

**MINUTES OF THE NUTRITION COORDINATING COMMITTEE (NCC)
MEETING, NATIONAL INSTITUTES OF HEALTH (NIH)
Rockledge 2, Conference Room 9100-9104, Bethesda, MD
September 3, 2009 2:00- 4:00 PM**

WELCOME

RADM Van Hubbard, Director, NIH Division of Nutrition Research Coordination (DNRC), convened the meeting at 2:03 PM and welcomed participants. Participating via phone were: Dr. Sanja Basaric, NIH NHGRI; Dr. Heidi Blanck, CDC; CAPT Shirley Blakely, FDA; Ms. Jean Charles-Azure, IHS; Dr. Paul Cotton, NIH NINR; Dr. Gilman Grave, NIH NICHD; Ms. Preeti Hans, NIH NINDS; Mr. Cliff Johnson, CDC NCHS; Dr. Natalie Kurinij, NIH NEI; Dr. James McClung, DOD; Dr. Iris Mabry-Hernandez, AHRQ; Dr. Marshall Plaut, NIH NIAID; and Dr. Dan Raiten, NIH NICHD; 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 JULY 2, 2009 NCC MEETING

Minutes from the July 2, 2009 NCC meeting had previously been sent to NCC members via email. RADM Van Hubbard asked if there were any other corrections to the minutes. There were none. Dr. Paul Coates, Office of Dietary Supplements (ODS), made a motion to approve the minutes, and Dr. John Milner, National Cancer Institute (NCI), 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.

MILITARY NUTRITION WEBSITE - CONCEPT FOR RETAINING AND REUTILIZING FINDINGS AND DATA

COL Karl Friedl, Director of the Telemedicine & Advanced Technology Research Center of the U.S. Army Medical Research & Material Command, provided an overview of a new research tool for military and non-military scientists, nutritionists, dietitians, students and historians. This new military nutrition website, www.Military-Nutrition.com documents more than a century of scientific inquiry conducted by, for, and about the U.S. military to promote and sustain the nutritional health of military personnel and citizens alike. It includes a searchable database complete with hyperlinks to provide easy access to published and previously unpublished findings, documents, and historical materials. The information will be catalogued by era, dating all the way back to pre-Civil War, as well as by topic. Some of the highlighted topics include field rations, garrison feeding, food technologies, dietary assessment, and performance enhancement ration components and supplements.

COL David Schnakenberg (retired) heads the project team responsible for putting this repository together. He gave a brief overview of some of the fascinating documents that have been collected over the course of this project. For example, COL Schnakenberg described how the process of canning was invented in 1800 when a French chef named Nicolas Appert responded to a challenge put forth by Napoleon Bonaparte to find a way to preserve food for armies on the move. Appert's technique to preserve food in airtight

bottles won him 12,000 francs. His bottles were sent to sea with Napoleon's troops and retained their freshness for several months. Another document uncovered during this project is a book written by John Ordranax and published in 1861 that is now considered to be the first American book on military hygiene. The recommendations described in the book were well ahead of their time and are strikingly similar to the Dietary Guidelines for Americans published more than a century later.

A symposium that describes this website in more detail and shares some of the important lessons observed from looking back across history will be presented at the annual Experimental Biology meeting in 2011. This exciting symposium will not be one to miss!

REPORTS FROM NCC MEMBERS AND LIASONS

- RADM Hubbard informed the NCC that members of the European Commission will be visiting on October 14 to discuss several topic areas of interest to both the NIH and the EC research community. The morning has been reserved for a discussion on obesity-related issues followed by a discussion on nutritional sciences at the Neuroscience Building on Executive Boulevard in the afternoon. More details will follow.
- RADM Hubbard also shared information about a report entitled *Local Government Actions to Prevent Childhood Obesity* that was recently released by the Institute of Medicine. This report identifies specific actions that local governments can take to improve healthy eating and increase physical activity in communities. Highlighted in the report are twelve policies that have the greatest potential for impact, including incentive programs to attract grocery stores to underserved areas, complete streets policies, and joint use. The report underscores the opportunity for local communities to promote health equity through implementation of these actions. IOM's careful examination of these policies and its resulting recommendations adds another layer of consensus to the growing momentum for environmental and policy change efforts across the country. More information can be obtained at the following web site: <http://www.iom.edu/CMS/3788/59845/72798.aspx>
- RADM Hubbard also shared the agenda for the Clinical Obesity Research Panel session on non-traditional causes of obesity. It will take place on September 24th from 8:00 – 2:00 PM in the Lister Hill Center Auditorium. All NCC participants are encouraged to attend.
- Dr. Ann Jerkins, Center for Scientific Review, provided an overview of some of the recent changes made to the NIH Peer Review process. Some of the changes are outlined below:
 - Instead of a 1-5 scoring system, there is now a scoring system of 1 – 9.

