

**MINUTES OF THE NUTRITION COORDINATING COMMITTEE (NCC)
MEETING, NATIONAL INSTITUTES OF HEALTH (NIH)**

Rockledge 2, Conference Room 9100-9104, Bethesda, MD

January 5, 2012 2:00 – 4:00 PM

WELCOME

Dr. Van Hubbard, Director, NIH Division of Nutrition Research Coordination (DNRC), convened the meeting at 2:02 PM and welcomed participants. Phone participants included the following: Josephine Boyington, NIH/NHLBI; Roz Breslow, NIH/NIAAA; D. Camp, NIH/CSR; Jean Charles-Azure, IHS; Becky Costello, NIH/ODS; Paul Cotton, NINR; Amber Courville, NIH/CC; Mary Cutting, NIH/NIDCR; Rachel Fisher, NIH/DNRC; COL Karl Friedl, DOD; Sara Hursen, NIH/NCI; Angela Hutson, OASH/ODPHP; Lyndon Joseph, NIH/NIA; Joanne Karimbakas, NIH/NIDDK; David Klurfeld, USDA/ARS; Michelle Lawler, HRSA; Holly McPeak, OASH/ODPHP; Sarah Ohlhorst, ASN; Joanne Spahn, USDA/CNPP; Dionne Toombs, USDA/NIFA; Paula Trumbo, FDA/CFSAN; Kelley Scanlon, CDC/DNPAO. The agenda for the meeting is provided as Appendix A and the list of attendees is provided as Appendix B.

Dr. Hubbard acknowledged Dr. Dionne Toombs, the new USDA/NIFA liaison representative to the NCC. Dr. Susan Welsh and Dr. Etta Saltos, formerly with USDA/NIFA, retired from federal government service. Additionally, Ms. Carole Davis, who served as the Chair of the USDA Dietary Guidance Working Group and Director of the Nutrition Guidance and Analysis Division at USDA/CNPP, retired in December after 42 years of federal service.

APPROVAL OF MINUTES FROM THE NOVEMBER 3, 2011 NCC MEETING

Minutes from the November 3, 2011 NCC meeting had previously been sent to NCC members via email. Dr. Hubbard asked if there were any other corrections to the minutes. There were none. A motion to approve the minutes from the November 3rd NCC meeting was made by Dr. Paul Coates, NIH/ODS and seconded by Dr. Sharon Ross, NIH/NCI. The minutes were thus approved and will be posted on the DNRC website, <http://www.dnrc.nih.gov>, along with the minutes from the previous NCC meetings.

**CONFERENCE REPORT HIGHLIGHTS 2011 – THE EVOLVING ROLE OF
PROBIOTIC FLORA IN THE MICROBIOME RESEARCH**

Dr. Pam Starke-Reed introduced the first speaker, Dr. Linda Duffy, NIH/NCCAM as the newly appointed Scientific Chair of the Probiotics and Prebiotics Work Group (PPWG).

Dr. Duffy presented highlights from several 2011 conferences on pre- and probiotics and microbiome research. Dr. Duffy acknowledged the enormous contributions of the PPWG, a trans-NIH workgroup sub-committee of the NCC whose efforts are coordinated by Dr. Crystal McDade-Ngutter, NIH/DNRC. In her presentation, Dr. Duffy briefly described what has been described as a “core microbiome,” enterotypes that may be important in health and disease, and federal regulations and standards that may be needed to protect public health.

Dr. Duffy provided definitions of pre- and probiotics. Probiotics are live microorganism(s) which when administered in adequate amounts confers a health benefit on the host [FAO/WHO Workgroup-1979; 2001]. World-wide, probiotics market sales in the form of foods and dietary supplement products are expected to reach \$15 billion. Prebiotics, defined as indigestible carbohydrates such as inulin that nourishes or helps to stimulate the growth and/or activity of one or a limited number of commensal bacteria in the colon [Roberfroid-2000].

