OMB No. 0925-0001/0002 (Rev. 08/12 Approved Through 8/31/2015)

BIOGRAPHICAL SKETCH

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NAME: Rutherford, George W., M.D., M.A.

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

POSITION TITLE: Salvatore Pablo Lucia Professor of Epidemiology, Preventive Medicine, Pediatrics and History; Vice Chair, Department of Epidemiology and Biostatistics; Head, Division of Infectious Disease 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 DateMM/YYYY | FIELD OF STUDY |
| --- | --- | --- | --- |
| Stanford University, Palo Alto, CA | A.B., B.S. | 1974, 1975 | Classics, Chemistry |
| Stanford University, Palo Alto, CA | M.A. | 1975 | History |
| Duke University, Durham, NC | M.D | 1978 | Medicine |

# A. Personal Statement

In this study, Dr. Oldenburg and colleagues from the Francis I. Proctor Institute at the University of California, San Francisco (UCSF) propose to conduct a randomized controlled trial to assess the effect of monthly azithromycin prophylaxis on child growth, infectious disease burden and microbiota in Burkina Faso. Dr. Rutherford has 35 years of experience in conducting pediatric and adult epidemiologic studies in Africa and in other low- and middle-income areas. His expertise is in the epidemiology and control of infectious diseases of public health significance. He currently leads a large research group at the Institute for Global Health Sciencess at UCSF that focuses on the use of strategic information for the control of HIV, tuberculosis, vaccine-preventable diseases and neglected tropical diseases in low- and middle-income countries. He is Vice Chair of the Department of Epidemiology and Biostatistics in the School of Medicine at UCSF and Chief of the Division of Infectious Disease Epidemiology. He holds a co-appointment in Pediatric Infectious Diseases. Recent peer-reviewed publications include:

1. Cherutich P, Kim A, Kellogg TA, Sherr K, Waruiru A, de Cock K, Rutherford GW. Detectable HIV viral load in Kenya: data from a population-based study. PLoS One 2016; 11:e0154318. PMID: 27192052
2. Cummings B, Horth R, McFarland W, Lane T, Young P, Nala R, Rutherford G, Raymond HF. Bisexual and bidirectional: assessing the potential for HIV bridging in Mozambique. AIDS Behav 2017 Nov 29 [Epub ahead of print]. PMID: 29188391
3. Sirengo M, Rutherford GW, Otieno-Nunya B, Kellogg TA, Kimanga D, Muraguri N, Umuro N, Mirjahangir J, Stein E, Ndisha M, Kim AA. Evaluation of Kenya’s readiness to transition from sentinel surveillance to routine HIV testing for antenatal clinic-based surveillance. BMC Infect Dis 2016; 16:113. PMID 26945861.
4. Ng’eno B, Kellogg TA, Kim AA, Mwangi A, Mwangi M, Wamicwe J, Rutherford GW. Modes of HIV transmission among adolescents and young adults aged 10-24 years in Kenya. Int J STD AIDS 2018 (in press).
5. Khatib A, Matiko E, Khalid F, Welty S, Ali A, Othman A, Haji S, Kibona M, Dahoma M, Rutherford G. HIV and hepatitis B and C co-infection among people who inject drugs in Zanzibar. BMC Public Health 2017; 17:917. PMID 29183287

# B. Positions and Honors

**Positions and Employment**

1978-80 Intern and Resident, Department of Pediatrics, University of California, San Diego, San Diego, CA

1980-81 Resident, Department of Pediatrics, Hospital for Sick Children and University of Toronto, Toronto, ON

1981-82 Chief Resident, Department of Pediatrics, University of California, San Diego, San Diego, CA

1982-84 Epidemic Intelligence Service (EIS) Officer, Division of Viral Diseases, (1982-3); Division of Field Services (1983-4, assigned to the New York City Department of Health), CDC, Atlanta, GA

1983-85 Director, Division of Immunization, and Acting Director, Division of Tropical Diseases, Bureau of Preventable Diseases, New York City Department of Health, New York, NY

1984-87 Medical Epidemiologist, Epidemiology Program Office (1984-5, assigned to New York City Department of Health); Medical Epidemiologist, AIDS Program, Center for Infectious Diseases (1985-7, assigned to San Francisco Department of Public Health), Centers for Disease Control, Atlanta, GA