- In addition to the overall impact score, the five review criteria will now be scored
 - The five review criteria are now listed in a different order
 - There is a new formatted template that includes bullet points instead of a narrative for each of the review criteria and overall impact.
 - A shortened grant application will be in place next year. The 25-page research plan for R01s will be replaced by a 12-page plan.
- Dr. Joan McGowan, National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), announced the release of a new campaign by the Office of Women's Health targeted at girls aged 9 -14. The campaign, "Best Bones Forever" focuses on nutrition and physical activity and has a lively website to engage girls as well as a site for parents. For more information, visit www.bestbonesforever.gov

Dr. McGowan also invited NCC participants to a lecture held by the Federal Working Group on Bone Diseases entitled, "What Can Fruit and Vegetables Do for Your Bones?" Dr. Deborah Sellmeyer from the Metabolic Bone Center at the Johns Hopkins Bayview Medical Center will be speaking on October 14, 2009 at 8:30 AM in 6701 Democracy Blvd., Conference Room 803. For those of you who cannot attend in person, it is possible to view the talk remotely:

Call-in number: 1-888-864-4729

Passcode: 997794

<https://webmeeting.nih.gov/fwqbd/>

- Dr. John Milner, NCI, informed the NCC about an upcoming meeting, the *3rd Congress of the International Society of Nutrigenetics/ Nutrigenomics* (ISNN) that will be held in on the NIH campus in the Natcher Building on October 21-23. For more information, visit <http://event.cabezongroup.com/meeting/2009/isnn/>. The conference is free for federal employees who register.
- Ms. Elaine Trujillo, NCI, announced the next STARS in Nutrition program, which will be held on September 29th at 1:00 in the Lipsett Amphitheater. Dr. Randy Jirtle from Duke University Medical Center will be speaking on "Epigenetics, Nutrition and Disease Susceptibility." The event is free and open to the public. Registration is not required.
- Dr. Cindy Davis, NCI, speaking on behalf of Dr. Laura Moen from the National Center for Complementary and Alternative Medicine (NCCAM), informed the NCC about a new working group that Dr. Moen is putting together. The goal of the group is to put together a workshop on omega-3 fatty acids in human health during the second week of April 2010. For more information or to get involved, contact Dr. Moen at 301-402-5867 or moenl@mail.nih.gov

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

Ms. Kathryn McMurry provided several updates from ODPHP:

Review of Dietary Reference Intakes (DRIs) for Vitamin D and Calcium

- The panel's second meeting included an information-gathering and public presentation on the new Agency for Healthcare Research and Quality (AHRQ) report, analytical issues, biomarkers, chronic disease endpoints, perspectives from the first DRI panel and other vitamin D and calcium experts on August 4. The slides, audio presentations, and the AHRQ report can be accessed at <http://www.iom.edu/vitamind>.
- The DRI report is expected in May, 2010. The study is being cosponsored by multiple agencies and offices of Health Canada and the U.S. Departments of Agriculture (USDA), Defense (DoD), and Health and Human Services (HHS).

Chronic Disease Indicators Planning Meeting

A 1.5 day meeting was held on July 6 & 7, 2009, organized through the IOM's Food and Nutrition Board with sponsorship by the Public Health Agency of Canada. The approximately 6 to 8 invited attendees included experts with experience and knowledge in areas related to the study of chronic disease especially in the context of nutrient substances, methods of chronic disease measurement, nutrition, epidemiology, intervention studies, biomarkers, and the nutrient reference value development process.

The planning meeting considered what is known and what needs to be addressed in order to facilitate the development of nutrient reference values in the cases where the most appropriate indicator is a measure of chronic disease. Although the group's discussion was not conclusive, most agreed that a new model would need to be developed for applying chronic disease indicators to the DRIs.

