

CONTACT	248 Concord Avenue Cambridge, MA 02138	larryhan@g.harvard.edu (919) 272-1491
EDUCATION	<p>Harvard University Boston, MA</p> <p>PhD in Biostatistics 2018-Present</p> <p>AM in Biostatistics 2020</p> <p>Advisor: Tianxi Cai</p> <p>Committee: Lorenzo Trippa, Rui Duan, and Sebastian Schneeweiss</p> <p>University of Cambridge Cambridge, UK</p> <p>MPhil in Management Science, Healthcare Operations 2018</p> <p><i>Distinction, Top Thesis</i></p> <p>Thesis: Surviving the Weekend Effect: A Competing Risks Analysis of Mortality in the Emergency Department of Cambridge University Hospital (Published in <i>Emergency Medicine Journal</i>)</p> <p>Advisor: Stefan Scholtes</p> <p>Tsinghua University Beijing, China</p> <p>MA in Global Affairs 2017</p> <p><i>Outstanding Thesis Award</i></p> <p>Thesis: Reformulating the Magic Pill: The Economics of Pharmaceutical Drug Reform in China</p> <p>Advisor: Michael Powers</p> <p>University of North Carolina at Chapel Hill Chapel Hill, NC</p> <p>BS in Public Health, Biostatistics 2016</p> <p><i>Highest Honors, Highest Distinction, Phi Beta Kappa</i></p> <p>Thesis: RTS,S/AS01 Malaria Vaccine Efficacy is Not Modified by Seasonal Precipitation: Results from a Phase 3 RCT in Malawi (Published in <i>Scientific Reports</i>)</p> <p>Advisor: Michael Hudgens</p>	
FUNDING	<p>NIH T32 COMET Training Grant July 2020-Present</p> <p>Coordinator: Jeffrey Katz, Distinguished Chair in Orthopaedic Surgery, HMS</p> <p>NIH T32 Big Data to Knowledge Training Grant Aug 2018-June 2020</p> <p>Coordinator: John Quackenbush, Department Chair, Harvard Biostatistics</p> <p>WHO/TDR Social Innovation in Health Research Grant Jan 2019 - Dec 2020</p> <p>Co-Principal Investigator, \$190,000 USD annually</p>	
HONORS & AWARDS	<p>New England Statistics Symposium Student Poster Award 2021</p> <p>ASA BIOP Regulatory-Industry Statistics Workshop Student Poster Award 2021</p> <p>John Van Ryzin Award, ENAR Distinguished Student Paper Award 2021</p> <p>Best Student Poster, Harvard Chan Poster Day 2021</p> <p>China Hands 25 Under 25 Leaders in US-China Relations 2019</p> <p>University of Cambridge Distinction and Top Thesis 2018</p> <p>Gates Cambridge Scholarship 2017</p> <p>Tsinghua University Outstanding Master's Thesis Award 2017</p> <p>Schwarzman Scholarship 2016</p> <p>Phillips Ambassadors 10-Year Anniversary Award 2016</p> <p>Order of the Golden Fleece 2016</p> <p>Delta Omega Award of Excellence 2016</p> <p>Goldwater Scholarship 2015</p> <p>Phillips Ambassadorship 2014</p> <p>Morehead-Cain Scholarship 2012</p> <p>National Merit Scholarship 2012</p>	

WORK
EXPERIENCE**VA Boston Healthcare System**

Boston, MA

WOC/Research Associate

June 2021-Present

- Developing semi-supervised methods for the design of pragmatic trials of the Heart Failure Program at VA (supervised by Jacob Joseph)

Department of Health Care Policy, Harvard Medical School

Boston, MA

Research Associate

June 2021-Present

- Designing robust methods for the estimation of causal effects in distributed data settings with applications for quality measurement (supervised by Jose Zubizarreta)

Brigham and Women's Hospital, Cardiovascular Department

Boston, MA

Statistical Consultant

Mar 2019-Present

- Lead statistician on multiple cardiovascular genetics papers related to the international SHARe Data Registry for hypertrophic cardiomyopathy (supervised by Carolyn Ho)

Social Entrepreneurship to Spur Health

Guangzhou, China

Co-Founder & Director of Strategy

June 2015-Present

- Founded and registered a health development start-up focused on public health interventions using crowdsourcing
- Co-led a randomized controlled trial evaluating a video intervention among high-risk populations in China (details here: <https://clinicaltrials.gov/ct2/show/NCT02248558>).

