August 2025

CURRICULUM VITAE

Hamish Scott Findlay Fraser MBChB, MSc, MRCP, FACMI, FIAHSI

1. Name, Position, Academic Departments

Name: Hamish S F Fraser

Positions: Associate Professor of Medical Science, Brown Center for Biomedical Informatics, The Warren Alpert Medical School of Brown University
Associate Professor of Health Services, Policy and Practice, School of Public Health, Brown University

2. Office address

Brown Center for Biomedical Informatics
Brown University
300 Richmond Street, Box G-R
Providence, RI 02912
Email: Hamish_fraser@brown.edu
Web: https://vivo.brown.edu/display/hfraser1
Era Common ID: hsfraser123
Place of Birth: Irvine, Scotland, UK

3. Education, degrees and certifications

1984	B.Sc.	Medical Science	Edinburgh University
1986	MBChB	Medical degree	Edinburgh University
1991	MSc	Knowledge Based Systems	Edinburgh University

4. Postdoctoral Training

Clinical, UK

1986-1987	Internship	Medicine/Surg.	Western General Hospital and The Royal Infirmary, Edinburgh
1987-1988	Senior House Officer	Medicine	Falkirk and District Royal Infirmary
1988-1989	Senior House Officer	Medicine	Stirling Royal Infirmary
1989-1990	Senior House Officer	Medicine	Northern General Hospital Sheffield
1992-1995	Career Registrar	Cardiology	Falkirk and District Royal Infirmary The Royal Infirmary, Edinburgh

US

1992-1995	Fellow	Clinical Decision Making/ Cardiology	New England Medical Center

1995-2005	Research Affiliate	Clinical Decision Making	MIT Lab for Computer Science

5. Professional Licenses and Board Certification

1986- present	Medical registration/License	3131541	General Medical Council, UK
1990	MRCP Diploma	Medical boards	Royal College of Physicians

6. Faculty Academic Appointments

2000 – 2015	Instructor	Department of Pediatrics	Harvard Medical School
2005 – 2014	Affiliated Faculty	Health Science & Technology	Harvard/MIT
2005 – 2014	Assistant Professor	Dept. of Medicine	Harvard Medical School
2013 – 2018	Associate Professor	Yorkshire Ctr. Health Informatics	Leeds University
2017	Department Head	Yorkshire Ctr. Health Informatics	Leeds University
2017– 2020	Visiting Assoc. Prof.	Yorkshire Ctr. Health Informatics	Leeds University
2017 – present	Associate Professor	Center for Biomedical Informatics	Brown University
2021 – present	Associate Professor	School of Public Health	Brown University

Appointments At Hospitals/Affiliated Institutions

2000 – 2015	Research Affiliate	Informatics Program	Children's Hospital Boston
2005 – 2007	Associate Physician	Division of Social Medicine and Health Inequalities	Brigham &Women's Hospital
2007 – 2015	Research Associate	Div. of Global Health Equity	Brigham &Women's Hospital

Other Appointments and Leadership Roles

2000 – 2012	Director of Informatics & Telemedicine	Partners In Health
2004 – present	Founder, co-leader	OpenMRS project
2007 – 2010	Founder, co-owner	OpenMRS LLC
2008	Organizer and co-leader EMR track	Bellagio meeting on eHealth in Developing Countries, Rockefeller Bellagio Center, Italy

2011	Originator, organizer, co-leader	The Bellagio Meeting "Creating a Framework for Global eHealth Evaluation" Rockefeller Bellagio Center, Italy
2011	Organizer and co-leader	6th Annual OpenMRS Developers Implementers Meeting", Kigali, Rwanda
2012	Co-Leader	eHealth "Evaluation Framework Workshop" University of San Francisco, USA
2017	Organizer and Leader	Workshop Process Evaluation for eHealth Systems, Leeds, UK
2023	Co-organizer	Diagnostics for LMICs Conference Reuben College, Oxford, UK
2023	Co-organizer	Workshop on OpenMRS EHR system Systems, Partners In Health and Brown University (June 2023)
2023	Organizing Committee member	"The patient and the practitioner in the age of Technology 2024"

Academic Committees

1996 – 1999	Boston Informatics Research Trainees lectures	Harvard/MIT/Tufts
2001 – 2002.	Informatics working group for MDR-Tuberculosis	Harvard/WHO/CDC
2001 – 2002	Working group on DOTS-PLUS	WHO/CDC/HMS
2002 – 2009	Curriculum committee Medical Informatics MS program	University of KwaZulu Natal, Durban, South Africa
2004 – 2010	Executive Committee, Informatics for, Global Health	University of KwaZulu Natal, Durban, South Africa
2005 – 2007	Working group on HIV data monitoring & HL7	WHO
2006 – 2007	NLM 10-year planning project, Committee for Underserved Populations	National Library of Medicine, US
2008 – 2015	International Affairs Committee member	American Med. Inform. Association
2020 – 2024	CDT AI Advisory Board – AI PhD program	University of Leeds, Leeds, UK
2022 -	Advisory board, Global Health Informatics Prog.	Childrens Hospital of Pennsylvania Philadelphia, PA
2023 -	Advisor to the Program in Data Science for Global Health	Massachusetts General Hospital, Boston, US

10. Professional Societies

1987– 2001	British Medical Association	Member and representative
1990 – present	Royal College of Physicians, Edinburgh	Collegiate member
1996 – present	American Medical Informatics Association	Member
2009 – present	The American College of Medical Informatics	Elected Fellow
2016 – 2018	AMIA Global Health Informatics Working Group	Elected Chair
2019 – present	International Academy Health Science Informatics	Elected Fellow

11. Grant Review Activities

2015	HIV Care in Africa	CDC
2015	HIV Care	NIH, DAIDS
2013	Global eHealth	Welcome Foundation
2015	Global eHealth	Welcome Foundation
2020	Global eHealth	Thrasher Foundation
2021	Study section	NIH CSR 202105 ZRG1 IMST U55
2022	Study section	NIH/NHLBI Catalyze
2023	Study section	NIH ZRG1 CCHI-W (56)
2023	International study section	Science Foundation Ireland SDG Challenge

12. Editorial Activities

Ad hoc Reviewer
British Medical Journal
BMJ Open
The Lancet
American Journal of Public Health
Journal of Telemedicine and Telecare
International Journal of Medical Informatics
Journal of the American Medical Informatics Association
BMC Medical Informatics and Decision Making
PLOS One
JMIR Medical Informatics
JAMA network Open
NEJM AI

Other Editorial Roles

2023	Scientific Program Committee	Helina2003/IMIA
2009	Scientific Program Committee	AMIA Annual Symposium
2009 – 2014	Moderator, GHDonline Health IT	GHD Program, Harvard Medical School
2013 – 2015	Section Editor	BMC Biomedical Informatics
2015 – 2017	Editorial Adviser	BMC Biomedical Informatics
2016	Scientific Program Committee	AMIA Annual Symposium
2021-- 2022	Track Co-Lead	Hawaii International Conference on System Sciences
2021 –	Section Editor: Global Health	PLOS Digital Health

13. Honors and Prizes

2006 Tech Museum Award for Innovation The Tech Museum, for Partners In Health Electronic Medical Record System

2007 The Homer R Warner Award, American Medical Informatics Association Meeting, Best paper on the implementation and evaluation of a medical information system for HIV and MDR-TB care

2013 Free Software Award for Projects of Social Benefit. Free Software Foundation Award, Received on behalf of the OpenMRS Project, March 2013

14. Grants

Current grants

11/01/2021 – 10/31/2026 NIH/NIAID R01-1R01AI167694
Role: Co-PIs, Hogan J, **Fraser H,** Wangi A
"Data Science for Decision Support in the HIV Care Cascade"
$2,479,027 direct costs

07/01/2023 – 6/30/2028 AHRQ R01-R01HS029513
Role PI
"Diagnostic decision support systems for patients in urgent primary care or with stroke":
evaluation of safety, usability and effectiveness for diagnosis, triage and patient decision making.
Cost $1,175,063 (direct), $1,812,513 (full)

01/01/2022 – 06/30/2024 OVPR Seed grant, Brown University
Role: PI
"Observational study of the safety, accuracy and usability of a digital diagnosis App for primary care and stroke patients"
$39,000

7/1/18 – 6/30/2022 Biomedical Informatics Global Health Fund
Role: PI
This grant funds research on maternal and newborn care, and the role of clinical decision support in a range of clinical areas in low income settings.
$250,000

7/1/22 – 6/30/2027 Biomedical Informatics Global Health Fellowship
Role: PI
This grant funds 1year fellowships in GHI for medical students from Brown University to work in Kenya or other LMICs on health informatics and data science projects.
$250,000

Project Dates: 4/1/2022-1/31/2027 NIGMS
Role: Advisor
Rhode Island Hospital Injury Control Center of Biomedical Research Excellence (COBRE). I will be mentoring fellows studying digital health interventions to help improve outcomes from trauma.
PI: Dr. Michael Mello
5% effort

Submitted grants

R34 PI Mary Kathryn
Role Co-I
Developing an Automated and Personalized Approach to an Emergency Department Family Navigation Intervention to Reduce Youth Risk of Suicide and Self-Injurious Behavior.

Submitted June 2024,
Not funded, being resubmitted.

K23 PI Adeel Abbasi
Role Mentor
Machine Learning and Tau for outcome prediction in patients treated with ECMO (MLT ECMO), submitted October 2024.

