

Abhishek Bhatia

Carolina Health Informatics Program
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PARTICULARS

EDUCATION

The University of North Carolina at Chapel Hill Chapel Hill, NC
Ph.D. in Health Informatics 2021-
Advisor: Emily Pfaff

Harvard T.H. Chan School of Public Health Boston, MA
M.S. in Global Health and Population 2015-2017
Concentration: Maternal and Child Health
Advisor: Wafaie Fawzi

University of California, Berkeley Berkeley, CA
B.A. Integrative Biology 2011-2015
B.Sc. Nutritional Sciences and Molecular Toxicology 2011-2015

DISSERTATION

Working Title: “Estimating Environmental Health Impacts Using Electronic Health Records: Linked Data for Clinical and Epidemiological Research”

Committee: Emily Pfaff (*Chair*), Barbara Entwisle, Miyuki Hino, Anna Kahkoska, Cavin Ward-Cavinness

RESEARCH INTERESTS

Health Informatics: Combining disparate data sources to estimate the effects of environmental and climate exposures on health. To do this, I apply computational methods in statistical learning, causal inference, and network analysis to large-scale clinical, demographic, and geospatial data.

Public Health: Combining large-scale field survey data, syndromic surveillance data, and novel mobility data streams for equitable humanitarian crisis response, namely in the context of the War in Syria, the 2018 Floods in India, and the Rohingya Refugee Crisis in Bangladesh.

PROFESSIONAL EXPERIENCE

Renaissance Computing Institute, The University of North Carolina at Chapel Hill <i>Graduate Research Assistant</i>	Chapel Hill, NC 2021-
CrisisReady, Harvard University; Direct Relief <i>Research Scientist</i>	Cambridge, MA 2020-
The Lakshmi Mittal and Family South Asia Institute, Harvard University <i>Research Affiliate</i>	Cambridge, MA 2021-
India Digital Health Network (IDHN), Harvard University <i>Data Science Fellow</i>	Cambridge, MA 2020-2021
FXB Center for Health and Human Rights, Harvard University <i>Visiting Scholar</i>	Boston, MA 2017-2021
The Lakshmi Mittal and Family South Asia Institute, Harvard University <i>Research Fellow</i>	Cambridge, MA 2016-2020
Ministry of Health and Family Welfare, Government of Maharashtra <i>Technical Consultant</i>	Mumbai, India 2019
Sankara Eye Foundation <i>Technical Consultant</i>	Bengaluru, India 2016-2017
JanaCare <i>Technical Consultant</i>	Boston, MA 2016
Salud Cercana <i>Intern</i>	Mexico City, Mexico 2016
Harvey Lab, Golden Bear Sleep & Mood Research Clinic <i>Research Assistant</i>	Berkeley, CA 2013-2015
Highland Hospital Emergency Department <i>Intern</i>	Oakland, CA 2013-2014
Global Oral Health and Malnutrition Project, Health Research for Action <i>Project Director, India and Nepal</i>	Berkeley, CA 2012-2015

ACADEMIC HONORS

Award for Leadership in Refugee and Migrant Health Global Health and Leadership Conference, Harvard University	2020
Julie E. Henry Fund for Maternal and Child Health Harvard T.H. Chan School of Public Health	2015-2017
First Place, Scaling-Up category Big Ideas @ Berkeley, University of California, Berkeley	2015
First Place, Global Health category Big Ideas @ Berkeley, University of California, Berkeley	2013

BIBLIOGRAPHY

* indicates first author or co-first author

REFEREED ARTICLES (INCLUDES IN PRESS)

