will consider: data analysis, food pattern modeling, and the NESR systematic reviews that are synthesized as part of your work and prepared in your reports. And these get translated into the dietary guidelines that will include

dietary patterns. So let's transition into the USDA food pattern modeling methods that are a part of the committee's work.

TusaRebecca Pannucci: 02:11:29

So we've noted that food pattern methodology allows us to develop healthy dietary patterns containing quantitative recommendations for food groups or subgroups. But more broadly, food pattern modeling is a way to evaluate the impact of specific changes in amounts or types of foods and beverages in a dietary pattern on energy and nutrient needs, while still reflecting health-promoting patterns identified in systematic reviews. So it does inform USDA's development of relevant dietary patterns for the American population. There are four food pattern elements that can be modified as a part of the modeling approach. Some of these might seem kind of intuitive. The food group or subgroup amounts can be increased or decreased. Certain food groups or foods can be introduced or excluded entirely in a pattern. For example, in a vegetarian pattern. The goals and constraints can be modified. For example, in developing patterns for children under two, we didn't apply a constraint for saturated fat since there was no evidence to limit it.

TusaRebecca Pannucci: 02:12:40

The last element, the food group nutrient profile, may take a little bit of explanation. The nutrient profiles, just briefly, are the average nutrients that we expect from foods consumed by Americans in their nutrient-dense forms. The nutrient profile and their underlying components are really a foundation to the food pattern modeling analysis, so it's worth taking a few minutes to understand it in a bit more detail. All right. So food pattern modeling analysts consider all foods and beverages reported in What We Eat In America, NHANES to develop what we call item clusters. So at the top of the slide, we might consider this representing the foods that we eat in different ways or different forms. I'll start with carrots. We might eat carrots as raw carrots or cooked carrots. Cooked carrots, prepared simply with no additional fat, for example, or cooked carrots as part of a multi-ingredient food. Maybe a stew or even just prepared fairly simply, but with other vegetables. So we just aggregate all the foods into their ingredients or parts contributing to each food group and subgroup. I'm going to switch to an example that the lightning bolt might represent cooked lentils. So cooked lentils are an ingredient in several food codes and the Food and Nutrient Database for Dietary Studies. All of the lentils in these food items are identified, and the amount of lentils consumed is summed in the third row to represent the total consumption of cooked lentils in an item cluster. So we want to consider all of the lentils consumed, regardless of the nutrient density of the preparation method or form. However, we want to select a single representative food for the lentil item cluster that has the least amount of sodium, saturated fat, or added sugars. So we consider the total consumption of lentils regardless of nutrient density, but the nutrients for that item cluster will be driven by the representative food that is selected.

TusaRebecca Pannucci: 02:14:54

So how do we go from about 400 item clusters with an individual representative food to the total nutrient profile for a food group or subgroup like beans, peas, and lentils? We're going to calculate the nutrient profiles for each of the food groups or subgroups. So in the pie chart, the various contribution of each bean, pea, or lentil item cluster is represented by its proportion of the total circle. So you can see that pinto beans make up a larger proportion of bean, pea, and lentil intake, whereas lentils over here represent something like 4%. So we're going to take the percent contribution of all of the ways that lentils were consumed times the nutrients in the representative food, a plain cooked lentil, with no fat added. We're going to do that for each of the item clusters and sum them for that total nutrient profile. Another way to say it is that the resulting nutrient profile for each food group or subgroup is based on the sum of the nutrient contribution of each food in the group times the

likelihood of that food being consumed. It's how we get at a weighted average nutrient profile for each food group or subgroup.

TusaRebecca Pannucci: 02:16:12 So now that we understand those components, you can imagine that in addition to modifying amounts of a food group or subgroup, including or excluding foods or food groups, modifying the goals or constraints, we can also modify that representative food, or we can modify the proportion that an item cluster might contribute to a nutrient profile. So keeping these modifiable elements in mind, we're going to start discussing the proposed food pattern modeling question and some of the proposed analysis topics.

TusaRebecca Pannucci: 02:16:53 In late 2021, HHS and USDA convened a food pattern modeling interest group. This group has worked in consultation with federal partners to evaluate the highest priority food pattern modeling activities to inform the development of the Dietary Guidelines for Americans, 2025-2030 edition. The possible universe of food pattern modeling, much like NESR systematic reviews-- the possible universe of analysis is larger than what this committee will have time and resources to complete, so we focus the proposed questions on activities, with the greatest potential to impact guidance. We also considered opportunities for improving our methods, and our efforts for advancing our methods have a renewed focus on variability of dietary intake. So an overarching food pattern modeling question for the 2025 committee was posted for public comment from May 15th to May-- April 15th to May 16th of last year. This, along with the proposed systematic review topics and questions and information on planned data analysis for your work. So the question reads, and it's even a bit small for me, "Considering each life stage, should changes be made to USDA dietary patterns, the three existing patterns listed here, and should additional dietary patterns be developed, based on findings from systematic reviews, data analysis, and/or food pattern modeling analysis, like to consider population norms, preferences, needs of the diverse individuals and cultural food ways within the US population? Changes to dietary patterns may include increases or decreases in amounts of food groups or subgroups and/or recategorization of food groups or subgroups, as well as subsequent changes to calories available for other uses, including for added sugars."

TusaRebecca Pannucci: 02:18:45 So to operationalize answering this overarching question and goals, the food pattern modeling interest group developed a detailed list of potential analyses for the committee to refine and prioritize. In developing these proposed analyses, the interest group worked hard to consider input from federal partners, like the Interagency Committee on Human Nutrition Research, the Nutrition and Health Disparities Implementation Working Group at NIH, food pattern modeling analysis conducted by previous committees, recommendations from the 2020 committee. For example, the committee recommended using food pattern modeling to develop patterns for specific life stages and developing methods to incorporate diversity, incorporate input from federal and state partners to support the ability to offer a range of culturally appropriate healthy options and food programs, and public comments. For example, comments from the public indicated a desire to examine patterns suitable for lactose-intolerant populations.

TusaRebecca Pannucci: 02:19:53 Some of the proposed analysis topics that we'll ask you to think about and prioritize include the contribution of less nutrient-dense foods, the item clusters represented in foods and, therefore, the nutrient profiles of each food group or subgroup. We'll ask you to consider implications on nutrient adequacy if food group or subgroup quantities are modified. What are the implications for allocating remaining calories for other uses to less nutrient-dense food and beverage sources of added sugars,

saturated fat, or alcohol? And new to our work and inspired by the work of international food pattern modeling research groups, such as those in Australia, is the evaluation of simulated diets that align with the proposed dietary patterns that might demonstrate their flexibility and variability.

TusaRebecca Pannucci: 02:20:44

We know criteria for prioritizing the questions or analysis to be addressed by the committee. We want to consider the relevance. Is it within the scope of the dietary guidelines and its focus on food-based recommendations, not clinical guidelines for medical treatment? What's its importance? Does the question or analysis address an area of substantial public health concern, uncertainty, and/or address a knowledge gap? What's its potential to impact federal programs? Is there a high probability that the analysis or question will provide the scientific foundation for guidance that would inform federal food and nutrition policies or programs? And we want to make sure that we avoid duplication and that the question or analysis is not currently addressed through existing evidence-based federal guidelines, other than the dietary guidelines.

TusaRebecca Pannucci: 02:21:30

The proposed questions, again, shared for public comment, was informed by the-- were informed by the overarching goal for the 2025 food pattern modeling analysis to use enhanced methodology to better reflect intake variability and the range of possible helpful diets for our diverse populations. To help accomplish this goal, in addition to meeting nutrient needs, the committee will be asked to consider population norms and preferences, as well as the dietary needs of diverse individuals and cultural food ways in the US population. We'll also be asking the committee to help us think through the words used to name and describe elements of the USDA dietary patterns and how they might be updated for future testing to ensure the language used in the final guidelines is accurate, clear, and inclusive.

TusaRebecca Pannucci: 02:22:20

Much like NESR systematic reviews, the food pattern modeling is a collaborative process between the committee and staff. So we will also have protocol development. Supporting staff will work with the committee to discuss the planned approach and develop a protocol for answering each question or analysis. Staff will conduct the analysis, modify the appropriate elements, and present the results to the committee. And of course, it's the committee who will then synthesize the evidence to answer the questions and recommend future research. Of course, public comments are welcome throughout this process and considered. Similar to NESR systematic reviews, the food pattern modeling protocols, which were introduced for the 2020 committee's work, is a prespecified plan for how the methodology will be used to conduct the analysis. The committee will develop an analytic framework describing the overall scope of the question or analysis and the analytic plan that will detail the data and methods for food pattern modeling analysis. The committee develops the food pattern modeling protocols, but, of course, this will be facilitated by food pattern modeling analysts and federal staff. And the protocols will also be posted online and discussed at public meetings to provide transparency and facilitate public comments. The food pattern modeling staff, with input from the committee, will prepare detailed technical reports, as they did in previous cycles preparing-- or working with the committee. So here I have a picture of the food pattern modeling report for children under two that is published online. So this will summarize the results and include data tables and figures, but it's in your report that you'll synthesize the evidence, develop conclusion statements, and recommend future directions.