WORKING
PAPERS

- [7] **Han, L.;** Wang, X.; Cai, T. "Identifying Real-World Surrogate Markers for Replicating Clinical Trials." *Submitted*.
- [6] **Han, L.;** Duan, R.; Cai, T. "Distributed Causal Inference." *In progress*.
- [5] **Han, L.;** Arfe, A.; Trippa, L. "Optimal Sensitivity Analysis for Clinical Trials." *In progress*.
- [4] **Han, L.;** Hou, J.; Cai, T. "Semi-supervised Estimation for Pragmatic Trial Design." *In progress*.
- [3] Han, S.; **Han, L.;** Zubizarreta, J. "Principal Resampling for Causal Inference." *In progress*.
- [2] **Han, L.;** Li, Y.; Niknam, B.; Zubizarreta, J. "Multiply Robust Distributed Learning for Causal Inference." *In progress*.
- [1] Wang, X.; Parast, L.; Tian, L.; **Han, L.;** Cai, T. "Robust Approach to Combining Multiple Markers to Improve Surrogacy." *Invited revision*.

PUBLICATIONS

- [30] Nauffal, V.; Marstrand, P.; **Han, L.;** et al. "Worldwide differences in primary prevention implantable cardioverter defibrillator utilization and outcomes in hypertrophic cardiomyopathy." *European Heart Journal*, 2021 Sep, ehab598.
- [29] Day, S.; Li, C.; Hlatshwako, T.; Abu-Hijleh, F.; **Han, L.;** Deitelzweig, C.; Bayus, B.; Ramaswamy, R.; Tang, W.; Tucker J. "Assessment of a Crowdsourcing Open Call for Approaches to University Community Engagement and Strategic Planning During COVID-19." *JAMA Network Open*, 2021;4(5):e2110090.
- [28] **Han, L.;** Wang, X.; Cai, T. "On the Evaluation of Surrogate Markers in Real-World Data Settings." *Arxiv*, 2021 Apr.
- [27] Marston, N.; **Han, L.;** Olivotto, I.; et al. "Clinical Characteristics and Cardiovascular Outcomes in Childhood-Onset Hypertrophic Cardiomyopathy Compared with Adult-Onset Disease." *European Heart Journal*, 42(20), 1988-1996.
- [26] Lakdawala, N.; Olivotto, I.; Day, S.; **Han, L.;** et al. "Associations Between Female Sex, Sarcomere Variants and Clinical Outcomes in Hypertrophic Cardiomyopathy." *Circulation: Genomic and Precision Medicine*. 2020 Dec 7; doi: 10.1161/CIRCGEN.120.003062. Epub ahead of print. PMID: 33284039.
- [25] Sidhu, K.; **Han, L.;** Picard, K.; et al. "Ventricular Tachycardia in Cardiomyopathy: Characteristics and Considerations for Device Programming." *Heart Rhythm*. 2020 Oct 1; 17(10):1704-1710.

