

Elizabeth Dunbar, PhD, MPH, MSc

Education

- 2019 – 2024 **Doctor of Philosophy**
University of Washington, Seattle, WA
Human Centered Design and Engineering
- 2019 – 2021 **Master of Science**
University of Washington, Seattle, WA
Human Centered Design and Engineering
- 2009 **Master of Public Health**
Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
Customized study of infectious diseases epidemiology
- 2005 **Bachelor of Arts**
College of Wooster, Wooster, OH
Cum Laude, Religious studies with pre-medical addendum

Relevant Experience

- 2021 – present **Interim Deputy Director** (2025- present)
Senior Digital Health Technical Project Manager (2021-2024)
Digital Initiatives Group at International Training & Education Center
University of Washington
- Global digital health specialist and Technical Project Manager who leads a diverse, global digital health portfolio to reimagine and strengthen public health informatics in low- and middle income countries
 - Designing and implementing complex digital health solutions, including Lab Information Systems, Electronic Health Records, public health surveillance systems, patient-facing technologies, and Health Information Exchanges. Collaborate with diverse stakeholders to define requirements, develop implementation plans, and evaluate impact to guide scale-up
 - Evaluate responsible applications of Artificial Intelligence (AI) in global digital health to support DIGI's digital health strategy and portfolio, with emphasis on equitable and explainable AI
 - Managing project in Haiti send electronic viral load orders to the central laboratory, by synthesizing feedback from government officials, NGOs, and funders; leading software developers to build interoperable technologies; and drafting implementation plans
 - Spearheaded the creation of (1) Health Information System Budgeting and Costing Toolkit and (2) Health Information Systems Project Management Toolkit by facilitating meetings, drafting tools, synthesizing inputs, and guiding collaboration across partners like CDC, OpenMRS, PATH, Jembi,

UCSF, project management trainees based in LMICs, and University of Washington. Both toolkits are available on CDC's [Global Informatics Collaborative \(GIC\) Sandbox](#)

- Developed a COVID-19 PowerBI data visualization dashboard to empower government officials with patient-level data for traveler screening, testing, and contact tracing
- Lead designer at DIGI where I created the logo, branding tools, slide decks, one-pagers, and conducted many training sessions with colleagues on how to optimize their software and design skills (human centered design methods, PowerPoint, Google Slides, Excel, Jira, Figma, etc).

2021 – present

Freelance Design Researcher and Co-owner

[Interstitial Tech Coop](#) takes on tech projects related to environmental sustainability, human rights and open-source technology

Led design and project management on two projects with [Global Rights Compliance](#), a non-profit law firm dedicated to human rights and supporting prosecution of war crimes:

- Codesigned an app to [support](#) investigators generating admissible evidence for war crimes prosecution with focus on Ukraine;
- Codesigned and built an [apple](#)- and [android](#)-compatible app to support starvation war crimes documentation

2019 – 2024

Graduate Researcher

Human Centered Design and Engineering, University of Washington

- Designing and testing an interactive intervention called *(re)imaginator* created to support global health practitioners apply critical reflection to reimagine and decolonize global health
- Participatory design research to create better processes for informed consent, data sharing agreements, and health information systems in routine care settings in low- and middle-income countries

2019 – 2021

Monitoring and Evaluation Consultant

Resilient and Responsive Health Systems Liberia

- Developed key performance indicators that aligned with Ministry of Health priorities and data, and designed implementation including data collection tools and PowerBI monitoring to inform decision making
- Provided technical assistance to Liberia's national HIV care team to redesign key HIV data collection tools (e.g. patient care cards, registers, and reporting tools) to streamline and improve accuracy of disease surveillance data
- Supported implementing partners by providing expertise in data strategy, analysis, and manuscript writing
- [Coauthored 1 publication](#), with another under review as of Nov 2024

Summer 2020

Health Data Ethics and Data Protections Consultant

Medic Mobile Research Team

Led redesign of organizational data privacy practices to align with GDPR-like data privacy acts that are expanding in LMICs.

