

ELIZABETH M. SIMMONS, MPH

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PROFILE

Collaborative and cross-culturally sensitive doctoral student in maternal and child health and epidemiology, with 7+ years of experience in mix-methods research, epidemiologic methods, quality improvement and teaching in U.S., Africa and Asia. Passionate about addressing disparities in maternal health and improving pregnancy outcomes through utilizing strong research and communication skills to address barriers to quality care. Advanced proficiency in SAS, NVivo, R, Stata and ArcGIS.

EDUCATION

UNC Gillings School of Global Public Health, Chapel Hill, NC 2019 – Current

Doctor of Philosophy, Maternal and Child Health | Minor: Epidemiology

Relevant Courses: Health Economics, Advanced Epidemiology, Foundations in Maternal Health, Underserved Populations and Health Reform

Boston University School of Public Health, Boston, MA

Master of Public Health, Global Health

2017

Relevant Courses: Applied Research Methods, Statistical Methods in Epidemiology, Intermediate Epidemiology, Introduction to Geographic Information Systems

University of North Carolina at Chapel Hill, Chapel Hill, NC

Bachelor of Science in Public Health, Biostatistics

2011

Relevant Courses: Statistical Computing and Data Management, Sample Survey Methods, Design in Public Health Studies, Introduction to Teaching

RESEARCH EXPERIENCE

Maternal Newborn Child and Adolescent Health and Ageing Department, WHO, remote August 2021 – Present
Consultant

- Maintaining and updating dashboards for 16 countries to visualize utilization of maternal and child health services before, during and after COVID-19 pandemic

Carolina Population Center, UNC Chapel Hill, Chapel Hill, NC August 2020 – Present

Predoctoral Trainee | PI: Dr. Lisa Pearce

- Participating in a pre-doctoral fellowship through the Interdisciplinary Population Health Science Training Program, a T32 program funded by the NICHD

Margolis Center for Health Policy, Duke University, Durham, NC

May 2021 – July 2021

Graduate Intern | PI: Drs. Osondu Ogbuoji, Evan Myers and Gillian Sanders-Smidler

- Conducted a cost-effectiveness analysis to determine the impact of various policies on preeclampsia incidence among women in the United States

Department of Maternal and Child Health at UNC, Chapel Hill, NC

August 2019 – May 2021

Graduate Research Assistant | PI: Dr. Kavita Singh Ongechi

- Adjusted electronic health facility data to provide better quality estimates of coverage of essential maternal and child health interventions at local levels to fill in knowledge gaps when household survey data is not available.
- Used group trajectory modeling to group low and middle income countries by under-five and infant mortality to understand what on which factors it is most beneficial to intervene.

Department of Global Health at Boston University, Boston, MA

January 2017 – July 2019

Research Fellow | PI: Dr. Patricia Hibberd

- Provided analytical, technical, and field-based support to research projects of Department Chair, Dr. Patricia Hibberd.
- Collaborated on research design, grant writing, creation of research instruments, training and supervision of overseas research collaborators and preparation reports and manuscripts for Dr. Hibberd's research team.
- Conducted analysis using dataset of 40,000 Indian women on effect of travel distance on cesarean section rates in public and private facilities in India using ArcGIS and SAS.

Department of Global Health at Boston University, Boston, MA

December 2015 – December 2016

Graduate Research Assistant | PI: Drs. Lora Sabin, Lisa Messersmith and Nafisa Halim

- Analyzed the determinants of gender-based violence (GBV) in a rural community in Tanzania and the effects of a combination of interventions on the prevalence of GBV in the community at baseline and endline.
- Wrote statistical programming in SAS, conducting qualitative analysis in NVivo.
- Managed, cleaned and analyzed dataset of >1 million observations looking at adherence to HIV medications in population of pregnant, HIV+ women in Uganda.

