WERE, MARTIN, MD MS

Vanderbilt Institute for Global Health
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Date of Birth: May-01-1975
Place of Birth: Nairobi, Kenya

EDUCATION:

08/1993 – 06/1997	B.A., Biochemistry & Molecular Biology (Magna cum laude) Harvard College, Cambridge, MA, USA
98/1997 - 06/2001	Doctor of Medicine (M.D.) Harvard Medical School, Boston, MA, USA
07/2001 – 06/2004	Residency in Internal Medicine, Brigham & Women's Hospital & Harvard Medical School, Boston, MA.
07/2006 – 06/2008	NLM Medical Informatics Fellowship, Indiana University & Regenstrief Institute, Inc., Indianapolis, IN, USA
01/01/11 – 12/13/14	Harold Amos Medical Faculty Program Scholar Robert Wood Johnson Foundation (RWJF) Principal Investigator & Scholar

ACADEMIC APPOINTMENTS:

08/2004 - 07/2006	Instructor, Emory University School of Medicine, Atlanta, GA Internal Medicine
07/2008 - 06/2014	Assistant Professor, Internal Medicine & Geriatrics, Indiana University, Indianapolis, IN
07/2008 - 12/2015	Research Scientist, Regenstrief Institute, Inc., Indianapolis, IN
07/2014 - 12/2015	Associate Professor, Internal Medicine & Geriatrics, Indiana University, Indianapolis, IN
07/2015 - Present	Visiting Associate Professor of Medicine, Moi University, Eldoret, Kenya
08/2016 – Present	Associate Professor of Biomedical Informatics & Medicine, Vanderbilt University Medical Center, Nashville, TN

PROFESSIONAL ORGANIZATIONS:

1997 - 2006	Member, Massachusetts Medical Society
2006 – 2014	Member, Indiana State Medical Association
2011 – 2013	Member, Central Society for Clinical Research
2011 – 2015	Member, International AIDS Society
2011 – 2016	Member, Society for General Internal Medicine
2000 – Present	Member, American Medical Association
2003 - Present	Associate, American College of Physicians
2006 - Present	Member, American Medical Informatics Association
2013 – Present	Member, Kenya Health Informatics Association

KEY HEALTH INFORMATICS PROFESSIONAL SERVICE ROLES:

2011 – 2014	Member, Health Informatics Private-Public Partnership Research & Evaluation Committee
2011-2014	Member, Board of Scientific Counselors, Lister Hill Center of the National Library of Medicine
2011 - 2013	Editorial Board Member Journal of American Medical Informatics Association
2012 – 2014	Co-chair, mHealth Alliance Evidence Working Group
2013 – 2015	Chief Medical Information Officer Indiana-Moi University Partnership
2015 – 2018	Acting Director Institute of Biomedical Informatics, Moi University, Kenya
2013 – Present	Founder & Lead mUzima mobile health
2013 – Present	Project Coordinator / Lead Health Informatics Research and Training to Improve Health in East Africa (HI-TRAIN)
2019 – Present	Chair, Education Working Group Pan-African Health Informatics Association

RESEARCH PROGRAM:
Cumulative listing of all grants: title, source, dollar amount, inclusive dates, percent effort.

ACTIVE GRANTS/FELLOWSHIPS

Grant #: 7200AA18CA00019 (PI: Were)
Title: Higher Education Partnership for Innovation and Sustainable Biomedical Informatics Capacity in Kenya (PISBIC Kenya)
Source: United States Agency for International Development
Dollar Amount: $1,000,000
Inclusive Dates: 09/01/2018 - 08/31/2021
Percent Effort: 50%

Grant #:1U2GGH001943-05(Wester, PI. Co-Investigator)
Title: Avante-Towards Epidemic Control
Source: CDC (PEPFAR)
Dollar Amount: $30,237,406
Inclusive Dates: 9/30/2016 - 9/29/2021
Percent Effort: 25%

Grant #: 1R21TW011327-01 (Aihonkhai/Were)
Title: PeerNaija: A Mobile Health Platform Incentivizing Medication Adherence Among Youth Living with HIV in Nigeria
Source: NIH/Fogarty
Dollar Amount: $412,485
Inclusive Dates: 09/26/2019 - 04/30/2021
Percent Effort: 8%

Grant #: QZA-0484 (PI: Were)
Title: Health Informatics Research and Training to Improve Health In East Africa (HI-TRAIN)
Source: Norwegian Agency for Development Cooperation (Norad)
Dollar Amount: $2,068,000
Inclusive Dates: 09/01/2013 – 12/31/2020
Percent Effort: None

GRANTS UNDER REVIEW
Grant #: CDC-RFA-GH20-2036
Source: Centers for Disease Control
Opportunity Name: HQ Supported Development, Implementation, Use and Evaluation of Interoperable Health Information Systems to Achieve HIV/AIDS and TB Epidemic Control through Improved Health Informatics Policy, Governance, Workforce Capacity, and Systems under PEPFAR
Project Title: PEPFAR Technical Assistance in Health Informatics (PEPTAHI)
Dollar Amount: $20,000,000 per year for 5 years (three awards)
Start Date: Sep 30, 2020
Submission Date: Feb-27-2020
Role: Principal Investigator

Grant #: CDC-RFA-GH20-2043
Source: Centers for Disease Control
Opportunity Name: Enhancing Strategic Information Capacity for HIV/AIDS Programs towards Sustaining Epidemic Control in Kenya through Monitoring and Evaluation and Data Science under the President's Emergency Plan for AIDS Relief (PEPFAR)
Project Title: Kenya Monitoring, Evaluation and Data Sciences (**KenMEDS**)
Dollar Amount: $2,000,000 per year for 5 years (2 awards)
Start Date: Sep 30, 2020
Submission Date: Mar-10-2020
Role: Sub-contract PI (Moi is Prime)

Grant #: CDC-RFA-GH20-2057
Source: Centers for Disease Control
Opportunity Name: Scaling Capacity in Strategic and Health Information Systems in Mozambique under the President's Emergency Plan for AIDS Relief (PEPFAR)
Project Title: Health Information Systems for Mozambique (HIS4Moz)
Dollar Amount: $20,000,000 per year for 5 years (three awards)
Start Date: Sep 30, 2020
Submission Date: Mar-17-2020
Role: Principal Investigator

COMPLETED RESEARCH GRANTS/FELLOWSHIPS

Grant #: VUMC63776/R21TW010635 (Wright, PI. Co-Investigator)

Source: NIH (sub from VU)
Title: NIH Mobile Health and Treat (mHAT) for Malaria Elimination
Dollar Amount: $4,615
Inclusive Dates: 09/18/2017 – 08/31/2019
Percent Effort: 2.5%

Grant #:3R21TW010620 (Purdue Subcontract, Were - VUMC PI)
Title: Laboratory test-comparable mobile assessments of hemoglobin for anemia detection
Source: NIH
Dollar Amount: $164,793
Inclusive Dates: 9/18/2017 - 8/31/2019
Percent Effort: 8%

CFAR Research Project Award   (PI: Clouse, Kate)   10/01/2016   –
09/30/2017
CFAR
Women's mobility and the continuum of HIV care in South Africa.
Role: Co-Investigator.