TusaRebecca Pannucci: 02:24:25

Much like NESR, we have a commitment to continuous quality advancement. The food pattern modeling interest group really was a part of that, to broaden the individuals across USDA and HHS who are coming together to think more broadly

about this work. We have a subgroup of food pattern modeling analysts, as well as other nutritionist and public health analysts, that are contributing to much of the work that I've presented today. We've also, as noted before, consulted with federal partners in thinking about prioritizing different analysis and the impact of that analysis, as well as our work upholding the goal to really be thinking about the equity lens. We've updated the existing food group and subgroup nutrient profiles to reflect more recent consumption data, as well as their corresponding updates to food composition data. We've conducted an extensive review of the existing item clusters and representative food assignments and even started to develop item clusters specific to baby foods as a result of that review. Again, I've said several times that we have a renewed focus on how USDA's food pattern modeling accounts for variation in dietary intake.

As part of that, NESR and a NESR collaboration, we took on an evidence scan to examine how others, in either other international groups developing food-based dietary guidance or other food pattern modeling research groups, what methods have they used to account for variability in intake. And we look forward to publishing that evidence scan for your review and to contribute to advancing our methods.

TusaRebecca Pannucci: 02:26:17

In our commitment to transparency, of course, all aspects of our food pattern modeling and the committee's work will be accessible on dietaryguidelines.gov. Forthcoming documentation will include accounts of our continuous quality advancement, our methods, your protocols, draft conclusion statements, and the food pattern modeling technical reports. Again, I want to acknowledge the immense amount of work that the food pattern modeling interest group has taken on in the last, I guess it's been almost two years. So we have a broad range of staff, many nutritionist and dieticians with expertise, who have contributed to the work that I presented today. So I want to acknowledge and thank them for all of their contributions. And with that, I will answer questions that you might have about this work.

Steven Abrams: **02:27:14**

Well, first of all, thank you. I can remember from last time this was one of the most fascinating pieces of the whole process that we all learned a lot about. And I would say that there's probably still a substantial area that we might need to look at in terms of babies and toddlers. As you know, the American Academy of Pediatrics has changed its recommendations to be more supportive of breastfeeding during the entire second year of life. And that needs to be modeled, I think, as best we can, as I think we'll see increasing numbers. Also, there are very projects that are being marketed to 12 to 24-month-old to take the place of formulas that may lead to nutrient challenges in terms of recommendations being too high, too low. So I think that needs to be looked at. And we know that in 6 to 12-month-olds, not only do we have intakes below recommendations for things like iron, but we have a clinical disease, anemia, which remains a substantial problem. So I hope that we'll get a chance. Last time was your first crack at birth to 24. So I hope that we'll get a chance to really take a close look at B to 24 from the modeling perspective this time.

TusaRebecca Pannucci: 02:28:19

Yeah, we really look forward to how these analyses will-- the implications for these different analyses across life stages, but also what was new last time will evolve to answer more questions. Yeah, Heather.

Heather Eicher-Miller: 02:28:35

Great job. First off, I just want to say I think this work is really important to operationalizing the guidelines and making them applicable in a practical way. And I know too that you're just kind of-- this is a newer piece, so it's hard to do everything the first time. But one area I wonder about, which I think about with regard to

diversity and equity, is kind of in the basis of how you're determining the probability of each food to that subgroup. And of course, that could depend on which group of people for intake you're looking at. And you can make that the population, or you could make that very specific, like a certain income, race, ethnicity. Like you can get as specific as you want. So I guess I'm just wondering how much ability we have this time to kind of incorporate that diversity.

TusaRebecca Pannucci: 02:29:44

Sure. Yeah, those are important analyses. In the 2020 committee's work, we developed nutrient profiles by age groups. So we looked at the differences between the nutrient profiles, depending on the age group, that contributed to that probability of intake. There were some differences, but they were generally minor enough that the committee thought that using the single nutrient profile for ages two-plus was reasonable. But we can also do that for race and ethnicity, although there are some challenges within that for how race and ethnicity are divined that may not account for all of the diversity with one of those categories. So we look forward to cross-collaboration across the different working groups to think through some of those implications, how best to approach that question, maybe from different angles. But yes, that is something that we're quite interested to hear your perspectives on.

Valarie Blue Bird Jernigan: 02:30:53

I guess my question is along the lines of Heather's. This is so exciting. It's fascinating. I'm wondering what example you might be able to provide in terms of an analytic framework for this kind of work.

TusaRebecca Pannucci: 02:31:13

Well, [laughter] so in some ways we might be able-- in our analytic framework, we might define how we're going to approach the analysis based off of those modifiable elements, how we're going to approach it. In Dr. Eicher-Miller example, what is the population groups where we might conduct sensitivity analyses to look at differences in nutrient profiles? And then further, what are the implications for utilizing those nutrient profiles as part of the dietary pattern on the total nutrient adequacy of the pattern? So we'll be talking about that in more detail as we orient you to the work, but we can provide examples as well of what the 2020 committee did. And we've got some recommended reading as well, mainly related to the committee's work in the chapters and food modeling report. But yep. So for each planned analysis, we'll want to think through kind of what are the modifiable element or elements. Or in the case of simulated diets, that's a new analysis that we'll be designing.

Deanna Hoelscher: 02:32:30

That's really intriguing to me, the simulated diet. Could you give a little bit more detail about that [crosstalk]?

TusaRebecca Pannucci: 02:32:36

I'll do my best, because I'm still learning. But the idea is that in a proposed dietary pattern, of course there are a variety of ways to achieve that dietary pattern because, as I said, it utilizes a flexible food group and subgroup framework, not a prescriptive framework. So I'll do my best to summarize some work that has been done by other groups. But essentially, they use simulated diets to select, at the food level, how that pattern might be achieved. One group in Australia, if I have the details correctly, for each age/sex group, they modeled 107 day simulated diets for each age/sex group, and then they assess what percent of those diets are below the EAR, and then kind of evaluate why some of the diets might not have achieved nutrient adequacy based on the food selections. Now, this is different than menu modelling. So thinking about a lot of the work that gets done in our federal programs to develop menus that align with the dietary guidelines. This is more of a simulated model to think about. Kind of the way I think about it is, "Can you achieve this pattern 700 different ways?" And maybe defining or putting some constraints around the types of foods - maybe

age/sex group specific or culturally relevant, things like that. Does that help? We'll be learning more about that.

Deanna Hoelscher: 02:34:21 Yeah. And I guess part of it is, do they go in with some preconceived notions of different-- through the simulations, some that might be more feasible or that you'll find in the population or in different cultures? Yeah. Thank you.

TusaRebecca Pannucci: 02:34:40 Yeah, sure.

Deanna Hoelscher: 02:34:43 I've a question. This seems like an excellent resource, but I am concerned about its capability of accommodating ultra-processed foods. And I'm wondering if you could speak to that big chunk of the US food supply that may not be as easy to pin down as a blueberry or an apple. And how, from this ingredient breakdown perspective, that level of detail can be obtained, if at all, to model kind of different scenarios or questions?

TusaRebecca Pannucci: 02:35:14 Yeah. That is a really good question and a topic of interest for this committee's work more broadly. There have been challenges with using our food composition data sets to identify and categorize ultra-processed foods, so we look forward to thinking through your question together and thinking about that as we design analyses or specific analyses related to that topic.

Deirdre Tobias: 02:35:47 Can I ask a second question?

TusaRebecca Pannucci: 02:35:48 Sure.

Deirdre Tobias: 02:35:49 Okay. So looking at individual foods, modelling downstream ingredients, can we also go the opposite direction and look at meals that would be impacted, like snacks versus ready-to-eat dinners, and kind of get more in the direction of addressing questions that might come up in the equity committees? So impacts maybe on cost, accessibility, more of the built environment level?

TusaRebecca Pannucci: 02:36:19 Sure. So I think you're asking about foods as consumed, the combination and the context. Our food pattern modelling has not historically accounted for defined eating events, but rather kept that flexible food group, subgroup framework. Now, we at USDA, and even in our branch, conduct the modelling for, say, the Thrifty Food Plan that Liz presented on earlier, where we do account for cost of foods that can be integrated into a healthy dietary pattern. We have not included costs as a part of our food pattern modelling, but it's something that can be a part of the discussion as we're planning analysis or thinking about the implications of the results. But our USDA food plans work is really the foundational work for applying cost in creating a market basket of purchasable foods that can align with a healthy dietary pattern. But we can talk more about that.

Christopher Taylor: 02:37:40 Yeah. So kind of two questions. One, the nutrient profile is based more on more actual proportion or consumption as opposed to aspirational.

TusaRebecca Pannucci: 02:37:52 That's right.

Christopher Taylor: 02:37:52 Is that correct?

TusaRebecca Pannucci: 02:37:53 Mm-hmm.