- Reimagined and re-wrote data use agreement templates that incorporate local data protection policies
- Enhanced internal training processes around data protections, privacy and security
- Provided guidance to leadership to align their goal of adhering to the the highest standards of data ethics with their practices

2017 – 2019

Director of Health Monitoring, Evaluation, and Informatics

Partners In Health, Harper, Liberia

Led and grew a high-performing, 13-member Liberian team to oversee monitoring, evaluation, research, and informatics across all clinical and community health programs serving 200,000 Liberians

- Ensured collaboration and coordination with Central Ministry of Health, County Health Teams, PIH Leadership, clinicians, community health workers, and dozens of stakeholders (NGOs, researchers, University faculty, volunteers, etc.).
- Provided significant technical assistance, as requested, to Ministry of Health, including upskilling staff, seconding staff, supporting digital health strategy development, and helping launch the first-ever Electronic Medical Record Technical Working Groups
- Secured a 58% increase in my department's operating budget; managed \$415k budget
- Enhanced data-driven, decision-making by building data visualization activities, analyzing large datasets, creating dissemination materials, and providing regular upskilling sessions for staff on how to analyze and interpret clinical and public health data
- Contributed to strategic leadership by serving on the executive leadership team, guiding overall strategy, engagement with stakeholder and governments
- Co-authored [2 peer-reviewed manuscripts](#)

2014 – 2017

Director of Health Monitoring, Evaluation, and Research

Partners In Health, Neno, Malawi

Directed informatics, monitoring, evaluation, and research of facility- and community-based health programs across 14 facilities serving 165,800 people. Grew team from 8 to 13 full time Malawian staff, and led research team

- Strengthened and deployed health information systems with the Ministry of Health (DHIS2, OpenMRS), including creating digital health tool to support integration of a novel, integrated HIV and chronic disease care clinic

- Organized, facilitated, and presented at many 25-100+ person meetings and workshops with MOH at district, zonal and central levels
- Co-designed the [District Leadership and Partner Coordination toolkit](#) with the Ministry of Health that promoted leadership & streamlined coordination of health stakeholders that scaled to 6 districts of 2.2 million people
- [Co-authored 17 manuscripts](#)

2013 – 2014

Research Manager

MASS Design Group, Boston, MA

Helped establish MASS' – a non-profit architecture firm focused on human-rights-based and just design - research team by creating both internal metrics and developing research protocols.

- Managed development of community-based water and sanitation system concept for informal settlement of 45K people residing in Port-au-Prince
- Designed project strategies, reports, presentations
- Obtained 200+K in research awards, with applications for \$1M+

2012 – 2013

Operational Research Coordinator

Partners In Health, Neno, Malawi

Monitoring and Evaluation Team

- Facilitated development and implementation of 60+ key performance indicators across 12 departments and 13 health facilities. Led submission of ethics applications.
- Mentored Ministry of Health and PIH staff in developing health surveillance systems, data literacy, research and analytic skills

2011 – 2012

Surveillance and Informatics Research Analyst

Council of State and Territorial Epidemiologists, Atlanta, GA

- Led coordination between State Epidemiologists, Centers for Disease Control, ASTHO, NACCHO and RTI to optimize and implement a public health, syndromic surveillance tool called BioSense 2.0
- Assessed health department readiness to adopt BioSense 2.0, through hosting regular meetings, conducting site visits, and synthesizing key recommendations for improving the tool
- Led CSTE's BioSense communication strategies and activities, including hosting webinars, meetings, and presenting at national conferences and CSTE Executive Board Meetings.