- [24] Halpaap, B.; Tucker, J.; Mathanga, D.; Juban, N.; Awor, P.; Saravia, N.; **Han, L.**; et al. "Social Innovation in Global Health: Sparking Location Action." *Lancet Global Health*. 2020 May; 8(5):e633-634.
- [23] Marstrand, P.; **Han, L.**; Day, S.; et al. "Hypertrophic Cardiomyopathy with Left Ventricular Systolic Dysfunction: Insights from the SHaRe Registry." *Circulation*. 2020 Apr 28; 141(17):1371-1383.
- [22] Wang, C.; **Han, L.**; Stein, G.; et al. "Crowdsourcing in Health and Medical Research: A Systematic Review." *Infectious Diseases of Poverty*. 2020 Jan 20; 9(1):8.
- [21] McCoy, T.; **Han, L.**; Pellegrini, A.; et al. "Stratifying Risk for Dementia Onset Using Large-Scale Electronic Health Record Data: A Retrospective Cohort Study." *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*. 2020 Jan 16 (Featured Article).
- [20] **Han, L.**; Fine, J.; Robinson, S.; Boyle, A.; Freeman, M.; Scholtes, S. "Is Seniority of Emergency Physician Associated with the Weekend Effect?" *Emergency Medicine Journal*. 2019 Dec;36(12):708-715.
- [19] Eberly, L.; Day, S.; Ashley, E.; Jacoby D.; Jefferies, J.; Colan, S.; Rossano, J.; Semsarian, C.; Pereira, A.; Olivotto, I.; Ingles, J.; Seidman, C.; Channaoui, N.; Cirino, A.; **Han, L.**; Ho, C.; Lakdawala, N. "Association of Race with Disease Expression and Clinical Outcomes Among Patients with Hypertrophic Cardiomyopathy." *JAMA Cardiology*. 2019 Dec 4.
- [18] Liu, F.; Qin, Y.; Meng, S.; Zhang, W.; Tang, W.; **Han, L.**; et al. "HIV Self-Testing among MSM in China: A Qualitative Implementation Research Study." *Journal of Virus Eradication*. 2019 Nov 4;5(4):220-224.
- [17] Li, K.; Tang, W.; Wu, D.; Huang, W.; Feng, W.; Lee, A.; Feng, H.; Pan, S.; **Han, L.**; Mak, V.; Yang, L.; Tucker, J. "Pay-it-forward Dual Gonorrhea/Chlamydia Test Uptake among MSM in China: A Pragmatic, Quasi-Experimental Study." *The Lancet Infectious Diseases*. 2019 Jan;19(1):76-82.
- [16] **Han, L.**; Chen, A.; Wei, S.; et al. "Crowdsourcing in Health & Health Research: A Practical Guide." *Geneva: World Health Organization*. 2018 July. License: CC BY-NC-SA 3.0 IGO.
- [15] Qin, Y.*; **Han, L.***; Babbitt, A.; et al. "Experiences Using and Organizing HIV Self-Testing." *Journal of the International AIDS Society*. 2018 Jan 28;32(3):371-381.
*Co-first authors
- [14] SESH Study Group (**Han, L.**); Tucker, J. "Crowdsourcing to Promote HIV Testing Among MSM in China: Study Protocol for a Stepped Wedge Randomized Controlled Trial." *Trials*. 2017 Oct 2;18(1):447.
- [13] **Han, L.**; Hudgens, M.; Emch, M.; et al. "RTS,S/AS01 Malaria Vaccine Efficacy is Not Modified by Seasonal Precipitation: Results from a Phase 3 Randomized Controlled Trial in Lilongwe, Malawi." *Scientific Reports*. 2017 Aug 3;7(1):7200.
- [12] Wong, N.; Tang, W.; **Han, L.** et al. "MSM HIV Testing Following an Online Testing Intervention in China." *BMC Infectious Diseases*. 2017 June 19;17(1):437.
- [11] Zhang, T.*; Liu, C.*; **Han, L.*** et al. "Community Engagement in Sexual Health and Uptake of HIV Testing and Syphilis Testing Among MSM in China: a Cross-sectional Online Survey." *Journal of the International AIDS Society*. 2017 Apr 3;20(1):21372.
*Co-first authors
- [10] Tang, W.; Mao, J.; Tang, S.; Liu, C.; Mollan, K.; Cao, B.; Wong, T.; Zhang, Y.; Hudgens, M.; Qin, Y.; **Han, L.**; et al. "Disclosure of Sexual Orientation to Health Professionals in China: Results from an Online Cross-Sectional Study." *Journal of the International AIDS Society*. 2017 Feb 6;20(1):21416.
- [9] Hu, J.; Gu, X.; Tao, X.; Qian, Y.; Babu, G.; Wang, G.; Liao, M.; **Han, L.**; Kang, D.; Tang, W. "Prevalence and Trends of HIV, Syphilis, and HCV in Migrant and Resident MSM in Shandong, China: Results from a Serial Cross-Sectional Study." *PLoS One*. 2017 Jan 19;12(1):e0170443.
- [8] Tang, W.*; **Han, L.***; Best, J.*; et al. "Crowdsourcing HIV Test Promotion Videos: A Non-inferiority Randomized Controlled Trial in China." *Clinical Infectious Diseases*. 2016 Jun 1;62(11):1436-42. doi: 10.1093/cid/ciw171.
*Co-first authors