GE Foundation   (PI: Newton, Mark)   12/91/2013 - 11/30/2017
ImPACT Africa [Improving Perioperative and Anesthesia Care and Training in Africa]

3U2GGH000812-04 (PI: Wester)   09/30/2012 - 09/29/2017
CDC/GAP (PEPFAR)
Avante Zambézia: Technical Assistance to the Ministry of Health (MOH) for HIV Services and
Program Transition in Zambézia
Role: Co-Investigator.

Indiana CTSI KL2 Pilot Project Funding   08/01/2008 – 03/30/2009
National Center for Research Resources (NCRR)
Role: Principal Investigator

KL2RR025760   08/01/2008 – 08/31/2009
National Center for Research Resources (NCRR)
Indiana CTSI Career Development Award
Role: KL2 Postdoctoral Faculty Scholar

Clinical Research Scientist Loan Repayment Program   10/01/2007   –
09/30/2010
National Institutes of Health
Role: Clinical Research Scientist

No grant number,   01/01/2009 – 01/31/2010
Tibotec Reach Initiative Award.
Impact of using nurses instead of clinicians to care for stable HIV-infected patients
Role: Principal Investigator

R18 HK00058   09/29/2007 – 09/30/2010
Electronic Medical Records to Improve Patient Care and Public Health in Rural Kenya
Center for Disease Control.
Role: Co-Investigator

No grant number,   09/29/2007 – 09/30/2010
Abbott Fund
Clinical Decision Support.
Role: Co-Investigator

K08HS018539 - Career Award)   09/30/2009 – 07/31/2014
Agency for Healthcare Research and Quality (AHRQ)
Improving Management of Test Results that Return After Hospital Discharge
Role: Principal Investigator

No grant number,   08/01/2009 – 03/30/2013
John E. Fogarty International Center, National Institutes of Health
Regional East African Center for Health Informatics
Role: Co-Investigator

No grant number,   08/01/2009 – 03/30/2013
TB Screening Intervention
Center for Disease Control
Role: Co-Investigator

No grant number,   12/18/2012 – 12/17/2013
Center for Disease Control
Evaluating nationwide electronic health records roll-out in Kenya
Role: Principle Investigator / Protocol Developer

No grant number,   02/01/2013 – 01/31/2014
Regenstrief Institute
Developing and Evaluating a Smartphone-based System to Support Multi-Media Use in Clinical
Care (Regenstrief Institute Innovation Grant)
 Role: Principal Investigator

No grant number,   05/06/2013 – 04/11/2014
 Medtronics Foundation
mPowering Frontline Health Workers for Noncommunicable Disease Management
 Using mobile technology to provide a more accessible service and better quality for managing
 Non-communicable diseases in Kenya.
Role: Principal Investigator

 No grant number,   05/30/2013 – 12/31/2014
Regenstrief Institute, Inc.
Developing and Evaluating a Smartphone-based System to Support Multi-Media Use in Clinical
Care
Role: Principal Investigator

No grant number,   01/01/2009 – 12/31/2013
 Abbott Fund
Clinical Decision Support & Mobile Systems for AMPATH-plus program

Role: Principal Investigator

No grant number,   05/01/2014 – 12/31/2015
CDC Foundation
Rapid Baseline Situational Assessments for Improving Data for Decision-Making in Global Cervical Cancer Programs
Project Description: This project supports the development of information collection instruments to guide the rapid baseline situational assessments of data systems related to Cervical Cancer screening.
Role: Principal Investigator

No grant number,   11/01/ 2014 – 04/30/2016
Astra Zeneca
Healthy Hearts Africa
Informatics at Regenstrief Institute
Role: Co-Investigator

No grant number,   10/1/2012-9/30/2017
USAID / AMPATHPlus
AIDS/HIV and Primary Health Care in Kenya (AID-615-A-12-00001)
Role: Co-Investigator

No grant number,   06/01/2015 – 05/30/2017
Implementation Center for Global Health Informatics
  Multifaceted project to improve implementation sciences in Global Health Informatics at Regenstrief Institute
Role: Principal Investigator

No grant number,   01/01/2014 – 12/31/2017
AbbVie Foundation
Using Technology to Support Find, Link, Treat & Retain Programs
Role: Principal Investigator

No grant number,   05/04/2012 – 03/31/2017
National Heart, Lung, and Blood Institute
Sinai School of Medicine (PI: Fuster)
Role: Site Principal Investigator

No grant number,   04/01/2015 - 03/31/2017
CDC
Strengthening Mozambican Capacity in Strategic Information Systems in Mozambique under the President´s Emergency Plan for AIDS Relief (PEPFAR) VUMC/56756-1U2GGH01270-02 (Shade, PI)
 Role: Site Principal Investigator

VUMC59896/ 5NU2GGH001449-02-00 (Martin, PI)   9/01/2016   – 06/30/2018
University of Washington (CDC)
Building Effective Health Information Systems under the President's Emergency Plan for Aid Relief

Role: Sub-contract Principal Investigator

PUBLICATIONS AND PRESENTATIONS:

Peer-Reviewed Journal Articles

1. **Were MC**, Mamlin BW, Tierney WM, Wolfe B, and Biondich PG. Concept Dictionary Creation and Maintenance Under Resource Constraints: Lessons from the AMPATH Medical Record System. *AMIA Annual Symposium Proceedings.* 2007 (PMID: 18576169).

2. **Were MC**, Sutherland JM, Bwana M, Ssali J, Emenyonu N, and Tierney WM. Patterns of Care in Two HIV Continuity Clinics in Uganda, Africa: A Time-Motion Study. AIDS Care Journal. *AIDS Care*. 2008 Jul; 20(6):677-82. (PMID: 18576169).

3. **Were MC**, Meeks-Johnson J, and Overhage JM. Enhanced Laboratory Reports: Using Health Information Exchange Data to Provide Contextual Information to Laboratory Results for Practices without Electronic Records. *AMIA Annual Symposium Proceedings*. 2008 Nov 6: 1174 (PMID: 18999174).

4. **Were MC**, Abernathy G, Hui SL, Kempf C, and Weiner M. Using computerized provider order entry and clinical decision support to improve referring physicians' implementation of consultants' medical recommendations. *J Am Med Inform Assoc*. 2009 Mar-Apr; 16(2):196-202. (PMCID: PMC2649324).

5. **Were MC**, Li X, Kesterson J, Cadwallader J, Asirwa C, Khan B, Rosenman MB. Adequacy of hospital discharge summaries in documenting tests with pending results and outpatient follow-up providers. *J Gen Intern Med.* 2009; 24(9):1002-6 (PMCID: PMC2726888).

