

**MINUTES OF THE NUTRITION COORDINATING COMMITTEE (NCC)
MEETING, NATIONAL INSTITUTES OF HEALTH (NIH)
Rockledge 2, Conference Room 9100-9104, Bethesda, MD
July 3, 2008 1:00- 3:00 PM**

WELCOME

Dr. Van Hubbard, Director, NIH Division of Nutrition Research Coordination (DNRC), convened the meeting at 1:00 PM and welcomed participants. Participating via phone were Dr. Laura Bacon, OS ODPHP; Dr. Rosalind Breslow, NIH NIAAA; CAPT Tammy Brown, IHS; Dr. Paul Cotton, NIH NINR; Dr. Linda Duffy, NIH NCCAM; Dr. Julia Freeman, NIH ODS; Dr. Deborah Galuska, CDC; Dr. Giovanna Guerrero, NIH NINDS; Dr. Judy Hannah, NIH NIA; Dr. Jerry Heindel, NIH NIEHS; Dr. David Klurfeld, USDA; Mr. Jim Krebs-Smith NIH DNRC; Dr. Molly Kretsch, USDA; Ms. Michele Lawler, HRSA; Dr. Marya Levintova, NIH FIC; Dr. Elizabeth Maull, NIH NIEHS; Dr. Margaret McDowell, CDC NCHS; Dr. Deborah Olster, NIH OBSSR; Dr. Marshall Plaut, NIH NIAID; Dr. Daniel Raiten, NIH NICHD; Dr. Doug Sheeley, NIH NCRR; Dr. Claudia Stein, WHO; CAPT Rick Troiano, OS ODPHP; and Ms. Martina Vogel-Taylor, NIH ODP. The agenda for the meeting is provided as Appendix A, and the list of attendees is provided as Appendix B.

APPROVAL OF MINUTES FROM THE MAY 1, 2008 NCC MEETING

Minutes from the May 1, 2008 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. Dr. John Milner, National Cancer Institute (NCI), made a motion to approve the minutes, and Dr. Barry Portnoy, NIH Office of Disease Prevention (ODP), seconded the motion. The minutes were thus approved and will be posted on the DNRC website, <http://www.dnrc.nih.gov>, along with the minutes from previous NCC Meetings.

CAN ENDOCRINE DISRUPTION CAUSE OBESITY?

Dr. Jerry Heindel, a Scientific Program Administrator at the Division of Extramural Research and Training, National Institute of Environmental Health Services, gave a presentation on the environmental influences and developmental origins of obesity. The current paradigm suggests that obesity is due to a combination of overeating and reduced physical activity on a genetic background. However, there is an emerging hypothesis that the obesity epidemic could be due, in part, to the interaction of nutrition and environmental exposures during fetal and neonate development.

This new hypothesis suggests that environmental agents and/or nutrition act during development to alter the pathways responsible for control of adipose tissue development; increase the number of fat cells; alter mechanisms controlling food intake and metabolism; alter insulin sensitivity and lipid metabolism via effects on the pancreas, adipose tissue, liver, GI tract, brain, and muscle thereby altering the "setpoint" or sensitivity for developing obesity later in

life. Human data have shown that a low birth weight or high birth weight can lead to increased incidence of obesity later in life. Gestational diabetes and maternal obesity during pregnancy can also lead to obesity in the offspring. Lessons from several animal studies confirm human data. Developmental exposure to agents with estrogenic activity (DES (diethylstilbestrol), Genistein, 2-OH estradiol, bisphenol A) lead to increased numbers of fat cells in vitro and in vivo along with health problems associated with obesity, including diabetes. Developmental exposure to nicotine, tributyl tin (a biocide), or perfluorooctanoic acid (Pfoas) - found in products such as Teflon and stain-resistant coatings - can also increase incidence and extent of obesity. It is both plausible and possible that even low levels of environmental chemicals when mixed together in combination with nutrition and genetic background could jointly contribute to adult obesity.

The potential impact of environmental chemicals and/or nutritional exposures during development suggests that we turn our focus to this sensitive period. Exposures during development have effects that last a lifetime. As a result, it is important to focus on prevention. Attention must be given to the establishment of biomarkers for developmental exposures and to the identification of populations with increased susceptibility. Intervention strategies should also be explored. Obesity is complex and results from a multiple of interacting factors. It is likely that environmental agents play a role in a subset of obese people, but the size of this subset is still unclear.