Lesotho-Boston Health Alliance, Leribe, Lesotho

May 2016 – July 2016

Quality Improvement Intern

- Planned and implemented a root cause analysis to determine why women were having home births in the district of Leribe funded by the Ministry of Health and Social Welfare (MOHSW) in Lesotho. Worked with an international team of researchers, doctors, nurses and MOHSW workers. Analyzed quantitative and qualitative data in R and NVivo, respectively.
- Tailored research plan to work effectively in a low-resource setting.
- Created and presented a report summarizing findings and recommendations on future maternal health interventions to Lesotho MOHSW and BUSPH staff members.

UNC Chapel Hill Pelvic Pain Research Unit, Chapel Hill, NC

May 2011 – August 2011

Research Assistant | PI: Dr. Denniz Zolnoun

- Analyzed the comorbidity of orofacial pain and related clinical characteristics among women with vestibulodynia.
- Wrote statistical programming in SAS and conducted analysis on a large data set from a cohort of women with vestibulodynia.

UNC Gillings School of Global Public Health, Biostatistics Department, Chapel Hill, NC

January 2010 – May 2011

Research Assistant | PI: Dr. Michael Wu

- Contributed to development and application of new statistical methods for complex genomics data.
- Applied state of the art statistical tools in R to identify metabolomics markers for pancreatic cancer and genetic markers for GvHD risk after bone marrow transplantation.

TEACHING EXPERIENCE

Boston University School of Public Health, Boston, MA

August 2017 – May 2019

Teaching Assistant for Anti-retroviral (ARV) Program Management Course (fall semester)

Teaching Assistant for Intermediate Epidemiology Course (spring semester)

- Prepared and providing course documents including syllabus, weekly lecture slides, group exercises and assignments throughout the course.
- Assisted in providing feedback on and grading students' individual and group work on both a weekly and course-long basis.
- Conducted guest lecture on sustainability of national and international funding for ARV programs in fall semesters.

Echizen English Center, Fukui, Fukui, Japan

August 2014 – July 2015

English Teacher

- Planned lessons, prepared materials and conducted English as a foreign language classes for students of all ages, teaching 4-5 classes of 3-20 students per day.
- Adapted teaching plans to work with students from ages 2-70.
- Organized monthly English events that coincided with international holidays and events to broaden students understanding of foreign cultures.

JET Programme, Sabae, Fukui, Japan

August 2011 – July 2014

Assistant Language Teacher

- Assisted in the planning and delivering of team-taught English lessons to students in seventh to ninth grade.
- Coached high-level junior high school students in a prefecture-wide English speech competition, leading to honorable mentions.

MENTORING AND MANAGEMENT EXPERIENCE

Matthew Walker , Undergraduate Research Opportunity Program Award	2019
Juliana Borrizzo , Undergraduate Research Opportunity Program Award	2018 – 2019
Alayna Holderman , Graduate Research Assistant Program, WiseMama research study	2017-2018
Lavanya Virmani , Undergraduate Summer Intern, Boston University School of Public Health	2017

HONORS

MCH-Epidemiology Training Program Award , UNC Center of Excellence in MCH, Chapel Hill, NC	2020
Doctoral Merit Scholarship , UNC Gillings School of Global Public Health, Chapel Hill, NC	2019
Santander Scholarship , Boston University School of Public Health, Boston, MA	2016
Merit Scholarship , Boston University School of Public Health, Boston, MA	2015
Public Service Scholar , University of North Carolina, Chapel Hill, NC	2011
Alpha Epsilon Delta , University of North Carolina, Chapel Hill, NC	2011
Ruth Barret Smith Scholarship , Pi Beta Phi, Chapel Hill, NC	2008

VOLUNTEER WORK

Legal Aid of North Carolina , Pittsboro, North Carolina	December 2020 - present
Tannan Area English Camp , Sabae, Fukui, Japan	June 2013- August 2013
Fukui Prefecture Skills Development Conference , Fukui, Fukui, Japan	November 2012 and 2013
Tannan Block Co-Leader , Sabae, Fukui, Japan	August 2012 – July 2014
Tsuruga Orphanage , Tsuruga, Fukui, Japan	August 2011 – August 2014
MedWorld , Panama	2010
UNC Hospital , Chapel Hill, NC	2008 - 2010