6. **Were MC**, Shen C, Bwana M, Emenyonu N, Musinguzi N, Nkuyahaga F, Kembabazi A, Tierney WM. Creation and evaluation of EMR-based paper clinical summaries to support HIV-care in Uganda, Africa. *Int J Med Inform*. 2010 Feb;79(2):90-6 (PMCID: PMC2818680).

7. Kimaiyo S, **Were MC**, Shen C, Ndege S, Braitstein P, Sidle J, Mamlin J. Home-based HIV counseling and testing in Western Kenya. *East Afr Med J.* 2010 Mar 87(3):100-108.(PMID: 23057305).

8. Tierney WM, Achieng M, Baker E, Bell A, Biondich P, Braitstein P, Kayiwa D, Kimaiyo S, Mamlin B, McKown B, Musinguzi N, Nyandiko W, Rotich J, Sidle J, Siika A, **Were M**, Wolfe B, Wools-Kaloustian K, Yeung A, Yiannoutsos C; Tanzania-Uganda Openmrs Consortium. Experience implementing electronic health records in three East African countries. *Stud Health Technol Inform.* 2010;160(Pt 1):371-5 (PMID: 20841711).

9. Noormohammad SF, Mamlin BW, Biondich PG, McKown B, Kimaiyo SN, **Were MC**. Changing course to make clinical decision support work in an HIV clinic in Kenya. *Int J Med Inform.* 2010 Mar;79(3):204-10 (PMID: 20089444).

10. **Were MC**, Emenyonu N, Achieng M, Shen C, Ssali J, Masaba JP, Tierney WM. Evaluating a scalable model for implementing electronic health records in resource-limited settings. *J Am Med Inform Assoc*. 2010 May 1;17(3):237-44 (PMCID: PMC2995711).

11. **Were MC**, Kariuki J, Chepng'eno V, Wandabwa M, Ndege S, Braitstein P, Wachira J, Kimaiyo S, Mamlin B. Leapfrogging paper-based records using handheld technology: Experience from Western Kenya. *Stud Health Technol Inform*. 2010;160(Pt 1): 525-9 (PMID: 20841742).

12. Chang KC, Overhage JM, Hui SL, **Were MC.** Enhancing laboratory report contents to improve outpatient management of test results**.** *J Am Med Inform Assoc*. 2010 17: 99-103. (PMCID: PMC2995639).

13. Mohammed-Rajput N, Ribeka W, **Were MC**. Creating and Evaluating a Dynamic Study Randomization and Enrollment Tool within a Robust EHRs. *AMIA Annu Symp Proc*. 2010 Nov; 517-21. (PMCID: PMC3041308)

14. Vreeman RC, Nyandiko WM, Braitstein P, **Were MC**, Ayaya SO, Ndege SK, Wiehe SE. Acceptance of HIV testing for children ages 18 months to 13 years identified through voluntary, home-based HIV counseling and testing in western Kenya. *J Acquir Immune Defic Syndr*. 2010;55(2) (PMCID: PMC3677702).

15. **Were MC**, Gorbachev S, Cadwallader J, Kesterson J, Li X, Overhage JM, et al. Natural language processing to extract follow-up provider information from hospital discharge summaries. *AMIA Annu Symp Proc*. 2010 Nov; 13: 872-6. (PMCID: PMC3041312).

16. **Were MC**, Shen C, Tierney WM, Mamlin JJ, Biondich PG, Li X, Kimaiyo S, Mamlin BW. Evaluation of computer-generated reminders to improve CD4 laboratory monitoring in sub-Saharan Africa: A prospective comparative study. *J Am Med Inform Assoc*. 2011 Mar 1;18(2):150-5 (PMCID: PMC3116261).

17. Shen C, Li X, Li L, **Were MC**. Sensitivity analysis for causal inference using inverse probability weighting. *Biom J*. 2011 Sep;53(5):822-37. Epub 2011 Jul 19 (PMCID: PMC3777387).

18. **Were MC** and Meslin, EM. Ethics of implementing electronic health records in developing countries: Points to Consider. AMIA *Annu Symp Proc*. 2011:1499-505. Epub 2011 Oct 22 (PMCID: PMC3243215).

19. Monda J, Keiper J, **Were MC**. Data Integrity Module for Data Quality Assurance within an e-Health System in Sub-Saharan Africa. *Telemed J E Health*. 2012 Jan-Feb;18(1):5-10. (PMCID: PMC3717196).

20. Anokwa Y, Ribeka N, Parikh T, Borriello G, **Were MC**. Design of a Phone-Based Clinical Decision Support System for Resource-Limited Settings Information and Communication Technologies and Development *ACM International Conference Proceeding Series* 2012:13-24.

21. Rajput ZA, Mbugua S, Saleem JJ, Anokwa Y, Hartung C, Mamlin BW, Ndege SK, **Were MC**. The Development and implementation of a medical record system based population

surveillance system in Rural Kenya. *J Am Med Inform Assoc.* 2012 Jul-Aug;19(4):655-659. (PMCID: PMC3384107).

22. Cadwallader J, Asirwa C, Li X, Kesterson J, Tierney WM, **Were MC**. Using Computerized Provider Order Entry to Enforce Documentation of Tests with Pending Results at Hospital Discharge. *Applied Clinical Informatics*. 2012; 3: 154-163. (PMCID: PMC3613020)

23. Oluoch T, Santas X, Kwaro D, **Were M**, Biondich P, Bailey C, Abu-Hanna A, de Keizer N. The effect of electronic medical record-based clinical decision support on HIV care in resource-constrained settings: A systematic review. *Int J Med Inform.* 2012 Oct; 81(10):83-92. (PMID: 22921485).

24. **Were, M**; Nyandiko, W; Huang, K; Slaven, J; Shen, C; Tierney, W; Vreeman, R. Computer-Generated Reminders and Quality of Pediatric HIV Care in a Resource-Limited Setting. *Pediatrics* 2013;131(3): e789-96. (PMCID: PMC4535055)

25. Blank E, Tuikong N, Misoi L, Kamano J, Hutchinson C, Kimaiyo S, Fustera V, Were M, Vedanthan R. Usability of implementing a tablet-based decision support and integrated record- keeping (DESIRE) tool in the nurse management of hypertension in rural Kenya. *Stud Health Technol Inform*. 2013;192:1002. (PMCID: PMC4074025)

26. Chemwolo B, Caloia D, Wools-Kaloustian K, Sidle J, Spitzer RF, Were M, Bell A, Tierney WM. Experience implementing electronic health records in the antenatal clinic of a teaching and referral hospital in Kenya. *Stud Health Technol Inform*. 2013;192:1126. PMID: 23920900

27. Keny A, Biondich P, Grannis S, Were MC. Adequacy and quality of immunization data in a comprehensive electronic health record system. *Journal of Health Informatics in Africa*. 2013; 1:1.