Dr. Duffy provided highlights from several scientific meetings that occurred in 2011. A FASEB Summer Research Conference on “*Probiotics, the Intestinal Microbiota, and the Host*” was held on July 24-29th. The purpose of the meeting was to explore the state-of science of probiotics and intestinal microbiota. Researchers from 10 countries participated. Drs. Duffy and McDade-Ngutter co-chaired an invited, NIH Panel Breakout Session on program directions and NIH-funded research in the areas of probiotics, prebiotics, and the human microbiome. The FASEB session discussion topics included the impact of diet, pathogens and stress on microbiota; the mechanisms behind colonization and the gut barrier effect; the role of probiotics and gut microbiota in metabolism and obesity, the prevention of allergies, common infectious diseases, and gastrointestinal diseases; functional genomics; and the safety, technical and regulatory considerations for probiotic products.

Other probiotics/prebiotics and human microbiome meetings held this past year included the following:

- The International Probiotics Association (IPA) World Congress - October 17th.
- The Ninth Annual International Scientific Association on Probiotics and Prebiotics (ISAPP) - October 23-25th.
- An International Life Sciences Institute of North America Workshop on “Defining a Healthy Gut Microbiome” met on December 6th

An upcoming meeting in which several PPWG members are invited will be held February 22-23 sponsored by the Institute of Medicine (IOM), Food Forum workshop entitled: “The Human Microbiome, Diet, and Health.”

Dr. Duffy described the rich bacterial communities that reside in living organisms. In humans for example, bacterial cells outnumber human cells 10:1. There are believed to be about 100 trillion bacterial cells in the human GI tract. The *microbiome*, or collective genome is believed to contain more than 100 times as many genes as the human genome. Microbiomes at different body sites and functional *metagenomics* are leading to new discoveries of how microbial composition and function may be linked to health and disease. New technology platforms to understand human metagenomics are part of the NIH Human Microbiome Project, which is funded through the Roadmap Common Fund.

The management and ecology of the human microbiota is a novel paradigm shift and diet plays an important role, including preventive and therapeutic strategies that utilize pro- and prebiotic interventions. We are learning that body site-specific communities of bacteria vary to such a degree that site-specific bacterial communities are more similar across the human population than they are to bacterial communities present at other sites within individuals. There is evidence to suggest that a major proportion of the bacterial sequences of unrelated healthy individuals is identical, thus supporting the concept of a “core” microbiome in healthy individuals.

Within the nutrition field, there is great interest in the ability of intestinal bacteria to produce nutrients and molecules that modulate mucosal immunity. Microbe-derived immunomodulins, short-chain fatty acids, and vitamins modulate host signaling which can lead to cytokine and immune cell activity. Identification of validated biomarkers using proteomic and other omic profiling technologies is an active area of research. The human diet also has a role in shaping the human microbiome. The microbiome in turn affects our ability to absorb and metabolize nutrients. An emerging area of interest is micro RNA and biological responses that may result from its activity.

Dr. Duffy noted that more rigorous research studies are needed. The specific areas for future research include standardization of research protocols and comparative RCT and cohort study designs to provide safety and dose-response data. Standardized probiotic taxonomy and harmonization of the technologies used in research must be developed to improve study comparability. To date, there have been few but an increasing number of Investigational New Drug (IND) studies for ‘clinical indications’ to prevent, treat, mitigate or cure disease or a health condition conducted with probiotics and prebiotics.

Currently, probiotics may be classified as foods [e.g., yogurts], supplements and/or biologic agents depending on their intended uses. Products that are marketed to treat, cure, or mitigate disease require an IND.

Evidence-based reviews, including COCHRANE and non-COCHRANE reviews, have been completed and the AHRQ Evidence based Review on Probiotic Safety was published in April 2011. Funding for the AHRQ evidence review project was provided by FDA/CFSAN and NIH (NCCAM and ODS).

Future action items for the NCC related to microbiome research include:

- Dr. Raiten noted the NIH, USDA, National Science Foundation collaboration on microbiome research. A proposal for a workshop is being circulated and this might be an activity for the NCC to pursue.
- Dr. Hubbard urged the PPWG and Human Microbiome Project [HMP] representatives to continue their efforts to communicate with the nutrition community about pre- and probiotic research activities. He also stressed the importance of the PPWG being in close alignment with the NIH mission and policies in the evolving framework of the HMP.
- Dr. Mary Poos, FDA/CFSAN clarified that if the intended use of a probiotic dietary supplement product is to cure, mitigate symptoms, treat, or prevent disease, and it is not approved and substantiated under the appropriate regulatory classification process, it will be declared a misbranded product.