1985-90 Chief, AIDS Division, Bureau of Communicable Disease Control (1985-6); Medical Director (1986-8) and Director (1988-90), AIDS Office, San Francisco Department of Public Health, San Francisco, CA

1990-95 Chief, Infectious Disease Branch (1990-2); State Epidemiologist (1990-5); Deputy Director, Prevention Services (1992-5); State Health Officer (1993-5), California Department of Health Services, Berkeley, CA

1995-97 Associate Dean for Administration (1995-7), Professor of Epidemiology and Health Administration (1995-now), School of Public Health, University of California, Berkeley, Berkeley, CA

1997-now Salvatore Pablo Lucia Professor of Preventive Medicine, Epidemiology and Pediatrics; Head, Division of Infectious Disease Epidemiology, and Vice Chair, Department of Epidemiology and Biostatistics, School of Medicine, University of California, San Francisco, San Francisco, CA

2002-14 Director, Institute for Global Health, University of California, San Francisco, San Francisco, CA

2010-now Head, Prevention and Public Health Group, UCSF Global Health Sciences

**Other Experience and Professional Memberships**

1996-now Director, Joint UCB-UCSF Residency Program in General Preventive Medicine and Public Health

1997-now Coordinating Editor, Cochrane Collaborative Review Group on HIV Infection and AIDS

2000-03 U.S. Department of Veterans Affairs, National Research Advisory Council (chair)

2004-08 American Academy of Pediatrics, Section on Epidemiology (chair)

2003-04 Institute of Medicine, Committee on the Ryan White Care Act

2004-05 Institute of Medicine, Committee on HIVNET 012

2005-06 Institute of Medicine, Committee on Gulf War and Health: Review of the Medical Literature Relative to Gulf War Veterans’ Health

2007-08 Institute of Medicine, Committee on Methodologic Challenges in HIV Prevention Trials

2007-08 Institute of Medicine, Committee on Gulf War and Health: Traumatic Brain Injury (Chair)

2008-12 Institute of Medicine, Board on Population Health and Public Health Practice

2009-13 Institute of Medicine, Committee on Readjustment Needs of Returning Veterans (Chair)

2010-14 National Institute of Child Health and Human Development Advisory Council

2011-14 Institute of Medicine, Board on the Health of Select Populations

**Honors**

1998 Distinguished Alumnus Award, The Bishop’s School, La Jolla, CA

2000 Eileen K. Taw, M.D., Memorial Public Health Lecturer, Riverside County Department of Public Health, CA

2000 Excellence in Teaching Award, California Department of Health Services Preventive Medicine Program

2000 Salvatore Pablo Lucia Symposium Lecturer, University of California, San Francisco

2002 Excellence in Research Award (Clinical), Children’s Hospital Oakland Research Institute

2002 F. Marian Bishop Educator of the Year Award, Association of Teachers of Preventive Medicine

2009 Holly Smith Award for Exceptional Service to the School of Medicine, UCSF

# C. Contribution to Science

See <http://www.ncbi.nlm.nih.gov/sites/myncbi/1LGFdeRcTpdAu/bibliography/45970112/public/?sort=date&direction=ascending>

1. Natural history of HIV infection. I led a large cohort study in the 1980s that established the natural history of HIV infection in men who have sex with men in the United States in the pre-antiretroviral era.

* + - Lui K-J, Darrow WW, Rutherford GW III. A model-based estimate of the mean incubation period for AIDS in homosexual men. Science 1988; 140:1333-1335.
* Hessol NA, Lifson AR, O’Malley PM, Doll LS, Jaffe HW, Rutherford GW. Prevalence, incidence, and progression of human immunodeficiency virus infection in homosexual and bisexual men in hepatitis B vaccine trials, 1978-1988. Am J Epidemiol 1989; 130:1167-1175.
* Rutherford GW, Lifson AR, Hessol NA, Darrow WW, O’Malley PM, Buchbinder SP, Barnhart JL, Bodecker TW, Cannon L, Doll LS, Holmberg SD, Harrison JS, Rogers MF, Werdegar D, Jaffe HW. The natural history of human immunodeficiency virus type 1 infection in a cohort of homosexual and bisexual men: a 12-year follow-up study. Br Med J 1990; 301:1183-1188.

