

**BIOGRAPHICAL SKETCH**

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Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Gregory Wayne Heath

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

POSITION TITLE: Professor and Assistant Vice Chancellor for Research, University of Tennessee  
Chattanooga

Professor of Medicine, UT College of Medicine

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
Westmont College, Santa Barbara, CA	B.A.	05/1972	Psychology
Loma Linda University, Loma Linda, CA	M.P.H.	05//1977	Epidemiology
Loma Linda University, Loma Linda, CA	D.H.Sc.	09/1977	Physiology and Nutrition
Washington University School of Medicine St. Louis, MO	NIH Post Doc	10/1979	Applied Physiology
Centers for Disease Control and Prevention, GA	EIS	07/1987	Epidemiology

**A. Personal Statement**

I possess the necessary expertise, leadership skills, and motivation to carry out the proposed Exercise is Medicine research project. My research training and background is in physiology, nutrition, and the epidemiology of non-communicable diseases (NCDs). My early career focused on clinical studies exploring the preventive and therapeutic benefits of endurance exercise on metabolic and cardiovascular conditions. Subsequently I joined the Centers for Disease Control and Prevention (CDC) as an Epidemic Intelligence Service (EIS) Officer and served over 20 years at CDC as an epidemiologist and health scientist investigating the effects of physical activity on health and NCD outcomes. During my years at CDC I was engaged in community-based research examining effective intervention strategies for the prevention of cardiovascular disease and other NCDs. I was the originator and primary project officer of the CDC request for proposals addressing the development of provider-based assessment and counseling protocols for physical activity and exercise. As project officer for this award, which subsequently became the Patient-centered Assessment and Counseling for Exercise (PACE and PACE+) protocols, I collaborated with the awardee, San Diego State University and the University of California at San Diego School of Medicine, in conducting both acceptability and effectiveness trials using the PACE protocols. In addition, my CDC activities also included the evaluation of the delivery of healthy eating and physical activity strategies through multiple community sectors including health-care, the educational system, parks and recreation, neighborhood/tribal, and housing organizations. Since coming to the University of Tennessee at Chattanooga, I have continued to conduct studies assessing the impact of the built environment on physical activity and healthy eating patterns among children, youth, and adults. During the past 5 years, my research activity has focused on provider-based approaches to increasing physical activity and healthy eating among patients across the lifecycle as well as the role of policy and environmental supports for the promotion of physical activity among low-income residents in several inner city communities within Chattanooga. My research passion is in developing inter-sector and multidisciplinary research teams dedicated to developing, implementing, and evaluating community-based participatory efforts to enhance active living and healthy eating among diverse population subgroups.

1. Patrick K, Sallis JF, Long B, Calfas KJ, Wooten W, Heath GW, Pratt M. A new tool for encouraging activity: Project PACE. *Physician and Sportsmedicine* 1994;22:45-55.

2. Long BJ, Calfas KJ, Wooten W, Sallis JF, Patrick K, Goldstein M, Marcus BH, Schwenk TL, Chenoweth J, Carter R, Torres T, Palinkas LA, Heath GW. A multi-site field test of the acceptability of physical activity counseling in primary care: Project PACE. *American Journal of Preventive Medicine* 1996;12:73-81.
3. Subtirelu M, Rincon-Subtirelu M, Pickett M, and Heath GW. Promoting active living and healthy eating among inner-city youth through community health workers: from clinic to neighborhood. *Health*. 2014; 6:2342-2348.
4. Heath GW, Kolade VO, Haynes JW. Exercise is Medicine™: A pilot study linking primary care with community physical activity support. *Preventive Medicine Reports*. 2015; 2:492-497.

## **B. Positions and Honors**

### **Positions and Employment**

- 1977-1979 NIH Fellow, Departments of Preventive Medicine and Public Health and Medicine, Washington University School of Medicine, St. Louis, MO.
- 1979-1982 Instructor of Medicine, University of Tennessee College of Medicine, Chattanooga Unit, Chattanooga, TN
- 1982-1985 Exercise Physiologist, Department of Cardiology, Marshfield Clinic and Research Foundation, Marshfield, WI
- 1985-1987 Epidemic Intelligence Service Officer, Centers for Disease Control and Prevention, Atlanta, GA
- 1987-2005 Epidemiologist and Lead Health Scientist, Centers for Disease Control and Prevention, Atlanta, GA
- 2005- 2010 Professor and Head, Department of Health and Human Performance, University of Tennessee at Chattanooga, Chattanooga, TN
- 2005- Professor of Medicine, Research Director, University of Tennessee College of Medicine Chattanooga, Chattanooga, TN
- 2010- Professor and Assistant Vice Chancellor for Research, University of Tennessee at Chattanooga, Chattanooga, TN