During the discussion, the subject of micro RNA arose. Stable microRNAs (miRNAs) in mammalian serum and plasma are actively secreted from tissues and cells; miRNAs can serve as a novel class of biomarkers for diseases, and act as signaling molecules in intercellular communication. Dr. Sharon Ross, NIH/NCI shared a paper by Zhang et al. published in the January 2012 issue of *Cell Research* entitled *Exogenous plant MIR168a specifically targets mammalian LDLRAP1: evidence of cross-kingdom regulation by microRNA*.

Link: <http://www.nature.com/cr/journal/v22/n1/pdf/cr2011158a.pdf>

Biomedical Research Advanced Information Network (BRAIN) – NUTRITION IN CHRONIC DISEASE PREVENTION

Dr. Hubbard, DNRC sent an email request on December 22nd asking the ICs to submit information regarding significant activities and accomplishments that further agency missions in the area of nutrition in chronic disease prevention. He went on to explain

that BRAIN was developed to give Dr. Collins rapid access to NIH research activities and accomplishments when he speaks at high level meetings such as Congressional appropriations and committee meetings. BRAIN database content can include talking points (90-120 words), visual media, and succinct summaries of relevant information that is relevant to the missions of the ICs.

This year, the DNRC, with assistance from Megan Miller, NIDDK/OSPPA will coordinate and compile the contributions from the ICs related to major activities and accomplishments in the area of Nutrition in Chronic Disease Prevention. The due date for transmittal to the DNRC is January 11th. Although a formal template for the IC submissions was not provided, a suggestion was made to review and update last year's submission, if applicable. Emphasis should be placed on applications to humans, the latest advances in research, and the inclusion of illustrative materials and products that can be accessed such as publications, charts, and presentations, if applicable. Each IC should clear their submission internally before sending to the DNRC. In support of this effort, Ms. Karen Regan, DNRC is preparing a spreadsheet list of nutrition in chronic disease prevention projects sorted by IC using HNRIM information.

NIH Exercise Research Interest Group

Dr. Hubbard introduced Dr. Mark Roltsch, Program Director, Division of Cardiovascular Sciences, NHLBI. Dr. Roltsch announced the formation of a new NIH Exercise Research Interest Group. NHLBI wanted to identify a core group of interested persons from around NIH, whether extramural or intramural, who are involved with exercise research across the spectrum from basic to clinical. The group's first meeting will be held on January 11th in Rockledge 2, room 8046 from 1-2 p.m. and is open to all interested persons. Future meetings will occur bimonthly on the second Wednesday of the month.

CNPP – NUTRITION EVIDENCE LIBRARY TOPIC NOMINATION REQUEST

Ms. Joanne Spahn, CNPP/USDA reported that a broad email solicitation was made on December 14th requesting agency nominations for future systematic evidence review topics. The topics should include those that are likely to be of interest and relevant to nutrition policy initiatives such as the 2015 *Dietary Guidelines for Americans*. The due date for the request is January 17th. The topic nomination submissions should include the topic name, significance, potential uses of an evidence review on the topic, target populations, and the health and behavioral outcomes of interest. Thus far, the suggested topics have included beverages, whole grains, fiber, and education topics. It

is possible to make submissions after January 17th. However, Ms. Spahn noted, that topic review and prioritization into tiers will begin after the January deadline.

UPDATE FROM THE OFFICE OF DISEASE PREVENTION AND HEALTH PROMOTION (ODPHP)

Dr. Rick Olson provided the following updates from ODPHP:

- Dr. Don Wright, the new Director of ODPHP has started his new position. Carter Blakey, the former Acting Director of ODPHP, will serve as Deputy Director of ODPHP.
- A roundtable meeting, *Motivating Individuals to Achieve Sustained Healthful Diet and Physical Activity Behaviors: A Stakeholder Dialogue* will be held at the USDA Whitten Bldg. in Washington, DC on January 10th. The meeting was planned by DHHS, USDA, and the International Food Information Council (IFIC) staff.
- ODPHP staff met with Joanne Spahn and Dr. Rob Post, USDA/CNPP to begin planning the *Dietary Guidelines for Americans, 2015* initiative. A decision is needed on whether to also develop guidelines for the 0-2 year age group. The Academy of Nutrition and Dietetics (A.N.D), formerly the American Dietetic Association, and the American Academy of Pediatrics are engaged in these discussions. A.N.D is conducting a literature review and the AAP is also preparing material. Dr. Raiten commented that NICHD would like to be involved in these discussions. At some point an expert review by the Institute of Medicine or other group may be recommended.