Previously funded projects

Recent grants

01/2014 – 12/2018 Centers for Disease Control and Prevention $954,238 Co-PI
GH000782 *(project still active after extensions)*
"Evaluation of the clinical impacts and costs of eHealth in Rwanda using innovative frameworks and local capacity building"
The overall goal is to carry out a comprehensive evaluation of performance, data quality, usage, costs and clinical impact of an enhanced EHR with decision support (built with OpenMRS) in 112 clinic sites in Rwanda.
Umubyeyi, Aline (PI)

07/2020 – 12/2021 Dept. of Medicine Chair's Research Program $30,000 Co-Invest
(Warren Alpert Medical School)
"Observational study of patients' use of a digital diagnosis app in a primary care office same day clinic"
Hilliard R, (PI)

1/1/2022 – 6/30/2022 Framework in Global Health, Brown University
Sudheesha Perera PI. Role: Senior faculty advisor
A pilot study of the feasibility, accuracy and acceptability of the use of Optical Mark Recognition technology to collate data in a low income neonatal unit.
$3500

Earlier grants

1998 – 1999 NIH/NHLBI Co- Investigator
"Informatics for the National Heart Attack Alert program". PI Lucila Ohno-Machado
To develop tools to provide early warning of myocardial infarction and alert patients to seek urgent care

2000 – 2005 Gates Foundation $44M Co- Investigator
"Project for the eradication of MDR-TB in Peru". PI Jim J Kim
To develop a web based medical record system to support the management of drug resistant tuberculosis in Peru.

2001 – 2004 NIH $500,000 Co-Investigator
"ITMI Program in Sub-Saharan Africa". PI Michael Bennish

Training grant in medical informatics for international students

2004 – 2009 NIH $500,000 Co- Investigator
"ITGH Program in Sub-Saharan Africa". PI Christopher Seebregts
Training grant in medical informatics for international students

2005 - 2006 Rockefeller Foundation $17,688 Site PI
"Implementation of the AMPATH medical record system in East Africa". PI William Tierney
Initial development and implementation of the OpenMRS EMR system

2007 – 2008 WHO $71,000 PI
"Development of an electronic recording and reporting system for MDR TB"
To create a medical record system tailored to the management of drug resistant tuberculosis based on the OpenMRS system.

2008 – 2009 CDC/PEPFAR $75,000 PI
"Evaluating the EMR rollout in Rwanda"
To evaluate the impact of the OpenMRS medical record on clinical care for HIV patients in Rwanda.

2008 – 2010 Rockefeller Foundation. $474,000 PI
"Managing Patient Data, Procurement, and Reporting Within Large-Scale Treatment Programs: The Potential of OpenMRS"
To develop advanced reporting tools and a pharmacy management system for the OpenMRS EMR and to organize a conference on Electronic Health Records in Bellagio, Italy.

2010 – 2012 Rockefeller Foundation $296,000 PI
"Strengthening technical capacity for the national EMR rollout in Rwanda" (2010 THS 312)
To develop new software components for the OpenMRS EMR system being rolled out in Rwanda

2009 – 2010 WHO $35,000 PI
"Further development of an electronic recording and reporting system for MDR TB"
To extend a medical record system tailored to the management of drug resistant tuberculosis based on the OpenMRS system.

2006 – 2011 NIH Co-Investigator
The epidemiology of drug resistant TB in Peru. PI Mercedes Beccera
To investigate the transmission of MDR-TB in high burden communities in Lima, Peru.

2006 – 2012 NIH $14,000,000 Co-Investigator
"Epidemiology and Transmission Dynamics MDR/XDR Tuberculosis" PI Megan Murray
To investigate the transmission of MDR-TB in high burden communities in Lima, Peru including the genetic fingerprints of mycobacterium strains. Led development of information systems using OpenMRS

2008 – 2011 IDRC 104862 $691,000 CAN PI
"Strengthening Medical Records and Technical Capacity in Rwanda through Mentorship and International Collaboration".
To develop a training program for computer programmers to implement, build and extend the OpenMRS medical record system in a developing country.

2009 – 2010 Rockefeller Foundation $304,000 Site PI
"Evolution of OpenMRS from a Loosely Structured Collaborative Into a Formal Organization"
To strengthen and extend the OpenMRS EMR systems and build the capacity of the OpenMRS organization to manage the growing project.

2011 – 2012 Rockefeller Foundation $300,000 PI
Creating a Global eHealth Evaluation Agenda
To determine barriers, and develop tools and training materials to strengthen eHealth and mHealth evaluation in developing countries

2010 – 2013 IDRC $520,000CAN PI
Strengthening Health Information Systems to Support Post-Disaster Healthcare in Haiti
To extend a EMR systems developed by both PIH (OpenMRS) and I-Tech (I-Sante) to cover surgery and primary care, and link these system to cell phone data management and to evaluate the impact of these systems.

2009-2013 CDC $719,000 PI
Supporting the rollout of the OpenMRS in Rwanda.
Developing software tools to support the rollout of the OpenMRS EMR system in Rwandan government clinics.

2012 – 2014 Rockefeller Foundation $300,000 PI
Supporting software components, implementation tools and evaluation for the OpenMRS EMR rollout in Rwanda and beyond" (2010 THS 312)

2015 – 2017 European Community 2020 program, €195,000 ($255,000) Fellow
Marie Skłodowska-Curie Fellowship "Global eHealth"
Focusing on the Evaluation of OpenMRS in Rwanda, OpenMRS generally, and improving decision support in cardiology.

2015 – 2017 HSRI (Oxford University Prime), £96,397.60 Co-Invest
"Open Source solutions and Information for Health Service Improvement, Kenya"
Improving the development, implementation and evaluation of eHealth solutions to improve quality of care and secondary use of data for clinical research

2016-2018 Yorkshire Cancer Research £300,000 Co-Invest)
"Reducing inequalities in care for people with cancer and palliative care needs"

2016-2017 CDC/PEPFAR to U. Washington $550,106 Consultant
"GH15-1535, HQ: building effective health information systems under the PEPFAR"
Co-Investigator and steering committee member – eHealth evaluation framework

15. Report of Teaching, Training and Courses Instructed

Formally Supervised Trainees

PhD and MPhil Students

2005-2009 Joaquin Blaya, PhD Harvard Medical School & MIT HST
Primary supervisor
"Developing, implementing, and evaluating tuberculosis laboratory information systems for resource-poor settings" Dr. Blaya created and evaluated two medical information system tools for MDR-TB in Peru showing major improvements in quality and timeliness of data, leading to six journal articles and two prizes during his PhD.

2006-2009 Gerald Douglas, PhD University of Pittsburgh
PhD committee member
"Engineering an EMR system in the developing world: necessity is the mother of invention"
Mr. Douglas carried out pioneering work in the development of point of care medical information systems in Malawi now used to care for more than 20,000 HIV patients there.

2010 Louis Fazon Yale University
PhD committee member:
Louis defended his PhD proposal and received a distinction

2012 -2013 Christian Munyaburanga National University of Rwanda
MPhil Supervisor

2014 - 2020 Mathew Mndeme
"Effectiveness of mHealth interventions for communicable-diseases surveillance in low-income setting: the case of Tanzania",
University of Leeds
Lead supervisor (committee member after I left Leeds)

2015 - 2017 Alaa Abd-alrazaq
"Factors determining patient use of personal health information systems"

University of Leeds
Lead supervisor (handed over to colleague after leaving Leeds Nov. 2017)

2020 - 2021 Katherine Brown Brown University PhD student
Supervisor for elective project on clinical diagnostic decision support

2019 – 2023 Sarah Bostan Leeds university PhD student
External advisor, thesis title: *"Understanding the implementation of open-source healthcare software in low and lower-middle income countries: A phenomenographic exploration"*
Graduated July 2023

2019 – Matthew Knight Leeds university PhD student
External advisor, thesis title: *Understanding Governance and Decision-Making in an Open Source Electronic Medical Record Development Community"*

2023 - Wasiwasi Mgonzo, Brown University PhD student
Lead Supervisor, thesis planned on topic of machine learning in healthcare in East Africa.

2023 - Tassallah Amina Abdullahi Brown University PhD Student
Co-supervisor, thesis planned in diagnostic decision support.

Masters Students

- 2002 Darius Jazayeri, MEng MIT,
  "*TeleMedMail: A Store-and-Forward Telemedicine System for Developing Countries*",
  published in Proc. Medinfo 2001.
- 2002 Agnieska Szot, Harvard-MIT Health Science and Technology Program,
  "Evaluation of the diagnostic accuracy of a system for digitizing and transmitting CXRs for TB management"
  Published in IJMI
- 2003 Sharon Choi, University of Colorado,
  "*A Web-based Nurse Order Entry System for Multidrug-Resistant Tuberculosis Patients in Peru*",
  published in Proc. Medinfo2004
- 2004 Elsie Hartley, City University, London,
  "Needs assessment for telemedicine in rural KwaZulu-Natal, South Africa"
- 2008 Foster Kerrison, University of Bath, UK, with distinction
  "*The impact of uncertain diagnostic results on responses to a decision support system for TB drug prescribing*"
  Published as a poster at AMIA Fall Symposium 2008
- 2014 Nseya Kipilyango, University of Leeds, with distinction,
  "*User experience of electronic medical records in Tanzania*"
- 2016 Rodreck David, University of Leeds, with distinction,
  "*Modelling Prenatal Care Pathways at a Central Hospital in Zimbabwe*",
  published in Health Services Insights (now junior Faculty)
- 2016 Alam Nafisa Muntaha, University of Leeds,
  "*Current Status of Electronic Health Record Systems in Public Healthcare Facilities in Dhaka Division, Bangladesh*" (now PhD graduate)