SERVICE ACTIVITIES

<u>Manuscript Peer Review</u> Violence Against Women	2017 – 2019
<u>Institutional Service</u> Doctoral Student Representative for Faculty Meetings , Department of MCH, UNC	2021-present
Doctoral Student Committee Co-chair , Department of MCH, UNC	2019 - 2021
Sustainability Committee Co-chair , Department of Global Health, Boston University	2017 – 2019
New MS Degree Committee Member , Department of Global Health, Boston University	2017-2018

PUBLICATIONS

My ORCID: 0000-0003-0780-467X

My Bibliography: <https://www.ncbi.nlm.nih.gov/myncbi/elizabeth.simmons.1/bibliography/public/>

Published in peer-reviewed journal:

1. **Simmons, E.**, Lane, K., Rao, S., Kurhe, Kl., Patel, A., Hibberd, P.L. Trends in Cesarean section rates in private and public facilities in rural eastern Maharashtra, India from 2010-2017. *PLOS One*.
2. Patel, A., **Simmons, E.**, Rao, S., Moore, J., Nolen, T.L., Goldenberg, R.L., Goudar, S.S., Esamai, F., Garces, A.L., Chomba, E., Saleem, S., Bose, C.L., Liechty, E.A., Krebs, N.F., Derman, R.J., Carlo, W.A., Koso-Thomas, M., McClure, E.M., Hibberd, P.L. (2020) Evaluating the Effect of Care around Labor and Delivery Practices Combined as a Quality of Care Composite Index on Early Neonatal Mortality in the Global Network's Maternal and Newborn Health. *Reproductive Health*.
3. **Simmons, E.**, Singh Ongechi, K., Mpiima, J., Kumar, M., Weiss, W. (2020) Assessing coverage of essential maternal and child health interventions using health-facility data in Uganda. *BMC Population Health Metrics*.

4. Locks, L., Patel, A., Katz, E., **Simmons, E.**, Hibberd, P. (2020) Assessing seasonal trends and maternal characteristics as predictors of maternal undernutrition and low birthweight in Eastern Maharashtra, India. *Maternal and Child Nutrition*.
5. Sabin, L., Hafliim, N., Hamer, D.H., **Simmons, E.**, Jonnalagadda, S., Williams, A., Chemusto, H., Gifford, A., Bonawitz, R., Aroda, P., DeSilva, M. Gasuza, J., Muskasa, B., Messersmith, L. (2020) Retention in HIV Care among HIV-seropositive Pregnant and Postpartum Women in Uganda: Results of a Randomized Controlled Trial. *AIDS and Behavior*.
6. Arlington, L., Patel, A.B., **Simmons, E.**, Kurhe, K., Prakash, A., Rao, S.R., Hibberd, P.L. (2018). Duration of Solid Fuel Cook-stove Use is Associated with Increased Risk of Acute Lower Respiratory Infection (ALRI) among Children under Six Months in Rural Central India. *PLOSOne*.
7. Patel, A.B., Pusedekar, Y., Prakash, A., **Simmons, E.**, Waikar, M., Hibberd, P.L. Trends and determinants of increasing cesarean sections from 2010-2013 in a prospective population-based registry in Eastern rural Maharashtra, India. *BMJ Open*.
8. Halim, N., Mzilangwe, E., Reich, N., Baid, L., **Simmons, E.**, Holmes, N.B., Servidone, M., Kawemama, P., Messersmith, L.J. (2019). Together to End Violence against Women in Tanzania: Results of a Pilot Cluster Randomized Controlled Trial to Evaluate Preliminary Effectiveness of Interpersonal and Community Level Interventions to Address Intimate Partner Violence. *Global Public Health*.
9. **Simmons, E.**, Halim, N., Servidone, M., Steven, E., Reich, N., Badi, L., Holmes, N., Kawemama, P. & Messersmith, L.J. (2019). Prevention and mitigation of intimate-partner violence: The role of community leaders in Tanzania. *Violence Against Women*, 36(3-4),359-378. *Violence Against Women*.
10. Messersmith, L.J., Halim, N., Steven, E., Reich, N., Badi, L., Holmes, Servidone, M., **Simmons, E.** & Kawmama, P (2017). Childhood trauma, gender inequitable attitudes, alcohol use and multiple sexual partners: Correlates of intimate partner violence in northern Tanzania. *Global Public Health*.
11. Bair, E., **Simmons, E.**, Hartung, J., Desia, K., Maixner, & W., Zolnoun, D. (2014). Natural History of Comorbid Orofacial Pain Among Women With Vestibulodynia. *The Clinical Journal of Pain*, 31(1), 73-78.
12. Wu, M.C., Maity, A., Lee S., **Simmons, E.**, Harmon, Q.E., Lin, X., Engel, S.M., Molldrem, J.J., & Armistead, P.M. (2013). Kernel Machine SNP-set Testing under Multiple Candidate Kernels. *Genetic Epidemiology*, 37(3), 267-275.

