

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: June Stevens

eRA COMMONS USER NAME (credential, e.g., agency login): June_Stevens

POSITION TITLE: AICR Distinguished Professor, Professor Departments of Nutrition and Epidemiology

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Virginia Polytechnic Institute & State University, Blacksburg, VA	B.S.	06/1973	Human Nutrition
Cleveland Metropolitan General Hospital, Cleveland, OH	R.D.	05/1975	Clinical Dietetics
Pennsylvania State University, State College, PA	M.S.	05/1978	Human Nutrition
Cornell University, Ithaca, NY	Ph.D.	06/1986	Human Nutrition Minor in Statistics
Medical University of South Carolina, Charleston, SC	Fellow	06/1987	Epidemiology

NOTE: The Biographical Sketch may not exceed five pages. Follow the formats and instructions below.

A. Personal Statement

I am a nutrition epidemiologist with a large research program focusing on the causes, consequences, and prevention of obesity in diverse and international populations. I have a long history of successful research funded by NHLBI: I have been Principal Investigator of three large U01 awards from NHLBI over a 30-year period. The first of these was Pathways, which developed and tested an intervention to prevent obesity in American Indian Children. The second was the Trial of Activity in Adolescent Girls (TAAG), which promoted physical activity. The third, which I currently lead, is the Coordinating Center for the Childhood Obesity Prevention and Treatment Research project (COPTR), which tests four different interventions to treat or prevent childhood obesity. I also currently lead two other grants from NHLBI. One of these enhances the measurements used in the COPTR trial, and the other uses data from NHANES to develop equations for the prediction of body composition that are generalizable to both children and adults in multiple ethnic groups in the U.S.

I have authored over 200 publications. Many of these have focused on minority groups, such as my work with the NHLBI-funded Atherosclerosis Risk in Communities (ARIC) cohort. I have also examined a cohort in China (The Peoples Republic of China Study) and recent immigrants from Asia to the United States (using Kaiser Permanente data).

I have held many leadership positions throughout my career. Most recently I was Chair of the working group for a critical question that was part of the NHLBI effort to update the Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. I chaired the Department of Nutrition between 2006 and 2013. I have also mentored many students. I have been chair of the doctoral committees for 13 former students and currently mentor three doctoral students. I have been a committee member for an additional 23 students and have trained five masters students and 10 post-doctoral fellows.

B. Positions and Honors

Positions and Employment

- 1978-1981 Instructor, Schools of Medicine and Nursing, University of Virginia, Charlottesville, VA
- 1986-1987 Fellow, Department of Biometry and Epidemiology, Medical University of South Carolina, Charleston, SC
- 1987-1992 Assistant Professor, Department of Biometry and Epidemiology, Medical University of South Carolina
- 1992-1993 Tenured, Department of Biometry and Epidemiology, Medical University of South Carolina
- 1993-1994 Associate Professor, Departments of Nutrition and Epidemiology, University of North Carolina, Chapel Hill
- 2001- Professor, Departments of Nutrition and Epidemiology, University of North Carolina, Chapel Hill, NC
- 2006-2013 Chair, Department of Nutrition, University of North Carolina, Chapel Hill, NC

Honors Include present membership in any Federal Government Public Advisory Committee

- 2002 Invited Expert at World Health Organization (WHO) Expert Consultation, Singapore, "BMI cut-offs for Asian Population and its implications for policy and intervention" July 2002
- 2006-Present American Institute for Cancer Research/World Cancer Research Fund Distinguished Professor
- 2005-2009 Charter member of NIH Center for Scientific Review, Cardiovascular and Sleep Epidemiology (CASE) Study Section
- 2008 Invited Expert at World Health Organization (WHO) Expert Consultation on waist circumference and waist-hip ratio, Geneva, Switzerland, December 2008
- 2008-Present National Heart Lung and Blood Institute Expert panel for clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults.
- 2012 Recipient of the 2012 Centrum Center Award from the American Society for Nutrition.

C. Contribution to Science

*Denotes doctoral students and postdoctoral fellows mentored by Stevens.