1. Thomas, V., Kalidindi, B., Waghmare, A., **Bhatia, A.**, Raj, T., Balsari, S. “The Vinyasa Tool for mHealth solutions: supporting human-centered design in nascent digital health ecosystems.” *JMIR Formative Research* (2023) doi: 10.2196/45250.
2. Brown, T., Martinez de Salazar Munoz, P., **Bhatia, A.**, et al. “Geographically skewed recruitment and COVID-19 seroprevalence estimates: A cross-sectional serosurveillance study and mathematical modeling analysis.” *BMJ Open* (2023) doi: 10.1136/bmjopen-2022-061840.
3. Pfaff, E.R., Madlock-Brown, C., Baratta, J.M., **Bhatia, A.**, et al. “Coding Long COVID: Characterizing a new disease through an ICD-10 lens.” *BMC Medicine* (2023) doi: 10.1186/s12916-023-02737-6.
4. Pfaff, E.R., Girvin, A.T., Bennett, T.D., **Bhatia, A.**, et al. “Who has long-COVID? A big data approach.” *The Lancet Digital Health* (2022) doi: 10.1016/S2589-7500(22)00048-6.
5. Sheikh, A., **Bhatia, A.**, Balsari, S. “Applying Human-centered Design thinking to digital syndromic surveillance at a mass gathering in India.” *Journal of Medical Internet Research* (2021) doi: 10.2196/27952.
6. Achalu, P., **Bhatia, A.**, Turton, B., Guzman, L., Sokal-Gutierrez, K. “Sugary liquids in the baby bottle: Risk for child malnutrition and severe tooth decay in rural El Salvador.” *International Journal of Environmental Research and Public Health* (2021) doi: 10.3390/ijerph18010260.
7. **Bhatia, A.***, Matthan, R., Khanna, T., Balsari, S. “Regulatory Sandboxes: A Cure for mHealth Pilotitis?” *Journal of Medical Internet Research* (2020) doi: 10.2196/21276.
8. **Bhatia, A.***, Mahmud, A., Fuller, A., Shin, R., Rahman, A., Shatil, T., Sultana, M., Morshed, K., Leaning, J., Balsari, S. “The Rohingya in Cox’s Bazar: When the Stateless Seek Refuge.” *Health and Human Rights Journal* (2018) pmid: 30568406.
9. Khadka, N., Roy, S., Athavale, P., **Bhatia, A.**, Barkan, H., Sokal-Gutierrez, K. “A community-based intervention to reduce tooth decay and malnutrition in Mumbai, India.” *Annals of Global Health* (2016) doi: 10.1016/j.aogh.2016.04.642.

BOOK CHAPTERS

10. Bhabha, B.*, **Bhatia, A.***. Transnational families and Technology: trends, impacts, and futures. *Handbook of Migration and Technology, International Organization for Migration. Edward Elgar Publishing.* (2021)

BRIEFS, EDITORIALS, OR OTHER NON-PEER REVIEWED SCHOLARSHIP

11. Balsari, S., et al. “The Use of Mobility Data in Public Health Emergencies.” *CrisisReady, Harvard University.* (2022)
12. Digidiki, V., **Bhatia, A.**, Peisch, S., Bhabha, J. “See Migration Like Water”: An analysis of IOM’s Flow Monitoring Survey Data on migration flows in West and Central Africa. *International Organization for Migration.* (2021) ISBN: 978-92-9068-972-0 .
13. Balsari, S., et al. Response to the Invitation for Public Comment- National Digital Health Blueprint, *Government of India.* (2020)
14. Balsari, S., **Bhatia, A.**, Fuller, A., Leaman, B., Mahmud, A., Morshed, K., Rahman, A., Shatil, T., Shin, R., Sultana, M., Leaning, J. Rapid Needs Assessment in Cox’s Bazar. Phase 1. Policy Brief. Harvard FXB Center for Health and Human Rights. (2019)

REFEREED ARTICLES - UNDER REVIEW

1. Crosskey, M., McIntee, T., Preiss, A., [including **Bhatia, A.**], ... Moffitt, R., Pfaff, E.R. “Reengineering a machine learning phenotype to adapt to the changing COVID-19 landscape: A study from the N3C and RECOVER consortia”, *The Lancet Digital Health.*
2. Preiss, A.*, **Bhatia, A.***, et al. “Effect of Paxlovid Treatment on Long COVID Onset: An EHR-Based Target Trial Emulation from N3C”, *Nature Medicine.*
3. **Bhatia, A.***, Preiss, A.*, et al. “Effect of Nirmatrelvir/Ritonavir (Paxlovid) on Hospitalization among Adults with COVID-19: an EHR-based Target Trial Emulation from N3C”, *PLOS Medicine.*