- 2016 Oscar Agoro, University of Leeds, with distinction,
  "*Barriers to using an electronic system for submission of pharmacovigilance reports to the national pharmacovigilance centre in Kenya. A survey among Pharmacists*",
  published in JAMIA.
- 2017 Dea Indria, University of Leeds, with distinction,
  "*Clinicians perceptions of a telemedicine system: a mixed method study of Makassar City, Indonesia*",
  published in BMC Medical Informatics and Decision Making.
- 2023 Daven Crossland, Brown University, provisional title:
  "Evaluation of symptom checker apps and ChatGPT in diagnostic decision support for patients seeking urgent care"
  Upcoming poster SIMD conference October 2023,
  Co-author of research paper in JIMR mHealth uHealth, forthcoming September 2023

Undergraduate Students

- 2020 Sasha Raman, Brown University, Undergraduate Thesis:
  The Evaluation of Diagnostic Apps on Chest Pain: Informing Patient Use.
  Poster presented at Society to Improve Diagnosis in Medicine annual meeting, Oct. 2021.
  Manuscript submitted to journal.
- Niki Kim, Brown University, Undergraduate Project
  Scoping review of clinical evaluation studies of machine learning based clinical decision support in Low and Middle Income Countries. (graduated 2023)
- 2023 Hailey Chen, Brown University, Undergraduate thesis:
  "Leveraging AI to Improve Clinical Documentation Quality and Medical Billing"

Scholarly concentration in health informatics, Brown University

- 2019 Gregory Cohan (MD' 23) scholarly concentration biomedical informatics, working on the RIH Ada Symptom checker study (co-author on recent paper in JMIR mHealth, uHealth)
- 2022 Ishaani Khatri (MD' 25) scholarly concentration biomedical informatics, working on the RIH TIA and Stroke Symptom checker study
- 2023 Joshua Smith Sreen: (MD' 26) developing prediction models for patients at high risk of HIV in the ED of a hospital in Nairobi, Kenya.

Other Medical Students

- 2018-19 Christopher Koehler (MD' 22) worked on RIH Ada Symptom checker study with Dr Ranney (co-author on 2022 paper in JMIR mHealth, uHealth)
- 2023 Sasha Ramen (completing manuscript)

Current students supervised at Brown

- Ishaani Khatri medical student, RIH TIA and Stroke study
  Poster presented at the international stroke conference 2023
- Katie Brown (PhD program) working on diagnostic accuracy of Isabel diagnosis system for MI, (Poster presented at AMIA Fall Symposium 2021)

- Keyana Zahiri (Undergraduate) working on systematic review of evidence of clinical benefits of AI and prediction models in LMICs
- Daven Crossland (MPH student, see above)
- Joshua Smith Sreen: (MD' 26) (see above)
- Hailey Chen (undergraduate thesis)
- Himashree Chandru, MS student, research assistant symptom checker study
- Caroline Bailey MS student, research assistant symptom checker study

Completed

- 2022-23 Chloe Kim (Undergraduate) studying information systems supporting maternal and newborn health in low income countries.
- 2022-23 Niki Kim (Undergraduate) working on a systematic review of studies of clinical prediction models in use in the care of HIV patients (graduated May 2023)

16. Publications

Author order in biomedical informatics gives higher credit to first and last author positions. In some publications the level of responsibility for the work is evenly shared between several authors.
Key publications below are annotated for author responsibility or student involvement in italics.

Citation statistics

Research Gate		Google scholar	
Total citations:	5262	Total citations:	6799
H index:	36	H index:	40
		H10 index:	72

Books

1. **Global Health Informatics: Principles of eHealth and mHealth to Improve Quality of Care** Edited by Leo Anthony G. Celi, **Hamish S. F. Fraser**, Vipan Nikore, Juan Sebastián Osorio and Kenneth Paik. MIT Press, April 2017. ISBN: 9780262533201
   I had equal responsibility for the editorial work, and co-authored two chapters.

Book chapters

1) **Hamish S F Fraser**, Darius Jazayeri, Patrice Nevil, Yusuf Karacaoglu, Fernee Léandre, Paul Farmer, Joia Mukherjee. [book chapter]. In: Joia S. Mukherjee, editor. The PIH Guide to the Community-Based Treatment of HIV in Resource-Poor Settings, Boston: Partners In Health; 2006 p. 155 - 169
2) Janise Richards, Gerald Douglas, **Hamish Fraser**. Global Public Health Informatics [book chapter] In Public Health Informatics and Information Systems, Editors J.A. Magnuson and Paul Fu, Jr. Springer, 2013.
3) "International Dimensions of Clinical Decision Support", **Hamish Fraser,** Jeremy Wyatt. [Book Chapter] "Clinical Decision Support, 2nd Edition, The Road to Broad Adoption"

Editor: Robert Greenes
ISBN: 9780123984760, Academic Press, Elsevier, published April 2014

4) "Electronic Health Records", Foster Kerrison and **Hamish Fraser**
[Book chapter] Global Health Informatics: Principles of eHealth and mHealth to Improve Quality of Care, Celi, Fraser, Nikore, Sebastián, Paik, MIT Press 2017
5) "Monitoring and Evaluation", **Hamish Fraser**
[Book chapter] Global Health Informatics: Principles of eHealth and mHealth to Improve Quality of Care, Celi, Fraser, Nikore, Sebastián, Paik, MIT Press 2017
6) "OpenMRS the Open Medical Record System: Software, Community, Philosophy", **Hamish Fraser,** Darius Jazayeri, Ellen Ball
[Book chapter] Global Health Informatics: Principles of eHealth and mHealth to Improve Quality of Care, Celi, Fraser, Nikore, Sebastián, Paik, MIT Press 2017
7) Barry Bloom, Rifat Atun, Ted Cohen, Christopher Dye, Hamish SF **Fraser**, et. al. "Tuberculosis". In: Disease Control Priorities (third edition): Volume 6, Major Infectious Diseases, edited by K. Holmes, S. Bertozzi, B. Bloom, P. Jha. Washington, DC, 2018: World Bank.
8) Janice Richards, Hamish SF **Fraser, Gerald** Douglas. Global Public Health Informatics [book chapter] In Public Health Informatics and Information Systems, Editors J.A. Magnuson and Brian Dixon, Jr. Springer, August 2020 ISBN 978-3-030-41215-9
I had the main role in updating this chapter
9) **Hamish SF Fraser,** Taiwo Adedeji, Paul Amendola. "The importance of primary care records in low and middle income settings for care, resource management and disease surveillance" Chapter in ICT in Health 2021, Survey on the Use of Information and Communication Technologies in Brazilian Healthcare Facilities. p 273 – 295.
https://cetic.br/media/docs/publicacoes/2/20211124123911/tic_saude_2021_livro_eletronico.pdf
This chapter in a national report reviews the state of primary care EHR systems as a key resource for improving primary care and disease surveillance.
10) Jeremy C. Wyatt and **Hamish Fraser**. Health Information and Information Technology: The Path from Data to Decision. In: Making Health Systems Work in Low and Middle Income Countries. Sameen Siddiqi, Awad Mataria, Katherine D. Rouleau, Meesha Iqbal (editors) Cambridge University Press 2022 Dec 31:336.
11) Farah Magrabi, Kathrin Cresswell, and **Hamish S.F. Fraser**. International dimensions of clinical decision support systems. In: Clinical Decision Support and Beyond. Editors: Robert A. Greenes and Guilherme Del Fiol, Academic Press (Elsevier), February 2023, pp. 145-188

Original publications in peer-reviewed journals

1) Kennedy RL, Burton AM, **Fraser HSF**, McStay LN, Harrison RF. Early Diagnosis of Acute Myocardial Infarction Using Clinical and Electrocardiographic Data at Presentation: Derivation and Evaluation of Logistic Regression Models. European Heart Journal, Vol. 17, August 1996, p1181 – 91
2) Kennedy RL, Harrison RF, Burton AM, **Fraser HS**, Hamer WG, MacArthur D, McAllum R, Steedman DJ,An Artificial Neural Network System For Diagnosis Of Acute Myocardial Infarction (AMI) In The Accident And Emergency Department: Evaluation And Comparison With Serum Myoglobin Measurements. Comput Methods Programs Biomed 1997 Feb;52(2):93-103