2009 – 2010

Public Health Fellow

Centers for Disease Control and Prevention, Atlanta, GA

Waterborne Disease Prevention Branch

- Led data analysis strategy for over 121,000 pool surveillance reports across 15 data sets and 1,000+ variables

- [Co-authored two Morbidity and Mortality Weekly Reports](#) that included data collection recommendations from the Waterborne Disease Prevention Branch
- Supported investigation and case tracking of a cryptosporidiosis outbreak
- Presented at two national conferences and several CDC-sponsored webinars

2005 – 2008

Senior Clinical Research Assistant

Children’s National Medical Center, Washington, DC

Research assistant on several asthma and HIV-care clinical trials where I supported patient recruitment, obtained informed consent, enrolled patients, conducted study visits, coached spirometry, and delivered family- and patient education sessions

Publications [links to articles](#)

- 2025 Jenko S, Papadopoulou, E., Kumar V, Overman SS, Krepelko va K, Wilson J, **Dunbar EL**, Spice C, & Exarchos T. Artificial Intelligence in Healthcare: How to Develop and Implement Safe, Ethical and Trustworthy AI Systems. *AI*, 6(6), 116.
- 2025 Suleimenova A, **Dunbar EL**, Antilla J, Puttkammer N, Moldestad M, Flowers J. Domains of Electronic Medical Records Quality in Global Health: Stakeholder Perspectives Using the STEEEP Framework. *JAMIA* (forthcoming)
- 2025 Puttkammer N, **Dunbar EL**, et.al. Human Centered Design of the CASI-Plus mHealth Tool for Optimizing HIV Index Testing in Wartime Ukraine: A Formative Research Case Study. *JMIR Formative Research*
- 2023 Wanger J, Cullen T, **Dunbar EL**, Flowers J. Open Source Software for Public Health: Opportunities and Approaches. *Sexually Transmitted Diseases*.
- 2022 Wroe EB, Mailosi B, Price N, Kachimanga C, Shah A, Kalanga N, **Dunbar EL**, Nazimera L, Gizaw M, Boudreaux C, Dullie L, Neba L, McBain RK. Economic evaluation of integrated services for non-communicable diseases and HIV: costs and client outcomes in rural Malawi. *BMJ*.
- 2022 **Dunbar EL**, Kolko B. Developing Critical Reflexivity in Global Health. In Designing Interactive Systems Conference (DIS ’22 Companion). Association for Computing Machinery. <https://doi.org/10.1145/3532107.3532882>
- 2021 Wroe EB, Nhlema B, **Dunbar EL**, Kulinkina AV, Kachimanga C, Aron M, Dullie L, Makungwa H, Chabwera B, Phiri B, Nazimera L, Ndarama E, Michaelis A, McBain R, Brown C, Palazuelos D, Lilford R, Watson SI. A

household-based community health worker programme for non-communicable disease, malnutrition, tuberculosis, HIV and maternal health: a stepped-wedge cluster randomized controlled trial in Neno District, Malawi. *BMJ Global Health*.