Healthy People 2020

- The timeline for the development of Healthy People 2020 objectives has been expanded and will include a public comment period in October/ November 2009 and Departmental clearance March/ April 2010. The launch is now targeted for September, 2010.
- The charter for the Secretary's Advisory Committee on National Health Promotion & Disease Prevention Objectives for 2020 has been renewed. Its next meeting, at the Humphrey Building, is scheduled for Sept. 17-18.
- Documentation memos for proposed objectives are being reviewed by the Federal Interest Working Group, chaired by the Assistant Secretary for Health,

over the next few months. The Nutrition and Weight Status Focus Area will complete its presentation of proposed objectives on Sept. 23.

- Guidance on target-setting and implementation strategies is being developed.
- General information is available at www.healthypeople.gov

Dietary Guidelines for Americans 2010

- The Dietary Guidelines Advisory Committee charged with making recommendations for the 7th edition of the Dietary Guidelines for Americans is well underway.
- The Nutrition Evidence Library process is one of the primary resources for the Committee's deliberations, along with NHANES survey data and some modeling using the MyPyramid system. The Committee also is considering how best to characterize the strength of evidence for recommendations carried forward from the 2005 Dietary Guidelines, as well as those based primarily on evidence reviews by other groups such as the DRIs, AHRQ, and AICR (American Institute for Cancer Research).
- The 4th of 5 meetings will occur via webcast in early November. Transcripts, minutes, audio recordings, slides from meetings and public comments are posted at www.dietaryguidelines.gov.
- The Committee's report is expected in the spring of 2010, followed by agency and public review and publication of the 2010 *Dietary Guidelines for Americans* in the fall of 2010.

Communication Efforts for the Dietary Guidelines for Americans, 2010

Ms. Rachel Hayes, ODPHP, discussed an important strategic communications effort conducted in parallel to the development of the 2010 Dietary Guidelines for Americans. In order ensure that the Dietary Guidelines are adequately communicated to the public and that a united front is developed right from the start, members of the ODPHP staff have been conducting 1-hour interviews with nutrition scientists to determine what communication strategies they believe have worked in the past and what creative ideas they have for the future. Ms. Hayes thanked all NCC participants who have already given their time and those who have signed up for interviews in the future. If you have any ideas or communication strategies for the 2010 Dietary Guidelines, contact Ms. Hayes at Rachel.Hayes@hhs.gov.

UPDATE FROM THE NIH OFFICE OF DIETARY SUPPLEMENTS (ODS)

Dr. Paul Coates, ODS, shared the following information with the NCC:

Award for Dietary Supplement Ingredient Database. The 2009 Federal Laboratory Consortium Mid-Atlantic Region Excellence in Technology Transfer Award was given to USDA and NIH staff for the Dietary Supplement Ingredient Database (DSID), a joint effort of ARS (Joanne Holden, Janet Roseland, Karen Andrews, Cuiwei Zhao, Matt Feinberg, Angela Middleton, Larry Douglass), NLM (Florence Chang), and ODS (Johanna Dwyer), has been in development for several years and has been released on the NLM Web site (<http://dietarysupplementdatabase.usda.nih.gov/>). The award recognizes federal employees for their outstanding work in transferring technology.

ODS Seminar Series. Simin Meydani, Director of the USDA/Tufts Human Nutrition Center on Aging will give a seminar on “Antioxidants and immune response: molecular mechanisms and clinical implications” on Wednesday, September 9, from 11:00 AM to noon in Executive Plaza North, Room J. The seminar series is held on the 2nd Wednesday of every month.

Federal Working Group on Vitamin D. The next meeting of this group will be on Thursday, October 1, from 10:00 AM-noon in Executive Plaza North, Room G.

Federal Working Group on Dietary Supplements. The next meeting of this group will be on Thursday, October 29, from 1:00-3:30 PM in the Neurosciences Center, Room C.

Nutrient Biomarkers Analytical Methodology Workshop. ODS will convene the 3rd in a series of workshops on analytical methodology. The first two focused on vitamins and minerals in dietary supplement matrices. We are now moving to the challenges of measuring biomarkers of nutrient status in biological samples, beginning with a workshop on Wednesday, December 16, to address the analytical measurement of 25-hydroxyvitamin D in serum. Location and registration information will be available soon on the ODS Web site and in the Federal Register. The purpose of this and future workshops in the series is to highlight and discuss inconsistencies between results obtained following quantitative determination of selected nutrients in biological materials such as serum when different measurement techniques are used. The workshop will consist of a series of short, focused presentations interspersed with open discussion sessions. A final session will attempt to summarize the discussions, identify knowledge gaps, and suggest a research agenda for future studies. The target audience for this workshop is analytical chemists involved in the development and implementation of analytical methods for nutrients and their congeners in biological specimens.

