

BIOGRAPHICAL SKETCH

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NAME: Tucker, Joseph David

eRA COMMONS USER NAME: jtucker4

POSITION TITLE: Assistant Professor of Medicine and Director of UNC Project-China

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
Swarthmore College, PA, USA	B.A.	05/2000	Biology/Chemistry
University of North Carolina at Chapel Hill, NC, USA	M.D.	12/2004	Medicine
University of California San Francisco, CA, USA	Residency	06/2007	Internal Medicine
Harvard University, Cambridge, MA, USA	Postdoc	06/2009	Infectious Diseases
Harvard University, Cambridge, MA, USA	A.M.	12/2010	RSEA: China Studies
London School of Hygiene and Tropical Medicine, London, UK	Ph.D.	06/2014	Public Health

A. Personal Statement

Crowd wisdom may be a powerful force to transform sexual health campaigns. My research focuses on this and related sexual health research bringing together infectious diseases, innovation, and social science. I have sixteen years of experience undertaking HIV/STI research in low and middle income country contexts. Much of my research has focused on China because of the pronounced resurgence of syphilis in addition to a strong capacity for coordinated public health responses. My team's ongoing research uses crowdsourcing to promote HIV testing and linkage to care (PI, NIAID 1R01AI114310-01), examines the social science and ethics of curing HIV (PI, NIAID 1R01A108366-01), explores the health of African migrants in Guangzhou, and helps rebuild trust in patient-physician relationships (Harvard China Fund, China Medical Board). Our collaborative research brings together US trainees (Fogarty, Fulbright, Doris Duke) and Chinese trainees (PI, FIC 1D43TW009532-01) to work on joint sexual health research. Our project on the social roots of syphilis in China helped catalyze policy change. I am an Associate at the Harvard Asia Center and a Term Member of the Council on Foreign Relations. Since 2008 I have worked with the Guangdong Provincial STD Control Center, the provincial authority responsible for STD control and prevention, to form a UNC-South China STI Research Center. I have led several systematic reviews that helped inform the development of WHO ARV Guidelines.

1. Tucker, J.D., Chen, X.S., Peeling, R.W. (2010). Syphilis and Social Upheaval in China. *New England Journal of Medicine*. 362(18): 1658-1661. PMID: 20445179.
2. Tucker, J.D., Fenton, K.A., Peckham, R., Peeling, R.W. (2012). Social Entrepreneurship for Sexual Health (SESH): A New Approach for Enabling Delivery of Sexual Health Services Among Most-At-Risk Populations. *PLoS Medicine*. 9(7):e1001266. PMID: PMC3398968.
3. Tan, X., Rydzak, C., Yang, L., Vickerman, P., Yang, B., Peeling, R.W., Hawkes, S., Chen, X., Tucker, J.D. (2013). Prioritizing Congenital Syphilis Control in South China: A Decision Analytic Model to Inform Policy Implementation. *PLoS Medicine*. PMID: 23349624. 10(1):e1001375. PMID: PMC3551934.
4. Tucker, J.D., Rennie, S., and the Social and Ethical Working Group on HIV Cure. (2014). Social and Ethical Implications of HIV Cure Research. *AIDS*. 28(9): 1247-50. PMID: PMC4071118.

B. Positions and Honors**Research Positions:**

1999	Visiting Scholar, WHO Collaborating Center on Food Virology, with Dr. Dean Cliver, University of California Davis, Davis, CA
2000	Boren Scholar, Institute for International Education National Security Education Program, Qingdao Provincial Centers for Disease Control, Qingdao, PRC
2001	Chinese I-powerment Project Coordinator, with Myron Cohen (UNC), China Centers for Disease

Control, Beijing, PRC
 2003-2004 Program Manager, China National STD Center, with Dr. Myron Cohen (UNC) and Dr. Xiang-Sheng Chen (NCSTD), Nanjing, PRC
 2005 Advisor, China CIPRA Epidemiology and Project Management Divisions
 2008 – 2010 Fellow, Fogarty International Center Clinical Research Program
 2010 – 2012 Instructor/Assistant, Harvard Medical School/Massachusetts General Hospital
 2010 – Associate, Harvard Asia Center
 2011 – Adjunct Assistant Professor, Chinese University Hong Kong Faculty of Medicine
 2012 – Assistant Professor (tenure-track) and Director of UNC Project – China, UNC Chapel Hill
 2013 - Co-Director, UNC-South China STI Research Training Center, Guangzhou, China