3) **Fraser HSF**, Kohane IS, Long WJ, Using the Technology of the World Wide Web to Manage Clinical Information. British Medical Journal, No 7094 Volume 314 Saturday 31 May 1997 P 1600-4
4) Long WJ, **Fraser HSF**, Naimi S,Reasoning Requirements for Diagnosis of Heart Disease. Artificial Intelligence in Medicine 10 (1997) pp. 5 – 24
5) Tsien CL, **Fraser HS**, Kohane IS. LRTree: a hybrid technique for classifying myocardial infarction data containing unknown attribute values. Research and Development in Knowledge Discovery and Data Mining. Wu X, Kotagiri R, Korb KB, Eds., Lecture Notes in Artificial Intelligence 1394. Berlin Heidelberg: Springer-Verlag 1998: 409-411.
6) Hauskrecht M, **Fraser HS**. Planning treatment of ischemic heart disease with partially observable Markov decision processes. Artificial Intelligence in Medicine, vol. 18, pp. 221-244, 2000
7) Wang SJ, Ohno-Machado L, **Fraser HS**, Kennedy RL.Using Patient-Reportable Clinical History Factors to Predict Myocardial Infarction. Comput Biol Med. 2001 Jan 1;31(1):1-13.
8) Lober WB, Karras BT, Wagner MM, Overhage MJ, Davidson AJ, **Fraser HSF**, Trigg LJ, Mandl KD, Espino JU, Tsui FC.Roundtable on Bioterrorism Detection: Information System-based Surveillance.
J Am Med Inform Assoc. 2002 Mar-Apr;9(2):105-15.
9) Marques EP, Marin HF, Massad E, **Fraser H**, Ohno-Machado L. Training in health informatics in Brazil. Stud Health Technol Inform. 2002; 90:757-60
10) **Fraser HSF**, Long WJ, Naimi S. Evaluation of a Cardiac Diagnostic Program in a Typical Clinical Setting. J Am Med Inform Assoc. 2003; Jul-Aug;10(4):373-81
11) Fine AM, Wong JB, **Fraser HSF**, Fleisher GR, Mandl KD. Is It Influenza or Anthrax? A Decision Analytic Approach to the Management of Patients with Influenza-Like Illnesses. Ann. of Emerg. Med. 2004; 43(3): 318-328
12) Szot A, Jacobson F, Munn S, Jazayeri D, Nardell E, Harrison D, Drosten R, Ohno-Machado L, Smeaton LM, **Fraser HSF**. Diagnostic Accuracy of Chest X-rays Acquired Using a Digital Camera for Low-Cost Teleradiology. Int. J. Med. Inform. 2004; 73(1): 65-73
13) **Fraser HSF**, Jazayeri D, Nevil P, Karacaoglu Y, Farmer PE, Lyon E, Smith-Fawzi MK, Leandre F, Choi S, Mukherjee JS. An information system and medical record to support HIV treatment in rural Haiti. BMJ 2004 329;1142-6.
14) Laserson KF, Thorpe LE, Leimane V, Weyer K, Mitnick C, Riekstina V, Zarovska E, Rich ML, **Fraser HSF**, Alarcon E, Cegielski JP, Grzemska M, Gupta R, Espinal M. Speaking the Same Language: Treatment Outcome Definitions for Multidrug-Resistant Tuberculosis. Int J Tuberc Lung Dis 2005; 9(6):640-645.
15) **Fraser HSF**, Biondich P, Moodley D, Choi S, Mamlin B, Szolovits P. Implementing electronic medical record systems in developing countries. Informatics in Primary Care 2005;13:83–95
16) **Fraser HS,** Allen C, Bailey C, Douglas G, Shin S, Blaya J. Information systems for patient follow-up and chronic management of HIV and TB: a life saving technology in resource poor areas. J Med Internet Res 2007;9(4):e29
17) Blaya JA, Shin SS, Yagui MJA, Yale G, Suares CZ, Asencios L, Cegielski P, **Fraser HSF**. A web-based laboratory information system to improve quality of care of tuberculosis patients in Peru: design, implementation and evaluation methodology. BMC Med Inform Decis Mak. 2007 Oct 28;7(1):33
18) Blaya JA, Gomez W, Rodriguez P, **Fraser HSF** "Cost Analysis, Time-Motion Study, and Implementation Method of a PDA System for TB Laboratory Data Collection" International Journal of Tuberculosis and Lung Disease, 2008 Aug;12(8):921-7.
19) Mitnick CD, Shin SS, Seung KJ, Rich ML, Atwood SS, Furin JJ, Fitzmaurice GM, Alcántara F, Appleton SC, Bonilla C, Chalco K, Choi S, Franke MF, **Fraser HSF**, Guerra D, Hurtado RM,

Jazayeri D, Joseph K, Llaro K, Mestanza L, Mukherjee JS, Muñoz M, Palacios E, Sánchez E, Bayona J, Becerra MC. Extensively Drug-Resistant Tuberculosis: A Comprehensive Treatment Approach. N Engl J Med, 359(6):563-74

20) Clifford GD, Blaya JA, Hall-Clifford R, Fraser HS Medical information systems: A foundation for healthcare technologies in developing countries BioMedical Engineering OnLine, 2008, June 11; 7:18
21) Blaya JA, Cohen T, Rodríguez, P, Kim J, **Fraser HSF** PDAs to collect tuberculosis bacteriology data in Peru reduce delays, errors, workload, and are acceptable to users: Cluster randomized controlled trial. Int J Infect Dis. 2009 May;13(3):410-8.
22) Seebregts CJ, Mamlin BW, Biondich PG, **Fraser HSF**, Wolfe BA, Jazayeri DG, Allen C, Miranda J, Baker E, Musinguzi N, Kayiwa D, Fourie C, Lesh N, Kanter A, Yiannoutsos C, Bailey C, The OpenMRS Implementers Network. Int J Med Inform. 2009 Nov;78(11):711-20].
23) Blaya J, **Fraser HS**, Holt B. E-health technologies show promise in developing countries. Health Aff (Millwood). 2010 Feb;29(2):244-51.
24) Blaya JA, Shin SS, Yagui M, Yale G, Suarez C, Asencios L, Contreras C, Rodriguez P, Kim J, Cegielski P, **Fraser HSF**. "Electronic lab system reduces errors in National Tuberculosis Program: Cluster randomized controlled trial" Int J Tuberc Lung Dis. 2010 Aug;14(8):1009-15
25) Seebregts CJ, Mamlin BW, Biondich PG, **Fraser HSF**, Wolfe BA, Jazayeri D, Miranda J, Blaya J, Sinha C, Bailey CT, Kanter AS. Human factors for capacity building: lessons learned from the OpenMRS implementers network. Yearb Med Inform. 2010:13-20
26) Tierney B, Kanter A, Fraser HS, Seebregts C. A Toolkit For eHealth Partnerships in Low-Income Nations. Health Affairs 2010, 29;2: 268-273
27) Blaya JA, Shin S, Contreras C, Yale G, Suarez C, Asencios L, Kim J, Bayona J, Rodriguez P, Cegielski P, **Fraser HSF.** Full impact of laboratory information system requires direct use by clinical staff: Cluster randomized controlled trial. J Am Med Inform Assoc. 2011 Jan-Feb;18(1):11-6
28) Mitchell M, Hedt BL, Eshun-Wilson I, **Fraser HS**, John MA, Menezes C, Grobusch MP, Jackson J, Taljaard J, Lesh N. Electronic decision protocols for ART patient triaging to expand access to HIV treatment in South Africa: A cross sectional study for development and validation. Int J Med Inform. 2012 Mar;81(3):166-72
29) **Fraser HS,** Thomas D, Tomaylla J, Garcia N, Lecca L, Murray M, Becerra MC. Adaptation of a web-based, open source electronic medical record system platform to support a large study of tuberculosis epidemiology. BMC Med Inform Decis Mak. 2012 Nov 7;12(1):125. Epub
30) Piette JD, Lun KC, Moura LA, **Fraser HSF**, Mechael PN, Powell J, Khoja SR Impacts of eHealth on Outcomes of Care in Low and Middle-Income Countries: Where Do We Go from Here? Bull World Health Organ. 2012 May 1;90(5):365-72. Review.
31) Mirza M, Kratz M, Medeiros D, Pina J, Richards D, Zhang X, **Fraser HS**, Bailey C, Krishnamurthy R Building the Foundations of an Informatics Agenda for Global Health - 2011 Workshop Report Online Journal of Public Health Informatics Vol.4, No. 1, 2012: 1 – 20. Review
32) Mitnick CD, Franke MF, Rich ML, Alcantara Viru FA, Appleton SC, Atwood SS, Bayona JB, Bonilla CA, Chalco K, **Fraser HSF**, et al Aggressive Regimens for Multidrug-Resistant Tuberculosis Decrease All-Cause Mortality. PLOS One, March 2013, 8 (3): e58664
33) Kwan GF, Bukhman, AK, Miller AC, Ngoga G, Mucumbitsi J, Bavuma C; Dusabeyezu S, Rich M, Mutabazi F, Mutumbira C, Ngiruwera JP, Amoroso C, Ball E, **Fraser HS**, Hirschhorn LR, Farmer PE, Kamanzi E, Bukhman G. A Simplified Echocardiographic Strategy for Heart Failure Diagnosis and Management at District Hospital Level for sub-Saharan Africa. J Am Coll Cardiol HF 2013;1:230–6