28. Vedanthan R, Kamano JH, Naanyu V, Delong AK, Were MC, Finkelstein EA, Menya D, Akwanalo CO, Bloomfield GS, Binanay CA, Velazquez EJ, Hogan JW, Horowitz CR, Inui TS, Kimaiyo S, Fuster V. Optimizing linkage and retention to hypertension care in rural Kenya (LARK hypertension study): study protocol for a randomized controlled trial. *Trials*. 2014 Apr 27;15(1):143. (PMCID: PMC4113229)

29. Gerald S Bloomfield, Rajesh Vedanthan, Lavanya Vasudevan, Anne Kithei, Martin Were and Eric J Velazquez. Mobile Health for Non-Communicable Diseases in Sub-Saharan Africa: A Systematic Review of the Literature and Strategic Framework for Research Journal: Globalization and Health. *Globalization and Health* 2014, 10:49 doi:10.1186/1744-8603-10-49. (PMCID: PMC4064106)

30. Vedanthan R, Blank E, Tuikong N, Kamano J, Miisoi L, Tulienge D, Hutchinson C, Ascheim D, Kimaiyo S, Fuster V, **Were MC**. Usability and Feasibility of a Tablet-Based Decision-Support and Integrated Record-Keeping (DESIRE) Tool in the Nurse Management of Hypertension in Rural Western Kenya. *International Journal of Medical Informatics*. 2015 Mar: 84(3): 207-19. (PMCID: PMC4314432)

31. **Were MC,** Siika A, Ayuo PO, Atwoli L, Esamai F. Building Comprehensive and Sustainable Health Informatics Institutions in Developing Countries: Moi University Experience. Stud Health Technol Inform. 2015: 216: 520 – 4. (PMID 26262105)

32. Keny A, Wanyee S, Kwaro D, Mulwa E, **Were MC**. Developing a national-level concept dictionary for EHRs implementations in Kenya. *Stud Health Technol Inform*. 2015; 216:780-4 (PMID: 26262158).

33. **Were MC**, Kessler J, Shen C, Sidle J, Macharia S, Lizcano J, Siika A, Wools-Kaloustian K, Kurth A. A Time Motion Analysis of Secondary HIV Transmission, Prevention, Counseling and Antiretroviral Adherence Messages in Western Kenya. *J Acquir Immune Defic Syndr*. 2015 Aug 1;69(4):e135-41. (PMCID: PMC4683585)

34. Tierney WM, Sidle JE, Diero LO, Sudoi A, Kiplagat J, Macharia S, Shen C, Yeung A, **Were MC**, Slaven JE and Wools-Kaloustian K. Assessing the Impact of a Primary Care Electronic Medical Record System in Three Kenyan Rural Health Centers. *J Am Med Inform Assoc*. 2015. (PMID: 26260246)

35. **Were MC**, Kamano JH, Vedanthan R. Leveraging Digital Health for Global Chronic Diseases. *Global Heart*. 2016 Dec; 11 (4,): 459-462. (PMID: 27938842)

36. Gesicho MB, Moon TD, Heitman E, **Were MC**. Ethical Issues in Implementing National-Level Health Data Warehouses in Developing Countries. *Stud Health Technol Inform*. 2017; 245: 718-722. (PMID: 29295192)

37. Kasiiti N, Wawira J, Purkayastha S, **Were MC**. Comparative Performance Analysis of Different Fingerprint Biometric Scanners for Patient Matching. *Stud Health Technol Inform* 2017; 245: 1053-1057. (PMID: 29295262)

38. Gesicho MB, Babic A, **Were MC.** Critical Issues in Evaluating National-Level Health Data Warehouses in LMICs. Kenya Case Study. *Stud Health Technol Inform*. 2017 238:201-204. (PMID: 28679923)

39. Waruhari P, Babic A, Nderu L, **Were MC.**
Review of Current Patient Matching Techniques. *Stud Health Technol Inform.* 2017;238: 205-208. (PMID: 28679924)

40. Berhanu Endehabtu; Adane Weldeab; **Martin Were**; Richard Lester; Abebaw, Worku; Binyam Tilahun. Mobile Phone Access and Willingness Among Mothers to Receive a Text-Based mHealth Intervention to Improve Prenatal Care in Northwest Ethiopia: Cross-Sectional Study. *JMIR Pediatrics and Parenting*. 2018 1 (2): e9.

41. Sheldon W. Tobe, Global Alliance for Chronic Diseases Hypertension Research Teams With the World Hypertension League, Amir Attaran, Anniza de Villiers, Amber Featherstone, Jamie Forrest, Robert Kalyesubula, Julius Kamwesiga, Andre P Kengne, Paul Camacho Lopez, Edward Mills, Barbara Mukasa, Katherine Muldoon, Jean-Claude Tayari, Sanni Yaya, Ng Kien Keat, Patricio Lopez, Juan Lopez Casas, Tara McCready, Martin McKee, Eleanor Ng, Robby Nieuwlaat, Ariffin Omar Zainal, Khalid Yusoff, Salim Yusuf, Norman Campbell, Kajiru Kilonzo, Peter Liu, Marion Marr, Karen Yeates, Xiangxian Feng, Feng He, Stephen Jan, Xian Li, Ching-Ping Lin, Jun Ma, Yuan Ma, Graham MacGregor, Caryl Nowson, Haijun Wang, Yangfeng Wu, Lijing Yan, Jianhui