Christopher Taylor: 02:37:54 Okay. So looking at some of the dietary variety that we may be generally lacking gives us a different response than what we're currently eating, which gets us into a whole different realm. And I think the other element is the bioavailability of nutrients. The food we don't eat is zero. So as we look at removal of different types, we end up with different levels of bioavailability, especially when you start getting into vegetarian patterns versus other. Do we account for that in any way, or do we look solely at kind of nutrient consumption as a whole?

TusaRebecca Pannucci: 02:38:33 We generally think about the nutrients that would be provided by the pattern and how that might align with meeting nutrient needs to find in the DRIs. But the bioavailability issue was something that has come up, particularly in the vegetarian patterns, related to iron in particular. But we have not modeled the intersection between even the combinations of foods and their interactions related to bioavailability.

Angela Odoms-Young: 02:39:15 I was curious when-- this comes up. And it really has come up lately about the cultural diets and the literature. And I'm curious, when there was a discussion about cultural diets, what was the meaning of that? How was that defined?

TusaRebecca Pannucci: 02:39:34 We are thinking about it at this point more broadly, to think-- maybe a more appropriate way to say it would be culturally relevant foods. I think, too, we had a conversation-- we've had conversations with federal partners about where we might find evidence on a cultural dietary pattern per se. And so, again, that's something that we look forward to the expertise that we've brought by bringing you together and how we think about definitions as well as implications. And we talked about inclusive language, but also inclusive and achievable patterns. Yeah. And area of growth.

Heather Eicher-Miller: 02:40:25 I didn't realize I had [inaudible]. TusaRebecca, thank you. And one thing I wondered about-- you had mentioned the Thrifty Food Plan. I'm wondering how any of the food patterning work we do here could kind of dovetail with that or how the Thrifty Food Plan might link to the DGA through the guidelines.

TusaRebecca Pannucci: 02:40:54 Sure. So as Liz mentioned in her presentation, the Dietary Guidelines for Americans and the patterns that are included are a foundation for federal nutrition programs and policy. And so by law, the Thrifty Food Plan needs to align with the Dietary Guidelines for Americans. And so the dietary patterns that are implemented as part of the guidelines become kind of the constraint cycles for other nutrition programs and policies. So they get to the relevance of the work of the committee and how it might have implications downstream. Thank you. Sorry, yeah.

Cristina Palacios: 02:41:47 I have one more question. I didn't see in the food pattern-- maybe I haven't seen the entire methodology. But what about beverages and hydration and water intake? How is that incorporated to make sure that the pattern is addressing hydration and the requirement for hydration?

TusaRebecca Pannucci: 02:42:06 That is something we can talk about. We haven't assessed specifically hydration. Any beverages that contribute to food group or subgroup intake are included as part of-- in item cluster or in the nutrients profile. Though there are some beverages that may be a source of some bioactives, but they don't contribute to food group or subgroup intake alone. And so those aren't include as part of the food pattern modeling. They're not integrated into the nutrient profile. But it's something that we can continue to have conversations about.

Janet de Jesus: 02:42:50 Great. Thanks. We're going to take a five minute break, and we'll be back in five. Thank you. Welcome back. It is my pleasure to introduce Dr. Dana DeSilva, who is a health policy fellow in the HHS Office of Disease Prevention and Health Promotion. And she is going to discuss our third approach to examining evidence, data analysis.

Dana DeSilva: 02:43:33 Hello and good afternoon. I'm Dr. Dana DeSilva, and I'm the co lead for data analysis at ODPHP HHS, with my collogue, Colleen Sideck, at CNPP USDA. Just as an overview of what we'll cover in this session this afternoon. First, we will talk briefly about what data analysis is and how we use it to inform the dietary guidelines. Then we'll walk through some of the major federal data sources that federal staff and the committee use for our analyses. I'll provide some information on the Healthy Eating Index as one main example of how we use the data to assess the state of the American diet. We'll talk through some special considerations for the available data due to COVID-19. And then finally, we'll talk through some specifics of the data analysis process for this round of the dietary guidelines.

Dana DeSilva: 02:44:29 So what is data analysis? As one of the three approaches the committee uses to examine the scientific evidence, we formally refer to data analysis as a collection of analyses that uses national data sets to describe the current health and dietary intakes of Americans. Because these data help us better understand the state of the American diet and the current diet-related chronic disease rates, they help us make the dietary guidelines practical, relevant, and achievable for the US population. Now, how do we get these data? So what's listed on this slide are the major federal data sources that we rely on. First is the National Health and Nutrition Examination Survey or, like you'll hear me say throughout the presentation, NHANES, the subset of NHANES that provides us with dietary intake data is What We Eat In America. Then you'll see the three databases listed here underneath What We Eat In America because these are informed by the survey. So USDA Food and Nutrient Database for Dietary Studies, or FNDDS, provides the nutrient values for the foods and beverages reported in What We Eat In America. Then the US Food Pattern Equivalent Database, or FPED converts the food and beverages in FNDDS to the USDA food pattern components. And then the What We Eat In America food categories, which groups similar foods and beverages together based on typical use and nutrient content. We also utilize the National Health Interview Survey, as well as Surveillance, Epidemiology, and End Results or SEER. And we will talk about all of these in more detail right now.

Dana DeSilva: 02:46:13 First, I'm going to focus heavily on NHANES because it is our major source of data for the dietary guidelines. So NHANES is a major program of the National Center for Health Statistics, within the Centers for Disease Control and Prevention. It's a program of studies, using both interview and health examinations, designed to assess the health and nutrition status of adults and children in the US. The survey estimates a variety of topics, like the prevalence of major diseases, risk factors for major diseases, nutritional status, and its association with health promotion and disease prevention and dietary intake. NHANES data also inform national standards for measurements like height and weight found in the CDC growth charts.

Dana DeSilva: 02:46:58 So a bit about the history, so we can better understand how NHANES came to be. The National Health Survey Act passed in 1956, which provided the authorization for continuing survey to provide statistical data on the amount, distribution, and effects of illness and disability in the US. Then in the early 1960s, the series of surveys came alive with the National Health Examination Survey or NHES. And it wasn't until 1970 when the dietary intake data was added. And this was really in response to the increasing awareness at the time of the relationship between nutrition and health

status. Then in '99, NHANES became the continuous program that it is today, where we collect health data from across the nation on all ages, with the public use data released in two-year cycles. We'll talk about this a bit more later, but the one exception so far is that we have a data release for 2017-March 2020 prepandemic. Briefly, the data collection for the 2019-2020 cycle was suspended in March 2020 due to the COVID pandemic, and the data collected so far were not nationally representative. So the partial 2019-2020 data were combined with the previous cycle for 2017-March 2020 release. I did also want to note here that related to the data release, that the data are edited to provide consistency and accuracy and to preserve confidentiality. And that the documentation describing these edits to the data along with the code book of data items are provided for each component. And all the released data are available on the NHANES website.

Dana DeSilva: 02:48:43 Regarding the NHANES sample design, it is a complex, multi-stage probability sampling design used to select participants representative of the civilian, noninstitutionalized US population. So just briefly, you can see that the sampling procedure consists of four stages. Stage one is when the counties or groups of counties are selected. This is usually city blocks-- or excuse me, NHANES refers to this as PSUs or primary sampling unit. And then in stage two, those sampled PSUs are divided up into segments, and those are the city blocks. In stage three, the households within each segment are listed and a sample is randomly drawn. Then lastly, in stage four, individuals are chosen to participate in NHANES from a list of all persons living in the selected households. And this is usually two per eligible household. In using this design, the sample examines about 5,000 individuals in counties across the country each year. And also wanted to note that NHANES includes oversampling of various subgroups, including, for example, Hispanic persons, nonHispanic Black persons, and nonHispanic Asian persons so that reliable estimates can be produced for these groups.

Dana DeSilva: 02:50:01 So once the eligible individuals are determined, they are contacted by an NHANES representative to set up a health interview. Once that's set up, that representative actually goes to the household and participants complete the in-home questionnaire, which includes questions about demographics, health conditions, health insurance and healthcare use, and prescription and supplement use. At the end of that interview, a visit to the NHANES mobile exam center, or MEC, is scheduled for a health exam. Some of the exams participants receive are height and weight, blood pressure readings, lab tests for things like cholesterol, glucose, and vitamin D status, as well as infectious disease and environmental exposures. And then lastly, but very importantly for us, a 24-hour dietary recall is conducted, which we will talk about next. And a second one is scheduled. And that second 24-hour dietary recall is conducted 3 to 10 days after that MEC visit. And that is completed via telephone.

Dana DeSilva: 02:51:07 So those 24-hour dietary recalls are the dietary part of NHANES, which is called What We Eat In America. And this portion of the interview is comanaged by CDC and USDA ARS. As mentioned, data are collected for two days' worth of intake. Day one interview is collected in person at the mobile exam center. And day two is collected via telephone after that in-person visit. And the dietary data are collected using the gold standard for dietary assessment, which is a multiple pass 24-hour dietary recall conducted by a trained interviewer. And that recall is a research-based approach with five steps. So first is the quick list, which is an uninterrupted call, recall of food and beverages consumed during the previous day. Two, forgotten foods. During this step, the interviewer probes for forgotten foods during the quick list. Three, time and occasion. Like the name entails, the interviewer collects both the time and the eating occasion for each food. Step four, the detail cycle. During this step, detailed

descriptions of foods, amounts consumed, and any additions to the food are collected. And they review the 24-hour day together. Then lastly, in the final probe, the trained interviewer asks for anything else consumed, even small amounts during the day.