### **Other Experiences and Professional Memberships**

- 1981- American College of Sports Medicine (Fellow)
- 1981- American Heart Association - Council on Epidemiology and Prevention (Fellow);  
Council on Nutrition, Physical Activity and Metabolism (Fellow)
- 2005- International Society for Physical Activity and Health (member)
- 2012- John Snow Society (Member) – Royal Society for Public Health
- 2007-2012 NIH/NIDDK, Member, CSR Study Section, KNOD
- 2009-2012 Chair, Science Board, President's Council on Fitness, Sports, and Nutrition
- 2006 Institute of Medicine (IOM) – Moderator for Physical Activity and Health Guidelines - 2006
- 2007-2014 Journal of Physical Activity and Health – Editorial Review Board
- 1996-1999 American College of Sports Medicine, Trustee
- 2008-2010 American College of Sports Medicine – Vice President

### **Honors**

- 2009 Charles C. Shepard Science Award, Prevention and Control (CDC): "Cost Effectiveness of Community-based Physical Activity Interventions: Co-Author
- 2008 Nominated to Alpha Society, University of Tennessee at Chattanooga Academic Honor Society
- 2005 20 year service medal, Department of Health and Human Services (DHHS), U.S. Public Health Service
- 2002 Assistant Secretary for Health Award for Outstanding Team Performance and Service in developing effective public-private Healthy People 2010 partnerships
- 2000 U.S. DHHS, Secretary's Award for Distinguished Service: For outstanding teamwork resulting in the publication of Healthy People 2010
- 1997 U.S. DHHS: Secretary's Award for Distinguished Service; Contribution to the Surgeon General's Report on Physical Activity and Health.
- 1992 Research Group Award, National Center for Chronic Disease Prevention and Health Promotion, CDC, DHHS. For significant contributions to the development, implementation, and analysis of the Youth Risk Behavior Surveillance System.
- 1988 Secretary's Recognition Award, CDC, U.S. Public Health Service, DHHS
- 1986 Administrator's Award for Public Service – U.S. Public Health Service, DHHS

### C. Contribution to Science

1. My early research efforts were dedicated to the exploration and understanding of the mechanisms and role of endurance exercise and physical activity in the prevention and treatment of non-communicable diseases (NCDs), specifically coronary heart disease, carbohydrate metabolism/type 1 and 2 diabetes mellitus, hypertension, chronic renal disease, and functional health. At the time, epidemiologic and clinical studies had identified physical activity/exercise as conveying a reduced risk for NCDs among adolescents and adults. Initially my research sought to explore the physiological adaptations to increasing levels of endurance exercise across the lifecycle, from young children/youth through older adults and among both apparently clinically healthy as well as persons with NCDs. My work paid particular attention to cardiovascular and metabolic adaptations to exercise including lipid and carbohydrate metabolism. These findings contributed to the body of evidence providing a physiologic basis for the improved health status of persons exposed to increased levels of physical activity as documented in epidemiologic and clinical studies among an array of persons at risk of or having selected NCDs. In addition these findings provided substantive guidance to the clinical management of patients with NCDs, which formed the basis for recommendations for the preventive and therapeutic use of endurance exercise promoted by such bodies as the American College of Sports Medicine, the American Heart Association, and the American Diabetes Association.
  - a. Heath GW, Hagberg JM, Ehsani AA, Holloszy JO: A physiological comparison of young and older endurance athletes. Journal of Applied Physiology 1981;51(3):534-540.
  - b. Ehsani AA, Heath GW, Hagberg JM, Holloszy JO: Effects of twelve months of intense exercise training on ischemic ST-segment depression in patients with coronary artery disease. Circulation 1981;64:6.
  - c. Heath GW, Gavin JR, Ponser JM, Hagberg JM, Bloomfield SA, Holloszy JO: Effects of exercise and lack of exercise on glucose tolerance and insulin sensitivity. Journal of Applied Physiology 1983;55(2):512-517.
  - d. Hagberg JM, Goldring D, Ehsani AA, Heath GW, Hernandez, Schechtman K, Holloszy JO: Effect of exercise training on the blood pressure and hemodynamic features of hypertensive adolescents. American Journal of Cardiology 1983;52:763-768.
2. Building on the substantive foundation of the physiologic mechanisms associated with exercise and the prevention and treatment of NCDs, my research efforts shifted to a more public health and community-based focus relying more on my epidemiologic and public health training and being more fully expressed as a public health scientist at the US Centers for Disease Control and Prevention (CDC). My transition to more community-based efforts to prevent NCDs was enhanced by my association with the Marshfield Clinic and Research Foundation in Marshfield, WI where I was engaged in NIH supported studies through NHLBI and the AHA for over 3 years, which were community-based efforts among both children and adults, hence making my transition to CDC's National Center for Chronic Disease Prevention and Health Promotion both a smooth and productive period of research and community-based intervention development. During this period I was engaged in translational research based on the NIH community trials being translated through the public health systems among state and tribal public health organizations.
  - a. Heath GW, Maloney PM, Fure CW. Group exercise versus home exercise in coronary artery bypass patients: effects on physical activity habits. Journal of Cardiopulmonary Rehabilitation. 1987;7:190-195.
  - b. Heath GW, Wilson RH, Smith J, Leonard BE. Community-based exercise and weight control: Diabetes risk reduction and glycemic control in Zuni Indians. American Journal of Clinical Nutrition 1991;53:1642S-1646S.
  - c. Heath GW, Vartiainen E, Wheeler FC. Self-reported frequency of serum cholesterol tests, awareness of cholesterol test results, and laboratory cholesterol values in South Carolina. Public Health Reports 1993;108:465-470.
  - d. Heath GW, Fuchs R, Croft JB, Temple SP, Wheeler FC. Changes in cholesterol awareness: final results from the South Carolina Cardiovascular Disease Prevention Project. American Journal of Preventive Medicine 1995;11:190-196.
3. The evidence-base continued to grow in support of the role of health behaviors in the prevention and control of NCDs during the mid '80s and into the mid-90's. As a CDC epidemiologist along with other behavioral epidemiologists my research and public health service shifted towards importance of developing and maintaining valid and reliable health behavior surveillance systems, both for monitoring of the U.S. national health objectives as well as public health program evaluation. In addition, the role of national health