For more specific information of the health implications of BPA in particular, refer to the *Chapel Hill Bisphenol A Expert Panel Consensus Statement* by visiting the following website:

<http://www.environmentalhealthnews.org/newscience/2007/2007-0801bpaconsensus.pdf>

ESTIMATING THE GLOBAL BURDEN OF FOOD BORNE DISEASES (FBD)

Dr. Claudia Stein, World Health Organization (WHO), described the WHO Department of Food Safety, Zoonoses and Foodborne Diseases' (FOS) Initiative to Estimate the Global Burden of Foodborne Disease, which aims to provide estimates for microbial, parasitic, and chemical causes by 2011. No such estimation has been performed to date, yet without a concerted action to estimate and reduce the burden of foodborne diseases, global health security will be jeopardized. In order to fill the current data vacuum, FOS, in collaboration with multiple international partners, launched the Initiative to Estimate the Global Burden of Foodborne Disease in 2006. A primary goal of the Initiative is to enable policy-makers and other stakeholders to set appropriate, evidence-based priorities in the area of food safety.

The Initiative consists of two tracks. The first is the Foodborne Disease Epidemiological Reference Group (FERG), which is a team of technical experts that have been convened to assemble, appraise, and report on the burden of FDB estimates. The second track is a set of in-depth country studies that will

supplement the work of FERG and enable countries to conduct their own burden of disease studies. At least 18 pilot sites will be identified for study.

Beginning with the first FERG meeting, which took place in November of 2007, the Initiative has worked in synergy with a wide range of stakeholders such as consumer groups, industry, academia, and the media to increase outreach, communication, and the uptake of the Initiative's outputs. Collaborations with organizations outside the WHO are extremely important to the success of this effort. FERG is always looking for advice, reviewers, and for other ways to collaborate and would welcome any suggestions you may have. More information regarding the Initiative can be found at the following website:

http://www.who.int/foodsafety/foodborne_disease/ferg/en/index.html.

Dr. Dan Raiten, NICHD, noted that several NIH ICs have been working with Dr. Stein and the WHO group for about a year to develop further opportunities for collaboration around the topic of foodborne illness. The core group includes NICHD, NIAID and FIC.

NEW HEALTH PROMOTION INITIATIVE AT THE FDA

Dr. Claudine Kavanaugh has recently started a 4-month detail for the Associate Commissioner, David Acheson, in the office of food protection at the FDA. Her efforts will focus on health promotion. The Commissioner of the FDA has tasked Dr. Acheson to promote the health benefits of food, and Dr. Kavanaugh is initiating this effort. One of her tasks is to find out what other groups are doing and identify if there are areas where the FDA could formulate a collaborative effort. This is a new area for the Commissioner's office, so they are in the initial stages of gathering information in order to develop a plan for better promoting the health benefits of foods.

NANOTECHNOLOGY AND NUTRITION

Dr. Crystal McDade-Ngutter, DNRC, provided an update on the *Environmental Health and Safety Issues in Nanotechnology* meeting that she attended in Crystal City, VA on June 9 & 10. The meeting was sponsored by the American Ceramics Society (ACS) and focused on standards and measurement needs of government, industry, and academia in regards to nanotechnology and nanomaterials. The keynote speaker was Dr. Sally Tinkle from NIEHS, a former presenter at NCC. She spoke on the benefits of public/private partnerships in nanoscience. The crux of the meeting was centered on the breakout sessions where the conference attendees discussed and prioritized measurement needs. These needs will be highlighted in *The Bulletin*, a publication of ACS.

Dr. McDade-Ngutter also mentioned two upcoming nanotechnology meetings that may be of interest to members of the NCC:

1. *Food Industry Summit on Nanotechnology*: This meeting will be held on October 27-28, 2008 in Washington, DC. It will be hosted by USDA and

will focus on public-private partnerships. The organizers hope that a proposal to establish an industry, university, and government collaborative partnership will come out of this meeting. This partnership would help to provide direction and funding for nanoscience research and applications for food and beverages. The exact location and logistics for the meeting have not been determined as of yet, but as more information is confirmed, Dr. McDade-Ngutter will notify the NCC.

