



**UT Obesity Research Center
Interdisciplinary Obesity Workshop
October 15, 2007, Black Cultural Center, 7:45-1:00PM**

Agenda

- 7:45 Breakfast and sign-in
8:15 Overview and Introductions
8:30-11:00 Presentations highlighting UTORC focus areas (Basic Science, Clinical Interventions; Population-based Research)
8:30 Dr. Brynn H Voy (ORNL, Biosciences Division, Systems Genetics)
"Systems genetics for obesity"
9:15 Coffee Break
9:30 Dr. Hollie Raynor (UT, Department of Nutrition)
"Randomized controlled trials of lifestyle interventions for children and adults"
10:15 Dr. Eugene Fitzhugh (UT, Dept. of Exercise, Sport, and Leisure Studies)
"Population-based Obesity Research: Current and Future Opportunities"
11:00-12:30 Working lunch (provided) and Brainstorming:
Participants divide into 3 focus areas to discuss collaborative ideas
12:30 Report from each group and conclusions
1:00 Adjourn

Minutes

1. Attendance. The following 37 people attended all or part of the workshop: Besma Abidi; David Bassett; Myrwood Besozzi; Kathy Brown; Janey Burney; Bonnie Callen; Courtney Childers; Madhu Dhar; Paul Erwin; Mary Evans; Eugene Fitzhugh; Timothy Forde; Judith Grizzle; Shirley Hastings; Betsy Haughton; Ed Howley; Hank Kattesh; Katie Kavanagh-Prochaska; Jung Han Kim; Yoon Joo Lee; Lilitha Mendis-Handagama; Naima Moustaid-Moussa; Claude Nahmias; Linda Paschal; Hollie Raynor; Megan Simmons; Delores Smith; Kristina Thiagarajan; Dixie Thompson; David Townsend; Brynn Voy; Jonathan Wall; Karen Wetherall; Jane White; Jay Whelan; John Wodarski and Svetlana Zivanovic.
2. David Bassett and Naima Moustaid-Moussa welcomed the participants and gave a short overview presentation of the UTORC mission, goals and plans (attached).
3. Presentations by the speakers featuring each of the focus areas (experimental Science (Dr. Brynn Voy, ORNL), Clinical Interventions (DR. Hollie Raynor, NTR) and Population Studies (Dr. Eugene Fitzhugh, ESLS). The speakers kindly agreed to share their presentations with the UTORC members (Attached). All UTORC materials will

soon be posted in the web site once completed. A Q and A session followed each presentation. A few announcements were made for upcoming NIH and USDA RFPs in the area of obesity; this information will be sent via listserv to UTORC members.

4. A working lunch followed where participants divided into three discussion groups. It was recognized that some faculty may be interested in more than one focus area. Future plans will include separate meetings of each focus group to allow flexibility in attending more than one discussion group.

5. Summary from each group:

a. **Basic Science group (Facilitator: Naima Moustaid-Moussa):**

Each member discussed their research interests and potential areas of collaborations with the group.

Besma Abidi: Imaging technology, applied to both animal and human studies (thermal imaging to measure blood flow, blood distribution or emotions; organ imaging, image analysis...).

Myrwood Besozzi: Clinical imaging using PET, SPECT, CT and MRI applied to studies of metabolic syndrome, atherosclerosis, inflammation and cardiovascular disease. Potential collaborations and complementary studies in the metabolic syndrome subjects recruited for imaging studies.

Madhu Dhar; polygenic mouse models of obesity and insulin resistance; focus on ATP translocase, characterization, and functional studies. Potential future studies include investigating the role of this protein in humans.

Judith Grizzle: Growth and Reproductive Physiology in poultry. Discussed the impact of diet and environmental changes in growth and fertility of chicken. A good model for diet and obesity studies.

Hank Kattesh: Stress Physiology, CGB in Swine; relationship between weight loss and free cortisol or CBG and impact on immune function. Pig models of obesity. CBG and corticoids could potentially be considered for investigation in the BXD and CC.

Jung Han Kim: Diet-induced obesity in polygenic mouse models; QTL analysis for fatness, hyperglycemia and hypertriglyceridemia. Once candidate genes identified, could potentially be tested for role in human obesity and diabetes.

Lilitha Mendis-Handagama: Stem cell differentiation; endocrinology with emphasis on thyroid hormones, obesity and fertility across diverse species;

Brynn Voy: collaborative Cross and genetic resources for studies of obesity and other diseases (see more details in her presentation slides).