UPDATE FROM THE OFFICE OF DIETARY SUPPLEMENTS (ODS)

- Kathy Camp presented information about the upcoming Phenylketonuria Scientific Review Conference: State of the Science and Future Research Needs, February 22-23, 2012. Newborn screening for PKU has been in place for almost 50 years. Early identification and initiation of treatment in infancy and throughout the lifespan prevents intellectual disability and serious birth defects in infants of mothers with PKU. In October of 2000, NIH held a Consensus Conference on screening and management of PKU and subsequently published a guideline statement. Since then, technological advances in screening, new treatment strategies, and a larger body of literature on outcomes for persons with PKU has emerged. NIH is revisiting those early guidelines to determine their current applicability and will be hosting a Scientific Conference on February 22-23 at NIH's Natcher Conference Center.

In preparation for the upcoming conference, five groups have been working to answer specific questions related to screening and management of PKU. The topics are dietary management, pharmacologic interventions, pregnancy, long-term outcomes across the lifespan, and technological advances in testing. The Diet Control and Management working group, which would be of most interest to the NCC, is focusing their efforts on documenting current knowledge that would inform development of new dietary recommendations by professional organizations. The working groups will present their findings during the February Scientific Review Conference. AHRQ will also present the results of a comparative effectiveness review of sapropterin, an FDA approved drug, large neutral amino acids, and glycomacropeptide treatments for PKU. Public input will be solicited and a final document will be published that will consider the state of the science, recent research findings, current treatments, the role of sapropterin, and future research needs for PKU. The conference is open to everyone but you must register. A link to the conference registration is found at the following site: https://www.team-share.net/Phenylketonuria_Scientific_Review_Conference/Overview.aspx Please contact Kathy Camp or Paul Coates if you have questions about the meeting.

- Dr. Cindy Davis reminded NCC members about the upcoming deadline of February 8th for receipt of IC requests for ODS co-funding. Extramural grants, intramural projects, conferences and workshops are all eligible. IC Directors received notice of this earlier in the week. Please direct all inquiries to Cindy.

REPORTS/ANNOUNCEMENTS FROM NCC MEMBERS AND LIAISONS

National Center for Advancing Translational Sciences (NCATS): NCC members expressed an interest in learning about the nutrition expertise and priorities within the new NCATS. A suggestion was made to invite a representative from NCATS to speak to the NCC about future plans and potential areas for collaboration.

NCI Updates:

Follow-up from the Nanotechnology Meeting held November 29-30th entitled: *Joint NIH and USDA Workshop on Using Nanotechnology To Improve Nutrition Through Enhanced Bioavailability and Efficacy*. The meeting was co-sponsored by the DNRC, NCI, and USDA. Dr. Sharon Ross reported that the Executive Summary from meeting will be published soon. The goal of the workshop was to discuss and evaluate the state

of the science and to identify knowledge gaps in the use of nutrients (and bioactive food components) for disease prevention and opportunities to improve safe, targeted delivery and controlled release of these components to improve absorption, distribution, metabolism, and elimination through nanotechnologies. Another goal was to catalyze collaborations and stimulate ideas for diet and disease prevention research. Future activities include efforts to foster nanotechnology research. The NIH videocast link for the event is: <http://videocast.nih.gov/PastEvents.asp?c=1&s=11>

- During the NCC discussion, a suggestion was made to schedule a future seminar on the subject of nanotechnology applications in foods and nutrition as nutrients are considered to be nanoparticles.
- NCI has initiated a personnel recruitment search to fill the position formerly held by Dr. Cindy Davis. NCI is hoping to interest an individual with microbiome expertise.