SPECIAL SCIENTIFIC PRESENTATION – IMPLICATIONS OF VITAMIN D MEASUREMENTS AND DATA INTERPRETATIONS

The Institute of Medicine (IOM) Calcium and Vitamin D DRI Review Committee is reviewing U.S. and Canadian national survey data as part of a comprehensive assessment of calcium and vitamin D intakes and adequacy. Detailed information about the project including transcripts from the meetings is available via IOM Link:

<http://www.iom.edu/?ID=61170>. Critical to this project is the ability to accurately measure the vitamin D status of the population.

Dr. Mary Frances Picciano, ODS

Dr. Mary Frances Picciano, ODS, provided an update on some of the issues related to the measurement of vitamin D status. The principal biomarker of vitamin D status is serum 25-hydroxyvitamin D or 25(OH)D. However, measurement of 25(OH)D is problematic for several reasons including 1) interlaboratory studies show poor agreement, even when using the same method, 2) there is no difference of assay response to 25OHD₂ and 25OHD₃, and 3) the presence of 3-epi-25OHD of unknown origin and in variable amounts is not detected by all assays. In order to improve the validity of clinical vitamin measurements and to enhance the accuracy of nutritional status data, the National Institute of Standards and Technology was contracted by ODS and the Centers for Disease Control and Prevention (CDC) to develop a series of serum-based Standard Reference Materials, which were released in July. Documentation is currently under review and will be released shortly.

A need for the Standard Reference Materials is evidenced by the observed difference seen in vitamin D status between NHANES III (1988-94) and NHANES 2000-2004. At face value, vitamin D levels appear to have decreased over this time period, but a large proportion of the observed difference is due to changes in assay performance. A smaller proportion of the difference is also attributable to several biological and behavioral factors. To alert researchers to these issues, an analytical note is now available on the measurement of 25(OH)D in NHANES 2000-06 and NHANES III (http://www.cdc.gov/nchs/data/nhanes/nhanes3/VitaminD_analyticnote.pdf).

See Appendix C for a list of papers highlighting the differences in prevalence estimates of vitamin D status before and after changes to the assay were first documented.

CAPT Margaret McDowell, NCHS/CDC

CAPT Margaret McDowell, NCHS/CDC also provided further information on NHANES Vitamin D Biomarker and Dietary Intake Data:

NHANES Biomarker Data

- Serum 25-hydroxyvitamin 25(OH) D was measured in NHANES III, 1988-94 and in the continuous NHANES (2000-present).
- The NHANES III and NHANES 2000-2006 sera specimens were analyzed by CDC's National Center for Environmental Health (NCEH) using DiaSorin RIA methods.
- Reformulation of the Diasorin RIA assay kits occurred between NHANES III and NHANES 2000-2006. Shifts in the 25(OH) D levels of the U.S. population

between the survey periods likely resulted from the Diasorin kit reformulation and were noted in a paper by Looker et al. (AJCN 2008).

- In addition to assay kit reformulation, assay shifts/drifts in the laboratory quality control data for NHANES 2003-04 and 2005-06 occurred.
- NCHS posted an analytic note in July 2009 informing analysts of the issues related to assay kit reformulations and assay drift. NCHS recommended that data users refrain from performing trend analyses using two-year cycle results.
- Several journal articles were published before the analytic note was posted.
- NIH/ODS and NCHS/DHANES organized a Roundtable Discussion held on July 27-28th with an external group of scientists. The group discussed: 1) NHANES 25(OH) D assay quality control and methods issues; 2) interim approaches, including statistical adjustment methods that can be applied to the NHANES data to permit tabulations of NHANES 2001-06 data to be produced for the IOM Committee, and 3) future laboratory analyses using NIST standard reference material to bridge the NHANES Diasorin and future LC MS/MS serum 25(OH) D data (proposed for NHANES 2007 and beyond).
- A manuscript summarizing the Roundtable Discussion is in preparation.

