

Transcript

Second Meeting, Part 1 of 2: <https://www.youtube.com/watch?v=z3pAEWWFZrQ&t=9484s>

- Paul Reed: 00:08 Thank you very much. I think it goes without saying they put an extraordinary time, and the breadth of expertise amongst them is incomparable. And then I'd also, of course, again, like to thank the public for participating in today's meeting. And most importantly, our esteemed committee members for your work and your commitment to this very, very important work. Thank you.
- Eve Stody: 00:40 Thank you, Rear Admiral Reed. So what we thought we would do before we turn it over to the committee is to provide a few updates on related projects to the dietary guidelines. We've gotten some questions from members of the committee, some questions from stakeholders, as well as, as Rear Admiral Reed noted, a number of public comments. And throughout the committee's discussion today, you'll notice that some of these topics aren't brought from the public comments or aren't address in the committee's work. However, we do want to acknowledge that there is other work that is happening kind of in parallel to the committee's work that addresses a number of the comments that have been received. So I'm going to give updates on five different projects: the Healthy Eating Index, Alcoholic Beverages and Health, the Applicability of Systems Science and the Dietary Guidelines Development Process, Dietary Reference Intakes, as well as Sustainability and Nutrition.
- Eve Stody: 01:42 So the first is a Healthy Eating Index or the HEI. For those who have less familiarity, that is a tool that's designed to evaluate how well a set of foods and beverages align with the dietary patterns recommendations in the dietary guidelines. The healthy eating index is developed in a partnership between USDA's Center for Nutrition Policy and Promotion and HHS's National Cancer Institute. The HEI 2015 score is made up of 13 different components that reflect recommendations in the 2015 edition of the dietary guidelines. We have been working on the HEI 2020. The HEI 2015 is the most referenced article in JAND. It has been for the last three years, and so there have been questions like, when's the new one? When will the 2021 be out? And it will be published in JAND as well, and it's expected to be published this September. We will have two HEIs. And HEI 2020, that is going to be the same as the HEI 2015. It has a new name, but it has the same 13 components. And that's because the poor recommendations and the dietary guidelines for ages two years and older didn't change. And so we'll have a new name, but the same general components.
- Eve Stody: 03:03 However, we also have a new HEI for toddlers, the HEI Toddlers 2020. And that will be a new tool that will reflect new guidance in the dietary guidelines for ages 12 to 23 months. So we're excited to have those tools, finally, near the finish line. We are planning a public webinar, likely in early September that will talk more about these tools. And of course, those will be cross-promoted through our dietary guideline's Listserv. So if you're interested, we'll make sure that that information is shared. So the next topic is Alcoholic Beverages in Health. As Janet noted in the first public meeting, and as we noted when we posted the topics and questions for public comment, the dietary guidelines have included guidance for alcoholic beverages since the first edition. However, it really is a unique aspect of the diet, and it requires specific expertise. And we felt like it was time for it to have a focus review with a number of expertise brought together-- a number of experts brought together specifically for that topic. And so we made a decision, prior to developing the topics in

questions, that that would be handled in a separate effort from the dietary guidelines advisory committee's scientific review.

Eve Stody: 04:21

So we have been working with the HHS, a standing committee within HHS's SAMHSA. And

their plan is to develop a technical subcommittee that will have expertise in adult alcohol consumption to review evidence on alcohol intake in health and to make recommendations on adult alcohol consumption. So that will be handled in a separate effort led by SAMHSA. They do plan to prepare a subcommittee report that will be published and available to the public in 2025. As Janet noted, in the timeline, our goal is to have the dietary guidelines released by the end of 2025, so that work will conclude prior to and can inform the development of the next edition of the guidelines. Additionally, the 2023 Appropriations Act mandated USDA to enter into a contract with the national academies to conduct a series of systematic reviews on alcoholic beverages and health. And just want to note that, that contract process has been initiated through the Center for Nutrition Policy and Promotion. And that study is expected to begin this summer. So we're nearing getting that work underway. The findings from that study will be considered by that SAMHSA subcommittee in developing alcohol recommendations. So that is an update on that topic area.

Eve Stody: 05:53

Okay. Systems Science. As many people are aware, that there was a steady conducted by the national

academies in 2016, 2017, about the process that we used to develop the dietary guidelines that resulted in a series of recommendations. There was a subsequent study by NASEM that looked at how USDA and HHS did in implementing those recommendations in the development of the 2020 edition of the dietary guidelines. In both of these studies, the national academies' committees acknowledged that an important step for continuing to move the process forward in development was to consider systems science and systems science approaches in informing the dietary guidelines. So we have a number of activities that are underway in regards to this, for example, with our food pattern modeling that Dr. Taylor will talk about later today. Simulated diets, we are going to implement simulated diets in our food pattern modeling analyses, and that was part of their recommendation in regards to systems science. So we are addressing that recommendation through that avenue.

Eve Stody: 07:07

In addition, our office has a contract underway with the goal to gain insights from both federal and non-federal experts on the applicability of systems mapping and modeling before, during, and after the dietary guidelines development process, so for example, informing the research that informs the guidelines in our

actual guideline evidence review process as well as implementation of the dietary guidelines. We actually held an in-person workshop in Washington, DC this past March. And our contractor is working on a report that will discuss options for moving forward in regards to systematic reviews. And we expect that by the end of this year, and that report will be posted publicly.

Eve Stody: 07:59

Okay, the Dietary Reference Intakes. So as we have talked about, in the guidelines at the last public meeting, the DRIs are really important and put into the development of the dietary guidelines. The DRIs provide nutrient recommendations. The dietary guidelines provide food-based recommendations. And we don't duplicate efforts. The intent is for the dietary guidelines to carry forward those nutrient recommendations that are developed in the DRI process. The DRIs are established by the national academies. However, they are informed by a federal working group. And that is the Joint U.S.-Canadian DRI Working Group. It has representatives from USDA, HHS, the

Department of Defense, as well as Health Canada. And a few years ago, the working group prioritized the review of the DRI values for energy in the macronutrients, which were last updated in the early 2000s. So a few updates in regards to that work, new DRIs for energy are now available. And those will, of course, inform the work of the committee, particularly related to food pattern modeling, but also potentially in relation to some of our data analysis work.

Eve Stody: 09:14

We also want to update that we have commissioned systematic reviews to inform subsequent DRIs for protein and carbohydrates. We will do additional systematic reviews, but we have two packages of systematic reviews that have been funded. It will be completed through HHS's agency for healthcare research and quality or AHRQ. So the first package of reviews we funded are in dietary protein. And those are a little bit further along, and AHRQ will post protocols for those systematic reviews on their website this summer. And then we have, more recently, funded another set of systematic reviews on digestible carbohydrates, and those will be following shortly after protein. So of course, we've gotten a number of comments on low-carbohydrate diets, and we really feel like this all begins with the DRIs and thinking about that. So that DRI work is underway. It'll begin with those systematic reviews, and then NASEM will establish committees to work on those subsequent DRIs. So if you're interested in that work, definitely encourage following the work on AHRQ's website and then later through NASEM.

Eve Stody: 10:28

And the final topic is sustainability

and nutrition. As we've noted in, again, announcing the topics in questions and at the public meeting, of course, this is very important topic across both departments. And we had activities underway in both departments to inform our work. And we just wanted to highlight a couple of activities that are more recently underway. And the first is a project called ADVANTAGE, and it has led by NICHD and HHS. And they have five working groups that are exploring research to better understand the intersection of food systems, diet, nutrition, and health in a changing environment. They have a virtual meetings that are open to the public, and we've included the link there. If there's interest in following that work, you can learn more through that link. Just also want to acknowledge that USDA and HHS are going to convene a federal work group that will look at assessing the merits and viability of various pathways to consider integrating sustainability into future editions of the dietary guidelines. That committee will be established through-- we have an interagency committee on human nutrition research. Public meetings will be held to discuss that topic, and the work group will develop recommendations for moving forward and those recommended approaches will be released publicly.

Eve Stody: 12:02

So for updates like this and more, we do have a section on our website called Related Projects that gives updates. And for those things that we have provided updates on today, we're going to try to do some updates on the website today to carry forward this information. But as you can see, there's a number of different additional topics that we address on the website. And for those who are interested in any of those topics and more, we encourage you to follow that work, and we will try to keep that updated for future reference. Okay. So before we turn it over to the committee, I just wanted to take one second to acknowledge a member of our team who is retiring, Joanne Spahn, who I didn't want to-- I think she's in the overflow room. But Joanne Spahn has been with CNPP for 15 years. She was really instrumental and has been instrumental in developing the methods for the Nutrition Evidence Library, which is now the Nutrition Evidence Systematic Review branch. So she's been with us almost since day one with NEL, now NESR. So just want to say congratulations. This is her last-- this is the fourth committee she's supported. And she will be staying with us

through the summer, but this is her last public meeting. I just wanted to say thank you for your contributions, and best of luck as you sail off into retirement.

Eve Stody: 13:30

In addition to her

15 years with us here in CNPP, she had 23 years with the Air Force, and so is now moving on to sailing, so it sounds lovely. So with that, we will turn it-- well, first, I'll just note, are there any questions on anything from either anything-- there she is. [laughter] So there's Joanne. Thank you. So any questions on anything that Janet and I can address before we turn it over to all of you? All right. So with that, we'll turn it over to the committee. Thank you.

Sarah Booth: 14:15

Thank you. And on behalf of team 2025 DGAC, first of all, thank you. Rear Admiral Reed for all your support and your inspiring work. And we completely concur with you. This is an amazing federal staff. So I'd just like to have another round of applause. Great. We're a very enthusiastic committee. Next slide, please. So the goal of this public meeting is for the individual subcommittees and working groups to share their updates, their hard work with the full committee.

It's a daunting endeavor, as many of us have been discussing. So the committee has divided up the important tasks at hand and the structure of which my colleague, Dr. Angela Odoms-Young and I will be summarizing. So as mentioned by both Janet and by Eve, we simply can not address all the scientific questions at hand given the time and the resources. So we will discuss how we have refined and prioritized the scientific questions, drawing on team 2025 DGAC's collective expertise. And this is really going to be the crux of what today's meeting is, is each of the subcommittee chairs describe their question refinement and prioritization criteria. We're really, really excited to describe the protocols that have been developed.

Sarah Booth: 16:04

And finally, to echo what Rear Admiral Reed mentioned, but also Janet and Eve, we encourage the public to stay engaged with the process. Your input is greatly valued by this team. Next slide, please. Okay. Disclosures. So whoops, sorry,

technical challenges here. Okay. So as the committee knows that when we were first reviewed, part of our vetting process, above and beyond our scientific expertise, was background-checked by Health and Human Services to determine if any of the candidates had a financial, ethical, legal, and/or criminal conflict of interest. And we all worked with the HHS ethics committee, sorry, to review our disclosures.

Sarah Booth: 17:17

Now, what is very unique about this committee, because we really value transparency, the committee decided that in addition to the compliance with the federal ethic laws and regulations that govern conflict of interest, we were going to do something more. We were going to voluntarily disclose any relationships, activities, or interests that may potentially be related to this scientific review. And we collected them, and we collated them in accordance to the highest standard of journals, and that's the International Community of Medical Journal Editors. And

we compiled all our disclosures. Now, the term related means any relation with a for-profit or not-for-profits third party, whose interests may be at all affected by the content of the report. These disclosures have been posted on [dietaryguidelines.gov](https://www.dietaryguidelines.gov). And I think, speaking personally off my personal opinion, I think that we all should be so proud of ourselves for our commitment to transparency. And I think also when you look at our collective disclosures, which includes all our funding, our professional responsibilities, we rock. We are amazing. We have so much engagement in the science, which is the very reason each and every one of us was chosen to be on this committee.