- [7] **Han, L.;** Wei, C.; Muessig, K.; et al. “HIV Test Uptake Among MSM in China: Implications for Enhanced HIV Test Promotion Campaigns Among Key Populations.” *Global Public Health*. 2016 Jan:1-14.
- [6] Best, J.; Tang, W.; Zhang, Y.; **Han, L.;** et al. “Sexual Behaviors and HIV/Syphilis Testing Among Transgender Individuals in China: Implications for Expanding HIV Testing Services.” *Sexually Transmitted Diseases*. 2015 May;42(5):281-5.
- [5] Bien, C.; Best, J.; Muessig, K.; Wei, C.; **Han, L.;** Tucker, J. “Gay Apps for Seeking Sex Partners in China: Implications for MSM Sexual Health.” *AIDS and Behavior*. 2015 June;19(6):941-6.
- [4] Tucker, J.; Muessig K.; Cui, R.; Bien, C.; Lo, E.; Lee, R.; Wang, K.; **Han, L.;** et al. “Organizational Characteristics of HIV/Syphilis Testing Services for MSM in South China: a Social Entrepreneurship Analysis and Implications for Creating Sustainable Service Models.” *BMC Infectious Diseases*. 2014 Nov 25;14:601.
- [3] **Han, L.;** Bien, C.; Wei, C.; Muessig, K.; Yang, M.; Liu, F.; Yang, L.; Meng, G.; Emch, M.; Tucker, J. “HIV Self-Testing Among Online MSM in China: Implications for Expanding HIV Testing Among Key Populations.” *Journal of Acquired Immune Deficiency Syndromes*. 2014 Oct 1;67(2):216-21.
- [2] Wei, C.; Muessig, K.; Bien, C.; Yang, L.; Meng, R.; **Han, L.;** Yang, M.; Tucker, J. “Strategies for Promoting HIV Testing Uptake: Willingness to Receive Couple-Based and Collecting HIV Testing Among a Cross-Sectional Online Sample of MSM in China.” *Sexually Transmitted Infections*. 2014 Sep;90(6):469-74.
- [1] Tucker, J.; Galler, S.; **Han, L.** “Spurring Innovation in Designing HIV Testing Programs: A Crowdsourcing Contest-based Approach.” *Annals of Global Health*. 2014 May;80(3):223-4.