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Yuan, Jing Zhang, Jane Goudge, Chodziwadziwa Kabudula, Felix Limbani, Nkosinathi Masilela, Nokuzola Myakayaka, Margaret Thorogood, Francesc Xavier Gómez-Olivé, Simin Arabshahi, Clara Chow, Roger Evans, Rohina Joshi, Kartik Kalyanram, Kamakshi Kartik, Ajay Mahal, Pallab Maulik, Brian Oldenburg, Michaela Riddell, Velandai Srikanth, Oduru Suresh, Kavumpurathu Thankappan, Sathish Thirunavukkarasu, Nihal Thomas, Amanda G Thrift, Ravi Varma, Gari Clifford, Stephane Heritier, Stephen Jan, Rohina Joshi, Stephen MacMahon, Pallab Maulik, Anushka Patel, David Peiris, Dorairaj Prabhakaran, Devarsetty Praveen, Stephen Jan, Pallab Maulik, Anushka Patel, Dorairaj Prabhakaran, Anthony Rodgers, Abdul Salam, Simon Thom, Ruth Webster, Claire Johnson, Anand Krishnan, Sailesh Mohan, Bruce Neal, Dorairaj Prabhakaran, K Srinath Reddy, Roopa Shivashankar, Thout Sudhir, Sarah Faletoese, Merina Ieremia, Marj Moodie, Bruce Neal, Arti Pillay, Jimaima Schultz, Junior Siitia, Wendy Snowdon, Arleen Sukhu, Christina Ulberg, Satupaitea Viali, Jacqui Webster, Antonio Bernabe-Ortiz, María Kathia Cárdenas, Francisco Diez-Canseco, Robert H Gilman, J Jaime Miranda, Vilarmina Ponce-Lucero, Katherine Sacksteder, Kingsley Apusiga, Richard Cooper, Joyce Gyamfi, Michael Ntim, Olugbenga Ogedegbe, Jacob Plange-Rhule, Cynthia Binanay, Gerald Bloomfield, Allison DeLong, Eric Finkelstein, Valentin Fuster, Joseph Hogan, Jemima Hoine Kamano, Carol Horowitz, Tom Inui, Sylvester Kimaiyo, Claire Kofler, Diana Menya, Violet Naanyu, Jackson Rotich, Rajesh Vedanthan, Eric Velazquez, **Martin Were**, Federico Augustovski, Andrea Beratarrechea, Jing Chen, Jacquelyn Dolan, Jiang He, Vilma Irazola, Marie Krousel-Wood, Katherine Mills, Rosana Poggio, Adolfo Rubinstein, Lizheng Shi, Larry Webber, Rufus Akinyemi, Oyedunni Arulogun. The Global Alliance for Chronic Diseases Supports 15 Major Studies in Hypertension Prevention and Control in Low-and Middle-Income Countries. The Journal of Clinical Hypertension 18 (7), 600-605.

42. Mwogi T, Nyameino J, Tylleskar T, **Were MC**. A scalable low-cost multi-hospital tele-radiology architecture in Kenya. Journal of Health Informatics in Africa, 2018. 5(2).

43. **Were MC**, Naanyu V, Mwogi T, Ruff J. Approaches in Implementing Personal Health Records in Developing Countries. Journal of Health Informatics in Africa, 2018. 5(2).

44. Mogoba, P., Phillips, T. K., Myer, L., Ndlovu, L., **Were, M. C**., & Clouse, K. (2018). Smartphone usage and preferences among postpartum HIV-positive women in South Africa. AIDS Care, 1-7. doi: PMID: 30596261.

45. Ngugi P, **Were MC**, Babic A. Facilitators and Barriers of Electronic Medical Records Systems Implementation in Low Resource Settings: A Holistic View. Studies in health technology and informatics 251, 187-190.

46. Drummond JL, **Were MC**, Arrossi S, Wools-Kaloustian K. Cervical cancer data and data systems in limited-resource settings: Challenges and opportunities. International Journal of Gynecology & Obstetrics 138, 33-40.

47. Nyameino, J.N., et al., A Model Driven Approach to the Design of a Gamified e-Learning System for Clinical Guidelines. Stud Health Technol Inform, 2019. **264**: p. 734-738.

48. Vedanthan R, Kamano JH, DeLong AK, Naanyu V, Binanay CA, Bloomfield GS, Chrysanthopoulou SA, Finkelstein EA, Hogan JW, Horowitz CR, Inui TS, Menya D, Orango V, Velazquez EJ, Were MC, Kimaiyo S, Fuster V. Community Health Workers Improve Linkage to Hypertension Care in Western Kenya. Am Coll Cardiol. 2019 Oct

15;74(15):1897-1906. doi: 10.1016/j.jacc.2019.08.003. Epub 2019 Sep 2. PMID: 31487546.

49. Nakibuuka, J., A.R. Semwanga, and M.C. Were, Implementation of USSD Technology to Improve Quality of Routinely Reported Health Data in a Resource-Limited Setting. Stud Health Technol Inform, 2019. **262**: p. 162-165.

50. ZA Mekonnen, KA Gelaye, MC Were, KD Gashu, BC Tilahun. Effect of mobile text message reminders on routine childhood vaccination: a systematic review and meta-analysis. Syst Rev, 2019. **8**(1): p. 154.

51. Were, M.C., C. Sinha, and C. Catalani, A systematic approach to equity assessment for digital health interventions: case example of mobile personal health records. J Am Med Inform Assoc, 2019. **26**(8-9): p. 884-890.

52. Drummond JL, **Were MC**, Arrossi S, Wools-Kaloustian K. Cervical cancer data and data systems in limited-resource settings: Challenges and opportunities. International Journal of Gynecology & Obstetrics 138, 33-40.

53. Nyameino JN, Rabbi F, Mughal KA, **Were MC**, Lamo Y. A Model Driven Approach to the Design of a Gamified e-Learning System for Clinical Guidelines. Stud Health Technol Inform. 2019 Aug 21;264:734-738. doi: 10.3233/SHTI190320. PMID: 31438021.

54. Balirwa P, Mwogi T, Kahiigi EK, **Were MC**. *Development and Usability of Mobile-based Healthcare Protocols in Kenya.* Stud Health Technol Inform. 2019 Jul 4;262:248-251. doi: 10.3233/SHTI190065. PMID: 31349314.

55. Nakibuuka, J., A.R. Semwanga, and **M.C. Were**, *Implementation of USSD Technology to Improve Quality of Routinely Reported Health Data in a Resource-Limited Setting.* Stud Health Technol Inform, 2019. **262**: p. 162-165.

56. Job N Nyameino, Fazle Rabbi, Ben Richard Ebbesvik, **Martin C Were**, Yngve Lamo. *A Model Driven Approach to the Development of Gamified Interactive Clinical Practice Guidelines.* 14th International Conference on Evaluation of Novel Approaches to Software Engineering, {ENASE} 2019, Heraklion, Crete, Greece, May 4-5, 2019.

57. **Were MC**, Sinha C, Catalani C. A systematic approach to equity assessment for digital health interventions: case example of mobile personal health records. *Journal of the American Medical Informatics Association : JAMIA.* 2019;26(8-9):884-890.

58. Mekonnen ZA, Tilahun B, Alemu K*,* **Were M**. Effect of mobile phone text message reminders on improving completeness and timeliness of routine childhood vaccinations in North-West, Ethiopia: a study protocol for randomised controlled trial. *BMJ Open* 2019;**9:**e031254. doi: 10.1136/bmjopen-2019-031254.

59. Bonny E Balugaba, Simon K Ruttoh, Elizabeth K Ekirapa, Abraham A Siika, **Martin C Were**. Cost Analysis of an Electronic Medical Record System at an Urban Clinic in Kampala, Uganda. Journal of Health Informatics in Africa. Vol. 6 No. 2 (2019). Proceedings of the 12th HELINA.

60. Isaac Kabuye, Thomas Mwogi, David Musoke, **Martin C Were**. A syndromic surveillance framework for resource-limited settings: A case study of health facilities in Eldoret town, Western Kenya. Journal of Health Informatics in Africa. Vol. 6 No. 2 (2019). Proceedings of the 12th HELINA.