REFEREED ORAL PRESENTATIONS

1. **Bhatia, A.** Effectiveness of Early Warnings on Household Evacuation During the 2018 Floods in Kerala, India. *Population Association of America Annual Meeting*, Columbus, OH. (2024)
2. Weiskopf, N.*, Pfaff, E.R.*, Madlock-Brown, C.*, Phuong, J.*, **Bhatia, A.***. “Considerations for long-COVID research using real-world data.” Panel Presentation at the *American Medical Informatics Association Informatics Summit*, Seattle, WA. (2023)
3. Kishore, N., **Bhatia, A.**, Waghmare, A., Sarkar, A., Raj, T., Balsari, S. “A Federated, API-enabled Architecture for Personal Health Records in India.” *Harvard T.H. Chan School of Public Health- State of Global Health Symposium*, Boston, MA. (2019)
4. **Bhatia, A.**, Khadka, N., Ronsin, K., Roy, S., Kumar, A., Stephen, M., Ganguly, M., Barkan, H., Sokal-Gutierrez, K. “A Community-Based Intervention to Reduce Tooth Decay and Malnutrition in Mumbai, India: One Year Follow-up.” *Consortium of Universities for Global Health Conference*, San Francisco, CA. (2016)

REFEREED POSTER PRESENTATIONS

1. **Bhatia, A.***, Preiss, A.*. Harnessing Electronic Health Record data for Causal Inference through Target Trial Emulation: lessons from N3C-RECOVER. *American Medical Informatics Association Annual Symposium*, New Orleans, LA. (2023)
2. **Bhatia, A.**, Khadka, N., Roy, S., Ronsin, K., Barkan, H., Sokal-Gutierrez, K. “A Multi-Component Intervention to Reduce Early Childhood Caries and Child Malnutrition in Mumbai, India.” *University of California Global Health Institute*, Berkeley, CA. (2015)
3. Tsang, C., Sokal-Gutierrez, K., **Bhatia, A.**, Barkan, H., Ronsin, K., Baral, A. “Socioeconomic Factors Associated with Children’s Oral Health and Malnutrition in Nepal.” *University of California Global Health Day*, Davis, CA. (2014)

OPEN DATASETS

1. **Bhatia, A.** Rohingya Focus Group Discussions- 2018. Harvard Dataverse. (2019) doi:10.7910/DVN/MPAGLN
2. **Bhatia, A.** Kumbh Mela 2015 Jana Swasthya Project. Harvard Dataverse. (2019) doi:10.7910/DVN/WCEWNR
3. **Bhatia, A.** Data Mapping the Indian Health System. Harvard Dataverse. (2019) doi:10.7910/DVN/BD6UUN
4. **Bhatia, A.** The Impact of Statelessness- 2015. Harvard Dataverse. (2018) doi:10.7910/DVN/EMEVSX
5. **Bhatia, A.** Rohingya Needs Assessment- 2017. Harvard Dataverse. (2018) doi:10.7910/DVN/WMFZHM