34) Catalani, C., Philbrick, W., **Fraser, H**., Mechael, P. and Israelski, D.M., 2013. mHealth for HIV treatment & prevention: a systematic review of the literature. Open AIDS J, 7, pp.17-41.
35) **Fraser HS**, Habib A, Goodrich M, Thomas D, Blaya J, Fils-Aime JR, Jazayeri D, Seaton M, Khan A, Choi S, Kerrison F, Falzon D, Becerra M. E-Health systems for management of MDR-TB in resource poor environments: A decade of experience and recommendations for future work. Stud Health Technol Inform. 2013;192:627-31.
36) Blaya JA, Shin SS, Yagui M, Contreras C, Cegielski P, Yale G, Suarez C, Asencios L, Bayona J, Kim J, **Fraser HS**. Reducing communication delays and improving quality of care with a tuberculosis laboratory information system in resource poor environments: a cluster randomized controlled trial. PLOS ONE. 2014; 9(4): e90110
I am senior author on this study which was one of the largest and most rigorous randomized, controlled trials of an eHealth system in a low income country
37) Kingkaew P, Glidewell L, Walwyn R, **Fraser, HS**, Wyatt JC. "Identifying effective components for mobile health behavior change interventions for smoking cessation and service uptake: protocol of a systematic review and planned meta-analysis." Systematic Reviews journal (BMC) October 2017, SYSR-D-16-00350R1
38) Oza S, Jazayeri D, Teich JM, Ball E, Nankubuge PA, Rwebembera J, Wing K, Sesay AA, Kanter AS, Ramos GD, Walton D, Cummings R, Checchi F, **Fraser HS.** Development and Deployment of the OpenMRS-Ebola Electronic Health Record System for an Ebola Treatment Center in Sierra Leone. J Med Internet Res 2017;19(8):e294 doi:10.2196/jmir.7881
I am senior author on this key study of the very rapid development and deployment of OpenMRS for very high risk infectious disease.
39) Agoro O, Kibira S, Freeman J, **Fraser HS**. Barriers to the Success of an Electronic Pharmacovigilance Reporting System in Kenya. An Evaluation Three Years Post Implementation. Journal of the American Medical Informatics Association 12th October 2017, DOI: 10.1093/jamia/ocx102
I am senior author on this study of pharmacovigilance in Kenya which on publication triggered a national discussion in the media in Kenya.
40) Muinga N, Magare S, Monda J, Kamau O, Houston S, Fraser HS, Powell J; English M, Paton C. Case Study: Implementing an Open Source Electronic Health Record (EHR) System in Kenyan Healthcare Facilities. JMIR Med Inform. 2018 Apr-Jun; 6(2): e22.
This study assessed a version of OpenMRS developed for hospitals in India when implemented in Kenya and identified challenges and areas for improvement.
41) Muinga N, Magare S, Monda J, English M, **Fraser HS**, Powell J, Paton C. Survey of Electronic Health Record (EHR) Systems in Kenyan Public Hospitals: A mixed-methods survey. BMC Med Inform Decis Mak. 2020 Jan 6;20(1):2. doi: 10.1186/s12911-019-1005-7.
This survey with colleagues from Kenya and Oxford revealed a highly active ecosystem of EHR development and implementation.
42) Indria D, Alajlani M, **Fraser HS**. Clinicians Perceptions of a Telemedicine System: A Mixed Method Study of Makassar City, Indonesia. BMC Medical Informatics and Decision Making. 2020 Aug; 20(1), pp.1-8.
I am the senior author of this study on an important issue highly relevant today, carried out by a former MSc student from Indonesia
43) Gilbert S, Mehl A, Baluch A, Cawley C, Challiner J, **Fraser HS**, Millen E, Multmeier J, Pick F, Richter C, Taylor P, Türk E, Upadhyay S, Virani V, Vona N, Wicks P, Novorol C. How accurate are digital symptom assessment apps for suggesting conditions and urgency advice?: a clinical vignettes comparison to GPs. 2020 Dec; BMJ Open, 10(12), p.e040269. doi: 10.1136/bmjopen-

2020-040269
I was one of the designers of this large study of 8 symptom checkers by the Ada Health clinical research team. I acted as an independent guarantor of the study with full access to the data and analyses and the opportunity to revise and sign off on the final version.

44) Kobayashi S, Falcón L, **Fraser H**, Braa J, Amarakoon P, Marcelo A, Paton C.
Using Open Source, Open Data, and Civic Technology to Address the COVID-19 Pandemic and Infodemic. Yearbook of Medical Informatics. 2021 Apr 21.
The review with colleagues from the IMIA Open source working group highlights the importance of open source and open systems in the response to the COVID-19 pandemic. Each author highlighted specific areas – in my case use of OpenMRS and EHRs.

45) David R, Evans R, **Fraser HS**
Modelling Prenatal Care Pathways at a Central Hospital in Zimbabwe.
Health Services Insights 2021; Volume 14: 1–13
A project by a former MSc student from Zimbabwe.

46) Bai E, Song SL, **Fraser HS**, Ranney ML. A Graphical Toolkit for Longitudinal Dataset Maintenance and Predictive Model Training in Health Care.
Applied Clinical Informatics. 2022 Jan;13(01):056-66.
This study includes two Brown undergraduate students

47) **Fraser HS,** Mugisha M, Remera E, Ngenzi JL, Richards J, Santas X, Naidoo W, Seebregts C, Condo J, Umubyeyi A. User Perceptions and Use of an Enhanced Electronic Health Record in Rwanda With and Without Clinical Alerts: Cross-sectional Survey. JMIR Medical Informatics. 2022 May 3;10(5):e32305.
A key publication from the CDC funded evaluation study in Rwanda which I led

48) Paton C, Braa J, Muhire A, Marco-Ruiz L, Kobayashi S, **Fraser H,** Falcón L, Marcelo A.
Open Source Digital Health Software for Resilient, Accessible and Equitable Healthcare Systems. Yearbook of Medical Informatics. 2022 Jun 2.
I wrote a section on OpenMRS and on disease surveillance and management

49) Adedeji TA, **Fraser HS,** Scott PJ
Implementing electronic health records in primary care using the theory of change: A Nigerian case study.
JMIR Med Inform 2022;10(8):e33491. doi: 10.2196/33491
Work by a PhD student I supported which used the OpenMRS EHR system. I worked with him on the project and paper from 2019

50) **Fraser HS,** Cohan G, Koehler C, Anderson J, Lawrence A, Pateña J, Bacher I, Ranney M.
Evaluation of diagnostic and triage accuracy and usability of a symptom checker in an emergency department: observational study
JMIR mHealth and uHealth. 2022;10(9):e38364
Key publication on the symptom checker work at Brown and Lifespan with 2 Brown Medical students as co-authors

51) **Fraser HSF**, Zahiri K, Kim N, Kim C, Craig S
The Global Health Informatics Landscape and JAMIA
JAMIA, ocad024, 2023: *1 – 6.* https://doi.org/10.1093/jamia/ocad024
This study addresses a need to increase publication of GHI work in informatics Journals like JAMIA. Keyana Zahiri is an undergraduate PLME (Medical) student, Nichole Kim and Chloe Kim were undergraduate students at Brown

52) **Fraser H,** Crossland D, Bacher I, Ranney M, Madsen T, Hilliard R. Comparison of diagnostic and triage accuracy of Ada and WebMD symptom checkers, ChatGPT and physicians for patients in an emergency department: clinical data analysis study

JMIR mHealth and uHealth. 2023 Oct 3;11(1):e49995.
This study shows potentially serious deficiencies in diagnosis and triage of the two versions of ChatGPT for patients with clinical emergencies. Daven Crossland is an MPH student.

53) **Fraser HS*,** Mugisha M*, Bacher I, Ngenzi J L, Richards J, Santas X, Seebregts C, Umubyeye A, Condo J. Factors influencing data quality in EHR systems in health facilities in Rwanda and the role of clinical alerts. *(*joint first authors)*
JMIR Public Health and Surveillance. 2024 Jul 3;10(1):e49127

54) Mugisha M, Ngenzi J, Richards J, Santas X, Umubyeyi A, Fraser HSF.
A qualitative study of the use of OpenMRS in clinics in Rwanda.
JMIR Medical Informatics in press (held up by final CDC review at proof stage)
Preprint at: http://preprints.jmir.org/preprint/53895

55) Campbell EA, Holl F, Marwah HK, **Fraser HS**, Craig SS
The Impact Of Climate Change On Vulnerable Populations In Pediatrics, Opportunities For AI, Digital Health, and Beyond – A Scoping Review,
Pediatric Research 2024

56) Oliver J. Bear Don't Walk IV, Hamish Fraser, Judy Wawira Gichoya, Kavishwar B. Wagholikar, Andrew S. Kanter, Felix Holl, Sansanee Craig
Principles and Implementation Strategies for Equitable and Representative Academic Partnerships in Global Health Informatics Research.
Journal of the American Medical Informatics Association, 2025;, ocaf015,
Preprint at: https://doi.org/10.1093/jamia/ocaf015

Original articles in peer reviewed conference proceedings

1) Long WJ, **Fraser HSF**, Naimi S,
A Web Interface for the Heart Disease Program. Proc AMIA Symp, 1996, p. 762-6
2) Tsien CL, **Fraser HS,** Long WJ, Kennedy RL.
Using Classification Tree and Logistic Regression Methods to Diagnose Myocardial Infarction. MEDINFO98, Seoul, Korea, Aug. 1998; Pt1:493-7.
3) **Fraser HSF**, Long WJ, Naimi S.
Differential Diagnoses of the Heart Disease Program have better Sensitivity than Resident Physicians. Proc AMIA Symp; 1998, p 622-26
4) Ohno-Machado L, **Fraser HS**, Ohrn A.
Improving Machine Learning Performance by Removing Redundant Cases in Medical Data Sets. Proc AMIA Symp.1998; p 523-27
5) **Fraser HSF**, Long WJ, Naimi S.
New Approaches to Measuring the Performance of Programs that Generate Differential Diagnoses using ROC Curves and Other Metrics. Proc AMIA Symp. 2000;:255-9.
6) **Fraser HS**, Jazayeri D, Bannach L, Szolovits P, McGrath SJ.
Telemedmail: free software to facilitate telemedicine in developing countries. Medinfo. 2001;10(Pt 1):815-9.
7) **Fraser HSF**, Jazayeri D, Mitnick CD, Mukherjee JS, Bayona J.
Informatics Tools To Monitor Progress And Outcomes Of Patients With Drug Resistant Tuberculosis In Perú Proc AMIA Symp. 2002: 270-274