NHLBI Update: Dr. Charlotte Pratt reported the proposed research initiative RFA HL-13-013 *Cardiovascular Risk Reduction in Underserved Rural Communities* (R01) is now in the early notification system

(<https://nihguide.nih.gov/Lists/ENS/00%20%20All%20Items.aspx>). The overall objective of the initiative is to build the evidence base and accelerate the implementation and translation of evidence- or practice-based interventions into practice in rural communities through the planning and execution of well-designed controlled trials that maximize the opportunities available in rural communities. The long-term goal is to foster sustainable interventions and scientific research that will lead to reduced cardiovascular morbidity and mortality in high-risk rural populations

USDA/ARS:

- Dr. John Finley reported that an Executive Summary from a recent USDA/ARS-workshop on Surveillance of the U.S. Food System, held December 6-7th in Beltsville, MD will be released soon.

NIH Wellness Activities:

- Margaret McDowell, DNRC provided a brief update on the January 4th meeting of the NIH Health and Wellness Council (HWC). Dr. Alfred Johnson, NIH/OD/ORD, the NIH Senior Wellness official, attended the HWC. Chris Gaines asked Ella Branson, ORS/DATS to take the lead on the HWC communications efforts. The overarching goal of the effort will be to consolidate the NIH health and wellness website resources to make it easier for the NIH community to identify and utilize NIH wellness resources. The Strategic Plan Subcommittee is continuing to work

with Dr. Johnson's office to develop draft policy guidance Dr. Johnson can use in discussions with senior NIH officials.

- Dr. Hubbard reported that Rachel Fisher, DNRC recently updated the list of NIH nutrition Speakers Bureau list. NCC members were extremely helpful and the updated list should provide a good variety of topic areas to include in future NIH-HWC events. Dr. Hubbard noted that this effort was undertaken to ensure that qualified speakers present credible science-based nutrition information to the NIH community. If any nutritional professionals were not aware of this list and would like to be included as a potential speaker, please email Rachel Fisher or Margaret McDowell.

DRI Update:

- Dr. Starke-Reed reported on a recent Food and Nutrition Board meeting she attended. Among the topics discussed was a new process for defining future DRI reviews. Nothing has been decided however. A Work Group meeting will take place on January 9th the full committee will meet in February.

UPDATE OF DNRC ACTIVITIES

Nutrition Education Subcommittee (NES)

The NES reviews materials for consistency with the *Dietary Guidelines for Americans (DGAs), 2010*. The NES Chair, Dr. Margaret McDowell, NIH/DNRC, reported that 2 dietary guidance review requests were received since the November NCC meeting. The NES completed 1 review and a second review request, received December 22, 2011, is ongoing.

Ms. Rachel Fisher, NIH/DNRC developed the 2012 DNRC National Nutrition Month brochure entitled, "Get Your Plate in Shape." The brochure text was reviewed by the NIH Nutrition Education Subcommittee (NES) and the DHHS/USDA Dietary Guidance Review Team to ensure consistency with the *Dietary Guidelines for Americans, 2010*. Printed brochures will be distributed as a desk-to-desk publication to all NIH employees and a PDF-format version of the brochure will be posted on the DNRC website.

Dietary Guidance Reviews In-Progress:

CDC Vital Signs Fact Sheet: Where's the Sodium? The Fact Sheet summarizes public health information and dietary guidance recommendations on dietary sodium. The Fact Sheet focuses public attention on specific steps various key groups (e.g., public health

departments, health professionals, the state and federal government, general public, et al) could take to make the greatest improvement related to reducing dietary sodium consumption. The material is undergoing concurrent NIH-NES and Joint DHHS/USDA Dietary Guidance reviews and reviewer comments are due January 10, 2012.

International Subcommittee Information

Dr. Dan Raiten provided two updates:

- Related to nutrition and infectious disease, a summary on nutrition and HIV and the role of nutrition and pharmacology is available. The link is:
<http://www.ajcn.org/content/94/6/1697S.abstract?cited-by=yes&legid=ajcn:94/6/1697S>
- Dr. Raiten also reported that the SubCommittee on International Nutrition Research (SCINR) is trying to resurrect the “Micronutrient Forum” A “Doodle” survey will be sent out to select a meeting date and a schedule for future meetings will follow.