- 2021 Neumann C, **Dunbar EL**, Espino JU, Mtonga TM, Douglas GP. Care:Bricks -An LMIC-First Implementation for agile development of process-centric and guideline-driven point of care EMR systems. HELINA Proceedings. // [link](#)
- 2021 Adeiza MA, Wachekwa I, Nuta C, Donato S, Koomson F, Whitney J, Plyler C, Kerr L, Sackey G, **Dunbar EL**, and Talbert-Slagle K. Gaps and Opportunities in HIV Service Delivery in High Volume HIV Care Centers in Liberia: Lessons From the Field. *Annals of Global Health*.
- 2021 Neumann C, **Dunbar EL**, Espino, JU, Mtonga TM, Douglas GP. A LMIC-First Manifesto to Developing Electronic Medical Record Systems. *Journal of Health Informatics in Africa*. // [link](#)
- 2021 **Dunbar EL**, Olsen, HE, Salomon, E, Bhatt, S, Mutuku, R, Wasunna, B, Edwards, J, Kolko, B Holeman, I. Towards Responsible Data Practices in Digital Health: A Case Study of an Open-source Community's Journey. *CHI Conference on Human Factors in Computing Systems*.
- 2020 Kachimanga C, **Dunbar EL**, Watson S, Cundale K, Makungwa H, Wroe EB, Shea J. Increasing utilisation of perinatal services: estimating the impact of community health worker program in Neno, Malawi. *BMC Pregnancy and Childbirth*.
- 2020 Wroe EB, Kalanga N, **Dunbar EL**, et al. Expanding access to non-communicable disease care in rural Malawi: outcomes from a retrospective cohort in an integrated NCD-HIV model *BMJ Open* 2020;10:e036836. doi: 10.1136/bmjopen-2020-036836
- 2019 Joharifard S, Price N, Yarlequé Ipanaqué JG, Clarke RH, Nyemah E, Wallace AF, Dobboh C, Howe C, Kortimai LG, Chukwuemeka NS, Jackson Mentoe S, Kabeto AK, Beste J, **Dunbar EL**. The impact of implementing a comprehensive surgical program on the surgical cohort at a remote referral hospital in southeastern Liberia. *World Journal of Surgery*.
- 2019 Petersen EM, Wroe EB, Nyangulu K, Kanyenda C, Njolomole S, **Dunbar EL**, & Kachimanga C. Integrated home-based screening for people living with disabilities: A case study from rural Malawi. *African Journal of Disability*.
- 2019 Watson SI, Dixon-Woods M, Taylor CA, Wroe EB, **Dunbar EL**, Chilton PJ, & Lilford RJ. Revising ethical guidance for the evaluation of programmes and interventions not initiated by researchers. *Journal of Medical Ethics*.

- 2018 Taylor C, Nhlema B, Wroe E, Aron M, Makungwa H, **Dunbar EL** Determining whether Community Health Workers are "deployment ready" using standard setting. *Annals of Global Health*.
- 2018 **Dunbar EL**, Wroe EB, Nhlema B, Kachimanga C, Gupta R, Taylor C, Michaelis A, Cundale K, Dullie L, Jumbe A, Nazimera L, McBain R, Lilford RJ, Watson SI. Evaluating the Impact of a Community Health Worker Program on Non-Communicable Disease, Malnutrition, Tuberculosis, Family Planning and Antenatal Care in Neno, Malawi: Protocol for a Stepped-Wedge, Cluster Randomized Control trial. *BMJ Open*.
- 2018 Wroe E, **Dunbar EL**, Kalanga N, Dullie L, Kachimanga C, Mganga A, Herce M, Beste J, Rigodon J, Nazimera L, McBain R. Delivering comprehensive HIV services across the HIV care continuum: a comparative analysis of survival and progress towards 90-90-90 in rural Malawi. *BMJ Global Health*.
- 2017 McBain RK, Petersen E, Tophof N, **Dunbar EL**, Kalanga N, Nazimera L, Mganga A, Dullie L, Mukherjee J, Wroe EB. Impact and economic evaluation of a novel HIV service delivery model in rural Malawi. *AIDS*.
- 2017 Kachimanga C, Cundale K, Wroe E, Nazimera N, Jumbe A, **Dunbar EL**, Kalanga E. Novel approaches to screening for Non-communicable disease: Lessons from Neno, Malawi. *Malawi Medical Journal*.
- 2017 Wroe EB, McBain RK, Michaelis A, **Dunbar EL**, Hirschhorn LR, Cancedda C. A Novel Scenario-Based Interview Tool to Evaluate Nontechnical Skills and Competencies in Global Health Delivery. *Journal Graduate Medical Education*.
- 2017 Kawonga R, Connolly E, Fisher A, **Dunbar EL**, McMeel L, Kapira S, and Wroe E, Does a One Size Fit All Approach Work for Community Management of Acute Malnutrition in Rural Malawi?. *Annals of Global Health*, 1(83), p.49. 2017.
- 2016 Watson SI, Wroe EB, **Dunbar EL**, Mukherjee J, Squire SB, Nazimera L, Dullie L, Lilford RJ. The impact of user fees on health services utilization and infectious disease diagnoses in Neno District, Malawi: a longitudinal, quasi-experimental study. *BMC Health Services Research*.
- 2016 Hlavsa MC, Gerth TR, Collier SA, **Dunbar EL**, Rao G, Epperson G, Bramlett B, Ludwig D, Gomez D, Fullerton K, Cope J, Beach, MJ. Immediate Closures and Violations Identified During Routine Inspections of Public Aquatic Facilities – Network for Aquatic Facility Inspection Surveillance, Five States, 2013. *Morbidity and Mortality Weekly Report*.
- 2016 Kachimanga, C., Malindi, C., Limbe, G., Wroe, E.B., Makungwa, H., Musisi, I., **Dunbar EL**, Ng'ambi, J., Nazimera, L. and Drake, J., 2016. Using