8) Choi S, Jazayeri D, Mitnick C, Chalco K, Pachao F, Bayona J, **Fraser HSF**.
A Web-based Nurse Order Entry System for Multidrug-Resistant Tuberculosis Patients in Peru. Proc. Medinfo2004, 11: 202-206
9) **Fraser HSF**, Blaya J, Choi SS, Bonilla C, Jazayeri D.
Evaluating the impact and costs of deploying an electronic medical record system to support TB treatment in Peru. Proc AMIA Symp 2006: 264-268. **(Recipient of the Homer Warner Award)**
10) Blaya J, **Fraser HSF**.
Development, implementation and preliminary study of a PDA-based tuberculosis result collection system. Proc AMIA Symp 2006: 41-45
11) Mamlin BW, Biondich PG, Wolfe BA, **Fraser HSF**, Jazayeri D, Allen C, Miranda J, Tierney WM.
Cooking Up An Open Source EMR For Developing Countries: OpenMRS – A Recipe For Successful Collaboration. Proc AMIA Symp 2006: 529-533
12) Allen C, Jazayeri D, Miranda J, Biondich PG, Mamlin BW, Wolfe BA, Seebregts C, Lesh N, Tierney WM, **Fraser HS**.
Experience in implementing the OpenMRS medical record system to support HIV treatment in Rwanda. Stud Health Technol Inform. 2007;129(Pt 1):382-6.
13) Berger L, Jazayeri D, Sauveur M, Manasse J, Plancher I, Fiefe M, Laurat G, Joseph S, Kempton K, **Fraser HSF**.
Implementation and evaluation of a web based system for pharmacy stock management in rural Haiti. Proc. AMIA SYMP. 2007:46-50
14) Blaya J, Yagui M, Contreras CC, Palma B, Shin SS, Yale G, Suarez CZ, **Fraser HS**.
Using the e-Chasqui, web-based Information System, to Determine Laboratory Guidelines and Data Available to Clinical Staff. AMIA Annu Symp Proc. 2008 Nov 6:881.
15) Chiang CY, Mitnick CD, Bayona JN, **Fraser HS**, Shin SS, Becerra MC.
Outcome of extensively drug-resistant tuberculosis. Int J Tuberc Lung Dis. 2009 Jun;13(6):794-5
16) Amoroso C, Akimana B, Wise B, **Fraser HSF**.
Using Electronic Medical Records for HIV Care in Rural Rwanda. Stud Health Technol Inform. 2010;160:337-41
17) Waters E, Rafter J, Douglas GP, Bwanali M, Jazayeri DJ, **Fraser HSF**.
Experience Implementing a Point-of-Care Electronic Medical Record System for Primary Care in Malawi. Stud Health Technol Inform. 2010;160:96-100
18) Seymour RP, Tang A, DeRiggi J, Munyaburanga C, Cuckovitch R, Nyirishema P, **Fraser HSF**.
Training Software Developers for Electronic Medical Records in Rwanda. Stud Health Technol Inform. 2010;160:585-9
19) **Fraser HSF**, Blaya J.
Implementing medical information systems in developing countries, what works and what doesn't. Proc. AMIA Symp. 2010: 232-236.
20) Kobayashi S, Hannan T, Mun SK, Falcon L, Paton C, Marcelo A, **Fraser HS**, Phommavong C, Braa J, Lazuardi L.
Free/Libre/Open Source Software and Open Data Workshop for Open Science. Proceedings of Medinfo2019, Lyon, France, 2019.
21) Adedeji T, Scott P, **Fraser HS**.
How can we deliver the vision of electronic medical records to improve maternal and child healthcare in low- and middle-income countries? Proceedings of Medinfo2019, Lyon, France, 2019.
22) Eickhoff C, Floran Gmehlin F, Patel AV, Boullier J, **Fraser HS**
DC3 -- A Diagnostic Case Challenge Collection for Clinical Decision Support

ICTIR '19: Proceedings of the 2019 ACM SIGIR International Conference on Theory of Information Retrieval Sep. 2019 Pages 141–144 https://doi.org/10.1145/3341981.3344239
23) Craig S, Hübner U, Orenstein E, Mengchun G, Cullen T, **Fraser HS**.
Global Health Informatics Collaborations: Practical Steps Towards Successful and Sustainable Partnerships. Proc. AMIA Symposium 2019
24) Li C*, Chen E, Savova G, **Fraser H**, Eickhoff C.
Mining Misdiagnosis Patterns from Biomedical Literature. AMIA Jt Summits Transl Sci Proc. 2020 May 30;2020:360-366. PMID: 32477656;.
25) Bacher I, Goodrich M, Kimaina A, Seaton M, Faulkenberry G, Vaish S, Flowers J, **Fraser HS**.
FHIRing up OpenMRS: Architecture, Implementation and Real-World Use-Cases in Global Health.
AMIA Summits on Translational Science Proceedings. 2024;2024:162 – 171.
PMID: 38827065. PMC11141833

Other peer reviewed publications

1) **Fraser HSF**, McGrath JD. Information Technology and Telemedicine in Sub-Saharan Africa [editorial] BMJ. 2000 Aug 19-26;321(7259):465-6
2) **Fraser HS,** Coiera E, Wong D. Safety of patient-facing digital symptom checkers Lancet November 6th 2018.
This is a peer reviewed research letter in which I am lead author and includes a supplement providing a detailed analysis of the target research paper. This was a high profile publication with 149 citations to date.
It was quoted in a BBC Horizon documentary and many articles in the UK and US press.
3) **Fraser HS,** Alvin Marcelo A, Kalla M, Kalua K, Celi L, Ziegler J
"Digital Determinants of Health" (Editorial, peer reviewed)
PLOS Digital Health, *November 2023*

Other non-peer reviewed publications

1) **Fraser HS**. Academic medicine: who is it for? Academic physicians are affected by specific failures of postgraduate training. BMJ. 2005 Feb 12;330(7487):363; discussion 363-4. [Letter]
2) Johnson OA, **Fraser HS**, Wyatt JC, Walley JD. Electronic health records in the UK and USA. Lancet. 2014 Sep 13;384(9947):954. doi: 10.1016/S0140-6736(14)61626-3. [Letter]
3) **Fraser HSF**, Wilson C, Clamp S. Limitations of Study on Symptom Checkers.
JAMA Internal Medicine May 2017, Vol. 177, Number 5: P 740 [Letter]
4) **Fraser, H**. and Keshavjee, S.. Video-observed therapy for tuberculosis: strengthening care. 2019. The Lancet, 393(10177), pp.1180-1181.
5) Paton C, Amarakoon P, Braa J, Kobayashi S, Marcelo A, Kane T, **Fraser HS**, Hannan T.
Open Source Software in Healthcare: International Case Series from the IMIA Open Source Working Group. Research Gate (preprint 2023).
DOI: 10.13140/RG.2.2.12416.51204

6) **Fraser H** co-author, Conference Proceedings, Diagnostics for Low & Middle-Income Countries, Reuben College, Oxford University, Oxford, UK, July 2023.

Professional educational materials or reports

1) 2005 Course syllabus and lectures for master's degree program in Medical Informatics at the University of Kwa-Zulu-Natal, Durban, South Africa.
2) 2006 Co-wrote course syllabus for distance learning modules introduction to medical informatics at University of South Africa.
3) 2009 Developed course material for medical informatics training program in Rwanda as part of the *E-Health Software Development Initiative* for which I was PI
4) 2011 Co-Wrote the *"Call to Action on Global eHealth Evaluation*". Consensus Statement of the WHO Global eHealth Evaluation Meeting, Bellagio, September 2011 https://www.ghdonline.org/tech/discussion/the-role-of-evaluation-in-global-ehealth/#artifact-detail-13682252
5) 2012 Celi, Leo, Hamish Fraser, Peter Szolovits, and Ken Paik. *HST.S14 Health Information Systems to Improve Quality of Care in Resource-Poor Settings,* Spring 2012. (Massachusetts Institute of Technology: MIT OpenCourseWare), http://ocw.mit.edu (Accessed 01 May, 2013). License: Creative Commons BY-NC-SA
6) 2013 Developed one day course *"Effective eHealth and mHealth Evaluations in Low Resource Environments",* tutorial held at Medinfo2013 in Copenhagen, DK, August 2013 and AMIA Fall Symposium 2015.
7) 2014 Lead author and lecturer for MSc level distance learning course *"Introduction to Global eHealth"*, Department of Population Health, Edinburgh University, Scotland
8) Co-Wrote *"Clinical Knowledge Management and Decision Support"* MSc level course, University of Leeds, UK
9) 2017 MITx MOOC *"Global Health Informatics to Improve Quality of Care"* https://www.edx.org/course/global-health-informatics-improve-mitx-hst-936x | (accessed 02/10/2017) co–author, lecturer
10) 2018 – 2023 I wrote a semester length course which I teach at Brown University: *BIOL1575/2075 Evaluation of Health Information Systems.*

Abstracts (selected)

Notable earlier abstracts

1) Blaya J, Shin S, Yagui M, Asencios L, Vargas J, Suarez C, Yale G, **Fraser H**: Implementing and evaluating a laboratory information system to optimize the treatment of tuberculosis patients in Peru. Poster presentation at Medinfo2007, August 2007. **Second prize, best poster award**
2) Blaya J, Shin S, Yagui M, Yale G, Suarez C, Asencios L, **Fraser H**: Assessing effects of the e-Chasqui laboratory information system on accuracy and timeliness of bacteriology results in the Peruvian Tuberculosis Program. Poster presentation at the AMIA Annual Symposium November 2007. **Second prize, best poster award**
3) Kerrison F, **Fraser HS**. The impact of uncertain diagnostic results on responses to a decision support system for TB drug prescribing. AMIA Annu Symp Proc. 2008 Nov 6:949 *Based on Mr Kerrison's MSc thesis which was awarded with distinction, University of Bath, UK*

4) Uwayezu G, Munyaburanga C, Gakuba R, Fraser HS. National roll out of the Rwanda OpenMRS electronic medical record to improve healthcare delivery. Proc. AMIA Fall Symp. Nov. 2013
5) Abd-Alrazaq A, **Fraser HS**, Gardner P.
Factors affecting patients' use of electronic personal health records.
Informatics for Health 2017 (EFMI), Manchester, UK 24th - 26th April 2017
Nominated for best poster prize