Status of Serum 25(OH) Vitamin D Tabulations:

- The IOM is awaiting NHANES 2001-2006 serum 25(OH) vitamin D tabulations.
- Statistics Canada provided tabulations of 2007-08 Canadian Health Measures Survey 2007-08 serum 25(OH) vitamin D data. Link: <http://www.statcan.gc.ca/daily-quotidien/090702/dq090702a-eng.htm> [Note: The U.S. and Canada used a different Diasorin assay method.]

Tabulations of Vitamin D Intakes from Foods and Dietary Supplements:

- Extensive vitamin D food composition analysis work was completed by USDA/ARS Nutrient Data Lab (NDL) staff with support from the NIH/ODS.
- Updated food vitamin D values for representative samples of U.S. foods were used to produce a report from *What We Eat in America*, NHANES 2005-2006 entitled "Usual Nutrient Intakes From Food and Water Compared to 1997 Dietary Reference Intakes for Vitamin D, Calcium, Phosphorus, and Magnesium" is available on the USDA/ARS Food Surveys Research Group website: http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/0506/usual_nutrient_intake_vitD_ca_phos_mg_2005-06.pdf

- Statistics Canada provided Canadian dietary intake estimates to the DRI Review Committee based on survey results collected in 2004.

Fall 2009 Deliverables:

- Vitamin D intakes from dietary supplements and total intakes from foods and dietary supplements based on NHANES 2003-2006 results
- Interim tabulations of serum 25-(OH) vitamin D data from NHANES 2001-06.

UPDATE OF DNRC ACTIVITIES

Nutrition Education Subcommittee (NES). Dr. Wendy Johnson-Askew, DNRC, provided an update of the activities of the NIH NCC NES. For the calendar year 2009, the NES has reviewed 17 documents, 11 from NIH (6 each from NHLBI and ODS and 1 from NCI), 3 from FDA, 2 from CDC, and 1 from ODPHP. Four documents have been reviewed since the last NCC meeting on July 2, 2009:

- Budgeting for Fruits & Vegetables – CDC offers 30 Ways in 30 Days to Stretch Your Fruit & Vegetable Budget (CDC)
- 30 Ways in 30 days to Stretch Your fruit & Vegetable Budget (CDC)
- Healthy Eating Video Clips (NHLBI)
- Little Hearts Strong Starts (NHLBI)

The DNRC listing of NIH nutrition education materials is available on the DNRC website (http://dnrc.niddk.nih.gov/nutrition_education/index.shtml). NCC members are requested to check the information on the website and provide any updates or other changes to Ms. 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 Ms. Sharon Frazier, DNRC, Democracy 2, room 624A.

International Committee Information: Dr. Dan Raiten, NICHD, shared several developments taking place in the international arena.

- The current Administration has been expanding the global health agenda and has announced a Presidential Global Health Initiative under which a number of issues related to women's health, nutrition, global hunger, and climate change will be explored. As a nutrition community, it is important to be ready to respond to upcoming issues and make sure all ICs are involved. Dr. Roger Glass from the Fogarty International Center is the NIH point of contact with the State Department.
- Another initiative of interest is the BOND initiative (Biomarkers of Nutrition for Development). The focus of this initiative is to combine the nutrition community's needs for biomarkers of nutrient exposure, status and functional consequence from the perspective of research, clinical care and program implementation and evaluation. Organizations supporting this initiative currently include NICHD, FIC, ODS, NCI, the Bill and Melinda Gates Foundation, USAID, USDA, CDC, WHO, UNICEF IAEA, GAIN, MI, HKI, and several private organizations. The Steering

Committee will be holding a conference call on Sept 17, 2009 to discuss the initiative and to plan for a conference scheduled for February 8-11, 2010 in Vienna, Austria hosted by the International Atomic Energy Agency (IAEA). Dr. Raiten welcomed the participation of any of the NCC members to these discussions. For further information on BOND please contact Dr. Raiten (Daniel.Raiten@nih.hhs.gov).

- Dr. Raiten also reminded the NCC of the upcoming *International Congress of Nutrition*, which will take place in Bangkok, Thailand on October 4-9, 2009. The NIH is slated to conduct a satellite workshop on opportunities in international research. If any of the ICs have information that they would like presented, please contact Dr. Pam Starke-Reed (starkep@mail.nih.gov) or Dr. John Milner (milnerj@mail.nih.gov).

One of slots on the agenda for this meeting is for a young NIH funded investigator, preferably from Southeast Asia, to talk about his/her experiences in navigating the grant system and the impact that NIH funding has had on his/her career. Because funds are not available for travel, the speaker would ideally be local and already scheduled to attend the ICN meeting. If NCC members have any suggestions for speakers, please contact Dr. Raiten at Daniel.Raiten@nih.hhs.gov.