behavior surveillance in providing a robust data source for secondary analyses and research hypothesis generation was greatly needed with CDC being given the lead in developing such systems. Personally I was involved in the development of the Behavioral Risk Factor Surveillance System (BRFSS), Youth Risk Behavioral Surveillance System (YRBSS), the Health Promotion and Disease Prevention Supplement and the Disability Supplement of the National Health Information Survey (NHIS), as well as the physical activity question development for the National Health And Nutrition Examination Surveys (NHANES). In participating in both the development and use of these systems, further hypothesis generation along with substantive data driving the creation and monitoring of the U.S. Healthy People National Health Objectives was accomplished. These data sources continue to provide the public health research community with a rich source of health data from which both public health policies and programs have been developed, tested, and modified.

a. Heath GW, Kendrick JS. Outrunning the risks: a behavioral risk factor profile of runners. American Journal of Preventive Medicine 1989;5:347-52.

b. Heath GW, Pratt M, Warren CW, Kann L. Physical activity patterns in American high school students: Results from the 1990 Youth Risk Survey. Archives of Pediatrics and Adolescent Medicine 1994;148:1131-1136.

c. Heath GW. A Geography for preventive cardiology: The distribution of risk factors for cardiovascular disease in the U.S. Preventive Cardiology 1999;2:164-170.

d. Heath GW and Brown DW. Recommended levels of physical activity and health-related quality of life among overweight and obese adults in the United States: 2005. Journal of Physical Activity and Health. 2009;6(4):403-411.

4. While still at CDC and subsequently continuing at the University of Tennessee, my research focus shifted more towards the development of an evidence-base for community-based interventions designed to prevent NCDs, particularly the cardiometabolic conditions of obesity, type 2 diabetes, and coronary heart disease and among persons with disabilities. I have particularly emphasized interventions targeting lower socioeconomic people groups and those who represent more diverse racial and ethnic populations. My team's approach, whether addressing the prevention of childhood obesity or the modification of risk of type 2 diabetes among middle aged and older adults has been to engage whole families through community-based participatory research methods, where community residents are engaged and become part of the research and health promotion delivery team. These efforts have also focused on a sense of 'place' – where the built environment as well as social/cultural environments are assessed and modified to support positive health behavior change. This effort has especially included the linkages between community sectors, in particular the health care sector with other community supports for health behavior change, especially physical activity, sedentary behaviors, and health eating.

a. Heath GW, Parra DC, Sarmiento OL, Andersen LB, Owen N, Goenka S, Montes F, Brownson RC. Evidence-based intervention in physical activity: lessons from around the world. *Lancet* 2012; 380:272-81.

b. Heath GW, Troped PJ. The role of the built environment in shaping the health behaviors of physical activity and healthy eating for cardiovascular health. *Future Cardiology* 2012; 8(5):677-9.

c. Heath GW. The Role of the Public Health Sector in Promoting Physical Activity: National, State, and Local Applications. *J Phys Act Health*. 2009 Nov;6 Suppl 2:S159-67.

d. Subtirelu M, Rincon-Subtirelu M, Pickett M, and Heath GW. Promoting active living and healthy eating among inner-city youth through community health workers: from clinic to neighborhood. *Health*. 2014;6:2342-2348.

e. Heath GW, Kolade VO, Haynes JW. Exercise is Medicine™: A pilot study linking primary care with community physical activity support. *Preventive Medicine Reports*. 2015; 2:492-497.

f. Heath GW, and Fentem PH. Physical activity among persons with disabilities – a public health perspective. Exercise and Sport Sciences Reviews 1997; 25:195-234.