1. I began my career in epidemiology as a postdoctoral fellow working in the Charleston Heart Study, which was at that date the largest cohort study of cardiovascular disease (CVD) in African Americans. My first R01 supported secondary data analysis examining **associations of obesity and fat patterning with CVD and all-cause mortality risk in African Americans**. The application received a perfect score (at <1st percentile) on the first submission. Our results showed that the relative risk for mortality associated with obesity was greater in Whites than Blacks, and this was driven, not by higher risk in obese whites, but by a much higher risk in Blacks at normal BMI levels. We were the first to observe that, at the same BMI, Black women had a smaller waist circumference than White women. This finding was influential as there had been several papers showing that waist circumference was larger in Black than in White women, and investigators speculated that this difference in fat patterning could help explain the increased risk of diabetes and hypertension in blacks. However, these earlier studies had not controlled for the higher levels of overall adiposity in black women compared to white women, as we did in our work. More recently I have begun to study the consequences of obesity in **Asians**. We have shown that compared to American Whites and Blacks, Asians have higher rates of dyslipidemia and hypertension at the same BMI level and greater increases in risk with increasing BMI. This work has enriched our understanding of CVD risk in different ethnic groups.
 - a. Stevens J, Keil JE, Rust PF, Tyroler HA, Davis CE, Gazes PC. Body mass index and body girths as predictors of mortality in black and white women. Archives of Internal Medicine 1992;152:1257-62.

- b. Stevens J, *Plankey MW, Keil JE, Rust PF, Tyroler HA, Davis CE. Black women have smaller abdominal girths than white women of the same relative weight. *Journal of Clinical Epidemiology* 1994;47:495-99.
 - c. *Truesdale KP, Stevens J, Cai J. Impact of body mass index levels on lipid abnormalities in Chinese Asians, American blacks and American whites: The People's Republic of China (PRC) and Atherosclerosis Risk in Communities (ARIC) Studies. *Atherosclerosis* 2011;218:517-23. PMID: 21802083 PMCID PMC3234685
 - d. *Katz EG, Stevens J, *Truesdale KP, Cai J, North KE, and Steffen LM. Associations of body mass index with incident hypertension in American white, American black and Chinese Asian adults in early and middle adulthood: the Coronary Artery Risk Development in Young Adults (CARDIA) study, the Atherosclerosis Risk in Communities (ARIC) study and the People's Republic of China (PRC) study, *Asia Pac J Clin Nutr.* 2013;22:626-634. PMID:24231024 PMCID: PMC4053207.
2. Another area of focus has been **the impact of aging on the association of BMI with cardiovascular disease (CVD) and all-cause mortality**. My 1998 paper published in the *New England Journal of Medicine* appeared at a time when there was active controversy around the question of optimal weight at different ages. The 1990 USDA Dietary Guidelines for Americans included two sets of weight recommendations; one for young adults (19 to 34 years), and another, higher set of weights, for adults over 35. This recommendation of higher weights for middle-aged adults touched off a huge controversy and a flurry of published letters and debates at scientific meetings. The issue was largely set aside when we published a report from over 300,000 American men and women of various ages showing that the weight for height associated with the lowest mortality did not increase with age up to age 64.
 - a. Stevens J, Cai J, Pamuk ER, Williamson DF, Thun MJ, Wood JL. The effect of age on the association between body-mass index and mortality. *New England Journal of Medicine* 1998;338:1-7.
 - b. Stevens J. Studies of the impact of age on optimal body weight. *Journal of Nutritional Biochemistry* 1998;9:501-10.
 - c. Stevens J, Cai J, *Juhaeri, Thun MJ, Wood JL, Williamson DF. Consequences of the use of different measures of effect to determine the impact of age on the association between obesity and mortality. *American Journal of Epidemiology* 1999;150:399-407.
 - d. Stevens J. Impact of age on associations between weight and mortality. *Nutrition Reviews* 2000;58:129-37.
3. An enduring theme in my research has been the **associations of weight change with all-cause mortality, CVD and cancer**. Skipping over years of work to my most recent publications in this area, we have shown that BMI at age 25 was associated with subsequent mortality independent of changes in BMI between young and middle adulthood. This work had important implication for the rising rates of obesity in young adults. In another paper we showed the importance of separating short term and long term weight change in studies of stroke and CHD as we demonstrated opposite effects, with long-term weight gain related to increased risk, whereas short term unintentional weight loss was associated with increased short term risk. These finding have important methodological implications for studies of long term weight change that might be mixing temporally separate effects. The work also uncovered short term weight loss as a potential harbinger of future, eminent (within 3 years) occurrence of stroke and heart attack. In our studies of cancer we showed that avoidance of weight gain may promote longevity in survivors of breast cancer and non-hodgkin lymphoma. This type of work supports advocacy of nutritional counselling in cancer survivors.
 - a. Stevens J, *Truesdale, K, Wang C, Cai J, *Erber E. Body mass index at age 25 and all-cause mortality in whites and African Americans: The Atherosclerosis Risk in Communities Study (ARIC) *The Journal of Adolescent Health.* 2012;50:221-7. PMID: 22325126 PMCID: PMC3279701
 - b. *Bradshaw PT, Ibrahim JG, Stevens J, *Cleveland R, Abrahamson PE, Satia JA, Teitelbaum SL, Neugut AI, Gammon, MD. Post-diagnosis change in bodyweight and survival after breast cancer diagnosis. *Epidemiology* 2012;23:320-7. PMID: 22317813 PMCID: PMC3586208