Dana DeSilva: 02:52:33 So the information gathered during those dietary recalls result in two types of data files for day one and day two. First is the individual foods file, which contains one record for each food or beverage. This includes the gram amount, food energy and nutrient intake, whether the food was eaten in combination with other foods, time and eating occasion, source of food, and if eaten at home. The second type is the total nutrient intake file, which contains one record per day for each respondent. Each record contains daily totals of food and energy, nutrient intakes, daily intake of water, intake day of the week, the total number of foods reported, and whether intake was usual, more than usual, or less than usual.

Dana DeSilva: 02:53:23 What We Eat In America is supported by the following databases. And the statistics on this page are representative of the 18 databases. So first, FNDDS. This provides the nutrient value for the foods and beverages reported in What We Eat In America. There are codes for around 7,000 foods and beverages and nutrient values for energy and 64 nutrients. Next, the FPED converts the foods and beverages in FNDDS into the 37 USDA food pattern components. Lastly, the What We Eat In America food categories, which provides an application to analyze the food and beverages consumed in the American diet. It includes approximately 167 food categories.

Dana DeSilva: 02:54:09 So let's talk a little more about these databases and how they are used. So FNDDS is managed by USDA's Agricultural Research Service, or ARS. As mentioned, it provides the nutrient values. It also provides the portions and ingredients for every food and beverage reported in What We Eat In America. As mentioned on the last slide, there are 65 nutrient and food components, including energy. For example, when looking at chicken quesadillas, you obtain a listing of all the nutrients provided by that food. So on the right, we have some examples of the nutrient values that FNDDS provides, like calories, macronutrients, fiber, etc.. FNDDS is updated based on changes in intake in the marketplace and is released every two years, in conjunction with the What We Eat In America NHANES dietary data release. And each version is developed for use with a specific survey period. So for example, FNDDS '17-'18 was developed for use with the What We Eat In America NHANES '17-'18 data.

Dana DeSilva: 02:55:18 Again, FPED translates with foods and beverages from FNDDS into food group equivalence. As detailed on the left of this slide, there are 37 food pattern components. If we're looking at the same example of a chicken quesadilla from the last slide, the recipe contains flour tortillas, cheese, vegetable oil, chicken, salt, and water. The food patterns equivalence are per 100 grams of FNDDS foods. So 100 grams of a chicken quesadilla will contribute 12 FPED food components that you see listed on the right, like refined grains, cheese, poultry, total protein foods. And you can see added sugars, solid fats, and oils. Just a note that the grains and proteins foods are measured in ounce equivalence. Dairy, vegetables, and fruits are measured in cup equivalence. Added sugars are measured in teaspoon equivalence. And solid fats and oils are measured in gram equivalence. And this database can be used to estimate American dietary intake of the food groups in adherence to the recommendations. And it also managed by ARS.

Dana DeSilva: 02:56:29 The What We Eat In America food categories, which are also developed by ARS, provide another way to summarize the foods and beverages reported in What We Eat In America. So each food or beverage is placed in a mutually exclusive food category

where the similar items are grouped together based on their typical use and nutrient content. And this is done by linking by each food code in FNDDS to one What We Eat In America category. Similar to FNDDS, a new version of the What We Eat In America food categories is released for each two-year cycle of What We Eat In America, NHANES. There are 167 unique categories for the '17-'18 What We Eat In America data. And continuing with this chicken quesadilla example, per the food categories, it is categorized as other Mexican mix dishes and has a corresponding category number.

Dana DeSilva: 02:57:28 So now let's look at a complete example altogether of how FNDDS, FPED, and What We Eat In America food categories complement each other to provide a full picture of What We Eat In America's food intake data. So we have a peanut butter and jelly sandwich with regular peanut butter, regular jelly on whole wheat bread. And with that corresponding FNDDS code, we can see that the FNDDS provides nutrient values for the sandwich, like the calories and the macronutrients. Then we can use FPED to determine how much of each food component the sandwich contains. So for the PB&J, we have about 1.2 ounce equivalence of whole grains, 1.8 ounce equivalence of nuts and seeds, around 11 gram equivalence of oils, and a little over 3 teaspoon equivalence of added sugars. Finally, we can take a look at the What We Eat In America food category and see that the PB&J is classified as a mix dish with a subcategory of sandwiches. So NHANES, What We Eat In America, as well as the corresponding databases are a major input to our data analysis work.

Dana DeSilva: 02:58:36 We also utilize the National Health Interview Survey, which provides information on the health of the US population through confidential interviews conducted in households. Some of the major health topics addressed are physical and mental health status, chronic conditions like hypertension and diabetes, healthcare access and use, health-related behaviors like smoking and alcohol use, measures of functioning and disabilities, and immunizations. These data are collected by CDC's National Center for Health Statistics and helps us analyze health trends and track progress sort of achieving the nation's health objective. These data are continuously collected throughout the year and made available through various outlets.

Dana DeSilva: 02:59:23 Finally, the last federal data source I'd like to mention is SEER, Surveillance, Epidemiology, and End Results. And this program is considered an authoritative source for cancer statistics in the US population in an effort to reduce cancer burden. It collects and publishes trends for incidents, deaths, survival for a number for a common cancer types from various locations and sources throughout the US. This program is supported by the Surveillance Research Program and NCI's division of Cancer Control and Population Sciences. So those are the major data sources that we use to inform the dietary guidelines. And now I'll move on to provide an example of how we use these data.

Dana DeSilva: 03:00:09 So the Healthy Eating Index, or HEI score, is the measure of diet quality used to assess how well a set of foods and beverages aligns with the dietary guidelines. So a primary use for us, the HEI score is to see how well diets in the US align with recommendations. The HEI 2015 is the latest iteration and was designed to align with the 2015-2020 dietary guidelines. So just a brief look at how the HEI is scored. There are 13 components, those that reflect adequacy and those that reflect moderation. For adequacy, higher scores reflect higher intakes, because higher intakes are more desirable. For moderation, higher scores reflect lower intakes, because lower intakes are more desirable. So overall, a higher HEI score indicates a diet that better aligns with dietary recommendations. Of course the way that we're able to determine these scores is from the What We Eat In America dietary intake data. And the HEI 2020 will

be published as an update to the HEI 2015 and will align with the 2020-2025 dietary guidelines. And this update will also include the HEI toddler's 2020.

Dana DeSilva: 03:01:31 So how healthy is the American diet? Well, the ideal overall score is 100. And you can already tell, by glancing at the slide, that the US is eating below recommendations. On the left, you can see our HEI scores overtime. And on the right, we have the HEI scores from the '17-'18 What We Eat In America data by life stage. Of note, children ages 2 to 4 have the highest diet quality, with an HEI score of 62. Followed by older adults, 60 and older, with a score of 61. And individuals ages 5 to 30 have total scores lower than the American average HEI score of 58. So overall, the US is far from meeting dietary recommendations.

Dana DeSilva: 03:02:20 Now I'm going to switch gears just a little bit and talk about special considerations for data analysis that is unique to this round of the dietary guidelines due to the COVID-19 pandemic. So like most other things in the world, data collection was impacted by COVID-19, including for NHANES and NHIS. Focusing on NHANES here, I mentioned earlier that the data collection for the 2019-2020 cycle was suspended in March 2020 due to safety concerns. And it was not rescheduled for the remaining sites in 2020. As a result, the 2019-March 2020 data were not nationally representative. And therefore would not yield meaningful stand-alone results or estimates. Therefore, the partial 2019-March 2020 data were combined with data from the previous cycle, '2017-'2018, for the survey content that was consistent across the two cycles to create nationally representative 2017-March 2020 prepandemic data files. Combining data from a full cycle and a partial cycle means that that public use data covers a longer data collection period than previous releases. That being said, we are missing data from March 2020 to May 2021. The 2021-2022 data collection began in June 2021, but that sample is still being collected. So while it is in process, that data collection for the 2021-2022 NHANES data, most of that data, namely the dietary intake data, will not be released in time for analysis, so we will be relying on that '17-'18 data. which is nationally representative and available for the timeframe in which you all, the committee, are working.

Dana DeSilva: 03:04:12 The White House Conference on Hunger, Nutrition, and Health recognized that the COVID-19 pandemic exacerbated hunger, diet-related diseases, and health disparities nationwide. So we recognize the possibility the possibility that COVID-19 pandemic may have affected dietary intake. So I'm going to talk about a couple of things we're exploring to try to elucidate that potential impact that COVID had on dietary intake. So first, although data collection was disrupted, there are some resources that may give insight into dietary intake during the pandemic. For example, and this is just one example, USDA's Economic Research Service, or ERS, released reports on food spending, food prices, and food sufficiency. So you can see on the right, looking at the food spending, something obvious that sticks is that sharp decrease in the consumption of food away from home in early 2020. And while this type of information doesn't directly address dietary intake, it may help provide some contextual information about how the pandemic affected dietary intake and eating habits. So the data analysis team will work closely with the committee to determine if these types of resources are appropriate for consideration in the scientific report.