2. Systematic reviews of HIV prevention and treatment. I founded and have led the Cochrane Collaboration’s HIV/AIDS Group for 15 years. We have published more than 80 systematic reviews on the prevention and treatment of HIV and of the organization and financing of health care for HIV. We have been instrumental in World Health Organization guidelines development as part of this process.

* Anglemyer A, Rutherford GW, Easterbrook PJ, Horvath T, Vitória M, Jan M, Doherty M. Early initiation of antiretroviral therapy for adults and adolescents with HIV-1 infection: a systematic review. AIDS 2014; 28 (Suppl 2):S105-S118. PMID: 24849469.
* Mbuagbaw LC, Irlam JH, Spaulding A, Rutherford GW, Siegfried N. Efavirenz or nevirapine in three-drug combination therapy with two nucleoside reverse-transcriptase inhibitors for initial treatment of HIV infection in antiretroviral-naïve individuals. Cochrane Database Syst Rev 2010; 12:CD004246. PMID 21154355
* Rutherford GW, Anglemyer A, Easterbrook PJ, Horvath T, Vitória M, Penazzato M, Doherty M. Predicting treatment failure in adults and children on antiretroviral therapy: a systematic review of the performance characteristics of the World Health Organization’s 2010 criteria for virological failure. AIDS 2014; 28(Suppl 2):S161-S169. PMID: 24849476
* Spaulding A, Rutherford GW, Siegfried N. Tenofovir or zidovudine in three-drug combination therapy with one nucleoside reverse transcriptase inhibitor and one non-nucleoside reverse transcriptase inhibitor for initial treatment of HIV infection in antiretroviral-naïve individuals. Cochrane Database Syst Rev 2010; 10:CD008740. PMID 20927777
* Zafer M, Horvath H, Mmeje O, van der Poel S, Semprini A, Rutherford G, Brown J. Effectiveness of semen washing to prevent HIV transmission from HIV-positive men and allow conception in HIV-discordant couples: a systematic review and meta-analysis. Fertil Steril 2016; 105:645-55. PMID: 26688556

3. Establishing the epidemiology of HIV in East Africa. I have participated in and led three large household population-based surveys in Uganda and Kenya, the most recent in 2012. These studies have established both national estimates of HIV incidence and prevalence but also examined risk factors for HIV infection in large general population epidemics.

* MainaWK, Kim AA, Rutherford GW, Harper M, K’Oyugi BO, Sharif S, Muragrui NM, Akhwale W, De Cock K; KAIS Study Group.. Kenya AIDS Indicator Surveys 2007 and 2012: implications for public health policies for HIV prevention and treatment. J Acquir Immune Defic Syndr 2014; 66 (Suppl 1):S130-S137. PMID: 24732817
* Ng’eno B, Mwangi A, Ng’ang’a L, Kim AA, Waruru A, Mukui I, Ngugi E, Rutherford GW. Burden of HIV infection among children 18 months to 14 years old in Kenya: results from a nationally representative population based cross-sectional survey. J Acquir Immune Defic Syndr 2014; 66 (Suppl 1):S82-S88. PMID: 24732823
* Ngugi EW, Kim AA, Nyoka R, Ng’ang’a L, Mukui I, Ng’eno B, Rutherford GW; KAIS Study Group. Contraceptive practices and fertility desires among HIV-infected and uninfected women in Kenya: results from a nationally representative study. JAIDS 2014; 66 (Suppl 1):S75-S81. PMID: 24413040
* Sirengo M, Muthoni L, Kellogg TA, Kim AA, Katana A, Mwanyumba S, Kimanga DO, Maina WK, Muraguri N, Elly B, Rutherford GW. Mother-to-child transmission (MTCT) of HIV in Kenya: results from a nationally representative study. J Acquir Immune Defic Syndr 2014; 66 (Suppl 1):S66-S74. PMID: 24732822

4. Public health triangulation. I led a group at UCSF with collaborators from CDC and WHO that first described in detail methods for public health triangulation, a technique used to synthesize data from multiple data sets for public health action. This has subsequently become an established technique and is currently being used in a five-year evaluation of the Global Fund.

