

BIOGRAPHICAL SKETCH

NAME: Latha Palaniappan

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

POSITION TITLE: Clinical Professor

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
University of Michigan	B.A.	06/1993	Biomedical Sciences
University of Michigan	M.D.	06/1996	Medicine
Stanford University	M.S.	12/2001	Clinical Epidemiology

A. Personal Statement

I have completed more than 100 studies spanning twenty years in the areas of obesity, insulin resistance, and cardiovascular risk. I have received grants from the General Clinical Research Center at the University of Michigan (MO1-RR00042), the National Heart, Lung, and Blood Institute (Individual NIH National Research Service Award - 5F32HL010338), the National Institutes of Health (5K12HD043452-02), the American Heart Association (AHA0885049N), American Diabetes Association (7-12-CT-55), the National Institutes of Diabetes and Digestive and Kidney Diseases (5R01DK081371-02, 3R01DK08137-01A1S1, and 1R18DK096394-01) and the National Institute of Minority Health and Health Disparities (1R01MD007012-01), to explore racial and ethnic differences in type 2 diabetes, cardiovascular disease, and mortality. I am board certified in general internal medicine, augmented by further clinical training in Preventive Cardiology. I am experienced in observational study design and implementation using a variety of datasets, including the National Center for Health Statistics Mortality files, the National Health Interview Survey, the National Health and Nutrition Examination Survey, the American Community Survey, and the U.S. Census. I am also well-versed in the design and interpretation of statistical analysis in observational studies, including missing data considerations, repeated measures, multivariable regression, multilevel modeling, propensity scores, time-varying covariates, instrumental variables, and causal inference.

B. Positions and Honors**Positions and Employment**

1996 – 1997 Internship, Kaiser Permanente Foundation Hospital, San Francisco, CA
1997 – 1999 Resident Physician, Internal Medicine, Kaiser Permanente Foundation Hospital, San Francisco, CA
2000 – 2003 Postdoctoral Fellow, Stanford Center for Research in Disease Prevention, Palo Alto, CA
2003 – 2006 Instructor, Stanford Prevention Research Center, Stanford University School of Medicine, Palo Alto, CA
2006 – 2009 Assistant Investigator, Health Care Research and Policy, Palo Alto Medical Foundation Research Institute, Palo Alto, CA
2007 – 2012 Director, PAMF-UCSF Clinical Teaching Program, University of California San Francisco School of Medicine, San Francisco, CA
2008 – 2014 South Asian Consult Service PRANA, Palo Alto Medical Foundation, Palo Alto, CA
2009 – 2014 Associate Investigator, Health Care Research and Policy, Palo Alto Medical Foundation Research Institute, Palo Alto, CA
2012 – 2014 Medical Director, Clinical Research, Palo Alto Medical Foundation, Palo Alto, CA
2014 – Clinical Professor, Stanford University School of Medicine, General Medical Disciplines

Other Experience and Professional Memberships

1993 – American Medical Association – Resident Member
1993 – American Medical Women's Society – Resident Member
1996 – American College of Physicians – Associate Member

- 1999 – 2000 Volunteer Physician, Medecins Sans Frontieres (MSF), Doctors without Borders; Dili, East Timor, Medical Coordinator for Refugee Clinic
- 2000 – 2001 Clinical Fellow, Preventive Cardiology Clinic Stanford University School of Medicine
- 2001 – 2002 Clinical Instructor, Internal Medicine Clinic Stanford University School of Medicine, Supervised Residents in Primary Care Continuity Clinics
- 2002 Visiting Lecturer, University of New South Wales, St. Vincent's Hospital, Sydney, Australia
- 2002 – 2003 Instructor, Preparation for Clinical Medicine Course Stanford University School of Medicine, Taught Medical Students Physical Exam Skills
- 2002 – 2004 Staff Physician, Emergency Department, Palo Alto Veterans Affairs Health Care System
- 2002 – American Diabetes Association – Council on Epidemiology and Statistics Member
- 2002 – Fellow of the American Heart Association – Council on Epidemiology and Prevention
- 2002 – Attending Physician, Preventive Cardiology Clinic Stanford University School of Medicine, Directed Patient Care for Primary and Secondary Prevention of Cardiovascular Disease Course Coordinator, "Heart Disease and Diabetes", Student Initiated Course, Stanford University
- 2005 – American Heart Association Minorities Committee
- 2006 – Member, National Lipid Association
- 2007 – American Heart Association, Publications Committee Chair
- 2011 –

Honors

- 1996 Received \$40,000 research grant from the Kughn Clinical Research Center, University of Michigan Medical Center
- 2000 Individual NIH National Research Service Award (F-32) – A Three year Award from The National Heart, Lung, and Blood Institute
- 2001 American Heart Association 27th Ten-Day Seminar on the Epidemiology and Prevention of Heart Disease – Fellow
- 2002 Associate Fellow - American Heart Association Council on Epidemiology and Prevention
- 2003 BIRCWH (Building Interdisciplinary Research Careers in Women's Health) Scholar. NIH Career Development Award (K12)
- 2003 Katherine McCormick Travel Award
- 2003 Fellow – American College of Epidemiology
- 2007 "Top Physician" – Consumers' Research Council of America
- 2008 "Top Physician" – Consumers' Research Council of America
- 2009 "Top Physician" – Consumers' Research Council of America
- 2010 Fellow – American College of Physicians
- 2011 Who's Who in America 2012 (66th Edition)
- 2013 Silicon Valley Business Journal Health Hero Award
- 2016 Stanford University Asian American Award
- 2016 Top Internist in California