Other Experience and Professional Memberships

2006 - Editorial Board Member, *Sexually Transmitted Diseases* and *BMC Infectious Diseases*
 2008 – 2010 Founder and member, Massachusetts General Hospital Syphilis Working Group
 2010 Founder and steering committee member, Sex Work in Asia Conference at Harvard University (October 1st-2nd, 2010)
 2010 Hong Kong Research Grants Council, External Reviewer
 2010 – Associate Editor and Editorial Board Member, *BMC Infectious Diseases*
 2011 NIH Fogarty Center Fellowship Selection Committee, NIH Fogarty Scholar Selection Committee
 2012-2013 World Health Organization HIV Guideline Contributor, Geneva, Switzerland
 2013-2015 *PLoS ONE* Academic Editor
 2013- Member, International AIDS Society HIV Cure Psychosocial Working Group
 2013 Ad hoc NIH reviewer, GID ZRG1 IDM-U (56) 11/1/2013
 2014- Adjunct Lecturer, Tsinghua University Public Health Center
 2014- International AIDS Society “Towards a Cure” International Executive Committee
 2014- Executive Committee, HIV Cure Initiative (Seattle, Washington, US)
 2014- Temporary Advisor, World Health Organization Western Pacific Region
 2014- Co-chair, ASTMH-BWH Postdoctoral Fellowship Selection Committee
 2014- Co-chair, 18th International Union Against STIs, Asia Pacific Congress Scientific Committee
 2015- Editorial Board Member and Associate Editor, *Sexually Transmitted Infections*
 2015- Peer Reviewer, 2015 World Health Organization HIV Testing Guidelines
 Ad-hoc reviewer for *New England Journal of Medicine*; *PLoS Medicine*; *Lancet Infectious Diseases*; *Journal of Infectious Disease*; *Clinical Infectious Disease*; *American Journal of Public Health*; *AIDS and Behavior*; *BMC Public Health*; *Social Science & Medicine*; *Culture, Health & Sexuality*

Honors

1996-2000 Swarthmore College Merit Scholarship
 2000 Leo Leva Award for “unusual promise” in Biology, Swarthmore College
 2000 Cum Laude graduate of Swarthmore College
 2003-2004 Kenan Scholar, UNC Chapel Hill School of Medicine
 2009-2010 Foreign Language Areas Studies Harvard nomination
 2010 Massachusetts General Hospital Executive Committee on Research Award – Scored 18th out of 147 MGH applicants but deferred due to K01 NIH funding
 2009-2010 Asia Center Scholarship, Harvard University Regional Studies East Asia Program
 2009-2010 Burroughs Wellcome Fund/American Society of Tropical Medicine and Hygiene (BWF/ASTMH) Junior Faculty Fellowship in Tropical Infectious Diseases
 2010- Renaissance Weekend Participant, based on innovation and multi-disciplinary work
 2011 National CFAR Young Investigator Award (Duke University, Durham, NC)
 2012-2015 NIH Early Career Reviewer, UNC CFAR Developmental Award Reviewer
 2012-2017 Council on Foreign Relations Term Member

C. Contribution to Science

1. My early publications documented the dramatic increase in syphilis cases in the People’s Republic of China, partly as a result of a sexual revolution and partly related to lapses in routine screening. These publications found that key populations such as men who have sex with men and female sex workers

faced substantial barriers to accessing high-quality sexual health services. These publications provided evidence to inform China's first ever national syphilis control and prevention plan (2010-2020) and re-configure screening practices. I was the primary investigator or co-investigator on all of these studies.