2. *Nanotechnology in Food Products - Impact of Food Science, Nutrition and the Consumer.* This meeting is sponsored by the Institute of Medicine and will be held on December 10, 2008 in conjunction with the Food Forum. To view the meeting objectives and agenda, please refer to Appendix C.

The NIH Nanotechnology Subgroup will be having their initial meeting on July 22nd to discuss the potential applications of nanotechnology use in food and nutrition in order to determine where NIH might have a role. Some possible areas of interest in nanotechnology may be:

1. Modifying taste, color and texture of foods
2. Detection of food pathogens and spoilage microorganisms
3. Enhancing nutrition quality of foods
4. Novel vehicles of nutrient and drug-delivery

It is not too late to join the Nanotechnology Subgroup. If you have an interest in the group or know someone from your IC would like to join, please contact Dr. Crystal McDade-Ngutter at mcdadengutterc@mail.nih.gov

NUTRITION IN THE RCDC

Ms. Karen Regan provided an update on RCDC. The last Nutrition Fingerprint meeting was June 24th. At that meeting, several changes were made to the fingerprint to clear-up problems with false positives/negatives (which were running at the rate of about 10% each, or 20% combined error rate). The Nutrition Fingerprint will go back through validity testing one more time, with a goal of a combined false positive/negative rate of less than 15%. At some point, projects will be categorized as either "directly" or "closely" related to the subject being reported, but that won't happen this year. IMPAC/RCDC now captures contracts and interagency agreements. All projects in IMPAC must have abstracts so that they can be categorized by the RCDC system. For more general information about RCDC there is a webinar available at: <http://videocast.nih.gov/PastEvents.asp> (click on "Special" and scroll to "Introducing RCDC....")

REPORTS FROM NCC MEMBERS AND LIASONS

ACTION ITEM: Dr. Daniel Raiten, NICHD, reminded the NCC that the 19th International Congress of Nutrition, themed “*Nutrition Security for All*”, will be held in Bangkok, Thailand from October 4-9, 2009. In the past NIH has sponsored several sessions at this meeting. While some plans are already in the works for proposed sessions, if anyone has other interests or ideas for a special session, please contact Dr. Hubbard (hubbardv@mail.nih.gov). He will arrange a discussion among those who are interested in order to put forth a plan.

The National Center for Health Statistics (NCHS) Data User Meeting will take place from August 11-13 at the Omni Shoreham Hotel in Washington DC. Dr. Rachel Ballard-Barbash, NCI, informed those who will be attending that there will be a hands-on demonstration of the NCI/NCHS National Health and Nutrition Examination Survey Tutorial. Refer to the schedule for the specific times that it will be offered.

The Federal Working Group on Vitamin D has recently submitted a proposal to the IOM to reexamine Vitamin D requirements. If any ICs are interested in contributing funds for this 2-year contract, please contact Dr. Pam Starke-Reed (starkep@mail.nih.gov).

Dr. Van Hubbard announced the June 10th release of the Institute of Medicine Report (IOM) report, “Use of Dietary Supplements by Military Personnel.” The U.S. Department of Defense, the Samuelli Institute, the National Institutes of Health, with additional support from the Food and Drug Administration, requested that the IOM convene an ad hoc Committee on Dietary Supplement Use Among Military Personnel. The Committee was charged with reviewing the use of dietary supplements by military personnel, recommending a framework to identify the need for management of dietary supplement use within the military, and developing an approach to report adverse health events. The Committee’s report can be accessed at the following website:
<http://www.iom.edu/CMS/3788/39647/55012.aspx>

The DNRC will be hosting a meeting on Wednesday, August 6th regarding a diet screener developed by NCI. The meeting will take place from 1:00 – 3:00 in room 701, Democracy II. Dr. Fran Thompson, NCI, will be giving a presentation about the diet screener her group hopes to field in the 2009-2010 National Health and Nutrition Examination Survey. By including the screener in a national sample with multiple 24hr recalls, NCI would be able to 1) validate the instrument, and if looking good enough 2) calibrate it against the 24hr recall, thereby deriving scoring algorithms to convert frequency responses to estimates that are more similar to what you would get with the recall. The ultimate goal of the screener is to give short tools (including the scoring algorithms) to researchers who can’t afford more definitive tools and to provide a national reference for comparison for those who do use the tools. NCI is currently looking to gauge both interest in the project and the potential for additional funding.