61. Stelio K Moiane, Prosperino Mbalame, Mhawila Mhawila, Eurico Jose, Ada Yeung, Jose Tique, Themos Ntasis, Josh R Viele, Maria FS Alvim, William Wester, Hamilton A Mutemba, **Martin C Were**. Development and Implementation of an mHealth-based Mentoring Application for Use in Resource-Constrained Settings. Journal of Health Informatics in Africa. Vol. 6 No. 2 (2019). Proceedings of the 12th HELINA.

62. Mwogi T, Mercer T, Tran DNT, Tonui R, Tylleskar T, **Were MC**. Therapeutic turnaround times for common laboratory tests in a tertiary hospital in Kenya. PLoS One 2020 Apr 8;15(4):e0230858.

63. Sang Mok Park, Michelle A. Visbal-Onufrak, Md Munirul Haque, Martin C. Were, Violet Naanyu, Md Kamrul Hasan, and Young L. Kim.   mHealth spectroscopy of blood hemoglobin with spectral super-resolution. Optica. Vol. 7, No. 6 / June 2020 / 2334-2536/20/060563-11.

64. Ngugi PN, Gesicho MB, Babic A, Were MC. Assessment of HIV Data Reporting Performance by Facilities During EMR Systems Implementations in Kenya. *Stud Health Technol Inform*. 2020;272:167-170. doi:10.3233/SHTI200520.

65. Gesicho MB, Babic A, Were MC. K-Means Clustering in Monitoring Facility Reporting of HIV Indicator Data: Case of Kenya. *Stud Health Technol Inform*. 2020;272:143-146. doi:10.3233/SHTI200514

66. Ampamya S, Kitayimbwa JM, Were MC. Performance of an open source facial recognition system for unique patient matching in a resource-limited setting [published online ahead of print, 2020 Jun 4]. *Int J Med Inform*. 2020;141:104180. doi:10.1016/j.ijmedinf.2020.104180.

67. Ossemane EB, Moon TD, Were MC, Heitman E. Ethical issues in the use of SMS messaging in HIV care and treatment in low- and middle-income countries: case examples from Mozambique. *J Am Med Inform Assoc*. 2018;25(4):423-427. doi:10.1093/jamia/ocx123

Accepted not Published

Publications Under Review
1. Mekonnen ZA, Gelaye KA, **Were MC**, Tilahun B. Intention by Mothers to Use Mobile Phone Text Message Reminders for Routine Child Vaccination in Gondar city, northwest, Ethiopia. *Under review - BMC Medical Informatics and Decision Making.*

2. Philomena Ngugi, Ankica Babic, James Kariuki, Xenophon Santas, Violet Naanyu, **Martin C. Were**. Development of Standard Indicators to Assess Use of Electronic Health Record Systems Implemented in Low- and Medium-Income Countries. *Under review - - BMC Medical Informatics and Decision Making.*

3. Mwogi T, Mercer T, Tran DNT, Tonui R, Tylleskar T, **Were MC**. Do panic values cause panic? Reporting of critical laboratory results in a tertiary hospital in Kenya. *Under review - PLoS One*.

4. Martin C. Were, Wu Gong, Priscillah Balirwa, Bonny Balugaba, Ada Yeung, Leslie Pierce, Donna Ingles, Young Kim, Bryan Shepherd. Coverage of IMIA-recommended Competencies by Masters in Health Informatics Degree Programs in East Africa. *Under review - International Medical Informatics Journal.*

5. Gesicho MB, Babic A, **Were MC.** Data Cleaning Process for HIV Indicator Data Extracted from DHIS2 National Reporting System: Case Example of Kenya. *Under review - BMC Medical Informatics and Decision Making.*

Non-refereed Publications

1. **Were, MC.** Urinary Tract Infections. In: Glasheen JJ (ed). *Hospital Medicine Secrets.* Mosby Elsevier, Philadelphia, PA. 2007: 295-299. (Book Chapter).

2. **Were MC** Thyroid Disorders. In: Williams MV, Flanders SA, Whitcomb W, Cohn S, Michota F, Holman R, Gross R, and Merli GJ, eds. *Comprehensive Hospital Medicine.* Mosby Elsevier, Philadelphia, PA. 2007: 509-515. (Book Chapter).

3. C Catalani, EP Green, L Diero, J Carter, M Were, D Israelski, A Gardner, C Ndwiga, P Biondich. Provider alerts and reminders to improve tuberculosis care among people living with HIV in Kenya: TB Tech formative report. 2014. Washington DC United States Agency for International Development [USAID]. Project Search: HIVCore 2014 May 12.

4. Improving data for decision-making: a toolkit for cervical cancer prevention and control programmes. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO. (*I was one of the leads for the work*)

5. Catalani, C; Were, M; Hoth, A. An evidence-based framework for integrating eHealth into more equitable health systems. 2013. Available at https://idl-bnc-idrc.dspacedirect.org/handle/10625/57441. Last accessed Mar-03-2019.

6. Visbal-Onufrak, Michelle A. and Haque, Md Munirul and Were, Martin C. and Naanyu, Violet and Park, Sang Mok and Hasan, Md. Kamrul and Mhawila, Mhawila A. and

14

Yeung, Kit Yee and Kim, Young L., Virtual Hyperspectral Imaging of Eyelids - *mHematology* for Blood Hemoglobin Analysis (April 10, 2019). Available at SSRN: https://ssrn.com/abstract=3369797

Abstracts / Posters

1. **Were MC.** Informatics challenges around the management of tests whose results return after hospital discharge. Second National Ambulatory Primary Care Research and Education Conference on Patient Safety/Health Information Technology. Washington DC. Oct 2008. (Abstract & Presentation)

2. **Were MC.** Enhanced Laboratory Reports: Using Health Information Exchange Data to Provide Contextual Information to Laboratory Results for Practices without Electronic Records. American Medical Informatics Association Annual Symposium (Poster - AMIA-0694-A2008).

3. **Were MC**, Kimaiyo S, Ndege SK, Braitstein P, Wandabwa M, AMPATH HCT Team, Mamlin J. Incorporating Technological Advances in Population-Wide HIV Screening. Global Health Council's 36th Annual International Conference. Washington, DC. May 26-30, 2009. (Abstract and Presentation)

4. **Were MC.** Using an Informatics Tool to Improve Implementation of Recommendations by Consultants. NLM Informatics Training Conference. July 8, 2008. (Plenary Session presentation)

5. **Were MC**, Seebregts C, Wolfe B, Mamlin B, Biondich P, Fraser H, Kanter A. Collaboration and communication tools in a rapidly expanding global open-source EMR initiative. 2009 AMIA Spring Congress. May 28 – 30, 2009. (peer-reviewed abstract & poster)

6. **Were, MC.** Achieving quarterly physician visits for HIV-patients through task-shifting to nurses: a comprehensive prospective evaluation in Sub-Saharan Africa (TUPE431 - abstract)

7. **Were MC**. Computer-generated reminders improve quality of HIV care for pediatric patients in a resource-limited setting: a randomized, controlled trial. AIDS 2012, Washington DC. 24 July 2012 12:3. (Peer-reviewed abstract # A-452-0384-1187)

8. **Were MC.** Evaluating a Comprehensive pMTCT Linkage and Retention Program - Regenstrief Institute, Work In Progress. Sep 12, 2012.