#### **Complete List of Published Work in MyBibliography:**

[http://www.ncbi.nlm.nih.gov/sites/myncbi/1-](http://www.ncbi.nlm.nih.gov/sites/myncbi/1-5qXB6lwTxky/bibliography/47426538/public/?sort=date&direction=ascending)

[5qXB6lwTxky/bibliography/47426538/public/?sort=date&direction=ascending](http://www.ncbi.nlm.nih.gov/sites/myncbi/1-5qXB6lwTxky/bibliography/47426538/public/?sort=date&direction=ascending)

## D. Research Support

### Ongoing Research Support

*"Intelligent Transportation Planning"* Tennessee Higher Education Commission, Computational Science Award  
7/01/2016 – 6/30/2017

The goal of this award is to develop a computational decision making tool for use by planners, community decision makers, and public health practitioners in assessing the potential return on investment (ROI) of selected bike and pedestrian infrastructure and its impact on physical activity and subsequent health outcomes.

Role: PI

G11 HD080232-01; University of Tennessee at Chattanooga Heath (PI) 05/01/2014 – 04/30/2019

### **BRAD Project: Chattanooga Research Enhancement: Advocacy, Training, and Expansion (CREATE)**

The goal of CREATE is to enhance and expand the existing organizational structure to build capacity among UTC faculty to successfully compete for biomedical and bio behavioral research (BBR) awards and thereby enhance the preparation and training of undergraduate and graduate students for potential BBR and health professional careers.

Role: PI

R15 A14-1333; NIH/NIBIB Sartipi (PI) 09/01/2014 – 08/31/2017

### **mStroke: Mobile Technology for Post-Stroke Recurrence Prevention and Recovery**

The goal of this project is to develop a smart system, which will monitor and evaluate motor control, fall risk, and gait speed of patients post stroke using wearable Bluetooth Low-Energy (BLE) devices.

Role: Co-investigator

### Completed Research Support

ACSM/CDC Heath (PI) 01/01/2012 – 09/30/2013

### **Acceptability, Usability, and Efficacy of the Exercise is Medicine™ Health-care Provider and Health Fitness Professional Action Guides**

The goals of this project were to, 1) test the acceptability and usability of the Exercise is Medicine (EIM) action guides for healthcare providers and health&fitness professionals for the purpose of adapting these protocols for use within healthcare systems via the electronic health record; and 2) to evaluate the efficacy of the EIM healthcare provider protocols and referral to specific YMCA EIM community programming on the physical activity behaviors of selected primary care patients.

Role: PI

11-0957; MTSU/CDC subaward Heath (PI) 07/01/2011 – 06/30/2012

### **Improving Metabolic Health among Chattanooga's Children and Adolescents: Translating Active Living and Healthy Eating from Clinic to Neighborhood**

The goal of this study was to examine the feasibility of improving the cardiometabolic health of inner city children and youth by linking community-based pediatric healthcare sites with community programs through community health workers (CHWs). CHW's conducted assessment and counseling for physical activity (PA) and healthy eating among the children and their families and then navigate these children to evidence-based PA and nutritional programming being carried out in their neighborhoods.

Role: PI

10-0937A; MTSU/CDC subaward Heath (PI) 08/01/2010 – 07/31/2011

### **New Urbanist Public Housing and Its Impact on Active Living among Low Income Children and Youth**

The goal of this project was determine the impact of 'new urbanist' development and the existence of an urban trail on the physical activity patterns of children who come from low income families living adjacent to such new urbanist amenities compared with similar children living in a geographic area without such amenities. Information from this project is currently being be used for a project designed to increase the use of these active living amenities by children and youth.

Role: PI

R01 DP000220-01; NIH Wilkerson (PI) 10/01/2005 - 09/30/2006

### **Health Enhancement and Costs of Health Management**

The goal of this project was to assess the relative importance of factors associated with total health care costs among office workers associated with a large transportation and logistics company located in the U.S. Southeast.

Role: Co-investigator