community health workers (CHWs) to increase access to maternal health services—preliminary findings from Neno, Malawi. *Ann Glob Health*, 82, p.392.

- 2015 Wroe EB, Kalanga N, Mailosi B, Mwalwanda S, Kachimanga C, Nyangulu K, **Dunbar EL**, Kerr L, Nazimera L, Dullie L. Leveraging HIV platforms to work toward comprehensive primary care in rural Malawi: the Integrated Chronic Care Clinic. *Healthcare*.
- 2015 Wroe E, Michaelis AP, **Dunbar EL**, Hirschhorn L and Cancedda C. 2015. Evaluating key skills for global health delivery: A scenario-based interview tool. *Annals of Global Health*, 1(81), p.60.
- 2011 Collier SA, Smith S, Lowe, A, Hawkins P, Beach MJ, Hill, V, Yoder J, **Dunbar EL**, Dearen T, Bopp C, Humphrys MS, Philips G, Chang L, Meites E. Cryptosporidiosis Outbreak at a Summer Camp—North Carolina. *Morbidity and Mortality Weekly Report*.
- 2010 Hendrix L, Ludwig A, Franklin B, Maitoza C, Doxford N, Ford SE, Compton J, Buss BF, Sackett D, Salmen D, Krinn K, Campbell S, Roth R, Florom E, Clements T, Newell D, Ailes EC, Collier SA, Otto C, Roberts JM, Hlavsa MC, Beach MJ, **Dunbar EL**. Violations Identified from Swimming Pool Inspections—Selected US States. *Morbidity and Mortality Weekly Report*.

Speaking, teaching, facilitation

- 2023-2024 Led Directed Research Group called **Reimagining Global Health through Reflexivity** of 3 graduate students over three terms to support design, research, and implementation of an interactive intervention for global health practitioners to reflect on their approaches and work
- 2023 Invited speaker: Applying Human Centered Design Principles and Methods to Strengthen Health Systems, **I-TECH Research Seminar Series**. Co-facilitated the session with Nancy Puttkammer and Anthony Poon
- 2022 - present Technical Working Group: Co-facilitate monthly **Technical Working Group** to optimize a Digital Case Management System and two-way texting intervention with Caribbean Training & Education Center for Health (C-TECH)
- 2023 Conference presentation: Applying Critical Reflection to Reimagine Global Digital Health Interventions: Introducing the *(re)imaginitor*, **Global Digital Health Forum**, Washington DC
- 2023 Guest Lecturer: Health Information Systems Project Management, **Project Management and System Analysis For Health Informatics** (NMETH 523)