9. **Were, MC,** Ramirez E, Ghee A, Cummings M. Encouraging Care Organizations and Payers to Become mHealth Testbeds (Panel Discussion) mHealth Summit, Washington DC Dec-6-2011 (Panel).

10. Savai S & **Were MC**. mUzima – An OpenMRS-based mHealth Android Application. Annual Regional eHealth Conference. Naivasha, Kenya. Aug 4, 2015 (Abstract).

11. Kasiiti N, Savai S, Yeung AK, **Were MC.** Applicability of fingerprint technology for unique patient matching in healthcare settings. 3rd Monitoring & Evaluation Best Practices Conference. June, 2016 (Abstract).

12. Bale JM, Balugaba BE, Mehta P, Oluoch T, Mwalili S, **Were MC.** Cost Evaluation of Electronic Medical Record System Implementations in Kenya. 3rd Monitoring & Evaluation Best Practices Conference June, 2016 (Abstract).

13. Mwogi T and **Were MC**. Setting the Agenda for Personal Health Records in Developing Countries. MedInfo 2017. Stud Health Technol Inform. 2017;245:1234.

14. M Fidahussein, J Hook, J Kesterson, M Were. Using a regional health information exchange to improve identification of post-discharge follow-up providers. JOURNAL OF GENERAL INTERNAL MEDICINE 26, S163-S164.

INVITED PRESENTATIONS:

LOCAL
Title: Teaching Skills in Research; Research Ethics (session lead)
Organization: Indiana University Center for Bioethics
Date: April 19-21, 2009

Title: How medical informatics affects your clinical practice
Organization: Department of Medicine, Indiana University School of Medicine
Date: Oct 29, 2010

Title: Teaching Skills in Research Ethics (session co-lead - Informatics, Electronic Health Records, and Privacy in Research - Kenneth Goodman; Martin Were)
Organization: Indiana University Center for Bioethics
Date: April 12, 2011

Title: Ethics of Implementing Electronic Medical Record in Developing Countries
Organization: IU Center for Bioethics, Indiana University Center for Bioethics
Date: October 31, 2011

Title: Health IT in the developing world.
Organization: Graduate Course - Global Perspectives on Health Policy and Health Systems. Course Number: PBHL P670. IU School of Medicine, Department of Public Health
Date: April 19, 2012.

Title: Optimizing Health Information Technology Use for NCDs
Organization: Vanderbilt Institute for Global Health
Date: Jan 23, 2017 (Nashville, TN)

Title: Grand Rounds - Hospital Medicine Practice in Global Settings
Organization: VUMC Hospitalist Group
Date: Aug-04-2017

REGIONAL
Title: Tackling HIV-AIDS in Western Kenya (GlobMed Global Health Summit)

Organization: GlobMed
Date: Mar 4-7, 2010 (Evanston, IL).

Title: Clinician-Targeted Mobile Technologies for HIV Care:
USAID-AMPATH Experience
Organization: Abbott Laboratories
Date: Sep 29, 2011 (Abbott Park, IL.)

Title: Transforming Health Care in Africa: The Kenyan Story"
Women and Global Development Forum
Organization: The Chicago Council on Global Affairs
Date: Oct 24, 2013 (Chicago, IL.)

Title: mHealth in Developing Countries
Organization: Vanderbilt University Institute for Global Health
Date: Apr 13, 2015 (Nashville, TN)

Title: Health Information Technology in a sub-Saharan Setting
Organization: Vanderbilt University Institute for Global Health
Date: Apr 13, 2015 (Nashville, TN)

Title: Global Health Informatics Projects
Organization: University of Alabama at Burmigham
Date: July 18, 2017

Title: Opportunities in Global Biomedical Informatics
Organization: Purdue University
Date: Nov 02, 2018

NATIONAL
Title: Concept dictionary creation and maintenance under resource constraints.
Event: American Medical Informatics Association Annual Symposium 2007.

Title: Using an Informatics Tool to Improve Implementation of Recommendations by
Consultants: An Example of the Role of Informatics in Care Coordination.
Organization: Biomedical and Health Informatics Lecture Series. University of Washington,
Seattle.
Date: May 13, 2008 (Seattle, Washington)

Title: Using Computerized Provider Order Entry and Clinical Decision Support to Improve
Primary-Care Physicians' Implementation of Consultants.
Event: American Medical Informatics Association Annual Symposium. 2008.

Title: Using an Informatics Tool to Improve Implementation of Recommendations by
Consultants.
Event: NLM Informatics Training Conference (Plenary Session).
Date: July 8, 2008.

Title: Informatics challenges around the management of tests whose results return after
hospital discharge. **Event:** Second National Ambulatory Primary Care Research and Education
Conference on Patient Safety/Health Information Technology. (Abstract and Presentation)

Date: Oct 2008. Washington DC.

Title: Incorporating Technological Advances in Population-Wide HIV Screening.
Event: Global Health Council's 36th Annual International Conference (Abstract and Presentation).
Date: May 26-30, 2009. Washington, DC.

Title: OpenMRS and the AMPATH Medical Record System (Were MC, Biondich P).
Organization: Global Health Council (36th Annual International Conference)
Date: May 26-30, 2009 (Washington, DC).

Title: Keys to Success in Global Health Partnership.
Event: ASTMH 58th Annual Meeting (Panel discussion - Were MC, Kimaiyo S, Ndege SK, Braitstein P, Wandabwa M, AMPATH HCT Team, Mamlin J).
Date: Nov 18 - 19, 2009. Washington, DC.

Title: Clinical Decision Support
Organization: OpenMRS Medical Record System Annual Conference
Date: Sep 2009

Title: Advancing Transitional Care through Informatics Research, Development, and Applications (Panel).
Organization: American Medical Informatics Association.
Date: Annual Symposium of AMIA. Nov 16, 2009.

Title: Tackling HIV-AIDS in Western Kenya.
Organization: 2010 GlobMed Global Health Summit
Date: March 3, 2010 (Evanston, IL)

Title: Natural language processing to extract follow-up provider information from hospital discharge.
Event: American Medical Informatics Association Annual Symposium 2010.

Title: Health Systems Research - Case Studies in East Africa. Health information systems to improve quality of care in resource poor settings"
Organization: Massachusetts Institute of Technology (Course # HST 184)
Date: Feb 25, 2011 (Cambridge, MA)

Title: Transforming Care in the developing world through technology.
Organization: Abbott
Date: September 29, 2011 (Abbot Park, IL)

Title: Ethics of Implementing Electronic Health Records in Developing Countries: Points to Consider.
Event: American Medical Informatics Association Annual Symposium
Date: 2011.