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

CAPT Rick Troiano, ODPHP, announced that the *Physical Activity Guidelines Advisory Committee Report, 2008* is now available. It is the product of the 13 member Advisory Committee and more than 30 additional consultants. You can access the report by clicking the Report link at <http://www.health.gov/paguidelines/>. The 683 page report can be viewed or downloaded in its entirety or by individual chapter. An additional 300 pages of online tables are also available. The report presents and summarizes the Advisory Committee's review of science relating physical activity to a variety of health outcomes. It provides the scientific basis for the *Physical Activity Guidelines for Americans*, which is currently being developed by the Department of Health and Human Services for a planned fall 2008 launch.

Comments on the report have been solicited from both the public and government officials in the Department of Health and Human Services. Public comments are due on July 10th and Department comments are due July 11th. The Committee's Report will not be amended in response to comments. However, all comments will be considered in the preparation of the *Physical Activity Guidelines for Americans*. Further details about providing comments can be found by clicking the Comments link at <http://www.health.gov/paguidelines/>.

UPDATE OF DNRC ACTIVITIES

Nutrition Education Subcommittee (NES):

Dr. Jean Pennington, DNRC, provided an update of the activities of the NIH NCC NES. Since January 2008, the NES has reviewed (or forwarded for joint DHHS/USA review) 13 documents, 10 from NIH (1 from ODS; 2 each from NHLBI, NICHD, and NCI; and 3 from NIA). Materials reviewed/forwarded since the last NCC meeting are:

- *Vitamin D and Cancer Prevention* (NCI)
- *Calcium and Cancer Prevention* (NCI)

The DNRC listing of NIH nutrition education materials on the DNRC website (http://dnrc.niddk.nih.gov/nutrition_education/index.shtml) has been updated. NCC members are requested to check the information on the website and provide any needed changes or new materials to Karen Regan, DNRC. The DNRC would appreciate receiving 10-20 copies of newer NIH nutrition-related publications for display in the DNRC Office. Please send them through interoffice mail to Dr. Pennington, Democracy 2, room 629.

International Committee Information:

Dr. Dan Raiten, NICHD, announced an upcoming meeting organized and sponsored by the Bill and Melinda Gates Foundation on Micronutrient Assessment Methodology that will be taking place in August in Seattle. For more information, contact Dr. Raiten (raitend@mail.nih.gov).

Dr. Raiten also raised the issue of the potential impact of the growing global food crisis on the NIH international research enterprise and suggested the possibility of a symposium on the topic. Dr. Milner and others agreed to the importance of this topic. The organization of such a symposium will be discussed with DNRC staff and interested IC reps.

HNRIM:

HNRIM Data collection is complete for FY 2007. We are still missing a final memo from a couple ICs but we hope to have those in hand shortly, so that we can finalize the data. There were approximately 4500 projects and 1.1 billion dollars reported to HNRIM for FY 2007.

NEXT NCC MEETING

The next meeting will be September 4, 2008

ADJOURNMENT

The meeting was adjourned at 2:50 PM

LIST OF APPENDICES

Appendix A: NIH NCC Meeting Agenda for July 3, 2008

Appendix B: NIH NCC Meeting Attendees for July 3, 2008

Appendix C: Nanotechnology in Food Products – Impact on Food Science, Nutrition and the Consumer

**APPENDIX A: NIH NUTRITION COORDINATING COMMITTEE MEETING
AGENDA**

1. **Welcome**..... Van Hubbard, DNRC
2. **Approval of Minutes of the May 1, 2008 meeting**..... Van Hubbard
3. **Can Endocrine Disruption Cause Obesity?**.....Jerry Heindel, NIEHS
4. **Estimating the Global Burden of Foodborne Disease**.....Van Hubbard,
& Claudia Stein, WHO
5. **New Health Promotion Initiative at the FDA**.....Claudine J. Kavanaugh, FDA
6. **Nanotechnology and Nutrition**.....Crystal McDade-Ngutter, DRNC
7. **Nutrition in the RCDC**.....Karen Regan, DNRC
8. **Reports from NCC Members and Liaisons**.....NCC Members
9. **ODPHP Activities Update**..... Rick Troiano, ODPHP/OS
10. **Current DNRC Update of Activities**DNRC Staff
 - Nutrition Education Subcommittee Update.....Jean Pennington*
 - International Committee Information.....Pam Starke-Reed/Dan Raiten*
 - HNRIM Update.....Jim Krebs-Smith/Karen Regan
 - HHS Obesity Related Activities.....Van Hubbard
10. **Next Meeting** –September 4, 2008