- a. Tucker, J.D., Chen, X.S., Peeling, R.W. (2010). Syphilis and Social Upheaval in China. *New England Journal of Medicine*. 362(18): 1658-1661. PMID: 20445179.
 - b. Tucker, J.D., Cohen, M.S. (2011). China's syphilis epidemic: Epidemiology, proximate determinants of spread, and control responses. *Current Opinion in Infectious Diseases*. 24(1):50-5. PMID: 21150594.
 - c. Tucker, J.D., Yin, Y.P., Wang, B., Chen, X.S., Cohen, M.S. (2011). An Expanding Syphilis Epidemic in China: Epidemiology, Behavioral Risk, and Control Strategies with a Focus on Low-Tier Female Sex Workers and Men Who Have Sex With Men. *Sexually Transmitted Infection*. 87 Suppl 2:ii16-8. PMCID: PMC3306605.
2. My early research in insufficient test uptake among key populations led to subsequent research focused on point-of-care syphilis and HIV diagnostics. This resulted in several publications that examined the advantages and disadvantages of expanded diagnostics in low and middle income country settings. These publications provided a strong evidence base for expanding decentralized testing services outside of facilities. I was part of a team commissioned by the World Health Organization in 2012 to undertake a systematic review of optimal HIV monitoring strategies that directly informed the 2013 WHO HIV guidelines.
- a. Tucker, J.D., Bu, J., Brown, L.B., Yin, Y.P., Chen, X.S., Cohen, M.S. (2010). Accelerating Syphilis Screening through Novel Rapid Syphilis Testing: A Systematic Review. *Lancet Infectious Diseases*. 10(6): 381-386. PMID: 20510278.
 - b. Tucker, J.D., Hawkes, S.J., Yin, Y.P., Peeling, R.W., Cohen, M.S., Chen, X.S. (2010). Scaling up syphilis testing in China: implementation beyond the clinic. *Bulletin of the World Health Organization*. 88(6): 452-457.
 - c. Tucker, J.D., Bien, C.H., Easterbrook, P., Penazzato, M., Doherty, M., Vitoria, M., Peeling, R.W. (2014) Optimal Strategies for Monitoring Responses to HIV Anti-retroviral Therapy in HIV Infected Adults, Adolescents, Children, and Pregnant Women: A Systematic Review. *AIDS*. 28 Suppl 2: S151-60.
3. My background in HIV social science and ethics led to a special interest in HIV cure research. A series of publications outline the importance of strong social science in advancing HIV cure research around the world. This research led to an NIAID R01 grant with field work in South Africa, US, and China. In addition, I was asked to be a member of the International AIDS Society's "Towards a Cure" Scientific Executive Committee and to the Steering Committee of the HIV Cure Initiative. This led to a special themed issue of the journal *Sexually Transmitted Infections* examining the history of sexually transmitted infection cures.
- a. Tucker, J.D., Rennie, S., Social Science and Ethics Working Group. (2014) Social and Ethical Implications of Curing HIV. *AIDS*. PMCID: PMC4071118.
 - b. Tucker, J.D., Volberding, P.A., Margolis, D.M., Rennie, S., Barre-Sinoussi, F. (2014) Words Matter: Discussing Research Towards an HIV Cure in Research and Clinical Contexts. *JAIDS*. PMCID: PMC4199082.
 - c. Rennie S, Siedner M, Tucker JD, Moodley K. The ethics of talking about 'HIV cure.' *BMC Medical Ethics*. 16:18. PMCID: PMC4377195.
4. Given the need for innovation in sexual health services, I formed a program called SESH – social entrepreneurship for sexual health. This implementation research group uses crowdsourcing and other entrepreneurial tools to advance sexual health research. I am the PI on an NIAID R01 evaluating crowdsourcing to promote HIV testing and linkage to care among men who have sex with men in China using a randomized controlled trial.
- a. Tucker, J.D., Fenton, K.A, Peckham, R., Peeling, R.W. (2012). Social Entrepreneurship for Sexual Health (SESH): A New Approach for Enabling Delivery of Sexual Health Services Among Most-At-Risk-Populations. *PLoS Medicine*. 9(7):e1001266.
 - b. Tucker, J.D., Muessig, K.E., Cui, R., Bien, C.H., Lo, E.J., Lee, R., Wang, K., Han, L., Liu, F.Y., Yang, L.G., Yang, B., Larson, H., Peeling, R.W. (2014) Organizational characteristics of

HIV/syphilis testing services for men who have sex with men in South China: a social entrepreneurship analysis and implications for creating sustainable service models. BMC Infectious Diseases. 14:601. PMID: PMC4247875.

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/joseph.tucker.1/bibliography/40445286/public/?sort=date&direction=ascending>

D. Research Support

Ongoing Research Projects

NIAID 1R01AI114310-01 Tucker (PI) 09/17/2014-08/31/2019

Spurring Innovation in HIV Testing and Linkage: A Crowdsourcing Approach

The major goal of this research is to design, implement, and evaluate a crowdsourcing approach to promoting HIV testing and linkage among young MSM in China.