Dana DeSilva: 03:05:25 Additionally, there may be dietary intake data available from nonfederal sources. In an effort to identify these nonfederal data, the NESR team and the data analysis team are conducting an evidence scan to provide to the advisory committee, with estimates of dietary during and after the pandemic. We want to know whether there are other data sets out there that have been collecting dietary intake data during COVID that may be considered by the committee to inform the dietary guidelines. Our

goal is to identify paper that one, use data sets that have captured dietary intake data beyond the last iteration of NHANES; and two, describe dietary intake of Americans in recent years, including any changes that have occurred postCOVID. If these data are available, they may provide insight into the current American diet after pandemic lockdowns and restrictions. So our team has started work on an evidence scan. We have screened all the titles from the search that NESR performed, which is around 32,000; and the abstracts, which was around 4,000, and we are in the process of screening the full text. And we have about 1,200 of those. At the end of this process, we will have an evidence scan report available, and we will work with the committee to determine the most appropriate ways to communicate the findings.

Dana DeSilva: 03:06:46 Finally, I have some specific information on the data analysis process for the 2025-2030 development process. So talked a lot about the major federal data sources and a little about how we actually utilize them to inform the dietary guidelines. But what are the specific questions that we're asking related to data analysis? So for this edition of the dietary guidelines, the data analysis team will be working with the committee to describe current patterns of food and beverage consumption, current intake of food groups and nutrients, nutrients of public health concern, and prevalence of nutrition-related chronic health conditions. Answers to these questions using data analysis, in conjunction with our other two approaches, help make the dietary guidelines practical, relevant, and achievable. And as an example from the 2020 edition of how data analysis complements the other two approaches and helps inform guidance, if we look at Vitamin D for example, which we know is critical for bone health, the committee looked at the data and determined that intake is below the Estimated Average Requirement. Therefore, it was deemed a nutrient of public health concern and emphasized in the 2020 dietary guidelines that the general population should improve intake of vitamin D, with examples of how to do that.

Dana DeSilva: 03:08:13 Just a heads up that the data analysis protocols will be coming soon. Federal staff will work with the committee to develop these. For each question, there will be an analytic framework which describes the overall scope of the question and the approach used, and an analytic plan which details the data and included analyses, categorized by life stage. This is just an example of how it may be organized. We'll describe the life stage, like lactating women; followed by the analyses we're exploring, such as percentage who consume beverage types on a given day, using NHANES data. When these are drafted, they will be made available on dietaryguidelines.gov.

Dana DeSilva: 03:08:55 Lastly, I just want to recognize our wonderful data analysis team. On the left we have our ODPHP CNPP team that leads the data analysis work and the facilitation and collection of analyses. On the right we have our amazing, amazing federal partners from agencies across the government who work hand in hand with us to make sure we have the data and analyses we need. So thank you so much to all of our data experts. And thank you to our committee and our public audience for your attention. At this time, both Dr. Obaggy and Dr. Pannucci will come back up, and we'll take questions specific to data analysis, but also to any remaining questions you have related to systematic reviews and food pattern modelling.

Steven Abrams: 03:09:41 There is a database that comes from a private company related to birth to 12 months of ages that's well known and has been in peer-reviewed literature that wasn't included before, but it contains certain information, especially about 6 to 12 months that I don't think is really available elsewhere. Will that information be something we're allowed to use?

Dana DeSilva: 03:10:02 It's certainly something we can talk about and consider and look to see what types of data and descriptions are available.

Heather Eicher-Miller: 03:10:19 So I have a procedural question that's addressed to all of you. And it's prompted by a conversation I had at the break. I think for many members, we're being exposed to new methodologies, new tools. What is the process or opportunity for bringing in external experts for speaking to the committee to further our understanding of these new tools and new approaches? Thank you.

Dana DeSilva: 03:10:54 I can try to answer that. The committee has an opportunity to invite external speakers to present at public meetings. That's certainly something that was done in the 2020s work. And Janet, will you correct me if I'm wrong? I believe that there's also the opportunity to come to subcommittees as well. So if there are external experts to help us learn about some of these methods, they can present during the subcommittees work, as well as during public meetings. So that's an opportunity to think about for some of these.

Sarah Booth: 03:11:28 That's great. I think we're already thinking about simulation modelling. I think Chris is on the big screen.

Christopher Gardner: 03:11:39 Hi, there. Christopher here, with question for Dana. Thank you very much for an excellent talk. I've actually never used NHANES, but I do a lot of 24-hour recall work with NDSR, the group that works out of Minnesota. So this is probably a multi-stage question. The first one's really simple. I think you mentioned 65 nutrients at the nutrient level for NHANES? Is it 65, some number like that?

Dana DeSilva: 03:12:06 65, including energy.

Christopher Gardner: 03:12:08 Okay. And would that be all the vitamins and minerals, all the macro nutrients? Would it be individual amino acids? Individual fatty acids? Is there a quick way to characterize what the 65 is?

Dana DeSilva: 03:12:20 We can provide a link to all of the nutrients available on a fact sheet, but there are some individual fatty acids, but not amino acids, to the best of my recollection. But we'll get that--

Christopher Gardner: 03:12:33 Nonamino acids?

Dana DeSilva: 03:12:33 --link and make sure we have the accurate--

Christopher Gardner: 03:12:35 Interesting. Okay. So then one last follow-up here. I pay a lot of money to use NDSR. And the reason I pay a lot of money is that they put a lot of work into their database to impute values for nutrients that might not be known otherwise. So let's say there's a new protein bar on the market, and whoever is marketing that protein bar isn't going to pay to have 170 nutrients analyzed, because that's actually what they have in their database. But in their database, they have all the amino acids, all the fatty acids, all the vitamins and minerals because they look at an ingredient list and they say, "Okay, we don't actually know how much of each ingredient there was, but we'll impute a reasonable value for what we think a protein bar would have." Which basically helps because there's no missing values for nutrients. For all 170 nutrients, they're present, even if they weren't chemically analyzed. For this shorter list of the 65 nutrients for each of the foods for NHANES, do you know if there's any missing values? And I'll give you a very specific example. There was one time I was looking at total fat and I separated it into saturated fat, and I was looking at mono and poly. And in the database that I was using, total fat was accurate, saturated fat was accurate,

mono and poly were not because those values are not on a nutrition fact panel. The companies making new products weren't obligated to look into those. Do you know if this set of 65 nutrients is complete for every-- so we can assume there's no missing values when we're looking at the nutrient level? Does that question make sense?

Dana DeSilva: 03:14:16 It makes sense.

Christopher Taylor: 03:14:20 Okay. So the database will be complete for all the nutrients, but we also have to consider the fact that there are point estimates to everything that's there. So what's representational for an oatmeal raisin cookie, condensed down to a food code. The data gets linked back to USDA standard preference and tries to get down to a recipe level to disaggregate and reaggregate. So it gets down to those levels of fatty acids and particular nutrients, but when you get to those particular new foods in the food supply, it tries to find the most equitable comparison food. I don't think you're going to find every new single cereal that goes out--

Christopher Gardner: 03:15:07 Sure.

Christopher Taylor: 03:15:07 --there, but looking at the nutritional composition that matches across those elements, it'll be a facsimile of that, but not an identical match.

Christopher Gardner: 03:15:19 Oh yeah, absolutely. Thank you very much. Very helpful.

Deirdre Tobias: 03:15:27 Yes, I have a question, again related to Dr. Booth's comment. I'd argue one of the most important discussions as a committee will have are around this grading. So at the end of a systematic review, doesn't matter how many studies are included, right, if they're all poor quality. And each recommendation we have will have this, how confident are we in it, attached to it. Is it poor quality, high quality? And I think it's great that there was this presentation on the grading tools, risk of bias tools. And I would just like to emphasize that I think those should not be underestimated, how difficult they can be. They are meant to be as objective as possible, but there's a lot of room for subjectivity, and in many instances require subject-matter expertise. For example, was the statistical analysis appropriate? Looking at a given paper, that's a judgment call of the reviewer, which it sounds like we will be those reviewers, if I'm understanding correctly. And again, maybe training or familiarity with these tools sooner rather than later would be incredibly helpful to get everyone on the same page because they do require a lot of nuance and understanding. And 100 cohorts might assess diet 100 different ways, and that could matter for what you're trying to evaluate as the exposure, whether there's potential for bias. And that grading, is it low quality that we're resting our conclusion on, moderate, high? I think it's probably one of the most impactful stamps at the end of that, in my opinion. So as a committee, I would encourage we seek training, if this is beyond our area of expertise, and any additional resources that you guys can offer. I saw that there were the publications tied to some of these slides, which is great. I've already started looking at them to see what sort of questions are being raised. But your guidance on systematically and consistently implementing these tools as a group across all our subcommittees will be really huge, I think.