* Rutherford GW, McFarland W, Spindler H, White K, Patel SV, Aberle-Grasse J, Sabin K, Smith N, Taché S, Calleja-Garcia JM, Stoneburner RL. Public health triangulation: approach and application to synthesizing data to understand national and local HIV epidemics. BMC Public Health 2010; 10:447.
* Sirengo M, Rutherford GW, Otieno-Nunya B, Kellogg TA, Kimanga D, Muraguri N, Umuro N, Mirjahangir J, Stein E, Ndisha M, Kim AA. Evaluation of Kenya’s readiness to transition from sentinel surveillance to routine HIV testing for antenatal clinic-based surveillance. BMC Infect Dis 2016; 16:113. PMID 26945861.
* Spindler H, Salyuk T, Vitek C, Rutherford G. Underreporting of HIV transmission among men who have sex with men in the Ukraine. AIDS Res Hum Retroviruses 2014; 30:407-08. PMID: 24295084
* Vitek C, Čakalo J, Kruglov Y, Dumchev K, Salyuk T, Božičević I, Spindler H, Martsynovska V, Abdul-Quader A, Rutherford G. Evolution of the HIV epidemic in Ukraine, 2005-2012. PLoS One 2014; 9:e103657. PMID 25251080.

5. Respondent-driven sampling. My group at UCSF has been among the leaders of pioneering new techniques, such as respondent-driven sampling and time-location sampling, to survey hard-to-reach populations at risk for HIV. I led two reviews in 2010 that reviewed the world’s literature on the use of respondent-driven sampling in HIV surveillance and have co-authored multiple publications that have used respondent-driven sampling.

* Malekinejad M, Johnston LG, Kendall C, Rifkin MR, Kerr LR, Rutherford GW. Using respondent-driven sampling for HIV biological and behavioral surveillance in international settings: a systematic review. AIDS & Behav 2008 Jul;12(4 Suppl):S105-30.
* Johnston LG, Malekinejad M, Rifkin M, Kendall C, Rutherford GW. The implementation challenges to using respondent-driven sampling methodology for HIV biological and behavioral surveillance: field experiences in international settings. AIDS & Behav 2008 Jul;12(4 Suppl):S131-41.
* Malekinejad M, Mohraz M, Razani N, Akbari G, McFarland W, Khairandish P, Malekafzali H, Gouya MM, Zarghami A, Rutherford GW. High HIV prevalence in a respondent-driven sampling survey of injection drug users in Tehran, Iran. AIDS Behav 2014 Oct 4 [Epub ahead of print]. PMID 25280446
* Rutherford GW, Anglemyer A, Bagenda D, Muyonga M, Lindan CP, Barker JL, Johnston L, Hladik W. University students and risk of HIV and other sexually transmitted infections in Uganda: the Crane Survey. Int J Adol Med Health 2014; 26:209-15. PMID: 24762640.

6. Epidemiology and control of tuberculosis in California. I co-chair the California Tuberculosis Elimination Advisory Committee, which has recently published a plan to eliminate tuberculosis in California through the aggressive application of newer technologies for the diagnosis and treatment of latent tuberculosis infection: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/TBCB-TB-Elimination-Plan-2016-2020.pdf>

* Koo D, Royce S, Rutherford GW. Drug-resistant *Mycobacterium tuberculosis* in California, 1991 to 1992. West J Med 1995; 163:441-445.
* Koo DT, Baron RC, Rutherford GW. Transmission of *Mycobacterium tuberculosis* in a California state prison. Am J Public Health 1997; 87:279-281.
* Moore D, Liechty C, Ekwaru P, Were W, Mwima G, Solberg P, Rutherford G, Mermin J. Prevalence, incidence and mortality associated with tuberculosis in HIV-infected patients initiating antiretroviral therapy in Uganda. AIDS 2007; 21:713-719.
* Were W, Moore D, Ekwaru P, Mwima G, Bunnell R, Kaharuza F, Rutherford G, Mermin J. A simple screening tool for active tuberculosis in HIV-infected people attending an antiretroviral treatment program in rural Uganda. Int J Tuberc Lung Dis 2009; 13:47-53. PMID: 19105878
* Mbithi A, Gichangi A, Kim AA, Katana A, Weyenga H, Williamson J, Robinson K, Oluoch T, Maink WK, Kellogg TA, De Cock KM; KAIS Study Group. Tuberculosis and HIV at the national level in Kenya: results form the second Kenya AIDS Indicator Survey. J Acquir Immune Defic Syndr 2014; 66 (Suppl 1):S016-15.