INVITED WORKSHOPS & PRESENTATIONS

1. “Virtual Roundtable on NOAA’s Urban Heat Island Mapping Campaigns”. *NOAA Southeast Regional Climate Center, The University of North Carolina at Chapel Hill*, Chapel Hill, NC. (2023)
2. “Workshop on Climate Change in South Asia”. *The Lakshmi Mittal and Family South Asia Institute, Harvard University*, Cambridge, MA. (2023)
3. “Safe, Responsible, Fair, and Equitable Use of Human Mobility Data”. *The Radcliffe Institute for Advanced Studies, Harvard University*, Cambridge, MA. (2021)
4. National Digital Health Mission (NDHM) Stakeholder Consultation. *National Health Authority, Govt. of India*, New Delhi, India. (2020)
5. BRAC-Harvard Digital Health Convening. *Harvard T.H. Chan School of Public Health*, Boston, MA. (2020)
6. Nammal Namukkayi: Thematic Consultation Workshop with Technical Experts. *Kerala State Disaster Management Authority, Govt. of Kerala*, Kerala, India. (2020)
7. Human Rights at a Crossroad: Mass Migration. *Human Rights Symposium. Harvard Kennedy School*, Cambridge, MA. (2019)
8. “The EHR-lite toolkit: an open-source product for primary care centers in India.” *Powering the PHR Conference*, Bangalore, India. (2019)
9. The State of Health Data in Syria: Building Analytical Pipelines for the Apocalypse.” *The Radcliffe Institute for Advanced Studies Academic Ventures Accelerator Workshop*, Cambridge, MA. (2018)
10. Protecting Health Care in Armed Conflict Roundtable. 72nd United Nations General Assembly, *High-level Side Event*, New York, NY. (2017)

TEACHING EXPERIENCE

The University of North Carolina at Chapel Hill

- **Lead Instructor.** ENABLE, Carolina Health Informatics Program, 2024.
- **Guest Lecture.** CHIP 690-295: Foundations of Clinical Data Science, 2024.
- **Lead Instructor.** DataAware, Carolina Health Informatics Program, 2023.
- **Guest Lecture.** SOCI 950: Computational Social Science, 2022.

Harvard University

- **Instructor.** Harvard FXB Child Protection Executive Education Course, 2019.
- **Guest Lecture.** ID 205: Societal Response to Disaster and War, 2019.

Massachusetts Institute of Technology

- **Guest Lecture.** HST.936: Leveraging Data Science in Global Health, 2019.
- **Course Project Mentor.** HST.936: Leveraging Data Science in Global Health, 2019.

University of California, Berkeley

- **Undergraduate Instructor.** Biology 1B: General Biology, 2013.

GRANTS

CURRENT

- **Title:** UNC Clinical and Translational Science Award (UL1) 2023-2030
Funding Source: NIH/NCATS
Role: Graduate Research Assistant (*PI: Emily Pfaff*)
Description: Integrating EHR data with data from the US Bureau of the Census, specifically the American Community Survey and the Master Address File-Auxiliary Reference File.
- **Title:** RECOVER Initiative: EHR and RWD Data Component 2021-2024
Funding Source: NIH/NHLBI
Total Funds: \$2,828,383 (UNC subcontract from larger grant; CU Denver is prime)
Role: Graduate Research Assistant (*Site PI: Emily Pfaff*)
Description: Integrating EHR data with data from the US Bureau of the Census, specifically the American Community Survey and the Master Address File-Auxiliary Reference File.

COMPLETED

- **Title:** CrisisReady 2020-2023
Funding Source: Google.org
Total Funds: \$1,000,000
Role: Key Personnel (*PI: Satchit Balsari, Caroline Buckee*)
Description: Develop a data-driven global decision support tools for health system resilience during natural disasters.
- **Title:** Impact of Human Mobility Data on Pandemic Response Planning 2020-2022
Funding Source: Facebook Data for Good
Total Funds: \$204,000
Role: Key Personnel (*PI: Satchit Balsari, Caroline Buckee*)
Description: Study to evaluate the impact of mobility data on COVID-19 public health response decision-making.
- **Title:** COVID-19 Mobility Data Network (CMDN) 2020-2022
Funding Source: Schmidt Futures
Role: Key Personnel (*PI: Satchit Balsari, Caroline Buckee*)
Description: Develop and sustain an international platform of research scientists to apply human mobility data to inform COVID-19 pandemic response.