HNRIM Update

- Ms. Regan reported earlier that she is preparing a spreadsheet for the BRAIN Nutrition in Chronic Disease Prevention submission.
- Ms. Karen Regan reported that all ICs have completed their FY 2010 HNRIM coding. The ODS has reviewed all new projects for dietary supplement-related coding and will be making a request to some ICs for dietary supplement-related coding changes. All requests for IC coding changes will be made by the end of the day on Friday, January 6th. Ms. Regan expressed gratitude to those who completed their project coding assignments in a timely manner.

NEXT NCC MEETING

The next NCC meeting will be on February 2, 2012.

ADJOURNMENT

The meeting was adjourned at 3:55 PM

LIST OF APPENDICES

Appendix A: NIH NCC Meeting Agenda for January 5, 2012

Appendix B: NIH NCC Meeting Attendees for January 5, 2012

APPENDIX A: NIH NUTRITION COORDINATING COMMITTEE MEETING AGENDA

1. **Welcome**.....Van Hubbard, DNRC
2. **Approval of November 3, 2011 Meeting Minutes**.....Van Hubbard, DNRC
3. **Conference Report Highlights 2011 – The Evolving Role of Probiotic Flora in the Microbiome Research**.....Linda Duffy, NCCAM
4. **BRAIN – Nutrition in Chronic Disease Prevention**.....Van Hubbard, DNRC
5. **CNPP Nutrition Evidence Library Topic Nomination Request**.....Joanne Spahn, CNPP, USDA
6. **ODPHP Update**.....Rick Olson, ODPHP
7. **ODS Update**.....Paul Coates, ODS
8. **Reports from NCC Members and Liaisons**NCC Members
9. **Current DNRC Update of Activities**.....DNRC Staff
 - Nutrition Education Subcommittee Update.....Margaret McDowell*
 - International Committee Information.....Pam Starke-Reed/Dan Raiten
 - HNRIM Update.....Jim Krebs-Smith/Karen Regan
 - PPWGCrystal McDade-Ngutter
 - Wellness WorkgroupRachel Fisher/Margaret McDowell
10. **Next Meeting** – February 2, 2012

* Updates will be included in the minutes of the meeting only

1) APPENDIX B: NCC MEETING ATTENDEES FOR JANUARY 5, 2011

Agencies, Institutes, Centers, and Divisions	Members Present	Members Absent	Alternates Present	Other Individuals Present
DNRC Director	V Hubbard			
DNRC Deputy-Director	P Starke-Reed			
NIH MEMBERS				
NCI	J Milner		S Ross	
NHLBI	K McMurry			A Ershow; C Pratt ; M Rolsch
NIDCR	M Cutting			
NIDDK	R Kuczarski			J Karimbakas; P Maruvada; M. Miller
NINDS		M Mitler		
NIAID		P Sato		
NIGMS		S Somers		
NICHHD	G Grave		D Raiten	F Ashour
NEI	N Kurinij			
NIEHS		E Maull		
NIA	J Hannah		L Joseph	
NIAMS		J McGowan		X Wang
NIDCD		B Wong		
NIMH		M Chavez		
NIMHD	D Tabor			
NIDA		G Lin		
NIAAA	R Breslow			
NINR	P Cotton			
NCCAM	L Duffy			
NCRR		K Arora		
FIC				
NHGRI				
NIH LIAISONS				
CC	A Courville			
CIT		J Mahaffey		
CSR		S Kim		D Camp
NLM		M Corn		
OBSSR	D Sampson			
ODS	P Coates			K. Camp; B Costello; C. Davis; B Sorkin
OD/ODP	B Portnoy			
PRCC				
AGENCY LIAISONS				
AHRQ		I Mabry-Hernandez		
CDC/NCCDPHP		H Blanck		K Scanlon
CDC/NCHS		C Johnson		
FDA	P Trumbo			M Poos
HRSA	M Lawler			

Agencies, Institutes, Centers, and Divisions	Members Present	Members Absent	Alternates Present	Other Individuals Present
IHS	J Charles-Azure	T Brown		
ODPHP	H McPeak	R Hayes		A Hutson; K Butner; R Olson
USDA/ARS	D Klurfeld			J Finley
USDA/NIFA	D Toombs			
DOD	K Friedl			

Guests: A Bodnar, NIH/OD, PMI Fellow; Sarah Ohlhorst, ASN; J. Spahn, USDA/CNPP

DNRC: R Fisher; S Frazier; C McDade-Ngutter; M McDowell; K Regan