Recent abstracts

6) **Fraser HSF.** Evaluating the performance of a general diagnostic decision support system on case data from urgent cardiology admissions.
AMIA Annu Symp Proc. Nov *2019*
7) Bacher I, Mankowski P, White C, Flowers J, **Fraser HS**. A New FHIR-based API for OpenMRS. Poster presented at AMIA Clinical Informatics Conference, May 2021
8) Raman S, **Fraser HS.** Evaluation of Diagnostic Apps for Myocardial Infarction and Other Causes of Chest Pain: Informing Patient Use. Poster presented at the 14th Annual International Conference on Diagnostic Error in Medicine, October 2021
Ms Raman is a Medical student at Warren Alpert Medical School
9) Brown CA, **Fraser HS**. How accurate is the Isabel diagnostic decision support system with patients presenting with acute symptoms of heart disease?
Poster presented at the 2021 AMIA Fall Symposium
Dr Brown was a PhD candidate at Warren Alpert Medical School
10) Bacher I, Faulkenberry G, **Fraser HS,** Rasmussen L. Connectathon: Making Open-Source Global Health Systems Talk to Each Other. Workshop, 2021 AMIA Fall Symposium
11) Khatri I, **Fraser HS**, Bacher I, Madsen T
Prediction Of Acute Cerebrovascular Events Based On Patient Reported Symptoms.
Submitted to the American Stroke Association International Conference 2023.
Ms Khatri is a Medical Student at the Brown University Warren Alpert Medical School
12) Adedeji T, Nakkas H, **Fraser H**, Scott P. Barriers, priorities and lessons learned in achieving electronic health records interoperability in low- and middle-income countries: Workshop findings. Medical Informatics in Europe 2023, Gothenburg, Sweden 22 - 25 May 2023
13) Oganisian A, DeLong A, Sang E, Mwangi A, **Fraser H,** Hogan J. Flexible Bayesian Models for Prediction and Causal Estimation with Return Time Outcomes: Applications in HIV Care Retention. CFAR Conference 2023, School of Public Health, Brown University, RI, USA
A product of the NIAID R01 grant on Loss To Follow Up and HIV care in Kenya
14) Crossland D, Bacher I, Hiliard R, Madsen T, **Fraser H F**. Evaluation of ChatGPT's Safety, Diagnostic and Triage Accuracy on Data from ED Patients.
Presented as a poster at the Society for Improvement of Medical Diagnosis annual conference October 2023. Mr Crossland was an MPH student at Brown University.
15) **Fraser HS,** Zahiri K, Wangi A, Wanyee S, Hogan J. What is the evidence base for clinical impact of AI and machine learning on patient care in low and middle income countries? A scoping review
Presented at the Global Digital Health Forum Conference, Washington DC, December 2023.
Ms Zahiri is a medical student at Brown University.
16) **Fraser HF** and the AMPATH and Brown University investigators.
Use of supervised machine learning models to predict loss to follow up of HIV patients in Kenya: current progress and interesting challenges.
Diagnosis in Low and Middle Income Countries, Reuben College, Oxford, UK. July 2024

17) Ishaani Khatri, Anita Zahiri, Tassallah Abdullahi, Ian Bacher, Tracy Madsen, Hamish Fraser
Diagnostic Accuracy of ChatGPT4.0 for TIA or Stroke Using Patient Symptoms and Demographic Data.
Dex24, Minneapolis, Mn, 10/13/2024
18) Crossland D, Chandru H, Kim C, Bailey C, Graham K, Bacher I, Hilliard R, Nagle D, Ranney M, Catanese S, Crowley A, Madsen T, **Fraser HF**.
Evaluation of Diagnosis and Triage Performance of Ada and WebMD Symptom Checkers, and ChatGPT on Patients Presenting for Urgent Primary Care.
Poster accepted for AMIA Fall Symposium 2024
19) Ishaani Khatri, Anita Zahiri, Tassallah Abdullahi, Ian Bacher, Sasha Raman, Hamish Fraser, Tracy E. Madsen.
Diagnostic Accuracy of ChatGPT4.o for TIA or Stroke Using Patient Symptoms and Demographics.
Presentation at the International Stroke Meeting, San Francisco, CA, February 7th 2025

Publications submitted or in preparation

Forthcoming

Revise and resubmit

Elizabeth A. Campbell, Felix Holl, Oliver J. Bear Don't Walk IV, Badisa Mosesane, Andrew S. Kanter, Hamish Fraser, Amanda L Joseph, Judy Wawira Gichoya, Kabelo Leonard Mauco, Sansanee Craig.
Gaps and Pathways to Success in Global Health Informatics Academic Collaborations: Reflecting on Current Practices
Responding to reviewers from JMIR mHealth uHealth, May 2025

Fraser HS, Bacher I, Khatri I, Raman S, Graham K, Madsen T, Nagel, D, Hiliard R.
"Usability of a symptom checker by patients in primary care and effect of patient characteristics and social determinants of health,"
Responding to reviewers from Applied Clinical Informatics June 2025

Brown KA, **Fraser HS**. How accurate is the Isabel diagnostic decision support system with patients presenting with acute symptoms of heart disease?
This paper is undergoing additional data collection and analysis for re-submission to a journal. It is with a BCBI PhD student.

Submitted for initial review

Raman S, Bacher I, **Fraser HS.** Evaluation of Diagnostic Apps and prediction models for Myocardial Infarction and Other Causes of Chest Pain: Informing Patient Use.
This is based on Sasha Raman's senior thesis at Brown, she is now a medical student at Brown University Warren Alpert Medical School.
Submitted to BMC Biomedical Informatics and Decision Making
Preprint at: https://www.researchsquare.com/article/rs-3571463/v1

Arman Oganisian, Joseph Hogan, Edwin Sang, Allison DeLong, Ben Mosong, Hamish Fraser, Ann Mwangi.
Bayesian Counterfactual Prediction Models for HIV Care Retention with Incomplete Outcome and Covariate Information.
Submitted to "Bioinformatics" March 2025

Hunt V, Fraser HS
Medical School Admission in the Age of Generative AI (commentary)
Submitted to Medical Education

Culture, Connectivity, and Care: Healthcare Technology Adoption in Haiti. A Joseph, R Joseph, H Fraser, W Lober, F Holl, A Kanter, H Joseph, Y Quintana
Submitted to EFMI STC 2025, Osnabrück Germany 20 - 22 October 2025

The following papers are currently undergoing CDC peer review before submission to journals:

Michael M, Fraser H, Ngenzi J, Remera E, Anderson T, Karema N, Naido W, Richards J, Santas X, Condo J, and Umubyeyi A. Development and implementation of a large-scale Enhanced Electronic Medical Records to improve system usability in HIV program in Rwanda: A user centered design.
To be submitted to BMC Biomedical Informatics and Decision Making

Work in progress

Mgonzo W M, Kim N, Zahiri K, Wanyee S, Teich J, Paton C, Marcelo A, Wangi A, Bacher I, Hogan J, **Fraser HS**. What is the evidence base for clinical impact of AI and machine learning on patient care in low and middle income countries? A scoping review
To be submitted to JAMIA
Abstract presented at GDHF 2023

Khatri I, Zahiri A, Abdullahi T A, Bacher I, Fraser H, Ross H, Eickhoff C, Madsen T. Evaluation of machine learning and Large Language Models to improve pre-hospital diagnosis of TIA and stroke.

To be submitted to Applied Clinical Informatics.
Presented in abstract at the International Stroke Conference, both in February 2023, and February 2025.

Juddy Wachira, **Hamish Fraser**, Eric Achillah, Ian Bacher, Ciaran Duffy, Joseph Hogan, Ann Mwangi
Clinicians requirements for machine learning based clinical decision support in HIV care in Kenya: a qualitative study.
To be submitted to JMIR Human Factors April 2025

Crossland D, Chandru H, Kim C, Bailey C, Graham K, Bacher I, Hilliard R, Nagle D, Ranney M, Catanese S, Crowley A, Madsen T, **Fraser HF**.
Evaluation of Diagnosis and Triage Performance of Ada and WebMD Symptom Checkers, and ChatGPT4.0 on Patients Presenting for Urgent Primary Care.
To be submitted to NEJM-AI June, 2025

Noelle Jung, Amina Abdullahi, Sasha Raman, Ishaani Khatri, Ian Bacher, Hamish Fraser
Potential for pre-hospital diagnosis of acute cardiac ischemia using Large Language Models: a clinical data analysis study.
To be submitted to a cardiac journal

Final data collection and analysis for major global health informatics project
October 2023: I am collaborating on and funding the final data collection on patients in the large randomized controlled trial in Rwanda I have been leading for several years. This is evaluating the effects of clinical decision support in the OpenMRS EHR system on HIV care. The data is from 112 health facilities and 40,000 – 50,000 patients, and will be analyzed and submitted for publication in 2024.