Dana DeSilva: 03:17:43 Yeah, I couldn't agree with you more. One clarification is that our NESR team will do the risk of bias assessments for each individual study. As you've alluded to, there are a lot of decisions that should get discussed at the protocol stage that will feed into how the responses to those risk of bias tools are made so that we're trying to be as consistent as possible across subcommittees, across questions. So we can certainly

share those tools with you all so you have a sense of what the tools involve and so that we can be having those discussions upfront around how are we evaluating single-day dietary recall in a cohort versus multiple days versus what is the ideal frequency that you want diet collection to occur at, for example, in a long-term cohort. Yeah, so there are a number of things that we can definitely have discussions about.

Dana DeSilva: 03:18:39 The other part that you raise is the grading process, and I think that's really one of the benefits to the way that this committee is organized, is that you will do work in subcommittees, but then you bring that back to your public meetings and have these opportunities to share what evidence you've reviewed and what grades you've come to, and then have big discussions with the full committee. And that should provide some opportunity to sort of vet with each other how you've been grading your questions. And it's very hard to say this grade means the same thing across the board. You really have to factor in all of those five factors that are part of the grading criteria. But I think that kind of format of sharing and having those discussions has been really valuable in the past for committees who are doing work in subcommittees, but then bring back and can kind of aim for some consistency in approach. Yeah. Great point.

Valarie Blue Bird Jernigan: 03:19:37 So last I remember, NHANES doesn't include American Indians, Alaska natives. I think they're sampled and categorized as other. Is that correct?

Dana DeSilva: 03:19:58 **Yeah, I'm not totally sure and would feel more comfortable if we can talk to our NHANES experts and communicate back with you.**

Valarie Blue Bird Jernigan: 03:20:09 Okay. Because I know you mentioned at the beginning that they over sample for Black Latina, was it? And then--

Dana DeSilva: 03:20:19 Asian.

Valarie Blue Bird Jernigan: 03:20:19 --Asian. Asian as a big giant group? Okay.

Valarie Blue Bird Jernigan: 03:20:27 And other is anything else outside of that.

Valarie Blue Bird Jernigan: 03:20:31 Other, is anything outside of that, plus white?

Dana DeSilva: 03:20:36 No. NonHispanic white. The categories are nonHispanic White, nonHispanic Asian, nonHispanic Black, and Hispanic others.

Valarie Blue Bird Jernigan: 03:20:47 Mexican American and other Hispanics.

TusaRebecca Pannucci: 03:20:48 I'm sorry. Mexican-American. So there are some, but they're not oversampled to be a nationally representative group. So I spoke earlier that there are challenges when trying to think about the generalizability of those race-ethnicity categories because of the diversity within them.

Valarie Blue Bird Jernigan: 03:21:12 Does NHANES include native Hawaiians?

TusaRebecca Pannucci: 03:21:16 They haven't sampled on the island since-- I forget when, but it's been a long time. So it would be native Hawaiians living in the contiguous United States might get sampled, but they haven't done data collection. It's part of the potential sampling scheme. But they haven't taken the MEC units to Hawaii in a long time.

Deirdre Tobias: 03:21:40	Would the CDC's state version of the BRFFS have Hawaiian-specific data? They don't have diet.
TusaRebecca Pannucci: 03:21:51	They have very limited diet.
Deirdre Tobias: **03:21:53**	Yeah, like eating habits.
	[silence]
Christopher Taylor: 03:22:05	So I have one pragmatic question as you look at the food categories kind of used as a guide. You've got the combination foods where someone has a sandwich. I had a Reuben, and it's tagged as a Reuben, versus somebody has individually provided. I made my sandwich and it has this much bread and this much meat and this much cheese and this much condiment. That sort. Kind of the same thing with beverages because beverages, you end up with tea and sugar. Sugar is a solid food. Tea is the beverage. What's the operational process? Is it to disaggregate the sandwiches into individuals, leave them separate, bring the sandwich combination foods together into this-- just kind of trying to think--
Dana DeSilva: 03:22:57	It depends on the analysis. But for example, the food category sources, those food categories provide a framework that also provide an opportunity for modification. But for the food category sources, we used the combination codes that allowed us to combine. Like your example of if someone consumes coffee and adds sugar or milk or cream to their coffee, the combination code that captures that together then can be utilized to categorize that beverage with its multiple components instead of separating the components into their parts. So we have the opportunity to use those combination codes to help in the categorization. But it depends on the analysis to what degree we do that. But the food category sources of saturated fat or food category sources of added sugars, that's one of the prime analyses where we can utilize those combination codes and slightly modify some of the definitions using those combination codes and define them as such.
Deirdre Tobias: 03:24:01	How are ultra-processed foods defined, if at all, currently? And is that flexible? And are there nonnutrient-related factors or characteristics of foods, such as processing, that we can evaluate?
Dana DeSilva: 03:24:17	That is open for discussion among the committee.
Dana DeSilva: 03:24:21	We don't have a definition in our data.
Deirdre Tobias: 03:24:23	Okay. But data are available? Degree of processing, additives, whatever might be used to define that?
Dana DeSilva: 03:24:32	**It's not--**
Deirdre Tobias: **03:24:35**	You have to take the [inaudible] and-- sorry. I thought you had to take the different codes and separate it out and then individually, for each ingredient, or depending-- like with the quesadilla. So the wrap, if that's considered-- I think the wrap would probably be considered ultra-processed potentially.
Dana DeSilva: 03:25:07	But it's not classified. Somebody could try to classify, but it is not classified.
Deirdre Tobias: **03:25:13**	Okay. But I get your point, meals and composition--

Dana DeSilva: 03:25:16 But there are challenges to doing it. But again, it's an open discussion based on your expertise.

Steven Abrams: 03:25:27 So Julie, you talked about the vegetarian pattern has been around for the last couple of meetings, or whoever's [inaudible]. Do we have the capacity to look at vegan or sub groups of vegetarians? Essentially, talk about pediatrics. We certainly have certain acceptances of what's tolerable or acceptable or healthy for-- the difference in children being a vegetarian and vegan [inaudible] different children [inaudible].

Dana DeSilva: 03:25:54 We have that opportunity when we talk about prioritizing the different analyses and their implications for different life stages.

Steven Abrams: 03:26:03 Because there's an increasing number of children who choose to be vegetarian. And there's certain number of those who choose even more restrictive diets. And I think that as we talk about a healthy food pattern, we probably need to do some degree of subcategorizing beyond the broad category of just vegetarian.

Dana DeSilva: 03:26:19 Yeah, like I said, kind of the second topic area-- well, the overarching question of, are modifications needed to the current dietary patterns? And are additional dietary patterns needed based on the evidence across the three sources.

[silence]

Dana DeSilva: 03:26:51 Thank you.

Janet de Jesus: 03:27:02 Thank you so much for that discussion. And now I'll turn it over to our chairs for a committee discussion.

Sarah Booth: 03:27:10 Thank you. Thank you, Janet. So we thought it would be really nice to go around and ask each and every one of you to make an observation, comment, raise a question. We've heard from some. We haven't heard from everyone. So perhaps we can start with you, Carol.

Carol Byrd-Bredbenner: 03:27:33 Absolutely. So you're looking for observations?

Sarah Booth: 03:27:36 Any kind of impressions, comments, concerns, observations of today's proceedings. Thank you.

Carol Byrd-Bredbenner: 03:27:47 Thank you. Yes, I think we have an amazing team that's supporting us. The science and the evidence that we're going to be using is state-of-the-art. I'm looking forward to learning more about some of these processes and have great confidence.

Sarah Booth: 03:28:05 Thank you. Deanna?

Deanna Hoelscher: 03:28:09 Yeah. I agree. I think it's really fascinating to see the different resources we have at our disposal. I am interested in looking to see how we're going to parcel out these subgroups and at what point is a kind of a cost-benefit kind of thing, how detailed we want to get into that. I'm also interested in learning about some of the new methodologies. I think they sound very intriguing and interesting. Thanks.

Cristina Palacios: **03:28:43** Yeah. As we were hearing what we have available, I'm concerned that we may not have enough studies with infants to draw from all the systematic reviews and using data sets, as we've mentioned, and other data sets that may not have been published. We may have to do something like that for that particular group. Because the other guidelines, the previous guidelines, could not develop all these food patterns. So I think that's the source of concern.

Steven Abrams: 03:29:16

Well, I think compared to 10 years ago, it's an exciting time for enhancing what we've done in small children - babies and small children - which weren't included 10 years ago. And compared to adults, for the dietary guidelines that's been going around for at least 40 years, we only have one chance previously on babies. So it's a good chance to expand that. We didn't talk too much today, virtually at all, about pregnancy and lactation. So I think that those are some areas that we will also want to take a look at what's going on in the last 5 or 10 years and what advice can we give, especially related to lactational requirements.