APPENDIX B: NCC MEETING ATTENDEES FOR JULY 3, 2008

	Members Present	Members Absent	Alternates Present
<u>Chairperson:</u>	V Hubbard		P Starke-Reed
<u>NIH Members:</u>			
NCI	J Milner		S Ross
NHLBI	D Danford		
NIDCR		R Nowjack-Rayner	
NIDDK		C Miles	R Kuczmariski
NINDS		M Mitler	G Guerrero
NIAID	M Plaut		
NIGMS		S Somers	
NICHD	G Grave		D Raiten
NEI		N Kurinij	
NIEHS	E Maull		
NIA	J Hannah		
NIAMS		J McGowan	
NIDCD		B Wong	
NIMH		W Riley	
NIDA		G Lin	
NIAAA	R Breslow		
NINR	P Cotton		
NCCAM	L Duffy		
NCRR		K Arora	
FIC	M Levintova		
NHGRI		S Basaric	
<u>NIH Liaison Members:</u>			
CC		N Sebring	
CIT		J Mahaffey	
CSR		S Kim	
NLM		S Phillips	
OBSSR	D Olster		
OC			
ODS		P Coates	
OD/ODP	B Portnoy		
OLPA			
ORWH			
PRCC	M Vogel-Taylor		
<u>Agency Liaison Representatives:</u>			
AHRQ		I Mabry-Hernandez	
CDC/NCCDPHP	D Galuska		
CDC/NCHS	M McDowell		
FDA	K Ellwood		S Blakely
HRSA	M Lawler		
IHS	T Brown		
ODPHP		K McMurry	
USDA	M Kretsch		D Klurfeld
DOD		K Friedl	

DNRC: R Fisher, W Johnson-Askew, J Krebs-Smith, C McDade-Ngutter, J Pennington, K Regan

Guests: L Bacon (OS), R Ballard-Barbash (NCI), C Davis (NCI), A Ershow (NHLBI), M Evans (NIDDK), J Heindel (NIEHS), J Freeman (ODS), C Kavanaugh (FDA); D Sheeley (NCRR), T Smith (NIAMS), C Stein (WHO), and R Troiano (OS/ODPHP)

Nanotechnology in Food Products: Impact on Food Science, Nutrition and the Consumer

The National Academy of Sciences
Members Room
2100 "C" Street, NW
Washington, D.C.
December 10, 2008

Objectives: The meeting will engage experts in nanotechnology with members of the food forum in a discussion to:

- Enhance understanding of applications of nanotechnology for use in foods;
- Identify issues related to targeted delivery of nutrients into the human body;
- Discuss safety and efficacy of foods and food products enhanced or modified with nanotechnology;
- Explore broader societal issues involving the use of nanotechnology in foods and;
- Identify steps to advance consumer education efforts

8:00–8:45 am: *Registration and Continental Breakfast*

INTRODUCTION

8:45 am Welcome from Food Forum

8:50 am Opening Remarks on Discussion Topic

SESSION 1: APPLICATION OF NANOTECHNOLOGY TO FOOD PRODUCTS

9:00 am Applications of Nanotechnology to Nutrients and Foods

9:20 am Use of Nanotechnology in Nutrients and Foods for Enhanced Absorption and Targeted Delivery

9:40 Use of Nanomaterials to Improve Foods and Food Safety: Emulsification, Ingredient Modification, and Pathogen Destruction

10:00 BREAK

10:30 am **Questions and Discussion**

SESSION 2: SAFETY AND EFFICACY OF NANOMATERIALS IN FOOD PRODUCTS

11:00: **A Biological Perspective on Nanostructures in Foods**

11:20 **Testing for Safety of Nanomaterials Used in Foods**

11:40 **Regulatory Control of Food Products Containing
Nanomaterials**

12:00 **Questions and Discussion**

12:30–1:30 pm: **LUNCH**

**SESSION 3: EDUCATING AND INFORMING CONSUMERS ABOUT APPLICATIONS
OF NANOTECHNOLOGY TO FOOD PRODUCTS**

1:30 pm **Challenges in Educating Consumers about Emerging
Technologies**

1:50 pm **Panel Discussion on Current Issues**

3:00 pm **Adjourn**