C. Contributions to Science (limit to 4 for each listed contribution)

1. One major portion of my publications address the fact that cardiovascular mortality is often not well-understood for ethnic minorities, particularly for Asian Americans. These publications found that South Asians/Asian Indians and Filipinos tend to suffer disproportionately from cardiovascular mortality and type II diabetes more than other Asian minority groups and non-Hispanic White populations. These publications highlight the need for public health focus and physician awareness of disease specific burdens on particular racial/ethnic groups. By providing evidence, this body of work has drawn much-needed attention to the top causes of mortality for specific racial/ethnic groups. I served as the primary investigator or co-investigator in all of these studies.
 - a. **Palaniappan L**, Wang Y, Fortmann SP. Coronary Heart Disease Mortality for Six Ethnic Groups in California 1990-2000. *Annals of Epidemiology*. 2004 August;14(7):495-506. PMID: 15310526.
 - b. Narayan KM, Aviles-Santa L, Oza-Frank R, Pandey M, Curb JD, McNeely M, Araneta MR, **Palaniappan LP**, Rajpathak S, Barrett-Connor E. "Report of a National Heart, Lung, And Blood Institute Workshop: Heterogeneity in Cardio-metabolic Risk in Asian Americans in the United

States. Opportunities for Research.” *Journal of American College of Cardiology*. 2010; 55(10):966-973. PMID: 20202512.

- c. Holland AT, Wong EC, Lauderdale DS, **Palaniappan LP**. Spectrum of cardiovascular diseases in Asian-American racial/ethnic subgroups. *Annals of Epidemiology*. 2011; 21(8):608-614.
- d. Jose PO, Holland AT, Kapphahn KI, Goldstein BA, Eggleston K, Hastings KG, Cullen MR, **Palaniappan LP**. Cardiovascular disease mortality in Asian Americans. *J Am Coll Cardiol*. 2014; 64(23): 2486-2494.
- e. Hastings KG, Jose PO, Kapphahn KI, Frank AT, Goldstein BA, Thompson CA, Eggleston K, Cullen MR, **Palaniappan LP**. Leading causes of death among Asian American subgroups (2003-2011). *Plos One*. 2015 Apr 27; 10(4):e0124341. PMID: 25915940.
- f. Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, Das SR, de Ferranti S, Després JP, Fullerton HJ, Howard VJ, Huffman MD, Isasi CR, Jiménez MC, Judd SE, Kissela BM, Lichtman JH, Lisabeth LD, Liu S, Mackey RH, Magid DJ, McGuire DK, Mohler ER 3rd, Moy CS, Muntner P, Mussolino ME, Nasir K, Neumar RW, Nichol G, **Palaniappan L**, Pandey DK, Reeves MJ, Rodriguez CJ, Rosamond W, Sorlie PD, Stein J, Towfighi A, Turan TN, Virani SS, Woo D, Yeh RW, Turner MB; American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart Disease and Stroke Statistics-2016 Update: A Report From the American Heart Association. *Circulation*. 2016 Jan 26;133(4).

2. I have contributed significantly to the literature on race/ethnic differences in cardiovascular disease risk factors. These studies show that: 1) Asian Americans have higher levels of cardiovascular disease risk factors (e.g. type II diabetes) at lower levels of obesity compared to non-Hispanic White populations; 2) dyslipidemia profiles differ by specific racial/ethnic groups, with more insulin resistance in racial/ethnic minorities; 3) race/ethnic minorities are more likely to have diabetic kidney disease with proteinuria, which is associated with greater cardiovascular risk. This body of work directs further research in the different profiles of cardio metabolic diseases among racial/ethnic minorities, and informs clinical practice on providing quality health care for all racial/ethnic minorities.

- a. **Palaniappan LP**, Wong EC, Shin JJ, Fortmann SP, Lauderdale DS. Asian Americans have greater prevalence of metabolic syndrome despite lower body mass index. *Int J of Obes (London)*. 2010 Mar; 35(3):393-400.
- b. Narayan KM, Aviles-Santa L, Oza-Frank R, Pandey M, Curb JD, McNeely M, Araneta MR, **Palaniappan LP**, Rajpathak S, Barrett-Connor E. “Report of a National Heart, Lung, And Blood Institute Workshop: Heterogeneity in Cardio-metabolic Risk in Asian Americans in the United States. Opportunities for Research.” *Journal of American College of Cardiology*. 2010; 55(10):966-973. PMID: 20202512.
- c. Bhalla V, Zhao B, Azar KM, Wang EJ, Choi S, Wong EC, Fortmann SP, **Palaniappan LP**. Racial/Ethnic Differences in the Prevalence of Proteinuric and Nonproteinuric Diabetic Kidney Disease. *Diabetes Care*. Dec 13 2012.
- d. Frank AT, Zhao B, Jose PO, Azar KM, Fortmann SP, **Palaniappan LP**. Racial/Ethnic Differences in Dyslipidemia Patterns. *Circulation*. Nov 5 2013.
- e. Akeroyd JM, Chan WJ, Kamal AK, **Palaniappan L**, Virani SS. Adherence to cardiovascular medications in the South Asian population: A systematic review of current evidence and future directions. *World J Cardiology*. 2015 Dec 26;7(12):938-47.