- 2022 Led Directed Research Group on **Co-Designing Patient-Facing Digital Health Intervention for People Living with HIV in Jamaica** with graduate and undergraduate students
- 2022 Invited speaker: Human Centered Design: An intro for Global/Digital Health, **Clinical Decision Support System Working Group**. Swiss Tropical and Public Health Institute
- 2022 Conference Workshop: Optimizing Electronic Medical Record Design, Implementation and Evaluation Useful Toolkits from the Technical Assistance Platform, **Global Digital Health Forum**, Washington DC. Co-facilitated with Jen Antilla (OpenMRS) and Debbie Munson (Partners In Health)
- 2021 Guest Lecturer: Health Information Systems Project Management, **Project Management and System Analysis For Health Informatics** (NMETH 523)
- 2021 Conference Workshop: Costing Toolkit for Health Information Systems at **Pan African Health Informatics Conference** (HELINA)
- 2021 Conference Workshop: on Health Information Systems Project Management Toolkit at **Pan African Health Informatics Conference** (HELINA)
- 2021 Guest Lecturer: Usability Studies, **Patient-Centered Technologies** (NMETH)
- 2021 Conference presentation: Towards Responsible Data Practices in Digital Health: A Case Study of an Open-source Community's Journey. **CHI Conference** on Human Factors in Computing Systems
- 2020 Led Directed Research Group for two terms on **Privacy and Information Sharing in Global Health: A Scoping Review of Emerging Practices and Ethical Considerations** with three graduate students
- 2019 Technical Working Group: Co-designed Electronic Health Record **Technical Working Group** launch with Liberian Ministry of Health
- 2016 Facilitator, Designer, and technical advisor: **District Leadership & Partner Coordination Toolkit** ([link](#)), a year-long initiative with 50+ District Health Leaders co-design and launch a toolkit with **Malawi Ministry of Health** that promoted leadership and streamlined coordination of health stakeholders serving 2.2 million people
- 2013 Invited speaker: Development and Utility of an ART Visit Adherence Index, **Partners In Health Monitoring, Evaluation, & Quality Improvement Summit**
- 2012 Conference Presenter: Syndromic Surveillance BioSense 2.0 Update, **Council for State and Territorial Epidemiologists Annual Conference**, BioSense Workshop

- 2011 Conference Presenter: Syndromic Surveillance BioSense 2.0: CSTE Member Outreach Update, **International Society for Disease Surveillance Annual Conference**
- 2010 Conference Presenter: MMWR paper Swimming Pool Inspections—United States, 2008, **National Environmental Health Association Annual Conference**
- 2009 Conference Presenter: on MMWR paper Swimming Pool Inspections—United States, 2002 and 2008, **World Aquatic Health Annual Conference**, Environmental Health Leaders Meeting

Membership/Awards

- 2022 Husky 100 Awardee, University of Washington
- 2020 – 2021 PhD representative, HCDE Research Task Force
- 2019 – 2025 Member, Association of Computing Machinery
- 2018 – 2024 Member, Translating Evidence to Action Technical Working Group, Health Systems Global
- 2017 Commissioner, Lancet Commission on Non-Communicable Disease and Injury Poverty
- 2013 - 2018 Member, International Society for Disease Surveillance
- 2009 Field Experience Award, Johns Hopkins School of Public Health
- 2005 Campus Council Leadership Award for demonstrated pursuit & application of education & service through Students for Social Justice , College of Wooster
- 2001 - 2005 Student for Social Justice, co-lead the group from 2004-2005

Skills & Qualifications

Tools

PowerBI, Excel, Jira, InDesign, Microsoft Office Suite with exceptional Excel skills, Google Suite, Confluence

Research

Participatory Design, Quantitative & Qualitative Methods, Usability Studies, Individual & Group Interviews, Data visualization, Community Based Participatory Research, Survey Design, Journey & Workflow Mapping, Experimental Design, Heuristic Evaluation, Service Design

Interests

Healthcare & Public Health Tech Design & Evaluation, UX/UI research, Co-design and implementation with marginalized populations, Ethical AI, Data ethics, Active dissemination, Leadership development & mentorship, Data visualization, Social Justice, Human Rights