Published in non-peer-reviewed journal:

1. **Simmons, E.**, Davis, A., Mehralizade, A., Sirisena, A., Mohlerep, M., Mokobocho, T., Usher, J., Mapolisi Kose, P., Nkabane – Nkholongo, E. (2017). Root Cause Analysis of Home Deliveries in Leribe, Lesotho. *Lesotho Medical Journal*.

Under review:

1. **Simmons, E.** and Austin, A. Association of prenatal substance use with prenatal and postpartum care: Evidence from the Pregnancy Risk Assessment Monitoring System, 2016-2019. Manuscript submitted for publication.
2. Sabin, L., **Simmons, E.**, Halim, N., Gifford, A., Williams, A., Bonawitz, R., Chemusto, H., Banigbe, B., DeSilva, M., Gasuza, J., Aroda, P., Mukasa, B., Hamer, D Messersmith, L.J. Real-time feedback to improve HIV treatment adherence in pregnant and postpartum women: a randomized controlled trial. Manuscript submitted for publication.

3. Austin, A., Naumann, R., **Simmons, E.** Association of state child abuse and mandated reporting policies with prenatal and postpartum care among pregnant women with substance use. Manuscript submitted for publication.

In preparation:

1. **Simmons, E.**, Patel, A., Rao, S., Hibberd, P. The effect of detection of gestational hypertension in the third trimester on birthweight among live born infants in India: Secondary Analysis of Data from the ASPIRIN Randomized Control Trial. Manuscript in preparation.
2. **Simmons, E.**, Myers, E., Ogbuaji, O. A decision model to determine the impact of increasing access to low dose aspirin on prevalence of preeclampsia. Manuscript in preparation.
3. Angeles, G., Silverstein, H., Ahsan, K.A., Kibria, M., Rakib, N. A., Escudero, G., Singh, K., Mpiima, J, **Simmons, E.**, Weiss, B. One year of the COVID-19 pandemic: Estimating the effects on essential health services utilization in Uganda and Bangladesh using routine health information. Manuscript in preparation.