3. Race/ethnic-specific treatment guidelines for cardiovascular disease and risk factors are currently limited in availability and scope. As lifestyle and contextual factors greatly impact cardiovascular disease risk, I have conducted research, both qualitative and quantitative, on culturally specific treatments and recommendations that health care organizations and physicians can carry into their practice. Current studies include examining the clinical effectiveness of structured physical activity programs for diabetes management (Initiate and Maintain Physical Activity in Clinics – IMPACT study – R18 DK096394), as well as best exercise regimens for normal-weight diabetics (Strength Training Regimen for Normal Weight Diabetics – STRONG-D – R01 DK081371).

- a. Kwan AC, Abbasi F, Lamendola C, McLaughlin TL, Reaven GM, **Palaniappan LP**. Clinical experience with a relatively low carbohydrate, calorie-restricted diet improves insulin sensitivity and

- associated metabolic abnormalities in overweight, insulin resistant South Asian Indian women. *Asia Pacific Journal of Clinical Nutrition*. 2008 December;17(4):669-71. PMID: 19114407
- b. Azar KM, Chen E, Holland AT, **Palaniappan LP**. Festival foods in the immigrant diet. *Journal of Immigrant and Minority Health* 15.5 (2013): 953-960.
 - c. Dixit AA, Azar KM, Gardner, CD, **Palaniappan, LP**. Incorporation of whole, ancient grains into a modern Asian Indian diet to reduce the burden of chronic disease. *Nutrition reviews* 69.8 (2011): 479-488.
 - d. Block G, Azar KM, Block TJ, Romanelli RJ, Carpenter H, Hopkins D, **Palaniappan L**, Block CH. A Fully Automated Diabetes Prevention Program, Alive-PD: Program Design and Randomized Controlled Trial Protocol. *JMIR Res Protoc* 2015;4(1):e3
 - e. Block G, Azar KM, Romanelli RJ, Block TJ, Hopkins D, Carpenter HA, Dolginsky MS, Hudes ML, **Palaniappan LP**, Block CH. Diabetes Prevention and Weight Loss with a Fully Automated Behavioral Intervention by Email, Web, and Mobile Phone: A Randomized Controlled Trial Among Persons with Prediabetes. *J Med Internet Res*. 2015 Oct 23;17(10).

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/latha.palaniappan.1/bibliography/40472731/public/?sort=date&direction=ascending>

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

1R01 HL 126172-01A1

08/01/15 – 07/31/19

CASPER: Cardiovascular Disease Among Asians and Pacific Islanders

NHLBI

PI: Beth Waitzfelder; Role: Co-PI

The goal of this project is to comprehensively assess the role of demographic, clinical and psychosocial factors in explaining observed differences between 9 well-defined Asian subgroups and Asian Pacific Islanders in CVD prevalence and outcomes.

1R18DK096394-01A1

05/10/13 – 03/31/19

Initiate and Maintain Physical Activity in Clinics: The IMPACT Diabetes Study

NIH/NIDDK

This study aims to evaluate both the clinical effectiveness and practical application of current American Diabetes Association (ADA) exercise guidelines by randomizing participants into tiered exercise groups – usual care/no exercise, once a week, or three times a week – for a 6-month intervention period.

2R01DK081371-06A1

04/15/14 – 03/31/19

Strength Training Regimen for Normal weight Diabetics (STRONG-D)

NIH/NIDDK

This study aims to determine the best exercise regimen for normal-weight diabetics by comparing the improvement in type 2 diabetes control (i.e., % hemoglobin A1c reduction) among three intervention arms: strength training, aerobic training, and combination (strength + aerobic) training.

Completed Research Support

5R01 MD 007012-05

04/01/12 – 01/01/18

CAUSES: Causes of Asian American mortality Understood by Socio-Economic Status

NIMHD

The goal of this study is to examine racial/ethnic, nativity, and geographic differences in Asian American subgroup mortality compared to other racial/ethnic groups (Non-Hispanic Whites, African Americans, Hispanics) which are fundamental in assessing and addressing health disparities in Asian American communities.

#7-12-CT-55

07/01/12 – 06/30/15

Gestational Diabetes in Asian Americans: Predictors, Problems, Progression
American Diabetes Association.

This study aims to assess racial/ethnic differences in relative contribution of risk factors of gestational diabetes mellitus (GDM) among Asian subgroups (Asian Indian, Chinese, Filipino, Japanese, Korean, and Vietnamese), Hispanics, non-Hispanic blacks, and non-Hispanic whites.