Sarah Booth: 19:01

But I also want to emphasize there is not a single decision that is related to an individual. This is a team. This is a committee. We work together. We debate. We discuss. We engage, but we come together, and that final scientific report is a reflection of one entity. This committee, not an individual. So from my perspective, thank you all. I really, really commend everyone for their commitment to transparency, the highest level of ethics, and teamwork. So thank you very much for that. Next slide, please. Okay. Progress since last meeting. So as we said, this is a very well-oiled machine, this committee now, and the amount of work we have ahead of us is very daunting. So we have divided into four topic areas. Now, initially, they were working groups with the expectation there would be some reorganization based on how the topics played out, the question, prioritization and expertise. However, our federal staff had so much wisdom and foresight that are working groups actually became our subcommittees. We've had very minor shifts in membership, and what it means is there's continuity from every committee to subcommittee to another subcommittee, and there is continuity with each of the new working groups.

Sarah Booth: 20:43

So the working groups discuss the scientific questions related to the topic areas. They refined and prioritized the questions, and they also, very importantly, identified the order in which it will develop the protocols. We're not doing this all at once. It's, as I say, a very well oiled machine, and it speaks to the highest level of organizational principles. We have two really exciting new working groups. One is the health equity working group, which we will be hearing more about later. And this was formed to discuss how to incorporate principles of health equity across all the subcommittees. We also have a brand-new meta analysis working group that will be working very closely with the systematic review team to refine protocols for a limited number of questions. As Janet said, we have a finite time in membership, and we're going to be looking at a finite number of questions within the systematic reviews. And as we will be talking about more today, we have prioritized questions and draft protocols. For anybody listening in who's not familiar with this process, this group has been meeting every-- each subcommittee has been meeting every week. Every single member of this committee has been participating in multiple conference Zoom calls just to review and prioritize and move the work. We have had people call from hotel rooms, conferences, cars. This is a really engaged group, so thank you.

Sarah Booth: 22:36

Next slide, please. Okay. I would not ask you to read this. I think the important structure here, the important message here, is we have four subcommittees: Dietary Patterns and Specific Dietary Pattern Components across the Life Stages, and we have Pregnancy and Birth Adolescents, Food Pattern Modeling Data Analysis, Strategies for Individuals and Families Related to Equality and Management. Each of those subcommittee chairs will be presenting their protocols and prioritization today. We really look forward to the discussion. Overriding the, oversight, the working group is the Health Equity with the intent of looking at each of these subcommittees through the lens of health equity. And then we also have the Meta-Analysis Working Group. Next slide, please. So as stated before, there's, really, three general approaches for examining the evidence. We have the systematic reviews, and we have the food pattern modeling, and then we have the data analysis. So this group has been focusing primarily on the food pattern modeling, but there's now work coming up with the data analysis. And again, these will be discussed by our subcommittee chair's working group.

Sarah Booth: 24:16

And again, the meta-analysis will fall under the systematic review approach. Next slide, please. So the committee uses the same criteria as Health and Human Services and the US Department of Agriculture in their refinement and-- we've got a little bit

of a mix there, but that's okay. We have a coverage of the topics in the committee review. It's really important to consider the work of the group collectively. So we know we talk about individual questions, but they may not be in isolation in terms of the subcommittees or the questions. So for example, when we talk about dietary patterns, that's going to be covered by more than one subcommittee to encompass multiple life stages. So for example, dietary patterns are in subcommittees one, two, and three. Older adults are included in reviews across subcommittee one, three, and four. The flip is that some topics may

not be covered in a subcommittee, but they may be in another. So for example, the dietary patterns group, subcommittee one, is going to be examining the varying amounts of ultra-processed foods, whereas that's not going to be covered in other subcommittees. And then food with added sugars will be addressed in the questions on beverages in subcommittee one and in the food pattern modeling and data analysis in subcommittee three.

Sarah Booth: 26:08

These are important examples, I think, to highlight to the public that we really value your input, and these were topics that were raised in the public comments. And we're making every effort to address these, if not in all committees, at least one. So next, please. Okay. So we use this-- sorry, I flipped my slides. The committee used the same criteria as Health and Human Services and the US Department of Agriculture in refining the questions but also prioritizing them. And we just really, really want to emphasize prioritization was not taken lightly. We have only so much time and so many resources. So this group really made a concerted effort and a passionate

effort to prioritize what could be reasonably achieved that would have the maximum benefit for the American people. So in terms of the relevance, sorry, the questions that we discuss have to be within the scope of the dietary guidelines, and it's focused on food-based recommendations. So we just want to emphasize, we do not prioritize. We do not tackle clinical guidelines for medical treatment. We address questions that are addressed in area of substantial public health concern or uncertainty. So it had to be-- importance is really something we discuss a great deal in our prioritization.

Sarah Booth: 27:56

And there also has to be a high probability that the questions we address will provide the scientific foundation for guidance that will inform the federal food and nutrition policies and programs. I really appreciate Eve reviewing the updates on activities in other federal agencies. We do not address-- we're not addressing questions that either can be addressed through planned evidence-based federal guidance, other than the dietary guidelines, or existing

ones. So there is a concerted effort to complement each other's activity, but keep each other informed. Finally, research availability, and as a plea to early-stage investigators out there, take note about what the research is, where the gaps are, because this is a really tough issue we grapple with. When we look at the research, we have to look at the availability of the evidence for the proposed questions. We have to determine if there's even sufficient evidence existing to conduct a new review or to update an existing view. We may be passionate about an emerging topic, but if we don't have the research, the question is going to be identified as areas needing more research.

Sarah Booth: 29:32

So again, a plea to early stage investigators, people inspired in the research domain, this is the place where you can see where there's really important public health questions where we don't have enough evidence to actually draw conclusions. Next slide, please. And with that, I'm going to hand it over to my colleague, Dr. Odoms-Young.

Angela Odoms-Young:  
30:00

Thank you so much. And I just want to reiterate just the positive energy of the committee. The great work of the subcommittees, there are a few things that have come up. One are sort of cross-cutting outcomes that have been refined related across questions. One of those is growth-size body composition, risks of overweight and obesity, and weight loss and weight maintenance. So several questions were proposed to the committee with the outcome of growth-sized body composition, risks of overweight and obesity, weight loss, and weight maintenance. And so across questions, the wording of this outcome has been refined to growth, body composition and risk for overweight. So the original wording was what is the relationship between dietary patterns consumed and growth, size, body composition, and risk of overweight and obesity and weight loss maintenance. And so that new wording refines that question and the outcome across questions to be what is the relationship between dietary patterns – consumed, growth, body composition, and risk for obesity.

Angela Odoms-Young:  
31:16

The rationale for this change - and this, you will see as we go through the subcommittees - is clarity and consistency with other scientific questions. So this idea of having clarity and consistency across the questions as it relates to the refinement and prioritization to make sure that we have sort of the full range and consistency as we consider recommendations across the life stages. So it still includes the full range of related outcomes. They will be addressed. So growth in size for infants, toddlers, children, and adolescents, so things like height, height per age, body composition, risk for overweight-- I mean, I'm sorry, risk for obesity, weight loss and weight maintenance in adults and older adults, in pregnancy and postpartum, which we know is such a critical stage related to weight change.

Angela Odoms-Young:  
32:16

Next slide, please. So when we think about what's guiding the work, what is our sort of plan, a protocol is a plan-- and really, this is essential given the stage that we're at, protocols for systematic reviews and food pattern modeling. I'm going to talk more about sort of those overarching protocols, some consistency across the protocols for committees except for three. Chris is really going to dig deep into pattern modeling. But overall, a protocol is a plan for how the scientific approach will be used to examine the evidence related to each question. So

protocols were created for each question before the committee examines any evidence. And so draft protocols will be discussed by each subcommittee. And then, as needed, the protocols will be refined. So as we talk today, we will continue to refine those protocols. And I think what's essential for the public is that these protocols are posted online for people to review to better understand the approach that's being used to answer each of those scientific questions. Draft protocols are expected to be posted on [dietaryguidelines.gov](https://www.dietaryguidelines.gov) and also on [nesr.usda.gov](https://www.nesr.usda.gov) in early June. And I just want to say kudos to NESR, phenomenal work.

Angela Odoms-Young:  
33:54

Next slide, please. So this pre-specified plan for how NESR's methodology will be used to conduct the systematic reviews will help guide the evidence that's generated related to each question. So as consistent with other reviews, those PICO elements, so things like population, intervention, and exposure, comparators, outcomes. What are those key confounders and definitions of key terms, so a synthesis plan that outlines how this evidence will be organized will be presented. And then I want to talk a little bit about the inclusion and exclusion criteria that will be used to determine which articles will be included in each review. So the protocols discussed today, again, will be posted online to provide transparency. And I think they also serve as a model. When we think about approaches for systematic reviews, they can provide important insights within the field overall. And so that transparency to protect against sort of selective reporting and facilitate public comments because you can comment on those protocols at [nesr.usda.gov](https://www.nesr.usda.gov).

Angela Odoms-Young:  
35:17

Next slide. So inclusion and exclusion criteria and standard criteria is applied across the committee reviews. And then in some cases, for specific questions and life stages, there will be some tailoring for each question. But as a general sort of overarching perspective, when it comes to study design, RCTs are included, non-randomized controlled trials, so things like quasi-experimental studies, prospective cohort studies, retrospective cohort studies, and nested case-control studies. Exclusion criteria are uncontrolled trials, things like case-control studies, cross-sectional studies, ecological studies. And as expected, narrative review

systematic reviews and meta-analysis are excluded. So only humans. Of course, the dietary guidelines is focused on human studies, not non-humans, and we're looking at the peer reviewed articles published in research journals. And to the point that was made before, if it's not in the evidence, it's not included for consideration in the protocol. So it's essential that peer-reviewed evidence continues to grow when we look at some of these issues. So again, I want to say that it's not opinion. It's included in those systematic reviews that are published-- peer-reviewed articles that are published in research journals. Published in English. Not published in English, are excluded. And then studies conducted in countries classified as high or very high on the human development index, the years, the intervention or exposure data was collected.

Angela Odoms-Young:  
37:05

Next slide, please. So as I mentioned, the criteria has been tailored to each question to ensure its applicability across the life stages of interest. Inclusion criteria are studies that exclusively enroll participants that are not diagnosed with a disease, but included are studies that enroll some participants that are diagnosed with a disease or a disorder that affects feeding

and eating, severe undernutrition, or failure to thrive. So although studies that exclusively enroll participants with a disease are not included, but studies that enroll some participants that are diagnosed with a disease and other criteria is included there. And then exclusion criteria are studies that exclusively enroll participants that are diagnosed with a disease, diagnosed with a disorder that affects feeding or eating, etc., undernutrition, born preterm, etc., as you look at the exclusion criteria. And again, this will be posted for review and also public comment at the [dietaryguidelines.gov](https://www.dietaryguidelines.gov).

Angela Odoms-Young:  
38:21

Next slide. So the committee has received approximately 300 written public comments since January, and we appreciate your input, your engagement in this process, and it's so important to understand that voice from the public. And so it's great that we're getting more public comments. Comments on protocols discussed today are welcomed, as was mentioned, and please submit the comments to the committee by the end of June. The written comment period will remain open throughout the committee's work, ending in the fall of 2024. And so we want to hear from you, as it says, right on the slide.

So please submit your comment. Please submit comments and particularly of those with the lived experience. We want to hear from people. We want to hear from Americans that this will inform the diets of.

Angela Odoms-Young:  
39:22

Next slide. So I'm going to turn it over to the health equity working group. Today's agenda, we will hear from the health equity working group subcommittee one dietary patterns, specific dietary components across the life stages; committee two, diet and pregnancy and birth through adolescence. And then we're going to break for lunch. And then subcommittee four is going to go next to talk about strategies for individuals and families related to diet quality and weight management. And then we'll hear from subcommittee three, food pattern modeling and data analysis, and then we'll be open

for discussion, and we'll adjourn at 3:30. So thank you. I'm going to turn it over to health equity subcommittee.

Sameera Talegawkar:  
40:08

Thank you. Good morning. I'm Sameera Talegawkar, and I chair the health equity working group. Next slide, please. I would like to acknowledge at the start and thank all of the health equity working group members for their insightful discussions and the feedback at all of our working group meetings. We would like, as a working group, to also thank the wonderful USDA and HHS staff for all of their support and their assistance as we conduct our meetings. We are looking forward to

discussing this important topic with the entire committee here today. And at the outset, we would like to state that the definitions and the concepts that the working group is presenting here today are not final. They will be further refined as a process and the meetings continue. We welcome feedback and input as we continue this important work.