- **Title:** Ensuring Privacy in COVID-19 Epidemiological Mobility Data Sets 2020-2022
Funding Source: The Harvard Data Science Initiative Trust in Science Grant
Total Funds: \$100,000
Role: Key Personnel (*PI: Satchit Balsari, Caroline Buckee*)
Description: Apply differential privacy to COVID-19 mobility data to study the movement of individuals during social distancing restrictions while preserving their privacy.
- **Title:** Post Disaster Risk Assessments: A South-South Exchange 2019-2020
Funding Source: Asia Center at Harvard
Total Funds: \$30,000
Role: Co-Investigator (*PI: Satchit Balsari*)
Description: A consensus study among domain experts of best practices in technologically aided community-based impact-ascertainments after natural disasters.
- **Title:** Monsoon Floods in Kerala 2019-2020
Funding Source: Lakshmi Mittal and Family South Asia Institute at Harvard
Total Funds: \$20,000
Role: Co-Investigator (*PI: Satchit Balsari*)
Description: Mixed-methods study of the impact of the monsoon floods in Kerala that displaced over a million people.
- **Title:** Optimization of NCD Screening and Management Digital Tools in India 2019-2023
Funding Source: Dell Giving
Total Funds: \$600,000
Role: Key Personnel (*PI: Satchit Balsari*)
Description: Three-arm quasi experimental study to evaluate and improve digital health implementation in India.
- **Title:** Rapid Assessment of the Rohingya in Cox's Bazaar 2018
Funding Source: Harvard FXB Center for Health and Human Rights
Total Funds: \$10,000
Role: Co-Investigator (*PI: Satchit Balsari*)
Description: A household based survey of refugee and host community families to understand community needs and identify vulnerable populations.
- **Title:** Enabling an API-based Health Information Exchange Research Network 2018
Funding Source: Harvard Provost's Fund for Interfaculty Initiatives
Total Funds: \$10,000
Role: Key Personnel (*PI: Satchit Balsari*)
Description: A multi-center collaboration of several centers at Harvard and in India.
- **Title:** Impact of the Syrian War on Medicine and Public Health in the Region 2017-2018
Funding Source: Harvard FXB Center for Health and Human Rights
Role: Key Personnel (*PI: Jennifer Leaning*)
Description: Mixed-methods big-data analysis of clinical and population level data from multiple sources to document the impact of the Syrian war.
- **Title:** The 3T Approach to Advancing Healthcare Delivery (India) 2017-2019
Funding Source: Tata Trusts / Lakshmi Mittal South Asia Institute at Harvard
Total Funds: \$130,000
Role: Key Personnel (*PI: Satchit Balsari*)
Description: Prototype development and testing of the 3T (task shifting, technology and training) model in India.
- **Title:** Task Shifting in Primary Healthcare in India 2016
Funding Source: Tata Trusts / Harvard South Asia Institute
Total Funds: \$15,000
Role: Key Personnel (*PI: Satchit Balsari*)
Description: An evaluation of the scope of (and roadmap for) non-physician clinician cadres to expand healthcare delivery in India.

PROFESSIONAL SERVICE

TO DISCIPLINE

Ad-hoc Journal Reviewer

- JMIR mHealth and uHealth
- JMIR Public Health and Surveillance
- JMIR Research Protocols
- Journal of Health and Human Rights
- Journal of Medical Internet Research
- PLOS Digital Health

Conference Abstract Reviewer

- American Medical Informatics Association Annual Symposium, 2023.

Grant Reviewer

- Research, Internship, and Language Studies Grant, The Lakshmi Mittal and Family South Asia Institute at Harvard University 2019-2021

UNIVERSITY SERVICE

- Co-Chair, Student Committee, Carolina Health Informatics Program, The University of North Carolina at Chapel Hill, 2023-Present.
- Mentor, MIT COVID-19 Challenge India, Massachusetts Institute of Technology, 2020.
- Lead, Public Health Information Technology Hackathon, Harvard T.H. Chan School of Public Health, 2016.

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

- Member, Migration Working Group, The University of North Carolina at Chapel Hill, 2024-Present.
- Member, Population Association of America, 2021-Present.
- Member, American Medical Informatics Association, 2021-Present.
- Collaborator, OpenDP, Harvard University Privacy Tools Project, 2020-Present.
- Member, Harvard Health Data Working Group, Harvard University, 2017-2019.
- Member, International Scholars Working Group and Civil and Human Rights Committee, Harvard University, 2015-2017.

LANGUAGES

Proficient in English, Hindi and Kutchi. Working knowledge of Spanish.