TALKS
&
CONFERENCES

- [25] “Optimal Sensitivity Analysis for Clinical Trial Design.” *New England Statistics Symposium, Virtual*. (Poster, Oct 2021).
- [24] “Identifying Real-World Surrogate Markers for Replicating Clinical Trials.” *New England Statistics Symposium, Virtual*. (Invited Speaker, Oct 2021).
- [23] “Distributed Causal Inference.” *Johns Hopkins Causal Inference Working Group, Virtual*. (Invited Speaker, Sep 2021).
- [22] “On the Evaluation of Surrogate Markers in Real World Data Settings.” *ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop, Virtual* (Poster, Sep 2021).
- [21] “On the Evaluation of Surrogate Markers in Real World Data Settings.” *ENAR, Virtual* (John Van Ryzin Award, Distinguished Student Paper Award, Oral, Mar 2021).
- [20] “On the Evaluation of Surrogate Markers in Real World Data Settings.” *Harvard Chan Poster Day, Virtual* (Best Student Poster Award, Oral, Feb 2021)
- [19] “Distributed Causal Learning.” *Harvard-MIT Center for Regulatory Science Doctoral Student Symposium, Virtual* (Oral, Feb 2021).
- [18] “Distributed Learning for Causal Modelling.” *University of Michigan Statistics for Individualized Healthcare Lab, Virtual*. (Invited Speaker, Dec 2020).
- [17] “Social Innovation for Infectious Diseases of Poverty: Sparking Local Innovation.” *American Society of Tropical Medicine & Hygiene 68th Annual Meeting, National Harbor, Maryland*. (Invited Symposium Panelist, Nov 2019).
- [16] “Is Seniority of Emergency Physician Associated with the Weekend Mortality Effect?” *INFORMS Healthcare: Transforming Health with Data, Mind, and Body*. MIT Sloan School of Management, Cambridge, MA. (Invited Panelist, July 2019).
- [15] “Excess Mortality Associated with Junior Doctor Treatment at the Weekend: An Analysis of Electronic Medical Records in the UK.” *Biobanks: Study Design and Data Analysis*, Program in Quantitative Genomics, Harvard Medical School, Boston, MA. (Poster, Nov 2018).
- [14] “Co-Creating a Research Culture and Guide for Social Innovation.” *World Health Organization Social Innovation in Health Initiative, Blantyre, Malawi*. (Oral, June 2018).
- [13] “Crowdsourcing in Health and Medicine: Developing a Practical Guide and Systematic Review.” *London School of Hygiene & Tropical Medicine Centre for Evaluation Series, London, UK*. (Oral, May 2018).

- [12] “Surviving the Weekend Effect: a Competing Risks Analysis of Excess Weekend Mortality at Addenbrooke’s Hospital.” *Cambridge Judge Business School Healthcare Operations Lecture Series, Cambridge, UK*. (Oral, March 2018).
- [11] “Human Survival.” *Schwarzman Scholars Symposium, Beijing, China*. (Oral, June 2017; First Prize).
- [10] “A Global Qualitative Systematic Review of HIV Self-testing.” *20th International Union Against Sexually Transmitted Infections - Asia-Pacific Conference, Okayama, Japan*. (Oral, Dec 2016).
- [9] “RTS,S Malaria Vaccine Efficacy Does Not Vary with Seasonal Precipitation: Results from a Phase 3 RCT in Lilongwe, Malawi.” *65th Annual American Society of Tropical Medicine & Hygiene Conference, Atlanta, GA*. (Poster, Nov 2016).
- [8] “The Social Context of HIV Self-testing: A Global Qualitative Evidence Synthesis.” *21st International AIDS Conference, Durban, South Africa*. (Poster, July 2016).
- [7] “Survival Analysis from a Phase 3 RCT: RTS,S/AS01 Malaria Vaccine Efficacy in Lilongwe, Malawi and its Interaction with Seasonal Precipitation.” *UNC Project-Malawi, Lilongwe, Malawi*. (Oral, Mar 2016).
- [6] “Tailoring Mass Media MSM HIV Test Interventions to Reach High-Risk Men.” *Conference on Retroviruses and Opportunistic Infections (CROI) 2016, Boston, MA*. (Poster, Feb 2016).
- [5] “Crowdsourcing to Spur First-time HIV Testing among MSM and Transgender Individuals in China: a Non-inferiority Pragmatic Randomized Controlled Trial.” *8th IAS Conference on HIV Pathogenesis Treatment & Prevention, Vancouver, Canada*. (Oral, July 2015).
- [4] “Availability and Quality of Online HIV Self-Test Kits in China and the United States.” *Conference on Retroviruses and Opportunistic Infections (CROI) 2015, Seattle, WA*. (Poster, Feb 2015).
- [3] “HIV/Syphilis Risk and Testing Among Transgender Individuals in China.” *18th International Union Against Sexually Transmitted Infections - Asia-Pacific Conference, Bangkok, Thailand*. (Poster, Nov 2014).
- [2] “An Online Survey of HIV Self-testing among online MSM in China.” *20th International AIDS Conference, Melbourne, Australia*. (Poster, July 2014).
- [1] “Spurring Innovation in Designing HIV Testing Programs: A Crowdsourcing Contest-based Approach.” *5th Annual CUGH Conference, Washington, DC*. (Poster, May 2014).