Jonathan Wall: preclinical imaging ; Immunology; quantification of amyloids in humans and animals; animal models of diet-induced obesity and atherosclerosis. Instruments: SPECT, CT, PET (done on rodents, cats, and other models) ; studies of glucose metabolism using labeled FDG useful for metabolic and tumor studies; cardiac imaging.

Naima Moustaid-Moussa: Role of adipose tissue secreted proteins in obesity and co-morbid conditions, nutrient-gene Interactions; the renin angiotensin system; mouse models of obesity, diabetes and hypertension. Human adipose tissue metabolism, adipokines, inflammation and insulin resistance.

Discussions identified strengths, resources available and areas of expertise: Imaging, adipose tissue studies, genetic models (monogenic, polygenic; BXD and CC); Cell-based studies and molecular studies; technology (Affymetrix (UT) and Illumina (ORNL)); Importance of studying farm animals as models for human diseases (swine and birds), especially to target USDA funding. Potential to apply some of the approaches currently used in animal models for human studies such as those conducted at the Medical Center by Dr. Besozzi's group and others. Discussed lack of expertise in human genetics but there are opportunities for molecular and genetic studies in human populations (collaborations with intervention group) for polymorphism or biomarker studies. All of the above are areas for developing collaborative efforts.

b. Clinical interventions (Facilitator: David Bassett)

The group discussed various ideas that could potentially be targeted for grant proposals.

The UT Wellness Program is already in place and may have potential for doing research on the participants.

There is interest in research on the "walk while you work" concept proposed by James Levine, Mayo Clinic. The idea would be to recruit overweight/obese office workers, perhaps faculty and staff at UT, to see whether this produces weight loss. The group also discussed a "walk to work" intervention that could take place if arrangements could be made to have UT employees park on the Agriculture campus and walk to the main campus, and vice versa.

No study has yet looked at reducing television watching (or computer use) in adults, as an approach to treating obesity. The literature shows the same cross-sectional direct relations between TV watching and obesity prevalence in adults as in youth. Possible interventions could be designed.

Delores Smith raised the point that low income, ethnic minorities are the ones most affected by obesity. Some home-based interventions have been used to try to target working, single-parent families. Father absence may be a factor.

The Agriculture Extension has implemented various after-school programs that involve pedometers, parent, and/or teachers in interventions. They have had some limited success in increasing fruit & vegetable consumption, decreasing soft drinks, and increasing physical activity. But measurement of body weight was not an outcome variable.

Holly Raynor said that research studies will need to include body weight as an outcome measure, in order to have stronger data for federal grant submissions

c. Population-Based Obesity-Related Research (Facilitator: Eugene Fitzhugh)

Attendance: Eugene Fitzhugh; Karen Wetherall; Lana Zivanovic ; Kathy Brown; Tim Aldridge; Paul Erwin; Janie Burney; Mary Evans; Courtney Childers and Lee Yoon Joo

Participants first introduced themselves and described their current obesity-related research interests. Discussion then focused on potential research projects that might lend themselves to the first round of 'seed money' proposals released by the Center.

- ❖ The following ideas were brought to the table with brief discussion involving each:
 - ❖
 - ❖ What is the current status of the East TN 2-Step guidelines?
 - What impact have these recommendations had in the real-world?
 - ❖ How will policy changes in the Knox County schools impact body mass index (BMI)?
 - ❖ How do the following relate to school-level BMI?
 - Students and parents perception of the prevalence of overweight/obesity in their school?
 - TCAP achievement scores?
 - ❖ Do Tennessee adults recognize the current physical activity recommendation for health? (Telephone survey of a random sample of adults)
 - ❖ To what extent do health disparities appear within obesity prevalence?
 - Do all populations respond equality to interventions known to be effective?
 - Do all populations have equal access to these programs?
 - ❖ What mass media messages and modes of delivery (e.g., PSA, web-based technology) are most effective in increasing awareness and promoting behavior change?

Closure to the discussion focused on the 'next step.' It was agreed that the above ideas would be distributed to the population-based participants to identify those persons who might collaborate on the above ideas.

6. Final announcement:

The co-directors announced the availability of seed- funding and upcoming call for proposals, funded by UTORC, to allow faculty to develop collaborative grant applications for external submissions.