Sameera Talegawkar:  
40:55

Next slide, please. So the dietary guidelines for Americans provides advice on what to eat and to drink to meet nutrient needs, promote health, and prevent disease. It provides the customizable framework for healthy eating that can be tailored and adapted to meet personal, cultural and traditional preferences. So therefore, historically, there is always been a consideration for health equity as part of the guidelines. However, there is now a renewed sense of urgency and importance for this work. The dietary guidelines advisory committee was therefore charged with ensuring that all of the scientific questions that would be reviewed would be reviewed with a health equity lens to ensure that the 2025 update of the dietary guidelines is relevant to people with diverse racial, ethnic, socioeconomic, and cultural backgrounds. To ensure this, the Health and Human Services and the USDA is supporting the committee to describe and consider factors such as socioeconomic position, race, ethnicity, and culture, to the greatest extent possible based on the information provided in the scientific literature and data. It is important to note here that this is in alignment

with new strategies to advance equity in the United States, that the Health and Human Services and the USDA have developed pursuant to the executive order 13985 dated Jan 20th, 2021 on advancing racial equity and support for underserved communities throughout the federal government-- through the federal government.

Sameera Talegawkar:  
42:26

Next slide, please. The health equity working group examined various definitions, concepts, and frameworks, including those put forth by The White House Health Equity Task Force, the CDC, and the USDA among others. It is adapting across all of these to come up with its own definition of health equity. The next three slides will summarize these definitions. We note at the bottom of each of the slides where the definitions have been adapted from. Next slide, please. The health equity working group believes that equity is the consistent and systematic treatment of all individuals in a fair, just, and impartial manner, including individuals who belong to communities that have often been denied such treatment, such as Black, Latino, Indigenous and Native American, Asian American, Native Hawaiian, and Pacific Islander persons, and other persons of color, members of religious minorities, women and girls, LGBTQI+ persons, persons with disabilities, persons who live in rural areas, persons who live in United States territories, persons with stigmatized health conditions, persons otherwise adversely affected by persistent poverty or inequality, and individuals who belong to multiple such communities.

Sameera Talegawkar:  
43:47

We believe that this means recognizing that people's frustrations run deep and are rooted in their own daily battles to make ends meet, to practice and prioritize health-promoting behaviors, such as helpful dietary selection, to put food on their tables,

and to give their children a shorter economic opportunity. Furthermore, it means recognizing that the ability to select foods and beverages is often limited by income, environment, and other constraints that are not within the individual's control. Therefore, promoting equity means promoting helpful dietary selection for individuals, organizations, and environments, focusing on groups and contexts where helpful dietary selection is most limited. And lastly, we believe that health equity should be considered as the state in which everyone has a fair share and just opportunity to attain their highest level of health. Achieving this requires ongoing societal efforts to address historical and contemporary injustices to remove economic, social, and other obstacles to food, food access, health, and healthcare, such as poverty, discrimination, and their consequences, including powerlessness and a lack of access to good jobs with therapy, quality education and housing, safe environments and healthcare, and to eliminate preventable health disparities.

Sameera Talegawkar:  
45:13

We will now discuss how we are proposing that the committee consider applying a health equity lens to the three approaches that are used to examine the scientific evidence for the guidelines. As we know and has been discussed, the three approaches are the systematic reviews, the food pattern modeling, and the data analysis. Each of these approaches has its own scientific-- has its own rigorous protocol-driven methodology and plays a unique and complementary role in examining the evidence. Subsequent subcommittee presentations will discuss individual protocols in detail. However, the health equity working group would like to provide some context on how they have proposed health equity be considered as part of these protocols as they are being developed and submitted for consideration. Next slide, please. So the first is the systematic reviews, which is supported by USDA NESR team. During the protocol development process, the systematic review subcommittee will identify key variables of interest related to health equity to consider throughout the review process. In the data extraction and assessment of risk by steps, the protocol will extract descriptive data for health equity-related variables to the extent possible and address health equity-related key confounders and other variables in the risk of bias assessment.

Sameera Talegawkar:  
46:35

For the next set of protocol

steps, which include synthesizing the evidence, developing conclusion statements, and grading the strength of the evidence, a health equity lens will be applied by considering specific subgroups when synthesizing the evidence and developing conclusion statements by consistently operationalizing and evaluating the generalizability when grading the strength of the evidence and documenting research, recommendations that address gaps and limitations in the evidence. The next approach is food pattern modeling. Now, variations in dietary practices, including cultural foods and traditions, will be discussed and considered in many of the prioritized analysis for food pattern modeling. Examples include analysis around flexibilities for those who have lactose intolerance or do not consume cow's milk products, flexibilities for staple carbohydrates, such as those who may consume more starchy vegetables but less whole grains, and flexibilities for protein foods for those who might consume more plant-based versus animal-based protein. Additionally, the food pattern modeling working group is exploring a new methodology, the simulated diet modeling, that tests the applicability of dietary patterns across cultural food waste and considers if refinements are needed to the dietary patterns to improve cultural and inclusion.

Sameera Talegawkar:  
47:57

And lastly, we have the data analysis, which is a collection of all of the analysis that use national datasets to describe the current health and dietary intakes in the United States. Now, data analysis is led by the federal staff and is delivered to the committee. The 2020 committee examined demographic groups, including sex, race, and ethnicity, socioeconomic status, which included family income, income to poverty ratio and education, as well as age and life stage. However, we know that demographics are only one part-- are only one piece of the health equity, and we wanted to explore the use of additional data analysis variables to align with the working group conversations that we are having. So in proposing these new variables to examine, there might be a need to prioritize which of these would be most impactful answering the research questions and supporting whichever health equity framework that we decide to go with as a working group. Two important factors in these discussions will be the generalizability of the proposed variables and if there is sufficient sample size for analysis. And we've already started initial conversations with our federal data analysts to get a sense for what is possible. We will propose that any new analysis or variables-- we will propose these to the data analysts, and there will always be an opportunity to frame recommendations for future research.

Sameera Talegawkar:  
49:25

Now, this slide basically lists the additional variables that we have started exploring. You might see that there is a strike-through through some of the variables, and the reason for that is that we might not have sufficient sample size, so they are no longer considered to be feasible for data analysis. And we will continue to refine these as we work with the federal team and the working group as well. And then now, lastly, we conclude the description of the work that we have done so far. Our next steps are to continue to refine the topics and variables related to health equity, to be considered by the committee during the review of the evidence, to incorporate health equity considerations into the committee's review of the scientific evidence, and then, finally, to develop an outline for incorporating health equity into scientific report. I would like to end the presentation by acknowledging, again, our working group and the wonderful USDA and HHS staff. Our working group is happy to take any questions or comments that you might have. Thank you.

Sarah Booth: 50:35

May I just start by saying thank you, Sameera, for chairing this really important innovative working group. Thank you for a wonderful presentation. We haven't got another copy, I don't think. Any comments, questions on the health equity working group? Okay. We've got

a thumbs up from Christopher. Okay. I think, then, thank you, Sameera again, and thank you for everyone in the committee. It's been a really, really informed discussion up to now. And I really appreciate the evidence people are bringing to the table. So thank you. So I do believe our next presentation is subcommittee one. Deanna, take it away.

Deanna Hoelscher:  
51:41

Thank you, Dr. Booth. I am going to present some of the work that we've been doing in subcommittee one. And I will be joined by my fellow committee members, Doctors Tobias, Giovannucci, and Raynor. So this is a rather lengthy presentation because we have a very large agenda. And so just to let you know, we'll go through approximately a third of it, then we'll have a pause for discussions and questions. Through another third, another pause, and then we'll have questions at the end. So just wanted to let you know the layout. So as with previous committees, I'd just like to acknowledge the hard work that the committee has done. It's really been a team effort, and we've got excellent expertise on this committee. I'd also like to acknowledge our support

staff. We truly have been overjoyed to have them work with us and really have appreciated their expertise. They've really done a lot to help guide us through the process.

Deanna Hoelscher:  
52:52

So first, I'm going to discuss the scientific question, refinement, and prioritization process. We deal mostly with systematic reviews. So as I go through-- just to give you an introduction to this, as I go through the protocols, there's a lot of redundancy in the protocols. So I will show those and point out areas that are new. I'll highlight those. I won't spend a lot of time reading through the slides once we go through them the first time, so I just wanted to orient you to that. So our prioritized scientific questions, the first group has to deal with dietary patterns. And so these were questions that were posed to us by HHS, USDA. There is one additional question that we have on here that was proposed by subcommittee one for risk of depression. The reason that we did this is because of federal stakeholder and public comment interest in this area as well as new evidence is available. This hasn't been updated since the 2015 Dietary Guidelines Advisory Committee Report. And so there's a possibility of finding a different result. So the prioritization questions I'll go through, they are listed in the order in which we have prioritized them, which the committee engaged in the prioritization process. How many we get through depends on the efficiency of the reviews, so the ones toward the end may not be completed. So it depends on how the reviews go.

Deanna Hoelscher:  
54:39

Next slide. We also have proposed scientific questions. The previous ones were on dietary patterns. These are on specific dietary components. So the first one has to do with the relationship between beverage consumption and growth, body comp, and risk of obesity. And we are looking at different beverage types that were prioritized for review. Two of those are new. The beverage patterns and the coffee and tea are new. One of the questions that I forgot to mention that's new on the dietary patterns is about ultra-processed foods. So we'll be talking more about that later as well. The second group, the relationship between beverage consumption and risk of type 2 diabetes, are the beverage types prioritized for review. This question is new. So the outcome of risk of

type 2 diabetes is new. And if you look at the beverage types, we have not included beverage patterns here. And then the last question is a new one as well: what is the relationship between food sources of saturated fat consumed and risk of cardiovascular disease? So these are going along in parallel with the dietary patterns systematic reviews. So they'll both be happening at the same time.

Deanna Hoelscher:  
56:08

So one of the things I did want to say with the previous slide - and I forgot - but with the dietary patterns - thank you - if you look at the top ones, those all have strong statements, strong associations. We are looking at them, though, because what Sameera pointed out in terms of health equity. So there's new data that's presented on this. And so we really wanted to kind of be up with that. The other thing that I did want to point out is one of the questions that we de-prioritized, and we don't have on the list, is for all-cause mortality. And the reason why, even though there's a robust body of literature in the area, the statements are very strong regarding diet and all-cause mortality, and we thought that some of these were higher priority than that one.

Okay. So there were several questions not prioritized for review. So one of those on here is the dietary patterns and all-cause mortality. Most of these others were not prioritized because of a lack of research. So NESR has continuing existing reviews, so they continually monitor the evidence. And so a lot of these have a lack of research available. So we decided that they weren't priority for this review in particular.

Deanna Hoelscher:  
57:48

There's also some other issues kind of associated with them. So for example, the food sources of added sugars and growth, body comp, and risk of obesity and risk of type 2 diabetes, there were some other existing systematic reviews, and they pointed to looking at sugar sweetened beverages. And so you'll hear more about that when we talk about the beverage question. So we will address that. Next slide. All right. So we're going to begin the draft protocols. So the draft protocols for committee review today include the dietary patterns and growth, body comp and risk of obesity, the risk of cardiovascular

disease, risk of type 2 diabetes, certain types of cancer: breast, colorectal, and prostate. Again, we're not looking at lung cancer because of the confounding with smoking. And risk of depression. The dietary patterns with varying amounts of ultra-processed food and growth body composition and risk of obesity, and then beverages and both growth, body composition, and risk of obesity and risk of type 2 diabetes. So as with what Dr. Odoms-Young said, we are following the standard inclusion and exclusion criteria. So I'm not going to review those again.