PRESENTATIONS

Oral presentations:

1. **Simmons, E.**, Singh, K., Angeles, G., Swiatlo, A., Cheng-Yung, O., Weiss, W. and McNaughton Reyes, H. Applying Group Based Trajectory Modeling to Under-Five Mortality Rates in Low- and Lower-middle Income Countries. Oral presentation at the annual meeting of the Population Association of America. St. Louis, Missouri, USA, 2021.
2. Mpiima, J., **Simmons E.**, Singh Ongechi, K., Kumar, M., Weiss, W. Assessing coverage of essential maternal and child health interventions using health-facility data in Uganda. Oral presentation at the Countdown to 2030 Health Facility Data Analysis Workshop. Nairobi, Kenya, 2020.
3. **Simmons, E.**, Lane, K., Rao, S., Hibberd, P.L.. Cesarean section trends in public and private facilities in Eastern Maharashtra from 2010-2017. Oral presentation at the Global Health Research Series Seminar. Department of Global Health, Boston University School of Public Health, 2018.
4. Berry, K., **Simmons, E.**, Davis, A., Mehralizade, A., Sirisena, A., Mohlerep, M., Mokobocho, T., Usher, J., Mapolisi Kose, P., Nkabane – Nkholongo, E. Root Cause Analysis of Home Deliveries in Leribe, Lesotho. Oral presentation at at the quarterly Primary Health Care meeting. District Health Management Team, Leribe, Lesotho, 2017.

Poster presentations:

1. Berney, S., Borde, A., Cashion, J., Rosenbaum, A., **Simmons, E.**, Uttamchandani, L. How does a rural hospital closure affect obstetric patient decision making amongst individuals living in those communities? Poster presentation in HPM 715: Health Economics, 2019.
2. Messersmith, L.J., Halim, H., **Simmons E.**, Williams, A., Chemusto, H., Gasuza, J., Aroda, P., Hamer, D., Gifford, A., Bonawitz, R., DeSila, M., Musisi, S., Mukasa, B., Sabin, L. Lack of disclosure of HIV status to partners: A major barrier to retention in care for pregnant and postpartum women in the WiseMama Uganda Study. Poster presentation at the International Adherence Conference, Miami, FL. 2017.
3. Messersmith, L.J., Williams, A., Morrison, A., Halim, N., **Simmons, E.**, Chemusto, H., Gasuza, J., Aroda, P., Hamer, D., Gifford, A., Bonawitz, R., DeSilva, M., Musisi, S., Mukasa, B., Sabin, L. Barriers to retention in care and ART

adherence among pregnant and postpartum women in Uganda: Qualitative results of the WiseMama Study. Poster presentation at the International Adherence Conference, Miami, FL. 2017.

4. Hibberd, P.L., Jehan, F., Nisar, I., **Simmons, E.**, Fang, Q. Thermal images on smartphones to diagnose bacterial neonatal pneumonia in Pakistan. Poster presentation at the Savings Lives at Birth Development Exchange, Washington D.C., USA. 2017.
5. Sabin, L., **Simmons, E.**, Halim, N., Williams, A., Hamer, D., Chemusto, H., Gifford, A., Bonawitz, R., Haker, C., Aroda, P., Gasuza, J., DeSilva, M., Mukasa, B., Messersmith, L.J. The effects of real-time feedback on antiretroviral therapy adherence among pregnant and postpartum women: Per-protocol analysis of the WiseMama Uganda randomized control trial. Poster presentation at the International Adherence Conference, Miami, FL. 2018.
6. Sabin, L., **Simmons, E.**, Williams, A., Aroda, P., Halim, N., Bonawitz, R., Gifford, A., Hamer, D., Ivankovich, M., DeSilva, M., Chemusto, H., Mukasa, B., Gasuza, J., Messersmith, L.J. 'Messages reminded me to take my medication': Trial participants' views of behavioral feedback via triggered reminders and data-enhanced counseling in the Uganda WiseMama RCT. Poster presentation at the International Adherence Conference, Miami, FL. 2018.
7. Sabin, L., Murray, L., **Simmons, E.**, Halim, N., Hamer, D., Chemusto, H., Gifford, A., Bonawitz, R., DeSilva, M., Mukasa, B., Messersmith L.J. Distinctive adherence patterns among HIV-positive pregnant and postpartum women on HIV treatment in Uganda: an analysis of pre- and post-delivery adherence behaviors. Poster presentation at the International Adherence Conference, Miami, FL. 2019.