Julie Obbagy: 03:29:53

Two thoughts. The first is, just to echo [inaudible], I think when we get to the issue of children's eating behavior and a lot of the behavioral issues, the literature is predominated by cross-sectional observational studies. And so I think it's going to be interesting to see how we weigh those decisions to make sense of cases where we would like to move forward but we don't have the RCC evidence. And then the second is, which I mentioned to you ahead of the break, we've talked a lot about a health equity framework. And I think as a panel, we realize the importance. But I also think there's a huge need to be on the same page, really at the onset, in terms of what we mean when we say that and how we think conceptually that's going be floored and how we think about these questions and how we start to approach systematic reviews of the evidence. I know there's a subgroup that's going to meet, which I think is excellent. But I think as a committee, I think we'd really benefit from a broader conversation. And at the onset really, so we can take it on in a meaningful way.

Jennifer Orlet Fisher: 03:31:10

Yes. I'm excited about the new methodologies and all that we have available to actually make the recommendation. I think that health equity was a conversation that came around. And I think having a framework for the committee to move forward on that will really help us and guide us through the entire process. And having that upfront may really help us move forward with maybe a slightly different lens. And in the discussion about data analysis, a little described about food accessibility. And that's another part that I think relates to health equity that I'm excited to learn more about. So I guess I have a few observations for today. I think the co-chairs did an incredible job of just kind of setting the tone, and so I really appreciate how you opened this space. I think that that is really important. So being principles-led. So thank you. I think that the supporting team is incredible. Just the way that they've laid out their processes and-- it's just fabulous. And so I feel a lot more confident with the work we have at hand. That we can do it and that we have the team we need to do it. And I would just say that I do randomized trials. I get the reasons behind why we include and exclude certain data. But I do think if we're really going to look at this through a health equity lens, we have to realize how we privilege this western scientific model and be open to hearing marginalized voices. So it will be exciting. Thank you.

Sameera Talegawkar: 03:33:35

So I guess I'm really grateful for the support that we have. And the one thing I'm looking forward to is the simulated models and the dietary pattern analysis, specifically for minority populations, if there is anything that we can-- because we don't have good representative data for them in NHANES.

Edward Giovannucci: 03:33:59

Yeah, I thought the presentations were great. It gives me more confidence that we'll have great support. I have a lot to learn. I mean, I felt the data synthesis, that part, I've had lots of experience. But the food model pattern-- I don't think I said it right. I mean, the presentation was great, but my starting point was zero. So I think I still need to learn a lot. I think it's also important-- and I think we talked a little bit about this this morning. How to approach the data. What studies to weigh. I think having clear definitions upfront is really important. I've had experience in WCRF. And we had

very, very clear guidelines on how many cohort studies you'd have before you would make a statement that it's strong evidence. And sometimes those can be too rigid, but I think those-- sometimes I'll read a systematic review, and I just read the methods, and I know what they're going to conclude because-- by the criteria that they set. So I think being very clear about how we're going to weigh different studies and different types of evidence and different populations I think is really critical. And we probably need to do that upfront.

Sarah Booth: 03:35:45 Great. Thank you.

Fatima Cody Stanford: 03:35:47 Today is Thursday. And you guys might be surprised that I would bring that up, but today is the day that my parents leave a food pantry in Atlanta, Georgia and have for the last 25 years in the south side of Atlanta, Georgia. In this food pantry, they distribute now because of resources and funding, organic fruits and vegetables, etc.. And when they leave the food pantry and it concludes, they find these fruits and vegetables scattered along the parking lot in southwest Atlanta. We talk about this desire to evaluate equity. What research study will capture their lived experience of recognizing that many of these unhoused individuals, or those with low housing and security, will also suffer from food insecurity? And even when they do have these fruits and vegetables distributed to them, if they did want them, if they knew what they were. Because often, they are not familiar with even seeing corn on a cob. They're like, "What is that?" My parents explain though, "That's where the corn comes from, that you've seen in your can." But that's not the reality for these individuals. If they're living in homeless shelters, where do they store these fruits and vegetables? How do they prepare these fruits and vegetables? They don't have a way to do so. Our data, our literature does not capture these marginalized populations that my parents-- that are serving today, as of still right now, because they've texted me. And it does not often capture the marginalized voices of those that live in the shadows of facing overweight and obesity, particularly in our older adult population who are afraid to express themselves in the healthcare setting due to significant weight bias and stigma they've experienced at the hands of us. I'm hoping that we are able to capture that. And while I love the systematic review process and I love publishing and I love my H index, and those are all great, those things do not affect the health of our population. They help me, but they don't help the population at whole. And that's what I'm hoping to do.

Christopher Taylor: 03:37:52 One of the things that we're grappling with is the difference between what's published from the randomized trial side and what's the consumption part. And I think being able to put basically those three elements that we're using is that background. I live so much in that consumption side. And basically, the expertise that we've been shown, with the depth of the data it takes to get so those total lines for the day, I think often gets underappreciated, all the way down to the recipe level. And that's where I think we've got this chance to really innovate around how are we making definitions around food and categories of food and that sort and to be able to translate that into actionable strategies compared to what we're actually seeing now. So I think that's going to be one of our kind of most fun elements throughout this whole process, is to see how we can translate the ideas we have into a realized consumption pattern.

Deirdre Tobias: 03:38:55 First of all, I'm delighted to be here and honored. And so far, I love this entire group and know that I will learn a lot from everyone over the next couple of years. My probably biggest question mark that I hope every group we can address is not just the food pattern modeling, but how it fits in these disparity lines. I think there's almost this life style pattern modeling we have to include under this umbrella to be able to

make sure that we're not just fixing nutrients as we move, and increase and decrease foods, but also making sure that access and equity and cost and everything else that's important under that lens is consistent with what we want to have in the outcome. I like the addressing of specific age group, but given the big issue with obesity, I think that even the younger ages should-- I hope we can set them up for success down the road as well for obesity prevention, chronic disease prevention, that might not be acute and as relevant during stages of growth, but certainly later in life will be. So I think evaluating evidence in these categories, but with this recognition that across the entire life course is still incredibly important.

Deirdre Tobias: 03:40:24 And then as a complete methods geek, I love the system that the group laid out for us today for the systematic reviews. I've done many of them. They're incredibly burdensome. And the fact that like 90% of the labor piece of it, which is incredibly important, is being done by that group is huge. And the transparency I really appreciate. I think it's just top-notch, state-of-the-art process that's in place, so. I think when we receive data and list of studies and, from what it sounds like, risk of bias, I just feel good about trusting where that's coming from, which is, I think, also really important, so. And then, again, back to obesity. We didn't talk about it much today. I'm assuming it'll be a big part of the breakout group. But with all of the nutrient modeling, I think recognizing that there's outcomes beyond just micronutrients that we'll also have to consider.

Teresa Fung: 03:41:30 I want to start with saying how excited I am to be working with all my esteemed colleagues here. And very excited to work with, in the background, the technical staff who is doing the systematic review and the statistical analysis. You are really the people who is going to bring us the data that is going to help us to do our work. So without you, really we won't be able to accomplish very much. With that, my hope is to think across different lifespan, more towards the geriatric side of things. And many Americans these days are living with chronic diseases. And our management of chronic diseases are very good. And many of these Americans will be able to a very long life. And therefore, health promotion is actually not only disease treatment, not only managing the disease, but health promotion within the disease while they're living in it is also very important. And therefore, I hope that our work will also include something looking in how do we promote health among people with heart disease, preventing other-- kidney failure or some other things. People with diabetes, even though we know that is a complications. And not only think about those people who are actually without chronic disease, because it's a large portion of our society these days.

Teresa Fung: 03:42:53 Another point is thinking about the cost of food aspect as we model foods. And maybe encouraging more towards the cheapest sources. And also, not only in cost from the perspective of the person paying for the food, but also from the cost of-- well, the cost of the person paying for the food actually will partly be driven by the cost of producing the foods. So therefore, it backtracks. You're going to want to control the cost of people paying for it. It actually backtracks to the cost of food production and the food choice. Certain foods are going to cost less to produce because of natural resources that are being used for it. So hopefully, our food pattern will also have that in the back of our minds as we make recommendations on that.

Andrea Deierlein: 03:43:48 Hi. So I feel like a lot of good points have already been brought up. And I just want to echo again how I am also delighted to be here. And I was very impressed today by all the presentations that we heard and all of the access to data and information that we're going to have to make, I think, these important decisions. And I think especially as-- coming from somebody with a background more in pregnancy and postpartum

and nutrition during infancy and early childhood, I'm very excited at the possibility of advancing nutrition, particularly for those populations, across the life course.

Hollie Raynor: 03:44:27 I don't think I'm saying anything new. But again, I'm so impressed with the support that we will be getting. I mean, without that, it would be an incredibly challenging task that we would have. But I think the two things that I really want to reinforce, that I've heard from other people, is I think that it is really important for us to have that framework of equity that we're going to be working from. We all have to be coming from that same place in all of our subcommittees. And then once that's developed, I think it will be incredibly important for all of us to recognize, which has been brought up, the limitations of the methodologies that we have in regards to that framework. Otherwise, we will be doing an incredible disservice. So I think that that's super, super important. And then I'm also very interested in the discussion tomorrow about obesity or weight management, exactly what does that mean and how will we be approaching that.