Deanna Hoelscher:  
59:26

So to begin, I think it's important to talk about what we mean by dietary patterns. So dietary patterns, the definition is the quantities, proportions, variety are a combination of different foods, drinks, and nutrients when available in diets and the frequency with which they are habitually consumed. So the next slide gets a little more granular in what we're looking at. So specifically, the intervention exposure for dietary patterns are studies that examine the consumption of or adherence to a dietary pattern. And

so for inclusion in the systematic review, there has to be a clear description of what's consumed, so in terms of foods or nutrients. So if they list a specific type of diet, but they don't give any information about it, that would not be included in the review. We also are looking at multi-component interventions, in which the isolated effect of the intervention of interest or on the outcomes of interest is provided or can be determined despite multiple components. So just to let you know with the outcome, we need to have that outcome clearly defined. So the comparator here is either consumption of or adherence to a different dietary pattern. So you might be comparing one to another or different levels of consumption of and/or adherence to a dietary pattern. So for example, if you were looking at quintiles of adherence to a certain diet.

Deanna Hoelscher:  
01:01:23

So the protocols all look like this. And so this is a very busy slide. So I'll be going through it one at a time, the columns, just to show you the PICO elements as we go through.

So with this particular analytic framework for this question - the question is what is the relationship between dietary patterns consumed and growth, body composition, and risk of obesity? - the approach will be an update to an existing NESR systematic review. So we have a review; we're updating it. So the populations are divided by life cycles. So you have infants and toddlers, birth to 24 months; children and adolescents, 2 to 19 months; adults and older adults, 19 years and older; and then individuals during pregnancy and during postpartum. So one thing to point out here is we may be able to define this a little bit more granularly. So for example, children and adolescents, we might be able to divide it into children and adolescents depending on what the research is, or we might be able to pull out older adults, so that kind of depends on what is found with the systematic review. So the next couple of columns talk about the intervention or the exposure. And here, it's consumption of a certain dietary pattern. And then the comparator, as I mentioned before, is either a different pattern or different adherence or consumption to the same dietary pattern.

Deanna Hoelscher:  
01:03:08

So the next column

talks about the outcomes. And so Dr. Odoms-Young went over some of this in what she presented earlier. But if you notice, the outcomes correspond to the age groups. So for instance, for infants and toddlers, we would look at outcomes in growth, and they're listed there. They're appropriate for that age group, and then we'll also look at body composition if they're followed later in life. And that includes infants, toddlers, children, adolescents, adults, and older adults. And for body composition for that, you can see the measures there: skin-fold thickness, fat mass, ectopic fat, fat-free mass or lean mass, and waist circumference or waste-to-hip ratio. For children and adolescents, we will assess outcomes as growth, body composition, and then risk of obesity, both in childhood, adolescence, adults, or older adults, so later in life as well. For adults and older adults, we will look at body composition. So those are the list of outcomes stated above, as well as risk of obesity. And here, we'll look at weight loss and weight maintenance. And then, finally, for individuals during pregnancy and during postpartum, we'll look at gestational weight gain during pregnancy and postpartum weight

change during postpartum.

Deanna Hoelscher:  
01:04:43

So the last column delineates all of the key confounders. And so the key confounders are used to assess risk of bias. And so these are going to be standard across many of the protocols that you'll see, but they include sex, age, physical activity, anthropometry at baseline - since anthropometry growth, risk of obesity, is one of the outcomes, we're using those measures at baseline - race ethnicity, socioeconomic position, smoking only for adults, older adults, and during pregnancy, alcohol intake for adults, older adults, parity for pregnancy and postpartum, diabetes and current pregnancy for pregnancy, hypertensive disorders in the current pregnancy for pregnancy, and then human milk feeding in postpartum. So I won't repeat those again. I just wanted to go through the list so you could get an idea of what they were. So for the inclusion and exclusion criteria for what is the relationship between dietary patterns and growth, body comp and risk of obesity, the publication date is January 1980 to the present. The intervention length is

set at 12 weeks or more. So 12 weeks was set because that's determined to be more habitual consumption rather than a shorter feeding study, for example. The follow-up duration here for weight loss was considered six months or more. The follow-up duration for weight maintenance was 12 months or more.

Deanna Hoelscher:  
01:06:34

And then the size of the study groups-- just to note, this is not applied to pregnancy and postpartum studies. For intervention studies, there needs to be 30 or more participants per study group. For between subject analyses are a power calculation indicating that the study is appropriately powered for the outcome of interest. For observational studies, analytics sample size of 1,000 or more participants is required, and this is only for adults and older adults. Okay. So we're on to the second question. Again, this will be a little shorter. I won't repeat a lot of this. But this question is what is the relationship between dietary patterns consumed and risk of cardiovascular disease? So once again, this is an update to an existing NESR systematic review. So if you look at the population, we do not have pregnancy or postpartum here, so that's something different than what we saw before. Some of this will be addressed in subcommittee two.

Deanna Hoelscher:  
01:07:45

The intervention, exposure, and comparator are the same as previously mentioned. The outcomes here are focused on cardiovascular disease. So they include blood lipid levels, blood pressure, hypertension, cardiovascular disease, morbidity, stroke, and

cardiovascular disease-related mortality. In terms of key confounders, a lot of the confounders that were associated with pregnancy and postpartum are not here, as I mentioned. Smoking is applied to adults and older adults, and then alcohol intake is for adults and older adults. Otherwise, the key confounders are fairly the same. One difference is anthropometry is seen as a more general assessment as opposed to in the growth, body composition, and risk of obesity outcomes. So the publication dates are similar to what I mentioned before for growth, body composition, and risk of obesity. The study duration is the same, and then the size of the study groups are the same for inclusion. So this is very similar to what I had presented earlier.

And now, I'd like to turn it over to Dr. Tobias.

Deirdre Tobias:  
01:09:17

Okay. Thank you very much. So this is following cardiovascular disease. And you'll see the protocol is very similar. So I'm just going to point out some key differences. For type 2 diabetes, we similarly do not include pregnant women, but note that there is a project within subcommittee two looking at diabetes and pregnancy, including gestational diabetes. So that will be covered there. We do have differences in outcomes across the lifespan, acknowledging that incidence of type 2 diabetes may be much less prevalent among infants and toddlers and children and adolescents. However, we will include those for children and adolescents as well as the glycemic trait diabetes-related biomarkers, intermediate markers of risk listed there. Key confounders that we prioritize are the same for cardiovascular disease. And then next slide, please. So building on the previous NESR systematic review, we'll be evaluating the literature, including the data published since 1980. Intervention length and other study considerations are the same as the other criteria for cardiovascular disease.

Deanna Hoelscher:  
01:10:42

So now, we'd like to open the floor for a committee discussion. So does anyone have any questions for the committee, comments?

Sarah Booth: 01:10:56

I have a comment as one who always has an opinion. I was really struck. First of all, thank you, Deanna, for talking about type 2-- talking about subcommittee one, and Deirdre, thank you for talking about type 2 diabetes. And what really strikes me is what the criteria is for inclusion and exclusion. And I was sitting here thinking, imagine if you did a spectacular project, but you omitted to describe the details of your dietary pattern, so it was excluded. So I think that we, as a committee, when we come to writing up our report, we need to emphasize the need for rigorous methodologies so that all that research being conducted can be included in activities such as here. So I just want to commend the subcommittee because seeing the exclusion, I think, is as powerful as seeing what the inclusion is. So thank you very much. And I just remind everyone to bring your microphones close

so we can hear you. Thank you.

Speaker 8: 01:12:16

I just had a question on the relationship between dietary pattern consume and the risk of type 2 diabetes for the key confounders. I see that there's family history of diabetes, but I don't see a gestational diabetes for the adults, and I was wondering what was the committee discussion on that.

Deirdre Tobias:  
01:12:39

I don't know that that was actually discussed. So you're saying history of GDM, for example, as a confounder for subsequent type 2. Yeah. I think we can certainly add that to the discussion list. It's an excellent point.

Deanna Hoelscher:  
01:13:01

Yeah, I agree. We can bring that back. Thank you.

Speaker 9: 01:13:07

I'm wondering if you talk a little bit about your criteria that you set for sample size and intervention link.

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- Deanna Hoelscher:  
01:13:19
- So I can address the intervention link. So intervention link was determined by previous reviews to be about the amount of time for a typical diet. Now, it's hard to kind of put your stake in the ground somewhere, but
- that's based on previous studies. And the sample size, as well, were based on previous reviews. So kind of bringing that forward.
- Deirdre Tobias:  
01:13:52
- Can I just add an additional comment? Also, too, for some of the-- especially in the diabetes realm, that three-month time period is where you would see a change, for example, in hemoglobin A1C. So I think that was another rationale.
- Deanna Hoelscher:  
01:14:06
- Thank you. Other committee members want to comment on that?
- Christopher Gardner:  
01:14:12
- Deanna, over here. I'm on this committee, so I'm embarrassed to ask this, because lipids and blood pressure change in four weeks. I seem to remember bringing this up one day, but I can't remember why we decided to keep the limit at 12. You'd switch from one stable diet to another stable diet, it pretty much changes in two weeks for some of those risk factors. And four weeks is plenty. So if I proposed a study and went to 12 weeks, it would be unnecessary. So some of my own studies would probably be excluded for that reason. I would be sad.
- Deanna Hoelscher:  
01:14:49
- I think we looked at it, and we made that period of time to be consistent with the other studies that have looked at that and what's been done in the past. And then we have that whole list of other CBD outcomes there, so.
- Christopher Gardner:  
01:15:11
- I
- could see for all the other ones, but maybe not for lipids and blood pressure, so. It may be that the literature is overwhelming, and we don't mean it. But I'd be afraid that we cut off some valuable trials. So maybe we could still keep that in the notes.
- Deanna Hoelscher:  
01:15:25
- Go ahead.
- Deirdre Tobias:  
01:15:26
- Part of the consideration I remember was also related to the dietary exposure being reflective of a more habitual intake.
- Christopher Gardner:  
01:15:35
- So because it's a dietary pattern and not just an isolated fat or energy intake or something like that. I mean, the interesting new thing that I think we'll find in studies is these new food delivery studies. So you get adherence quite quickly if you sign someone up for food delivery, because we've been doing that more often now--
- Deirdre Tobias:  
01:15:54
- But that's--
- Christopher Gardner:  
01:15:55
- the instant adherence.
- Deirdre Tobias:  
01:15:57
- Yeah, but we also have really classic, great studies that show you could take people from habitual intake and put them on a really great dietary pattern. Now, typically, these are efficacy studies, and they're being fed this great dietary pattern. But you're right. The lipids and blood pressure will shift in two weeks immediately. So I do think this deserves some refining.
- Deanna Hoelscher:  
01:16:24
- The other thing is the continual monitoring from NESR has identified a large body of evidence for this particular question, kind of following those inclusion/exclusion criteria. So there might be an impact on workloads. So that could be something, I

think, that we discuss. I did want to clarify one point as well, is I talked about deprioritizing more all-cause morbidity, mortality. I meant all-cause morbidity, mortality because we are looking at it for CBD. So I just wanted to clarify that point. Any other questions? Thank you. Good points. Dr. Giovannucci?

Edward Giovannucci:  
01:17:26

Thank you, Deanna. I'll talk about cancer. As Deanna mentioned, we'll be considering breast, colorectal, and prostate cancer. I'll note the reviews will examine incident cases, not mortality, survivorship, or occurrence, though these may be a possible topic of interest in the future. So the frameworks will be presented separately for breast, colorectal, and prostate cancer. They're actually quite similar, and we're probably starting to get used to these formats by now. So I'll really only highlight the major points. So the population for this question includes infants through older adults at

the intervention exposure. The outcome of interest is incident breast cancer, we will not consider in situ. So the confounders probably look similar to you. I'll highlight the key differences. We now consider screening - and this will be for all cancers - as a key confounder, and also, for breast cancer, a postmenopausal hormonal therapy. The committee also decided to remove family history as a key confounder. Obviously, this is an important risk factor for cancer, but it's not related to the exposure. So by definition, it is not a confounder.