- c. *Han X, Stevens J, *Bradshaw P. Body mass index, weight change, and survival in non-Hodgkin lymphoma patients in Connecticut women. *Nutrition and Cancer*. 2013;65:43-50. PMID: 23368912
 - d. Stevens J, *Erber E, *Truesdale KP, Wang CH, Cai J. Long- and short-term weight change and incident coronary heart disease and ischemic stroke: The Atherosclerosis Risk in Communities Study. *American Journal of Epidemiology*. 2013;178:239-48. PMID: 23645623 PMID: PMC3816338
4. We showed a 4-fold increase in the risk of developing metabolic syndrome in the so-called **metabolically healthy obese** compared to normal weight. In another study we discovered that weight change in metabolically healthy obese was associated with greater increases in CVD risk factors than in metabolically healthy normal weight. We also participated in a meta-analysis that compared the risk associated with CVD risk factors in normal, overweight and obese participants. All of this work brings into question the concept of healthy obesity, and also calls for careful consideration of current clinical guidelines that focus weight loss efforts on overweight adults who have at least one risk factor. We recently published a commentary that advocated for continued public health measures to combat obesity, despite considerable lay press attention to the so-called metabolically healthy obese.
- a. *Bradshaw PT, Monda KL, Stevens J. Metabolic syndrome in healthy obese, overweight and normal weight individuals: The Atherosclerosis Risk in Communities Study. *Obesity* 2013;21:203-9. PMID 23505187 PMID: PMC4170589
 - b. The Global Burden of Metabolic Risk Factors for Chronic Diseases Collaboration (BMI Mediated Effect). Metabolic mediators of the effects of body-mass index, overweight, and obesity on coronary heart disease and stroke: a pooled analysis of 97 prospective cohorts with 1.8 million participants. *Lancet*. 2014 383:970-83. PMID:24269108 PMID: PMC3959199.
 - c. Stevens J, *Bradshaw PT, *Truesdale KP, Jensen MD, Obesity Paradox should not interfere with public health efforts, *International Journal of Obesity*. Accepted article preview 15 April 2014; doi: 10.1038/ijo.2014.60.
 - d. *Cui Z, *Truesdale K, *Bradshaw P, Cai J, Stevens J. Three-year weight change and cardiometabolic risk factors in obese and normal weight adults who are metabolically healthy: The Atherosclerosis Risk in Communities study, *Annals of Internal Medicine*, submitted 2014.
5. A very large portion of my professional energy has gone into leading the **coordination of multicenter trials that create and test interventions to treat or prevent obesity** and promote and healthy diets and physical activity in youth. I have held four U01 awards from the National Heart Lung and Blood Institute (NHLBI) to support this work. Two of these awards (1993-6 and 1999-2001) supported the feasibility work and main trail of the Pathways study, which promoted obesity prevention in American Indian children. The Pathways study showed that an elementary school-based intervention was associated with healthy changes in physical activity and weight-related knowledge, attitudes and behaviors. The Trial of Activity in Adolescent Girls (TAAG) showed that a 3-year intervention that linked schools and community partners successfully increased physical activity in middle school girls. Currently I am Principal Investigator of the Childhood Obesity Prevention and Treatment Research (COPTR) study (2010-2018) that is testing 4 separate interventions designed to either treat or prevent obesity in youth. Innovations that I have promoted in these studies include the use of adaptive interventions and a standardized categorization (taxonomy) of behavioral intervention components to expand the ability to evaluate the effect of interventions. My work as a Coordinating Center PI has been highly complimented by members of the associated data safety and monitoring boards throughout my career, and I will also note that I received a perfect score on my most recent of these NIH grant applications.
- a. Stevens J, Story M, Ring K, Murray DM, Cornell CE, *Juhaeri, Gittelsohn J. The impact of the Pathways intervention on psychosocial variables related to diet and physical activity in American Indian schoolchildren. *Preventive Medicine* 2003;37:S70-S79.
 - b. Stevens J, Murray DM, Catellier DJ, Hannan PJ, Lytle LA, Elder JP, Young DR, Simons-Morton DG, Webber LS. Design of the Trial of Activity in Adolescent Girls (TAAG). *Contemporary Clinical Trials* 2005;26:223-33. PMID: 15837442 PMID: PMC1430598.
 - c. Webber LS, Catellier DJ, Lytle LA, Murray DM, Pratt CA, Young DR, Elder JP, Lohman TG, Stevens J, Jobe JB, Pate RR. Promoting physical activity in middle-school girls: Trial of Activity for Adolescent Girls *American Journal of Preventive Medicine* 2008;34:173-84. PMID: 18312804 PMID: PMC2275165