LEADERSHIP

Harvard Biostatistics PhD Student Committee

Boston, MA

Co-President

Aug 2021 - Present

- Representing PhD student interests in departmental faculty meetings, including student and faculty recruitment, qualifying exams, student-life, and mental health and well-being

Harvard Diversity, Inclusion, and Equity Committee

Boston, MA

PhD Student Representative

Aug 2020 - Present

- Developing qualitative focus groups and quantitative surveys to better understand how the Harvard Biostatistics Department can become more diverse, inclusive, and equitable
- Spearheading a new mentorship program connecting underrepresented minorities with alumni mentors

Harvard Graduate Asian Baptist Student Koinonia

Cambridge, MA

President

Aug 2019-Present

- Organizing Bible study outreach and fellowship for Harvard and Boston-area graduate students

Harvard Graduate Student Council

Cambridge, MA

Biostatistics Representative

Sep 2018-May 2020

- Evaluating funding proposals for GSAS conferences and activities

Rhodes-Schwarzman Orientation

Beijing, China

Mentor and Facilitator

Sep 2019, 2020, June 2021

- Facilitating the *Leading Lives* workshop for incoming and outgoing Schwarzman Scholars

Carolina Collective Initiative Chapel Hill, NC
 Organizing Committee, Judging Committee May - Aug 2020

- Organizing an open call and judging creative ideas for the reopening of UNC campus in the COVID-19 era

Cambridge Judge Business School Teaching Committee Cambridge, UK
 MPhil Student Representative Jan-June 2018

- Assessed student and professor feedback for courses at Cambridge Judge Business School and developed a guidance for improving research programs

Tsinghua Graduate Student Union Beijing, China
 Representative Sep 2016-July 2017

- Translated over 300 museum exhibit labels from Chinese into English for the Tsinghua University Art Museum
- Voice-over for Xinhua Net's explanatory video of China's Two Sessions political conference

Journal of Schwarzman College Beijing, China
 Co-Founder, Editor Sep 2016-July 2017

- Established Schwarzman College's first journal aggregating global perspectives on China
- Developed a framework for a quarterly print and online publication for future classes

TEACHING

BST 222 Statistical Inference, Head Teaching Fellow Fall 2021, 2020, 2019

- Head TF responsible for developing content and teaching labs for the Harvard Biostatistics Department's masters-level statistical inference course using Casella and Berger (class size: 70)

PhD Qualifying Exam Summer Course, Co-Instructor Summer 2021

- Teaching content review and problem-solving in probability and inference for PhD students in preparation for the theory portion of the PhD qualifying exam (class size: 15)

BST 238 Advanced Topics in Clinical Trials, Head Teaching Fellow Spring 2021

- Designing content and teaching select lectures for advanced topics in clinical trials, with a focus on modern study designs; surrogate endpoints; interim analyses; group sequential methods; subgroup analyses; meta-analyses; and semi-supervised inference (class size: 20)

BST 214 Principles of Clinical Trials, Head Teaching Fellow Spring 2020, 2021

- Revising content for a clinical trials course for clinicians and policymakers interested in the scientific, policy, and management aspects of clinical trials (class size: 70)

HNRS 396 Instructor Spring 2016

- One of eight undergraduates selected to build the curriculum and teach a course, titled "The Re-emergence of Infectious Diseases: From Cholera to Ebola and Beyond" (class size: 10)

GLBL 394 TA Spring 2015, 2016

- One of 15 students who led a weekly seminar-style recitation section of 300 undergraduates on international relations (recitation size: 20)

REFeree

Biometrics, Biostatistics, Biometrical Journal, Global Public Health, Sexually Transmitted Infections

SKILLS

Languages & Software

- Native fluency in English and Mandarin Chinese
- R, SAS, Python (NetworkX), MatLab

Athletic Activities

- Former top-ranked junior golf player in the US; American Junior Golf Association All-Star
- Completed a US Army Special Forces Selections and Assessment training course