Edward Giovannucci:  
01:18:59

We also propose to remove oral contraceptive use and menopausal status as key confounders, but noted that these are important variables to consider. I'll just to highlight a little bit of the synthesis plan. The evidence will first be synthesized by population. Menopausal status is important stratification. And we also will consider the outcome based on estrogen receptor status, alone or in combination with progesterone receptor and HER2 status. And we also decided to include cancer stage at diagnosis,

and this will be for all cancers. Next slide, please. This is the analytic framework for dietary patterns colorectal cancer. Very similar to breast cancer. The key confounders are listed on the slide. And the, as I mentioned, screening is a new key confounder. There are multiple types of screening tests for colorectal cancer. And as I mentioned, we will not consider family history as a key confounder.

Edward Giovannucci:  
01:20:24

Just a few highlights of the synthesis plan, the evidence will first be synthesized by population and by tumor location. Studies often do provide data on tumor location: colon, rectal, and then distal and proximal colon, and risk factors, including diet, may vary by the sub-site of cancer. So we will look at that as the data's available. We won't consider molecular subtypes such as microsatellite instability, which are potentially of interest, but there's unlikely to be data available for that, or sufficient data. Another key point is we considered whether to include inflammatory bowel disease or polyps as key confounders, and we actually won't include those as key confounders. Those are variables of interest, but at least for polyps, the information that's probably confounding is from the screening as polyps are really only usually diagnosed through a screening colonoscopy, for example. Inflammatory bowel disease is an important risk factor for colorectal cancer, but most studies exclude these individuals. And they represent a relatively small percent of cases of colorectal cancer.

Edward Giovannucci:  
01:21:56

Okay, going on to next slide, please, on prostate cancer. Again, quite similar. Main changes for key confounders are including screening for prostate cancer, which is typically PSA screening. PSA screening has had a dramatic effect on the epidemiology of prostate cancer, detects many more cancers than previously, and at an earlier stage. It's often related to exposure like diet and definitely related to outcome. So it can't actually be a key confounder. The other thing I want to highlight that's actually

quite important for prostate cancer is that for the outcome, besides incident prostate cancer, we'll also consider advanced stage, high-grade, fatal and lethal prostate, or lethal is usually metastatic prostate cancer. The members of the committee noted differences in aggressiveness of prostate cancer subtypes, and actually, there's evidence of some subtypes-- the subtypes that are more aggressive tend to have stronger association with diet. Also, looking at aggressive subtypes may reduce some detection bias by PSA screening.

Edward Giovannucci:  
01:23:29

Next slide, please. Okay. This is the inclusion/exclusion criteria. The review will include studies published between January 2000 and present, study duration criteria consistent with the previously presented protocols, and there are no criteria for size of study groups for these questions. Thank you.

Deanna Hoelscher:  
01:24:05

Thank you, Ed. The analytic framework that I'm going to present now is for dietary patterns consumed and

risk of depression. And so this is an update to an existing NESR systematic review. Unlike the reviews that we've seen to date, those were all updated for the 2020 dietary guidelines report. This one was not updated. It was last updated in 2015. So this one has a longer time period. So the population here is going to be adults and older adults, 19 years and older, including individuals during pregnancy. So one of the things that we did discuss was looking at adolescents, adding adolescents to this, but for the time being, we're not going to add adolescents. That will be in our recommendation, though, for the 2030 dietary guidelines. So we do understand that this is an emerging issue in adolescents right now. The intervention, exposure, and comparator are similar to what we've seen before. The outcome is depression in adults and older adults and then postpartum depression, so during postpartum.

Deanna Hoelscher:  
01:25:23

In terms of key confounders, we are also adding a history of depressive symptoms because we know that depression can kind of abate and then return. So we're really looking at that as part of that. A

few other things to note, studies, where 100% of participants have depression at baseline, would be excluded, but if some of the population has depression at baseline, they will be included. Studies examining changes in scores of depressive symptoms would be included, but can be considered separately in the synthesis. Next slide. So the inclusion/exclusion criteria include the same as previously stated, January 1980 to the present, the 12-week intervention length. And then for intervention studies, that's the same as what we had talked about previously. There will not be additional criteria for observational studies here. So this is a new NESR systematic review. And this is the relationship between dietary patterns with varying amounts of ultra-processed foods and growth, body composition, and risk of obesity.

Deanna Hoelscher:  
01:27:00

So this is a topic that we've received a lot of comments about, and there's a lot of public interest in. So we're very excited to be initiating this.

So just a little bit about the intervention exposure. There are currently seven existing food classification systems for ultra-processed foods. So rather than going in with the definition, a priori, we're looking at all of those, how it's defined by the literature. So I just wanted to make that point because, right now, there's a lot of different definitions. So the comparator is a different dietary pattern, or it could be different adherence or consumption levels to the same dietary pattern. So again, looking at something like quintiles or quartiles consumption of ultra-processed foods. So the outcomes are consistent with what I mentioned before for growth, body composition, and risk of obesity. We are looking at all ages for this, including individuals during

pregnancy and during postpartum. And then the key confounders are similar to what we had with our first question on growth, body composition, and risk of obesity.

Deanna Hoelscher:  
01:28:29

So the inclusion criteria, these are a little bit different because this is a new review. So this is January 2000 to the present, and the intervention exposure is dietary patterns with varying amounts of ultra-processed foods.

So we will be looking at that with varying amounts of ultra-processed food or different food pattern, and then same as what we had mentioned with growth, body composition, and risk of obesity, it can be a multi component intervention in which you can look at the outcome of interest. The study durations are the same as what I mentioned previously. And then the size of the study groups is the same as what I've mentioned previously. And so we wanted to open it up once again for committee discussion, so discussing the cancer protocols, the depression, and the ultra processed foods.

Speaker 12: 01:29:35

Deanna, what are you looking for in the infants? Are you looking for breast versus formula? Is formula being ultra-processed? You're looking for homemade baby foods versus commercial process baby foods? I'm kind of curious what you're-- you went down to the infants, and I'm not sure what you're going to find in that first year of life that's confounder for breast formula processed baby foods and the like.

Deanna Hoelscher:  
01:29:58

That's a very good question. The easiest answer to that is the study will define it. So I would imagine, in that case, the study might define it as formula versus breastfeeding. I

don't know if the other committee members want to answer that or have a comment about that?

Teresa Fung: 01:30:23

There's also an advantage of casting a wider net so that we make sure that we capture the evidence in that age group, if there are any evidence in that age group, instead of, a priori, saying that we're not going to look at it. We can always decide what to do with the evidence and see and decide whether there is sufficient evidence to make any conclusions, but we don't want to exclude it from the search.

Speaker 12: 01:30:45

Oh, I disagree with that. I think you may find more useful evidence after a year of age. One to two year maybe a lot easier to sort out than birth to a year, where you're going to be so confounded by the initial introduction to solid foods and all the other factors that affect that year. After a year of age, you may find some better data.

Deanna Hoelscher:  
01:31:05

Thank you. Very good comment. Appreciate that. Other comments?

Speaker 8: 01:31:12

I would we agree with the prior comment. I'm wondering how will you consider the first point that you mentioned for ultra-processed food, which is there is no clear definition, and therefore, there will be a, potentially, variability within the evidence due to the classification use and the study. And so I was wondering how maybe the synthesis will take care of that or how would you approach that?

Deanna Hoelscher:  
01:31:44

I think it's an

analogous situation to the dietary patterns. So we're not, a priori, saying we're looking at Mediterranean versus vegetarian. We're looking at what's defined, and then looking at that later once we gather the data. So this is going to be similar. So this is the first time that this has been done. So again, to Dr. Fung's comment, we want to cast a wider net, and then we'll look at it on the synthesis side.

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Speaker 14: 01:32:18 I'll also say that we did have quite a bit of discussion surrounding this point, actually, a very lengthy discussion because of issues with regards to how we define ultra-processed foods, this evolving definition of really considering this. And so that will be part of our discussion since that was so robust within the committee, but definitely, something that we've thought about and considered in this particular question.

Deanna Hoelscher: 01:32:46 Thank you.

Angela Odoms-Young: 01:32:48 I had one question about the exclusion of adolescents from the risk of depression. Can you talk a little bit more about sort of the committee's thinking around excluding that for now and, maybe, thinking about that as consideration for later?

Deanna Hoelscher: 01:33:04 Yes, I think the monitoring that's been done was in adults, so. And there's some research there in that area, so we're thinking that that might move things forward. So the adolescents would present additional workloads, so that's why we decided against it for this go-round.

Speaker 14: 01:33:33 But also to add to that, one of the discussions surrounding this is that the evidence is becoming more robust, particularly in the post-COVID-19 era. So while there are studies that are ongoing, they're going to be more robust and available for the 2030 group, and that was part of our discussion surrounding that specific issue.

Angela Odoms-Young: 01:33:52 Thanks. That actually was going to be my next follow-up, so thank you for that. Thank you for that clarification.

Deanna Hoelscher: 01:33:58 Yeah, we actually did have quite a bit of discussion about this. We went round about it. Other questions or concerns?

Sarah Booth: 01:34:17 Thank you very much. Are you not done?

Deanna Hoelscher: 01:34:21 We're not finished yet.

Sarah Booth: 01:34:22 I thought--

Deanna Hoelscher: 01:34:25 No. We're two-thirds. Okay. So I'm going to turn it over to Dr. Raynor.

Hollie Raynor: 01:34:35 Thank you very much. I will actually be discussing the proposed protocols for questions with beverages as the exposure. So we have one beverage pattern question, and this is defined similarly to the dietary patterns question. So beverage patterns are the quantities, proportions, variety, or combination of different beverages in diets and the frequency from which they are habitually consumed. In regards to our first question of overall beverage patterns and growth, body composition, and risk of obesity, as well as our individual beverage questions in this area, the beverage types that we will actually examine are listed in the inclusion criteria. And this includes dairy milk and milk alternatives, 100% juice, low- or no-calorie sweetened beverage, sugar-sweetened beverage, and coffee and/or tea. I will present a separate analytic framework for each beverage type in relation to the two outcomes being assessed for beverages, so the growth, body composition, and risk of obesity, as well as the risk of type 2 diabetes.

Hollie Raynor: 01:35:55 On this slide, we also have excluded interventions or exposures. So we will not be examining infant milk, infant formula, formula-- I'm sorry, toddler formula or milks. Other beverage types, including nutritional beverages. Our study is focusing on specific nutrients, additive beverages, instead of a beverage as a whole, beverages

that are not commercially available, supplements, alcohol, and soups. The included comparators for our beverage questions are listed on this slide. For beverage patterns, studies examining consumption of, or adherence to, a different beverage pattern or different levels of consumption of, or adherence to, a beverage pattern will be included. So very similarly to the dietary patterns. For all beverage types that we plan to examine, comparators will include consumption of a different amount of the beverage type being examined, including no consumption and versions diluted with water, and consumption of the beverage types being examined versus water. We have also identified specific comparisons of interest based on the criteria presented this morning, and we will highlight these on each analytic framework as we go through them.

Hollie Raynor: 01:37:22

Next slide. So I will try to focus on the differences in this analytic framework as compared to our earlier analytic frameworks. But this slide shows the proposed framework for beverage patterns and growth, body composition, and risk of obesity. We plan to examine the relationship between beverage composition and growth, body composition, and risk of obesity for beverage patterns and five additional beverage types, which I've described. Studies that assess consumption of a beverage pattern in children, adolescents, adults, older adults, and individuals before and during pregnancy and during postpartum will be included in this review. The set of outcomes for this review is similar to what has been presented previously for other questions, with the growth, body composition, and risk of obesity outcome, except outcomes specific to infants and toddlers are not included. And the key confounders, which we've described previously, are also listed on this slide. Next slide. This slide shows the proposed analytic framework for dairy milk and milk alternatives and growth, body composition, and risk of obesity. In terms of our comparator, dairy milk and milk alternatives with differing amounts of fat, so whole milk versus low-fat and fat-free milk, and sweeteners, so flavored versus unflavored milk, will be included as a comparator. And the outcomes and key confounders for this review are the same as for the beverage patterns review.