- d. Pratt CA, Boyington J, Esposito L, Pemberton VL, Bonds D, Kelley M, Yang S, Murray D, Stevens J. Childhood Obesity Prevention and Treatment Research (COPTR): Interventions addressing multiple influences in childhood and adolescent obesity. Contemporary Clinical Trials 2013; 36:406-13. PMID: 23999502 PMCID: PMC4170589

Complete List of Published Work: <http://www.ncbi.nlm.nih.gov/myncbi/collections/bibliography/40873935/>

D. Research Support

Ongoing Research Support

R01 DK085109 (Stevens) 07/01/10-06/30/16

Children's Hospital/Boston (NIH Prime)

A novel diet-phenotype interaction affecting body weight

This study is a two-site randomized controlled trial using parallel design. Ninety obese young adults will be enrolled and randomly assigned to a low-fat, low-glycemic index, or low-carbohydrate diet (30 subjects per diet group). The subjects are asked to maintain these diets for 18 months in an intensive 6-month intervention period and a 12-month follow up period.

Role: PI

1U01HL103561 (Stevens) 09/01/10-04/30/17

NIH/NHLBI

Childhood Obesity Prevention and Treatment Research Coordinating Unit (COPTR)

This U01 supports a Research Coordinating Unit that provides administrative functions and analytic assistance to 4 field centers conducting trials of obesity prevention or treatment in children.

Role: PI

3U01HL103561 (Stevens) 09/01/10-04/30/17

NIH/NHLBI

Measurements to enhance research in childhood obesity (PROPEL)

(Ancillary project to Childhood Obesity Prevention and Treatment Research Coordinating Unit (COPTR))

This work promotes multi-center analyses of data generated by the Childhood Obesity Prevention and Treatment Centers (COPTR). Additional research develops tools to estimate body fat in children using anthropometric variables collected in the COPTR trial. We also lead the development of assessments of the cost of interventions to prevent and treat childhood obesity for use by field centers.

Role: PI

R01DK097046 (Stevens) 01/01/14-12/31/15

NIH/NIDDK

Percent body fat equations for the United States Population (Body Comp)

This research takes advantage of the unique opportunity presented by the accurate measurement of percent body fat using Dual-emission X-Ray absorptiometry (DXA) in the nationally representative 1999-2004 National Health and Nutrition Examination Survey (NHANES). This will be the first study to produce equations that will enable investigators to calculate valid measurement of percent body fat in children and adults using variable that are feasible to collect in a wide range of settings.

Role: PI