Hollie Raynor: 03:45:28 So one thing I kept thinking of sitting here was someone I know always tells me, "Well, we've had dietary guidelines for X number of years, but obesity has gotten worse, and chronic disease burden has gotten worse, so why are they helpful?" But I think, of course, that's missing the point. And I also think it just kind of makes salient, everything we've heard today about how our work to help operationalize the guidelines and make them practical so that they can inform programs in a way that can be used by people-- every little inch that we can make towards doing that could have a huge impact on our population. And so I feel like for me, that is a huge takeaway. But I feel like we're in very good hands. And we have such an excellent staff and group of people here to work with. And I'm just very overwhelmed by all of the great ideas of everyone here and pleased to be here.

Sarah Booth: 03:46:50 Christopher, on. Yes, on cue. You're muted.

Christopher Gardner: 03:47:00 Thank you very much. Embarrassed, I'm sure nobody's ever done that before. Christopher Gardner, from Stanford. Sorry, I can't be there in person. Echoing how impressed I am and what an honor to be part of the brain trust. So if I were to come up with some thoughts, I would say, as I was listening to everything today, what is this task we've got? So it's very cool that we have these new tools. So I'm curious to what extent we're going to go back to data that have existed for many, many years and use the new tools to answer questions in a different way because we have new tools. I thought a main reason to have the guidelines updated every five years was there's new data. So how much emphasis is specifically on data from the last few years because it's new? But I was really most impressed by some of the comments at the very beginning. The biggest use of the dietary guidelines is to support our safety net programs. It's to support SNAP and school lunch and WIC and things like that. It's not really the American public that listens to or follows the guidelines, unless they're being counseled by professionals. So I'm really curious how to prioritize all the issues into something realistic that we can do in two years, with so many different interests and perspectives here, when really the biggest impact we might have is to make a substantive comment about low-fat or fat milk served in schools and if that changes. Something like that, which might seem incredibly mundane. Or something more culturally appropriate for schools that isn't recognized. So my observation is I'm just bewildered and dizzyingly trying to figure out how to prioritize which questions to ask. Does seem there's room to add new questions, but I know the new modus operandi here is to take the questions that have already been selected for us. How do we prioritize what evidence to put in when I think the biggest conclusion we're going to come to at the end of this is more studies needed? And how important is our role

in defining and prioritizing what those new questions are and the new research that has to be done that we were unable to answer because the data-- great tools are fantastic, unless you look and say, "Okay, we don't have the studies to answer that question." So those would be my observations. Thanks for letting me share. Cheryl, wrap it up.

Cheryl Anderson: 03:49:29

Yeah. Thank you, everyone. I have a few observations. First is that this committee is being co-chaired by two amazing individuals. So thank you for the opportunity for us to do this round-robin and for the able way that you have already, today, gotten us off and thinking like a team. The other thing that I've observed is that we have an outstanding set of staff and resources that will support us as this committee thinks about how to review and interrogate new data and put those interrogation findings into words. What I'm really excited about is the opportunity for us to look across the life course. We can go from twinkle to wrinkle, which wasn't always the case. We also have the opportunity to really think about how what we will do will inform the lives of the American people. And what I'm hearing over and over in our discussions this morning and through our staff presentations are that we all have the American people at the heart and center of this activity. And so when we're finished and done, it is my hope that we've not only thought through what the data tell us about access, what the data tell us about where and how people live and what it means for how they eat, what the data tell us about how we will be able to ensure that the systems and the structures that inform how people end up with a certain diet quality or not can be impacted by the work that we're here to do. So that ultimately, when it's time for someone to get food in America, no matter who you are, no matter you live, learn, work, play or pray, you have access to what you need for a healthy dietary intake. So thank you for all the deliberations this morning. And I'm just really excited about where we're headed.

Sarah Booth: 03:51:40

Thank you, Cheryl. Angela?

Angela Odom-Young: 03:51:43

You know what? I really don't have much to add. But one is probably more of a question than a comment, kind of given the focus on the lived experience. Several people talked about the lived experience. One thing that I noticed that we haven't started to dig into-- we talk about the systematic reviews, the data analysis, the food group modeling, and the public comments, but it's unclear on how the public comments, for me, are considered in this. Could we potentially-- and there may already be this that exists. What is the lens that we put to public comments? And how do we think about new methodologies to sort of learn more, particularly this idea about kind of decolonizing methodologies or thinking about the lived experience, the people that are-- people are giving these comments, but how were these comments considered as sort of systematic evidence? How do they come into the process? So that I would like to just learn more about as we go along. Because are they equal to what happens here? Or how is it layered? So I'm just looking forward to hearing more about that.

Sarah Booth: 03:53:00

Angela, if you don't mind, I would like to turn your question to Janet because it's a really important one.

Janet de Jesus: 03:53:15

It's a great question. So we will be-- we have a contractor that's collating all the public comments that come in. And we will be providing them to the committee periodically. And they will be categorized so you'll be able to see what topics they're related to so we have a full outline. So yes, I think public comments are, of course, a major part of your process. I mean, we do encourage the public to provide scientific rationale. That's the most helpful, I think, to the committee. So if you have comments and they

have references and a scientific rationale, that could be most useful to the committee.

Fatima Cody Stanford: 03:53:53 Do you mind if I follow up on that? Because I do think the public comments still doesn't get to certain key groups that have certain level of health literacy, that have the Wi-Fi to log on and to put their comments in. What about the women that are part of the WIC program? What about the SNAP recipients? What about those individuals that are in those food pantries around the corner from where I live or in my building? What about those people? And those people have-- we talked about these programs being a major focus of these guidelines, but we never hear their voice. And I know that's more of a mixed methods type of work and that's not part of what we do, but I feel like we still are missing these marginalized communities that have the most to gain from what we're able to share. So I don't know if there's a way to capture them in this process. Because I can tell you, those people that are at the food pantry today, they didn't log on and put their comments in, and they wouldn't even know how to look up a reference and go to PubMed and say, "You know what, there was that literature cited and there was a--" they don't know that. So how do we capture their voices, right?

Janet de Jesus: 03:54:59 It's a great question. And this reminds me of a point that someone made earlier, the-- our federal food and nutrition programs, they all also do their own analysis. And they have program reviews, like they have NASEM reviews that look at WIC packages. They reach out to stakeholders, providers, those that receive these programs. So they have their own full process. I mean, the dietary guidelines, of course, inform dietary patterns and recommendations. But that's a great point. I mean, this process is scientific, so it's tricky because you're looking for the science to update your scientific report. But, I mean, your point is completely well taken. I think consumer messaging-- I mean, our communications teams, when we're working on materials, do a lot of testing with target audiences. So great point.

Angela Odoms-Young: 03:55:55 Yeah, I was going to say, I'm wondering, and also in learning more about the process, with the categorization may be one way to look at public comments, but there also may be a lot of other ways to look at public comments. I'm just thinking about-- from the experience about the WIC public comments, for example, that did include a lot of lived experienced voices of WIC participants, along with a lot of other things. But I always go and read the comments of the reports, which I find very interesting. And I think that there can be a le ns applied to those comments that may be more systematic. Or I shouldn't say more systematic, because I don't know what the contractor is going to do. But maybe we could think more about how-- make some recommendations about how comments could be included or how they could be looked at in a lot of different ways, based on who is in the comments. We really don't know as much. And so maybe we can just think more about that as a committee.

Janet de Jesus: 03:56:53 I think that's a great point. And we'd love to work with the Committee and share the outline and categorization. And you will get every comment that's posted. So every single comment will be included. So whether it's general public sharing their story or if it's a public health association sending a 20-page comment. So love to work with the committee on that. Thank you.

Sarah Booth: 03:57:20 Any other final comments? Observations? I have to tell you, I'm in complete awe of all of you. All I can say is go team 2025 DGAC. Thank you.

TusaRebecca Pannucci: 03:57:46 We are in all of this committee. So I will just have to say on behalf of HHS and USDA and all of our staff teams, we are so excited to work with you. I mean, you are the best people at the top of your field, full of knowledge, so thrilled to work with you.

Thank you so much for the wonderful engagement today. It was very exciting to hear. Thank you to the public for attending today's meeting. We appreciate your participation and encourage you to follow along on the committee's work. There's many ways to follow along. Public meetings. We'll be updating dietaryguidelines.gov with all of the committee's work. We just talked about public comments. Please submit public comments to the committee via the regulations.gov docket. Slides from today's meeting will all be available on dietaryguidelines.gov. It'll take a little bit because we have to get them formatted, where they're approved to be online, but everything will be available. The video cast from today will also be available. So that's got to be formatted as well. It will take a bit. So on to tomorrow, we'll have HHS and USDA leadership that will provide remarks. We will also discuss proposed scientific questions to be examined by the committee and refined. And in addition, we will talk about public information that is on dietary guidelines now and that will be as your work evolves and more opportunities for public engagement. So with that, I will adjourn day one of your first public meeting. Thank you.