Hollie Raynor: 01:39:06

Next slide. This slide shows the proposed analytic framework between 100% juice consumption and growth, body composition, and risk of obesity. For the comparator, 100% juice versus solid will be part of this, with juice versus whole fruit, for example. And this question also has been prioritized for the systematic review and meta-analysis across the entire lifespan, including for infants and toddlers. So members from subcommittee one and subcommittee two will collaborate on the synthesis for infants and toddlers. Because of this, outcomes and key confounders specific to infants and toddlers are also listed on this slide. Next slide. This slide shows the proposed analytic framework for sugar-sweetened beverages and growth, body composition, and risk of obesity. Sugar-sweetened beverages versus low or no-calorie sweetened beverages will be included as a comparator. This question has also been prioritized for systematic review with meta-analysis across the entire lifespan, including for infants and toddlers. So similarly to the previous slide, subcommittee one and two will collaborate on the synthesis for infants and toddlers.

Hollie Raynor: 01:40:37

Next slide. This slide shows the analytic framework for low or no-calorie sweetened beverage consumption and growth, body composition, and risk of obesity. It is consistent with the beverage patterns, protocol previously presented. So go ahead and go to the next slide. This slide shows the analytic framework for the relationship between coffee and tea, coffee and/or tea consumption and growth, body composition, and risk of obesity. Our subcommittee decided to combine coffee and tea, since they are often reported together in studies. However, if we are able to

synthesize coffee and tea separately and draw separate conclusions, we will do so. Coffee and/or tea with varying levels of fat or sweeteners are included as a comparator in this analytic framework. Next slide. What is the relationship between beverage consumption and growth, body composition, and risk of obesity? What we have here in terms of the time frame, we will be looking at, similarly to previous analytic frameworks, studies published from January 2000 to present, and we have a similar study duration for the other growth, body composition, and risk of obesity frameworks.

Hollie Raynor: 01:42:11

Next slide. So I'm transitioning. Now,

I will be going over the analytic framework for beverage types and the risk of type 2 diabetes. This slide is for dairy milk and milk alternatives. These reviews will include studies that assess beverage consumption and infants, toddlers, children, adolescents, adults, and older adults. Intermediate and endpoint outcomes will be assessed across the lifespan and are shown on this slide. In addition to the key confounders for beverages and growth, body composition, and risk of obesity questions, we have included family history of diabetes and alcohol intake as key confounders. Diet quality is not included as a key cofounder for beverages and risk of type 2 diabetes questions. But given our previous conversation, we might want to bring in history of gestational diabetes. This slide shows the analytic framework for 100% juice and risk of type 2 diabetes and is consistent with what has been presented so far. Next slide. This slide shows the analytic framework for sugar-sweetened beverages and risk of type 2 diabetes and is also consistent with what has been presented so far.

Hollie Raynor: 01:43:43

This slide shows the analytic framework for low- or no-calorie sweetened beverage consumption and risk of type 2 diabetes, and is also similar to the previous frameworks. And this is our last proposed framework. This shows the framework for coffee and/or tea consumption and risk of type 2 diabetes, and is also similar to what has been presented previously. And for the proposed beverage consumption and risk of type 2 diabetes questions, similarly to what has been described previously, studies published from January 2000 to present will be included. The health status criteria are consistent with what we have described previously, and again, the intervention lengths are at least 12 weeks, and this is for hemoglobin A1C, prediabetes, and type 2 diabetes outcomes. We have decided that for fasting blood glucose, insulin and glucose tolerance, insulin resistance, shorter trials may be relevant, so trials of at least four weeks of length will be included. And I will turn it back over to our chair.

Deanna Hoelscher:  
01:45:03

Thank you, Dr. Raynor. So as you can see, there's a lot of work here. In addition to working through these protocols, members have also been going online and making changes to

these, some of it, quite late at night. So our next steps are to develop protocols for the remaining questions. So they include the dietary patterns and the risk of cognitive decline, mild cognitive impairment, dementia, and Alzheimer's disease, and then dietary patterns and bone health, and then the new protocol for food sources of saturated fat and risk of cardiovascular disease. So we've begun our discussions on that and will continue those. We will refine and implement protocols for the questions that we just reviewed here today. So we've done quite a bit of work. We still have quite a bit of work to do, as you can see. So thank you again to the committee members, and the floor is open for questions. Yeah, Heather?

Heather Eicher-Miller:  
01:46:16

Thank you. That was a really interesting presentation. And I have a question for Hollie or for all of you about the beverage questions that will be asked. Diet is notoriously

difficult to measure, and measuring beverages could be even more difficult because of the way we might consume them throughout a day, not just at one occasion or a few occasions in a day but throughout. And I'm just wondering what the committee might have discussed regarding kind of quantifying or labeling who is a certain type of-- drinking a certain beverage. I'm sure all the studies have defined that in different ways. And so I just wonder if there was kind of any criteria that you may have discussed for kind of quantifying drinking sweetened beverages or for all the different kinds of beverages you discussed.

Deanna Hoelscher:  
01:47:25

Hollie, you want to take that?

Hollie Raynor: 01:47:27

I would say it would be similar to what we've described previously. So for example, in the patterns question, it would be similar to what we described for the dietary patterns. And it will be what's reported in each of the studies. However, I think what you bring up thinking ahead to our report, and especially as our dietary assessment technology changes over time, I think that it would be an important component to describe in the report. We will be talking about other questions that were traditionally-- potentially, we've had more problems than some of our other working groups and some of our questions, more problems in the dietary assessment area. And I think that being able to bring this forward, and again, thinking about our newer technologies that we can use and what does that mean for

research and what we need to report on, I think, would be an important contribution to the literature.

Deanna Hoelscher:  
01:48:25

Chris?

Chris Taylor: 01:48:27

Yeah. And I think it's an important kind of overarching theme for everything we've talked about for committee one, which will then go into committee two, and committee four for the NESR review, is the detail and the fundamentals of the design, the intervention, what it is, what it isn't, the composition, how we're measuring it, and then all the dietary measurement on the other side, the description, the rigor of the data, the detail of the data that we get out, because that's going to be the underlying theme that we have to read across all of the studies to be able to make consistent recommendations. And when we have challenges in descriptions of interventions, deployment, fidelity measurement after that, every one of those errors, then, just compounds when we're looking at it from kind of a systems evaluation. So I think that'll be really important as we're evaluating every study and how it helps us gauge our synthesis plan.

Deanna Hoelscher:  
01:49:32

Thank you. I do want to respond, Heather, on one of your questions. We decided not to include water, and part of that is the problems with measuring water intake. It's kind of compounded the issues that you brought up. And the other thing is it's often used as a comparator in a lot of the RCTs. So we decided not to include it. So that kind of has some relevance, I think, to what you were asking about.

Christopher Gardner:  
01:50:04

Minor response, and when we use MDSR, we're always probing for frequency, time of day. It's not a meal-oriented thing. So in the five-pass system, we're always going back and saying, "For a snack, are you sure you didn't have something?" And time of day is recorded as well as consumption. So I don't know if there's sufficient literature there, but at least that assessment approach would capture that.

Speaker 9: 01:50:32

So my question is about coffee and tea. Often, it's combined with other beverages, milk and other. How will you tease out the effects of all the beverages included?

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- Hollie Raynor: 01:50:47      We actually will be looking at that. So that was part of what we were hoping to be able to tease apart if possible, coffee, and tea, and then the additions to coffee and tea, which would be dairy products, potentially, sugar sweeteners, those kinds of things. So we are hoping that we'll be able to tease that apart with what we see.
- Christopher Gardner: 01:51:14      That would be the mocha Frappuccino effect.
- Deanna Hoelscher: 01:51:21      Yes, that was a big discussion in our group when we got to coffee and tea.
- Teresa Fung: 01:51:26      Moreover, some studies actually have data on decaf and regular tea as well. So yeah. So depending on how much data there is available, we might be able to dig very deep into it.
- Deanna Hoelscher: 01:51:39      You can tell there's some questions we're really excited about. Any other comments? Thank you again for the committee members, for all the members, and for our assistance with NESR. We've really had great staff support, so I really appreciate all that. Thank you.
- Christopher Gardner: 01:52:03      And great leadership.
- Sarah Booth: 01:52:08      I echo Christopher's comment, "Great leadership." Thank you, Ed. Thank you, Hollie. Thank you, Deanna, and thank you, everyone, members of the subcommittee. But also, thank you for the broader committee and all these great, great suggestions because I know subcommittee one will go back and have another very, very passionate discussion about many of your comments. 10-minute break, how about that? It is, right now, 11:04. Let's be back at 11:14 because then, we are going to, drum roll, subcommittee two, led by Jenny. [laughter] Okay. thank you.
- [silence]
- Sarah Booth: 02:04:17      Okay. So everybody is so enthusiastic about talking about the last presentation, and they're all excited, but time is precious. So we are now going over to subcommittee two, led by Jennifer Fisher. Go ahead, Jenny.
- Jennifer Fisher: 02:04:43      Thank you, Sarah. I'm delighted to report back the work that our subcommittee has undertaken to evaluate the scientific evidence on diet
- and pregnancy and birth through adolescence. And I am pleased to say that I'll be joined by Dr. Deierlein across the table in presenting our draft systematic review protocols. Before we get started, I wanted to acknowledge the contributions of our scientific members our subcommittee brings together. I think it's a talented and, I will say, passionate group of scientists, clinicians, and public health practitioners who really have diverse expertise in maternal child health as well as development during sensitive windows. And of course, a huge thanks to the federal support staff. I think we all know that we would not have much to deliberate, evaluate, synthesize, or otherwise without the tremendous work. So thank you to NESR's staff who have supported our subcommittee along with federal liaisons, as well, Tessa Lasswell and Dennis Anderson-Villaluz, who have shepherd us through the process. So thank you, you all. All right. Let's get to the science.
- Jennifer Fisher: 02:05:51      Our subcommittee has prioritized a total of eight questions that span wide life stages from pregnancy, infancy, toddlerhood, early and middle childhood through adolescence, which if you work in this area, you know is significant, if you remember your childhood is significant, if you have cared for children, you know this. So it's a wide range of development. Four of our prioritized questions share

common intervention, exposure of dietary patterns, which we've talked a lot about, consumed during pregnancy, and have unique maternal and child health outcomes, so maternal risk of hypertensive disorders, maternal GDM, as well as infant gestational age at birth and birth weight. We additionally prioritize four questions from birth through adolescence, and the first of those questions, which will be presented by Dr. Deierlein is focused on the critical but understudied period from birth to 24 months of age. And it's really aimed at understanding or trying to get at what is the optimal diet during complementary feeding for growth, body composition, and risk of obesity outcomes in particular.

Jennifer Fisher:  
02:07:08

And then the remaining three questions really represent a first in dietary guidelines advisory committee history, that move us beyond the science of the whats of feeding young children to consider the hows of feeding children. And these questions were prioritized by our subcommittee with the goal of really supporting caregivers by offering evidence-based strategies to help promote helpful patterns of food acceptance, dietary intake, and growth among young children. And so one very short and personal note is that my graduate adviser was Dr. Lee-Ann a renowned developmental psychologist, and she is widely

regarded for establishing the field of study around children's eating behaviors. She passed away in 2019, but I know, without a doubt, she would be so pleased for the significance of moving this work forward in bettering the health of US children and their families. So thank you for allowing me that diversion.

Jennifer Fisher:  
02:08:15

All right. And finally, moving forward, one of our questions on complementary feeding and iron and zinc status was not prioritized for review due to a lack of research since a relatively recent 2019 NESR review on the topic. And I'll say a little bit about that-- a little bit more about that in subsequent slides. Okay. So let's move on to the development of our draft protocols. I am pleased to say that our subcommittee was able to draft systematic review protocols for all of the eight prioritized questions, and those will soon be posted to NESR's website and dietaryguidelines.gov. It's important to note that all, but one of these protocols, are actually updates to existing NESR reviews that were conducted as part of the pregnancy and birth to 24 months initiative to inform the 2020 guidelines, when comprehensive guidance for infancy, toddlerhood, pregnancy, and lactation life stages were included in the guidelines for the first time. And I think Janet spoke about the

significant undertaking that it involved yesterday.