The following papers will be submitted for CDC review 2023

Dreisen J, Mugisha M, Ngenzi J, Richards J, Santas X, Umubyeyi A, **Fraser HSF.** The costs of developing, implementing and deploying an enhanced EHR system for HIV care in Rwanda.
To be submitted to JAMIA

Fraser HSF, Mugisha M, Chelliah W, Ngenzi J, Gaju E, Richards J, Umubyeyi A
Monitoring stability, usage and data completeness in large scale OpenMRS Electronic Health Records deployment in rural Rwanda: an approach to automate process evaluation
To be submitted to Applied Clinical Informatics

17. Report of Local, National and International Invited Teaching and Presentations

National

2000 Invited to present information systems in healthcare in LMICs
World Bank President James Wolfenson and the staff of the "Infodev" program. Washington, DC
2001 "eHealth in Developing Countries, the Future of Health Care?", Conference chair
Harvard International Development Group, Cambridge, MA

2001 The Future of Health Technology Meeting, Invited lecture
MIT Media Lab, Cambridge, MA

2004 "Improving healthcare in developing countries with good information", Invited lecture
Harvard/MIT Hippocratic society meeting on International Health, Cambridge, MA

2004 "Essential features and functions of Electronic Patient/Health Care Information Systems for HIV Treatment, Invited speaker
Global AIDS Program, HRSA HIV-AIDS Bureau , HRSA, Washington DC

2005 "Telemedicine in developing countries", Invited plenary lecture
Broadmed Conference, Telemedicine over Broadband, Boston, MA

2005 NLM Long Range Planning Panel 2; Health Information for Underserved and Diverse Populations in the 21st Century, Invited panelist and group leader
National Library of Medicine, Washington DC

2006 "Using evaluation as a tool in scale up of ARV treatment", Invited lecture
Harvard School of Public Health, Boston, MA

2006 "Evaluation of medical information systems in developing countries", Workshop organizer and lecturer
Harvard University, Cambridge, MA

2008 "OpenMRS", Invited lecture
Decisions Systems Group, Brigham and Women's Hospital, Boston, MA

2008 "OpenMRS electronic medical record system", Invited lecture
LDS Hospital, Salt Lake City, Utah , University of Utah, Utah

2008, "Open MRS: Components and Connections to Integrated Health Information Systems", Invited lecture
Public Health Informatics Network Conference, Seattle, Washington

2009 'Role of collaborative development in eHealth in Africa', Invited lecture
7th Annual Public Health Information Network Conference, Atlanta, Georgia

2009 'AMIA Global Partnership for medical informatics training', Workshop participant
AMIA GPP Meeting, Washington, DC

2009 HST 939: 'Designing and Sustaining Technology Innovation for Global Health Practice', Invited lecture
Harvard Medical School, Boston, MA

2009 "OpenMRS in Rwanda"
"OpenMRS vision", Conference organizer, speaker
OpenMRS Developers and Implementers meeting, Harvard Medical School, Boston, MA

2009 "EMR systems to support healthcare improvement in developing countries and the role of OpenMRS", Invited lecture
Harvard School of Public Health, Boston, MA

2009 "The role of health facility based data collection in improving quality of care in developing countries", Invited lecture
Harvard Initiative on Global Health, Harvard Medical School, Boston, MA

2010 "The Role of Technology in Crisis Response: Lessons Learned from Haiti",
Invited plenary lecture
Global Public Health and Technology conference, Harvard, Boston, MA

2010 "Should we implement eHealth systems in developing countries, what are the impacts?",
Invited plenary lecture
Alumni Weekend, Harvard School of Public Health, Boston, MA

2010 Evaluation of ehealth systems in developing countries, Invited lecture
Health Affairs Journal, National Press Club, Washington, DC (Rockefeller Foundation)

2010 'Telemedicine & mHealth in Haiti', Invited lecture
American Medical Association, Washington, DC, (AMA)
2010 Panel: 'Biomedical informatics for global Health Information Exchange', Invited panelist
AMIA Annual Symposium, Washington DC
2010 Panel: 'Open Source Solutions for Public Health Practice and Research', Invited panelist
AMIA Annual Symposium, Washington DC
2012 "Mobile Disease Detection, Invited lecture
Digital Disease Detection Conference, Harvard School of Public Health, Boston, MA
2012 "Surveillance in resource poor settings", Invited lecture
Public Health Surveillance Course, Harvard School of Public Health, Boston, MA
2012 'Developing and strengthening the global supply chain for second-line drugs for multidrug-resistant TB: A workshop', Invited speaker and panelist
Institute of Medicine, Keck Center, Washington DC
2012 'Role and impact of eHealth systems in developing countries', Invited speaker
CDC Global AIDS Program, Atlanta, Georgia.
2013 "Mobiles for Public Health", Invited speaker
TechChange online course, Mobile Health Alliance, Washington DC
2013 "International Outreach to Low-income Nations and Crisis Sites", Invited lecture
Association of Medical Directors of Information Systems Fall Symposium, Boston, USA
2015 "Global eHealth Evaluation", Lecture
Global eHealth Course, MIT, Cambridge, MA, USA
2017 OpenMRS EHR, Invited plenary speaker
University of Pennsylvania, Philadelphia, PA
2020 Global eHealth, Invited speaker
Yale University, New Haven, CT (cancelled due to COVID-19)

Recent and upcoming presentations

4/2023 Africa Cancer ECHO (NIH support group) invited speaker "Potential for expanded use of OpenMRS EHR for cancer care in low and middle income countries" (Online, NIH)

5/2023 "Rwanda OpenMRS data quality study". Presentation for Joint Partners In Health and Brown University OpenMRS Meeting, Boston, MA

10/19/2023 "Performance, usability and safety of symptom checkers and ChatGPT for diagnosis and triage in emergency care". Invited presentation, Yale University, Newhaven, CT.

International (2010 onwards)

2010 "Using the OpenMRS electronic medical record system to strengthen health care delivery in Rwanda", Invited lecture
McGill University Global Health Conference, Montreal, Canada
2010 "OpenMRS-TB", Invited lecture
WHO workshop on Recording and Reporting of MDR TB, Manilla, Philippines
2011 "Information systems to support MDR-TB management", Invited lecture
Seminar on Recording and Reporting of MDR TB, WHO, Geneva

2011 "Collaborative Development of Open Source Medical Record Systems in Developing Countries: The OpenMRS Experience", Invited lecture
Unite for Sight Conference, Yale University, USA,
2011 2011 Public Health Informatics Conference, Global Workshop, Invited panelist
Public Health Informatics Meeting, CDC, Atlanta, USA
2011 "Information systems to support MDR-TB management", Invited lecture
WHO meeting on Recording and Reporting, Cairo, Egypt
2011 NIH consultative meeting on mobile health, Invited expert
3rd Annual mHealth Summit, NIH , Bethesda, MD
2012 "A systematic review of eHealth systems in developing countries and practical examples", Invited lecture
Oxford University, Oxford, UK
2012 "Role and impact of eHealth systems in developing countries", Invited speaker
Unite for Sight annual conference, Yale University, New Haven, CT
2013 "Evaluation of mHealth systems", Invited session chair
mHealth Alliance Evidence working group workshop, Zanzibar,
2013 "The OpenMRS open source EMR system", Invited lecture
Leeds Institute of Health Sciences, University of Leeds, UK
2013 The Bellagio Call to Action on eHealth Evaluation, Invited lecture
Medinfo2013, Copenhagen, Denmark
2014 "The Bellagio Call to Action on eHealth Evaluation", Invited lecture
Dept. Population Health, Edinburgh University, Edinburgh, Scotland
2014 "Electronic Health Records", Invited session chair
Leeds City Region International Health and Social Care Symposium, Leeds, UK
2015 "The OpenMRS EHR", Invited speaker
Global Health Group, Oxford University, Oxford, UK
2015 "OpenMRS Ebola", Invited presentation
Meeting on eHealth and Ebola, IRC, NY, NY, USA.
2015 "Global eHealth", Invited lecturer & panelist
American Medical Informatics Association Symposium, San Francisco, CA
2016 Invited chair "Digital Healthcare Revolution: Harnessing NHS Technology",
Health technology conference, London, UK
2016 OpenMRS-TB, Invited speaker
WHO Workshop on mHealth for TB-Tobacco in Egypt (declined due to teaching commitments)
2016 Invited attendee
Opening meeting, All-Party Parliamentary Group on Personalized Medicine,
Houses of Parliament, London, UK
2017 OpenMRS EHR, Invited speaker
Imperial College of Medicine, MPH course, London, UK
2018 "Global eHealth Evaluation", Invited speaker
Tropical Medicine Group, University of Oxford, Oxford, UK (declined due to family health)
2019 EHRs for Maternal Child Health in Nigeria, Invited speaker
Medinfo2019, Lyon, France
2019 Open source EHRs, Invited panelist
Medinfo2019, Lyon, France
2019 "Collaborations in Global eHealth", Invited panelist
AMIA Fall Symposium, Washington, DC

2020 “Managing the Global COVID-19 Pandemic with Health Informatics – Successes and Challenges”, Invited speaker, American Medical Informatics Association International Webinar

2020 "Can electronic health record systems improve patient care, disease surveillance and research in low income countries?", Invited plenary lecture
65th Annual Meeting of the German Association for Medical Informatics, Biometry and Epidemiology (GMDS). https://www.youtube.com/channel/UCgunfQtV2Ba0tEdik2rRudw

2020 “Role of evaluation in EHR implementation and use in low income settings”, Session organizer, speaker
OpenMRS annual Meeting 2020, (virtual)

2021 “Data Science for Decision Support in the HIV Care Cascade”, Presenter
OpenMRS annual Meeting 2021, (virtual)

2021 Setting up a community of practice for evaluation in EHR implementation and use in low income settings, Session organizer, speaker
OpenMRS annual Meeting 2021, (virtual)

Recent and upcoming presentations

6/2022 “Performance, usability and safety of symptom checkers for emergency care”, Plenary speaker, CDT AI program annual meeting, University of Leeds, UK

10/2022 “The Legacy of Paul Farmer, the World's Doctor: Health Information Technology in the Service of the Poor and Vulnerable”, Plenary speaker (international conference)
“The Patient and the Practitioner in the Age of Technology”, Providence, RI

3/2023 “EHRs in LMICs: collecting and sharing critical health data to improve diagnosis” Invited presentation, Diagnostics in LMICs conference, Reuben College, Oxford University, UK

3/2023 “Introduction to OpenMRS EHR system”. Invited presentation to Masters students, Computer Science Department, University of Leeds, UK

8/2023 “Electronic Health Record Systems and OpenMRS in Low and Middle Income Countries” Invited virtual lecture for: Applied Research Methods course, Master of Health Informatics, University of Rwanda's East African Centre of Excellence in Biomedical Engineering and E-health, Kigali, Rwanda

02/2025 “Finding the ground truth in Medical AI/ML” Love Data Week, Brown University