NEXT NCC MEETING

The next meeting will be November 5, 2009

ADJOURNMENT

The meeting was adjourned at 4:12 PM

LIST OF APPENDICES

- Appendix A: NIH NCC Meeting Agenda for September 3, 2009
- Appendix B: NIH NCC Meeting Attendees for September 3, 2009
- Appendix C: Prevalence Estimates for serum 25(OH)D

APPENDIX A: NIH NUTRITION COORDINATING COMMITTEE MEETING AGENDA

1. **Welcome**.....Van Hubbard
2. **Approval of Minutes of the June 4, 2009 meeting**.....Van Hubbard
3. **Military Nutrition Research Website – Concept for retaining and reutilizing findings and DATA**Karl Friedl, DoD
4. **Reports from NCC Members and Liaisons**.....NCC Members
5. **ODPHP Activities Update**.....Kathryn McMurry, ODPHP/OS
6. **ODS Activities Update**..... Paul Coates, ODS
7. **Special Scientific Presentation: Implications of Vitamin D measurements and Data Interpretations**Mary Frances Picciano, ODS &
Cliff Johnson/Margaret McDowell, NCHS
8. **Current DNRC Update of Activities** DNRC Staff
 - Nutrition Education Subcommittee Update.....Wendy Johnson-Askew*
 - International Committee Information.....Pam Starke-Reed/Dan Raiten*
 - HNRIM Update.....Jim Krebs-Smith/Karen Regan
9. **Next Meeting**November 5, 2009

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

APPENDIX B: NCC MEETING ATTENDEES FOR SEPTEMBER 3, 2009

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

DNRC: N Bulger, R Fisher, S Frazier, W Johnson-Askew, J Krebs-Smith, C McDade-Ngutter, K Regan

Guests: T Agurs-Collins (NCI), J Boyington (NHLBI), C Davis (NCI), M Chavez (NIMH), A Ershow (NHLBI), P Hans (NINDS), R Hayes (ODPHP), A Jerkins (CSR), L Joseph (NIA), L Nebeling (NCI), MF Picciano (ODS), C Pratt (NHLBI), D Schnakenberg (DOD, *retired*), E Trujillo (NCI), X Wang (NIAMS)

APPENDIX C –Prevalence Estimates for serum 25(OH)D

Prevalence Estimates for serum 25(OH)D Uncorrected for Laboratory Assay Changes Between NHANES III and NHANES 2000-2006

- A. Papers prior to Looker et al Am J Clin Nutr 2008;88;1519-1527 when the changes to the DiaSorin Assay were first documented.
1. Looker AC, Dawson-Hughes B, Calvo MS, Gunter EW and Sahyoun NR. Serum 25-Hydroxyvitamin D Status of adolescents and adults in two seasonal sub populations from NHANES III. Bone 2002;30(5):771-777.
 2. Nesby-O'Dell S, Scanlon KS, Cogswell ME, Gillespie C, Hollis BW, Looker AC, Allen C, Dougherty C, Gunter EW, Bowman BA. Hypovitaminosis D prevalence and determinants among African-American and white women of reproductive age: third National Health and Nutrition Examination Survey, 1988-1994. Am J Clin Nutr 2002;76:187-192.
 3. Zadshir A, Tareen N, Pan D, Norris K, Martins D. The prevalence of hypovitaminosis D among US adults. Data from NHANES III, Ethn Dis 2005;15(4 suppl 5):S5-97-101.
- B. Papers after Looker et al.
1. Saintonge S, Bang H, Gerber LM. Implications of a new definition of vitamin D deficiency in a multiracial US adolescent population: The Third National Health and Nutrition Examination Survey III. Pediatrics 2009;123:797-803.
 2. Ginde AA, Liu MC, Camargo CA. Demographic differences and trends of vitamin D insufficiency in the U.S. population, 1988-2004. Arch Intern Med. 2009 Mar 23;169(6):626-32.
 3. Saintonge S, Bang H, Vogiatzi, Gerber LM. Is the prevalence of vitamin D deficiency increasing? Data from the National Health and Nutrition Examination Survey: 1988-1994 and 2001-2006. Circulation 2009;119(10):e274.

-created by Chris Sempos, NIH OD