Jennifer Fisher:  
02:09:27

So the NESR B-24 reviews were published in 2019. So they're relatively recent. So our subcommittee will update those reviews, certainly, to capture any new evidence that has come out since those have been published. But we will also expand those reviews to include older children, since those reviews were focused on B-24. Additionally, we've added a completely new question on the association of parental and caregiver feeding styles and practices with dietary patterns aligned with the US Dietary Guidelines for Americans. All right. Each of the eight questions we have prioritized will employ the standard NESR inclusion and exclusion criteria that have been previously described. So I won't say much more about that. And at this point, I'm going to turn it over to Dr. Andrea Deierlein to present our core systematic review protocols related to dietary patterns during pregnancy. And thank you, Andrea.

Andrea Deierlein:  
02:10:28

Thank you. Okay. So next slide. Subcommittee two is also reviewing dietary patterns and will be using the same key definition for dietary patterns as the other subcommittees. And so this definition applies to all four pregnancy questions. So regarding the inclusion and exclusion criteria, they're the same as what was outlined

by subcommittee one regarding dietary patterns, and they apply to all four pregnancy questions. The same definitions will be used across subcommittees. So for the four questions pertaining to pregnancy, which will be presented on this slide and the following three slides, the population is always going to be individuals during pregnancy. And the intervention exposure and comparator are dietary patterns. For the question presented on this slide, what is the relationship between dietary patterns consumed during pregnancy and the risk of hypertensive disorders during pregnancy? The outcomes that we're looking at are blood pressure, protein in the urine, eclampsia, preeclampsia, and gestational hypertension.

Andrea Deierlein:  
02:11:38

The key confounders are age, race and ethnicity, socioeconomic position, anthropometry, smoking, parity, diabetes in the current pregnancy, and history of hypertensive disorders of pregnancy. For the question, what is the relationship between dietary patterns consumed during pregnancy and the risk of gestational diabetes mellitus, the outcomes that we're looking at are hemoglobin A1C, fasting blood glucose, glucose tolerance or insulin resistance, and gestational diabetes. The key confounders are the same as those for the previous question, for age through parity. And then we're also including a history of GDM as a key confounder. For the question, what is the relationship between dietary patterns consumed during pregnancy and gestational age of birth, the outcome will be gestational age of birth. And again, the key confounders are the same for age through parity. And then we're also including diabetes in the current pregnancy, as well as hypertensive disorders in the current pregnancy. And for the last question, what is the relationship between dietary patterns consumed during pregnancy and birth weight, we'll be looking at outcomes that-- so intrauterine growth restriction in individuals during pregnancy and then birth weight in infants at birth. And the key confounders are those that are the same as for the previous question. So as mentioned, because there have already been existing systematic reviews for these questions, the publication dates will begin in January 1980, and then updates will be made to these existing reviews. So I will pause there for any committee discussion.

Sarah Booth: 02:13:38

No, just thank you very much for that overview. Thank you.

Andrea Deierlein:  
02:13:45

Great. Okay.

Deirdre Tobias:  
02:13:51

Well, so I was just curious if the outcome of birth weight, you would look at category such as large or gestational age or other complications, or are you just looking [inaudible].

Andrea Deierlein:  
02:14:04

I would assume that would also be sort of what's in the literature and looking at that. Yeah. Maybe I'll say anything.

Jennifer Fisher:  
02:14:15

Maybe the NESR team can help out here.

Andrea Deierlein:  
02:14:17

That's correct, we're looking at that.

Jennifer Fisher:  
02:14:19

Thank you.

Andrea Deierlein:  
02:14:26

Any other questions or discussion?

Sarah Booth: 02:14:30

No.

Andrea Deierlein: Okay. I'll continue.  
02:14:31

Jennifer Fisher: Thank you for that comment.  
02:14:32

Andrea Deierlein: Yeah, thank you. Okay. Next slide. So now, we'll go into complementary feeding. So this protocol pertains to complementary feeding, which uses the following definition. So it's the process that starts when human milk or infant formula is complemented by other foods and beverages. The complementary feeding period typically continues to 24 months as the young child transitions to family foods. Complementary foods and beverages are defined as foods and beverages other than human milk or infant formula provided to an infant or young child to provide nutrients and energy. So this is the analytic framework for our question, which is, what is the relationship between complementary

feeding and growth, body composition, and risk of obesity, which updates an existing NESR systematic review during the pregnancy and birth 24 months project that was mentioned. And as was mentioned earlier, in the presentations, the original wording of this question was, what is the relationship between timing of introduction and types and amounts of complementary foods and beverages and growth, size, body composition, and risk of overweight and obesity? And so this wording was refined to simplify it while continuing to encompass multiple aspects of complementary feeding. So this updated wording does not reflect a change in the scope of the review.

Andrea Deierlein: The population of exposure for this review is infants and toddlers from birth up to 24 months. The intervention, exposure, and comparator are subdivided into three main categories. So first, timing of the introduction of-- timing of the first introduction of any complementary food or beverage, which will be compared to a different timing of the first introduction of any complimentary food or beverage. Second is timing of the first introduction of a specific type of complementary food or beverage, which is going to be compared to the same-- which would be compared to a different amount of the same complementary food or beverage or to a different type of complementary food or beverage. And third, types and amounts of complementary foods and beverages will be compared to a different amount of the same complementary food or beverage or to a different type of complementary food or beverage. So for the timing of the first introduction of a specific type of complementary food or beverage and types and amounts of complementary foods or beverages, the evidence will be further organized by food and beverage groups, including fruit, vegetable, grains, protein foods, dairy, food and beverage sources of added sugars and other complementary foods and beverages. As noted in the presentation by subcommittee one, systematic reviews with meta-analysis will be conducted on the relationships between sugar sweetened beverages and 100% juice and growth, body composition, and risk of obesity. And so evidence for infants and toddlers will all be included as part of these systematic reviews with meta-analysis.

Andrea Deierlein: For the outcomes of this review, we will be examining growth in infants and toddlers and children and adolescents, body composition in infants and toddlers, children and adolescents and adults and older adults, and risk of obesity in children and adolescents and adults and older adults. The specific outcomes examined are the same as those previously described by subcommittee one. And the key confounders for this review are socioeconomic position, sex, maternal age, race and ethnicity, milk feeding practices, baseline anthropometry, and gestational age. So as described in the analytic framework, the inclusion criteria for the intervention exposure are timing of the first introduction of any complementary food or beverage, timing of the first

introduction of a specific type of complementary food or beverage or types and amounts of complementary foods or beverages. The exclusion criteria for the intervention exposure are isolated consumption of human milk, infant formulas, or vitamin and mineral supplements. For timing of the first introduction of a specific type of complementary food or beverage and types and amounts of complementary foods or beverages, additional exclusion criteria are examining dietary patterns or not describing the type and/or amount of food or beverage. As described in the analytic framework, the inclusion criteria for the intervention exposure are different timing of the first introduction of any complementary food or beverage, different timing of the first introduction of a specific type of complimentary food or beverage and different types and amounts of complementary foods or beverages, including consumption of a different amount of the same complementary food or beverage and consumption of a different type of complementary food or beverage. So studies without a comparator will be excluded.

Andrea Deierlein:  
02:19:47

And then, next slide. In regard to the publication dates, again, the studies will be published-- or will include studies we published from January 1980 to present, while studies published before January 1980 are excluded. For life stage intervention or exposure, the inclusion criteria are infants and toddlers from birth to 24 months. The exclusion criteria are children and adolescents, ages 2 through 19 years and adults and older adults, ages 19 years and older. For the life stage at outcome, participants of all ages will be included.

Jennifer Fisher:  
02:20:31

All right. Thank you, Andrea. So now, we're going to move back to the last scientific questions pertaining to the house of feeding young children. And we're going to start with a draft protocol that will be used to evaluate the evidence on repeated exposure and food acceptance among children. So what is repeated exposure? Repeated exposure in the context of this review will refer to the number, duration, and frequency with which foods are offered to young children in the interest of promoting liking and/or intake, which is collectively referred to as food acceptance. There are two broad classes of repeated exposure. The first is taste exposure, which refers to the provision of opportunities to taste and are consuming the target food. It's pretty straightforward. But there's also another body of literature that considers non-taste exposure. What is that? So this refers to the provision of other types of sensory exposure to foods, such as visual, tactile, and olfactory exposure. So this could be things like sitting down with children and reading picture books about vegetables. It could be having children use fruits to create an art project, so non-taste sensory exposure. And I'll be referring to that throughout the protocol.

Jennifer Fisher:  
02:21:52

So this slide shows you the analytic framework that will be used to evaluate this evidence on repeated exposure and food acceptance. The population of interest here will be children from birth to 12 years of age, categorized in three separate developmental stages: infants and toddlers, young children, and school-aged children. In each case, the intervention or exposure will be repeated exposure to a particular food or type of foods on multiple occasions. The comparators will be pre- to post-test change for within subjects designs, exposure versus no exposure for between subjects designs, and then taste versus non-taste exposure. There are a variety of different indicators of food acceptance in the literature, and we are going to be as inclusive as possible. So those include the amount, the rate, or the length of intake or feed and specifically in the infant literature, facial or body expressions

made while eating the target or target foods, verbal comments - yum, yuck, send it away - caregiver perception of the child's liking, children's willingness to try, and finally, child hedonic responses. So key confounders will be caregiver race and ethnicity as well as socioeconomic position.

Jennifer Fisher:  
02:23:18

Next slide, please. The type of exposure will include taste and non-taste exposures, as I've already said, as well as exposures to single or multiple foods as I've already said. But importantly, we will include multicomponent interventions only when those interventions can isolate the effect of repeated exposure. And the exclusion, I think, are important if you know work in this field. This review will not include studies of food or flavor exposure in utero and/or during human milk feeding because we're interested in the role of repeated exposures on food acceptance from complementary feeding onward. And so in a similar sense, the review will also not include studies of taste exposure like exposure to sweetness, flavor exposure like carrots, as opposed to food exposure. And then, finally, again, with our emphasis on acceptance as an outcome, studies in which the outcome is nutrient intake like sodium intake, as opposed to food

intake or liking will be excluded. All right. Included and excluded outcomes will be those that I've already detailed. Reflecting the 2019 NESR review on this topic among infants and toddlers, the publication dates for studies in that population will be 1980 to present, whereas studies of older children, which constitute a new review, will include studies published 2000 to present. Life stages at intervention and exposure will be those previously described in the analytic framework and will be expanded to include adolescents at outcomes.

Jennifer Fisher:  
02:25:05

That brings me to the end of this draft protocol. And that brings us to our last two questions, which really bring together wide disciplinary perspectives on parenting, developmental psychology, and pediatric nutrition to evaluate associations of caregiver feeding styles and practices, which we'll talk a bit about in a second with child dietary patterns and growth outcomes. Okay. Again, we're going to start with some key definitions. And in this particular literature, it's important. We joke that there are probably as many terms as there are data. So let's start by making sure we're all on the same page. So first, in terms of the definition of caregiver, this review will pertain to parents,

grandparents, guardians who provide direct care to children in the home. The committee acknowledges the importance of caregiving in other settings, such as the children routinely eating, such as schools and early care and education settings, but it's really beyond the scope of this first review. Okay. Second, feeding practices in infants and toddlers. In general, the literature on infants and toddlers is somewhat distinct from that on the same topics in older children.

Jennifer Fisher:  
02:26:29

Again, in general, during infancy and toddlerhood, studies of human milk, infant formula, and complementary feeding have tended to focus on caregivers' recognition of and responsiveness to infant hunger and fullness cues in prompt, developmentally appropriate contingent manner. And so this body of literature also considers practices that reflect a lack of reciprocity between caregiver and child. And some of those practices are similar to those evaluated in older children, like pressure to eat and restriction, whereas others are pretty uniquely developmentally situated, like feeding to soothe a distressed infant. So those are the key definitions for infants and toddlers. Food parenting styles and practices involving older children, as you might expect, reflect more complex goals related to socialization, child development, parent-child relationship, as well as nutrition or eating goals. So in general, this literature makes distinction between styles and practices. Feeding styles draw from the developmental literature on parenting, to characterize really the overall attitude and emotional climate surrounding feeding. And importantly, in addition to responsiveness, feeding styles also reflect caregiver demands and expectations for the child's behaviors. And so both of those dimensions demanding this and responsiveness are typically used to categorize the feeding styles that are listed on this slide.