Role: PI

NIAID 1R01A108366-01 Tucker (PI) 06/15/2013 – 05/31/2018

Unintended and Intended Implications of HIV Cure: Social and Ethical Analysis

The major goal of this research is to undertake theoretical research, stakeholder research, and stakeholder engagement research to better understand HIV cure in Chapel Hill USA, Guangzhou China, and Cape Town South Africa.

Role: PI

1D43TW009532-02 Tucker (PI) 07/12/2013-01/12/2018

NIH FIC Global Infectious Diseases Training Grant

UNC-South China STD Research Training Center

The goal of this training program is to nurture the next generation of junior investigators focused on STD research.

Role: PI

Bill and Melinda Gates Foundation Hargreaves (PI) 12/01/2014-06/31/2016

Methods for HIV Measurement, Surveillance, and Evaluation Consortium

The goal of this consortium is to support research focused on improving HIV measurement, surveillance, and evaluation, especially among key populations.

Role: Co-I

Harvard China Fund Kleinman (PI) 01/01/2013-12/31/2015

Patient-Physician Trust and Mistrust in China: A Qualitative Investigation

The major goal of this qualitative project is to understand individual, community, and institutional aspects of patient-physician trust and mistrust in the Chinese context.

Role: Co-PI

Doris Duke Charitable Foundation (no number) Cohen (PI) 08/01/2009-06/30/2015

Clinical Research Fellowship for Medical Students

This program provides an opportunity for U.S. medical students to spend one year in Beijing at the National Centers for AIDS Control undertaking mentored research.

Role: Mentor

Fogarty Global Health Fellows Coordinating Center van der Horst (PI) 31/07/2012-31/07/2017

NIH FIC R25TW0093

The purpose of this training grant is to provide junior investigators with structured opportunities for pre and postdoctoral research in LMIC.

Role: Mentor

FHI360 Subcontract Weir 07/31/2014-07/31/2017

Linkages: Improving HIV Testing, Linkage, and Retention Across the Continuum of Care
This subproject examines the use of crowdsourcing to improve HIV testing among MSM in Vietnam
Role: Co-I

Hong Kong Health and Medical Research Fund Wong 03/01/2014-02/29/2017
Determine the Prevalence and Contextual Risk Factors of Sexually Transmitted Infections in Hong Kong
This research grant uses population-representative sampling techniques to examine the prevalence of gonorrhea and chlamydia in Hong Kong
Role: Co-I

WHO HIV Department Tucker 02/01/2015-07/01/2016
Qualitative evidence reviews to inform ARV guidelines
This research includes four qualitative meta-synthesis to better understand feasibility, acceptability, and equity issues related to HIV operational interventions globally.
Role: PI

Completed Research Projects

3D43TW009532-02S1 Tucker/Cohen 02/01/2014-01/31/2015
NIH FIC Global Infectious Diseases Administrative Supplement
The goal of this training program is to train junior investigators in Guangzhou on establishing a syphilis-HIV biobank for the training center.
Role: PI

FHI360 Hamilton (PI) 07/01/2013-12/31/2014
China Tuberculosis Clinical Trials Consortium Network 1.8 million/18 months
The major goal of this research project is to start a tuberculosis research network in China
Role: Regional Advisor

1K01TW008200-01A1 (Career Development Award) 07/01/10 – 06/30/14
Plum Blossom Project: Integrating Syphilis/HIV Testing in South China
This project explores the social basis for the spread and control of syphilis/HIV in South China. Drawing on empirical data from several operational projects in Guangdong Province, the project used quantitative (multi-level modeling) and qualitative (in-depth interviews, focus groups) to identify crucial determinants of integrated syphilis/HIV testing.
Role: PI

ASTMH Junior Faculty Fellowship Tucker (PI) 02/01/12 – 01/30/2013
American Society for Tropical Medicine & Hygiene
The major goal of this project is understand syphilis/HIV test uptake at STI clinics in South China.
Role: PI

NIH NIAID UNC CFAR 5P30AI050410-13 Swanstrom (PI) 07/01/2011 – 07/01/2012
Five Goats Project: Syphilis, gonorrhea, and chlamydia among HIV-infected individuals in Guangzhou
Role: Developmental Award PI