Jennifer Fisher:  
02:28:07

Okay. Alternatively, when we talk about practices, these really refer to a very wide range of goal-directed behaviors that caregivers use to direct children's eating. Range from praising children to pressuring children to eat to providing guided choices to making foods available in the home, which we talked a bit about yesterday in subcommittee four. So the current thinking is that this wide range of practices really reflect three higher-order conceptual dimensions of coercive control, autonomy support, and structure, the latter two the lead theoretically to be supportive. And that will be of interest in our review. Okay. So we have two protocols involving feeding styles and practices. Both will include studies that measure

these styles and practices using a variety of methods, so including direct observation, caregiver self-report, and even newer studies involving ecological momentary assessment. The protocols will only involve multicomponent interventions where the influence of caregiver styles and practices can be isolated. In contrast, studies involving child care and school-based exposures or multicomponent interventions, where feeding effects can not be isolated, will be excluded. So in this case, in these protocols, the comparator will either be different degrees of use of a particular practice, more or less pressure to eat, for instance, or different types of particular styles and practices.

Jennifer Fisher:  
02:29:44

All right, we have two more slides and these-- well, several more slides. These present the analytic framework for the review protocol that's evaluating child growth, body composition, and risk of obesity outcomes. And here, our population will be children from birth to 19 years of age, grouped in four distinct developmental stages. Again, infants and toddlers were included in the B-24 NESR review in 2019, and evidence on older children will constitute a new aspect of these systematic reviews. So the exposure and comparators are those that I've already described. The outcomes will be defined using the same categorization and indicators that have been previously used and described by our chairs and other subcommittees. And then our key confounders will be caregiver race and ethnicity, socioeconomic position, and child anthropometry at baseline. Okay. And this slide presents the final analytic framework for the new systematic review looking at dietary pattern outcomes. The population exposure, comparators are exactly the same as in the previous protocol, so I won't detail those. The outcomes will include dietary patterns aligned with the DGA, Dietary guidelines for Americans, as indicated by the healthy eating index. However, our subcommittee had a lot of discussion around these outcomes and also proposed to include several specific food groups that are well represented in the literature on food parenting, and those are fruit and vegetables, whole grains, and sugar-sweetened beverages. And we have chosen to include these because we also acknowledge that these food groups in particular are low in the diets of Americans, and certainly associated with consumption of overconsumed nutrients in the case of sugar-sweetened beverages.

Jennifer Fisher:  
02:31:39

So the key confounder will be the same as in the previous framework, except that we have added baseline dietary intake given the focus on dietary outcomes. All right. The publication

dates and population exclusion criteria for these protocols vary slightly between based on the protocol outline-- or protocol outcomes, sorry. Publication dates for the protocol looking at growth, body composition, and risk of obesity outcomes in children birth to 24 months reach back to 1980 given that portion of our review updates the 2019 NESR review, while the review of evidence for children 2 to 19 years of age is new and will include work published from 2000 to present. Population life stages include infants and toddlers, children and adolescents at baseline and intervention. However, this protocol will include outcomes assessed across the

lifespan. And finally, given the new review looking at food parenting and dietary outcomes is entirely new, it will include studies published from 2000 to present. The population life stages include toddlers 12 to 24 months, and children and adolescents at baseline intervention. And I wanted to point out, with this protocol, that we are not including infants since we acknowledge - the committee had discussion around this - the dietary patterns of infants look quite different than those of older children. And I think Dr. Abrams has already made these points, that infant dietary patterns are based on consumption of human milk and infant formula, as well as introduction of complementary food and beverages, which

provide relatively limited energy until closer to the end of the first year of life.

Jennifer Fisher:  
02:33:33

All right. And I think that concludes the description of our draft protocols for the eight scientific questions that we prioritized. Like other subcommittees, our next step are really to refine these protocols based on the discussion today and the feedback, as well as public comments, and then to get to the business of implementing the protocol. So thank you to the subcommittee and the larger committee for your attention. And we certainly welcome your thoughts or questions.

Speaker 14: 02:34:05

Yes, thank you so much for presenting. I do have a question with regards to the confounder and the complementary feeding practices for infants, then, coming back to the parental and caregiver feeding style and practices. I didn't see maternal and paternal obesity considered. Weight status of the parents is of significant concern, particularly throughout the childhood processes. So I was wondering if you guys consider that as a key confounder in those areas. And if not, why?

Jennifer Fisher:  
02:34:36

Yeah. I think that's a great question. And it is one that the subcommittee spent a good deal of time talking about for the reasons you outlined. And for those of you on the subcommittee, please feel free to jump in. I think that, ultimately, based on the NESR definition of key confounders, while

we recognize that maternal BMI might have strong association with child patterns of growth, we did not believe the evidence rose to the level that would be appropriate to include as a key confounder in terms of that body size predicts certain ways of feeding children. So I think the evidence is lacking a little bit in that area. And in fact, there are some studies which would suggest the alternative size, that there's not a particular approach or pattern of types of practices that is governed based on a person's body size. And so I mean, I think we went round and round about it because I mean, you're absolutely right. And I feel like, in most of this research, that needs to be taken into consideration. But per our kind of guiding principles for the key confounders, I think we came to that conclusion based on the predictor side. Does anyone have anything to add? I'm looking at you all. Okay.

Speaker 14: 02:36:04

I think maybe to consider in the report is that you evaluated, not necessarily as a key confounder but an area of interest, maternal and paternal BMI and/or caregiver body mass index because that can influence eating practices one way or another based upon how their bodies are signaling, and then the desire to ensure that they're feeding in

a similar pattern that fits their own. So just something to consider.

Jennifer Fisher:  
02:36:30

Yeah. No, thank you. I appreciate that feedback, and we'll bring that back for discussion.

Speaker 20: 02:36:36

I also have a question about confounders.

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Jennifer Fisher:  
02:36:39

Sure.

Speaker 20: 02:36:40

But this is with regards to the repeated exposure to foods and food acceptance. And I'm curious about caregiver age, the relationship of the caregiver to the child, as well as the eating setting. And since you did such a beautiful job in talking about feeding practices and feeding style, I think that might also come into play. So could we just have maybe a little bit of information about how those things were determined within the conversations that you had?

Jennifer Fisher:  
02:37:13

I'm looking around the room because I'm hoping others will jump in. But I think those are great, great questions. And you're absolutely right. You can not sort of extract a practice outside of the context, and we all know that context is so important in all of our discussions. I would say that-- so the first question was on repeated exposure and age of the caregiver?

Speaker 20: 02:37:37

Yeah. Well, just in confounding the relationship with food acceptance.

Jennifer Fisher:  
02:37:41

All right. Yeah. Yeah. I would say that we had a lot of discussion about potential confounders, and I think there were a number where, conceptually, we identified influences

that we thought could be important. But when it came down to really thinking about grading potential bias in the work, and given what we know of the literature, I think, in those cases-- I mean, it's a great example of one that, conceptually, you'd imagine, could be quite important. But I don't think there is evidence to support the inclusion, if we're using the evidence to drive the inclusion of those key confounders. So I mean, it's a great example of cases where-- I don't know if other subcommittees have wrestled with this, where we're really on the fence about how to look at key confounders and where those lines are drawn and what implications those have for how we think about the strength of the evidence or the strength of the literature. Yeah.

Cheryl Anderson:  
02:38:52

Yeah. No, for sure. In subcommittees one and four, it feels like that's all we talk about, is confounding. But we do have this sort of north star around how you think about a confounder just traditionally. And then, you're right, I think the kind of next step is do you downgrade the evidence because this is determined to be key? So I was just curious as to whether or not these things made their way to the table for conversation

and perhaps, you could identify them as potential confounders, but in the context of these questions, they're not going to be key confounders where you would feel confident in downgrading the evidence because it's absent.

Jennifer Fisher:  
02:39:43

Yeah. No. Thank you for that feedback. And that's an excellent point. In each of the frameworks-- I shouldn't say. I don't know if that's the case in pregnancy. But certainly for the frameworks with older kids, we talked about a number of variables that we believe to be considered quite important and that we should take into consideration when interpreting the evidence, but maybe wouldn't be included as key confounders. So thank you. Does anyone have anything to add from the subcommittee? Thank you.

Sameera Talegawkar:  
02:40:19

I actually had one additional question. The same repeated exposure. Would you consider pulling out maternal education, separate from the socioeconomic position because that might-- yeah, again, it goes to the [inaudible].

Jennifer Fisher:  
02:40:34

Okay. I'm making eye contact with other subcommittee members only because we've spent a lot of time talking about all of these, I mean, about these general issues. And

so yes, we talked at length at least in one of the frameworks about whether or not to separately evaluate and pull out maternal education because we acknowledged that education

is not conceptually and can be quite distinct from socioeconomic position and other indicators. I think-- and please, again, subcommittee members, please correct me if you have a different view. But I think what we came around to is, certainly, we wanted to be consistent with the-- we actually wanted to look to the health equity group to sort of guide the decisions. And I know the health equity group has given general guidance, but really put it back to the subcommittees to think about what that means. So I'll lead to the last point, which is we ultimately decided to include maternal education still under the umbrella of socioeconomic position with the idea that a lot of the indicators are not equal to one another and that all should be considered. And again, I'm looking around. Can you remember other aspects of our conversation?

Andrea Deierlein:  
02:42:05

Jenny, I'll just add. I thought one thing we said was-- and along to what Cheryl noted before is we wanted to extract all these things, but we were only requiring one kind of socioeconomic indicator and not all of them.

Jennifer Fisher:  
02:42:27

That's right. That's right. Yeah. Thank you. Aline, did you have something to add? Okay. Oh, yeah, please.

Heather Eicher-Miller:  
02:42:36

Just thinking of other lifestyle behaviors of the children, physical activity isn't on any of the lists. And I'm sure it's impossible to measure at certain age groups, but was that considered also other dietary exposure, so maybe there's a practice that goes along just providing more sugary beverages too, for example?

Jennifer Fisher:  
02:43:04

Another good question. I'll start with physical activity. So physical activity was included in some of the protocols that we initially were presented with from the B-24 project. And again, I don't know whether our committee really just wrestled with the confounders more than others. But this was, again, one example where we believe-- certainly we know obviously physical activity is going to affect dietary requirements. But would physical activity affect a caregiver's decision to provide repeated exposure? We didn't feel the evidence or there was an empirical basis to really justify the inclusion in the traditional kind of requirements or ways of thinking about confounders,

both being related to the exposure and the outcome. And again, I think, conceptually, all of us would agree that these are important and hopefully, these comments will bring us back to a larger discussion of how to address some of these factors, both when we extract the information as well as really move to interpreting the evidence. Because I think they're excellent where kids is concerned. And I mean, working in this area of literature for a very long time. I mean, I think one of our key challenges in our goals is really to provide feedback that will support caregivers in their efforts to promote helpful eating.

Jennifer Fisher:  
02:44:50

A lot of this work is sometimes interpreted to be a little bit judgment-oriented. And historically, we know a lot more about things that don't work well because the works first started in the context of obesity risk. But all this to loop around back to say that I think we want to take special care to talk about this evidence in the appropriate context of all of the influences that are potentially important in determining how a caregiver might approach feeding or how children might eat. And I think those discussions are definitely ongoing.

Angela Odoms-Young:  
02:45:34

Kind of building on that, perhaps did y'all consider physical activity with the dietary patterns consumed during pregnancy and risk of hypertensive disorders or gestational

diabetes? So that would be more in the-- yeah. I just looked back on that after she said that. And I think it was making a mental note that we should go back and have further discussion about it. Yeah.

Sarah Booth: 02:46:09

Any more questions? Unfortunately, we can not see a lot of the microphones here, so any more questions? Okay. Thank you, group two, for a great set of presentation. And to sound like a broken record, thank you, everyone, for such thoughtful comments. This will collectively contribute to stronger protocols. I hate to be the Taskmaster, but it is 12 noon, and we are going to break for lunch. And I'm sorry, committee members, we're coming back at 12.30. So enjoy your lunch. Thank you very much, everyone.

[silence]