Title: Information and Communication Technologies, Social Media and M-Health for Care Treatment and Comprehensive Management of HIV/AIDS (Panel)
Organization: Jodhpur National University, Jodhpur School of Public Health **(India)**
Date: July 25, 2012 (AIDS 2012, Washington DC)

Title: Using Health Information Technology in Care Transitions
Organization: Scottsdale Institute Avoiding Readmissions Through Research (ARC)
Date: Martin 21, 2012 (Webinar)

Title: Evaluating Role of Health Information Technology in Patient Care.
Organization: Harold Amos Medical Development Scholars Annual Meeting.
Date: Oct 4, 2012 (Las Vegas, NV)

Title: Health Informatics
Organization: Global mHealth Research Training Institute. Fogarty International Center, NIH
Date: Aug 06 2016 (Bethesda, MD)

Title: Getting Better Evidence about "What Works" in HIS: Introducing an HIS Evaluation
Framework Toolkit
Organization: Global Digital Health Forum
Date: Dec 04, 2016 (Washington DC)

INTERNATIONAL
Title: Concept Dictionary Creation and Maintenance Under Resource Constraints
Organization: World Health Organization (Global Health and Data Standards Workshop)
Date: December, 2007 (Nairobi, Kenya)

Title: AMPATH Medical Record System
Organization: Center for Infectious Disease Research Zambia (CIDRZ)
Dates: May 29, 2008.

Title: On the Move – Mobile Health.
Event: Global Health Council's 36th Annual International Conference. Panel Discussion - Neal
Lesh, PhD **Were MC**, Anita Katusiime, Janine Schooley, MPH, Mitul Shah.
Date: May 26-30, 2009. (Washington, DC).

Title: OpenMRS and the AMPATH Medical Record System.
Event: Global Health Council's 36th Annual International Conference.
Date: May 26-30, 2009 (Washington, DC) (Moderated Discussion).

Title: Computerized Clinical Decision Support systems.
Organization: OpenMRS Annual Conference
Date: Sep 2009 (Cape Town, South Africa)

Title: Electronic Health Records – An Overview
Organization: University of Washington (UNITID HIV Management program)
Date: Mar 24, 2010 (Nairobi, Kenya)

Title: Examples of eHealth Evaluations Evidence
Organization: The Bellagio eHealth Evaluation Group/ WHO Global eHealth
Date: Sep 2011 (Bellagio, Italy)

Title: Resources and approaches for mHealth Research
Organization: mHealth Alliance, In-Country Workshop

Date: Jan, 2013 (Zanzibar, Tanzania)

Title: Health Information Technology for Reproductive Health in Developing Countries (Plenary)
Organization/Event: Annual Scientific Conference of Kenya Obstretrical and Gynaecological Society
Date: 14 Feb, 2013 (Eldoret, Kenya)

Title: mHealth for the developing world: AMPATH Kenya
Organization/Event: Mobile World Congress, mHealth Competence Center
Date: 28 Feb, 2013 (Barcelona, Spain)

Title: Health Information Technology in Public Care settings
Organization/Event: IBM Research Symposium
Date: 17 Mar, 2014 (Nairobi, Kenya)

Title: Towards Coherent mHealth in Africa: Unpacking Strategies to Achieve Broad-Based Adoption
Organization/Event: 2nd Annual Mobile Health Africa Congress 2014 (Keynote Speech).
AMC International.
Date: 26 Mar, 2014 (Nairobi, Kenya)

Title: eHealth in Developing Countries
Organization/Event: Lecture, AfyaBora Fellowship Program (University of Nairobi)
Date: 22 Jan, 2015 (Nairobi, Kenya)

Title: Panel Discussion
Organization/Event: Health Big Data Analytics Symposium
Date: 24 Feb, 2016 (Nairobi, Kenya)

Title: Building Sustainable HI Programs in Developing Countries: Moi University Experience
Organization: University of Gondar
Date: Mar-14-2016

Title: OpenHIE Workshop
Organization: Better Immunization Data (PATH)
Date: 29 May, 2016 (Accra, Ghana)

Title: Advancing High-Quality Degree Programs in Health Informatics for Low- and Middle-Income Countries. Panel: Philomena Waruhari, Christoph U. Lehmann, MD, William Hersh, MD, Frank Verbeke, MD PhD and Martin C. Were, MD MS. MedInfo 2017
Organization: International Medical Informatics Association
Date: Aug-25-2017 (Huangzhou, China)

Title: Becoming an Informatics Change Agent
Organization: CDC Global Expertise in e-Health Knowledge and Skills
Date: Aug-21-2017 (Huangzhou, China)

Title: Sustainable Health Informatics Programs in Developing Countries: Moi University Experience
Organization: University of Zambia (as parts of CDC Global Expertise in e-Health Knowledge and Skills)

Date: Apr-11-2018 (Lusaka, Zambia)

Title: mHealth for Chronic Disease Management in Western Kenya
Organization: IBMI Research Kenya
Date: Jan-19-2018 (Nairobi, Kenya)

OTHER PROFESSIONAL SERVICE ACTIVITIES:
LOCAL
 Activity: Transitions of Care Working Group, Wishard Memorial Hospital, Indiana University School of Medicine
 Role: Member
 Inclusive Dates: 2009 – 2011
 Institution: Indiana University

 Activity: Implementation Research, Regenstrief Institute Global Health Informatics Program
 Role: Lead
 Inclusive Dates: 2012 – 2015
 Institution: Indiana University

 Activity: Complex Discharge Readmission and Transition Care Committee, IUSM
 Role: Member
 Inclusive Dates: 2011
 Institution: Indiana University

 Activity: Regional East Africa Center of Excellence in Health Informatics
 Role: Core Faculty
 Inclusive Dates: 2010 – 2015
 Institution: Indiana University

 Activity: REACH Informatics Fellowship Selection Committee
 Role: Fellow selection committee member
 Inclusive Dates: 2011, 2012
 Institution: Indiana University

 Activity: Director of Biomedical Informatics Search Committee (Regenstrief Institute, Inc.)
 Role: Search Committee Member
 Inclusive Dates: 2011 - 2012
 Institution: Indiana University

PATIENT CARE/CLINICAL SERVICE:
 Organization: Emory Crawford Long Hospital (Emory University), Atlanta, GA
 Role: Attending Physician
 Time: 100% FTE
 Dates: 07/2004 – 07/2006

 Organization: Wishard Eskenazi Health (Wishard Memorial Hospital), Indianapolis, IN
 Role: Inpatient Medicine Attending Physician (Hospitalist)
 Time: 25% FTE
 Dates: 2006 – 2015

Organization: Methodist Hospital Attending Physician, Indianapolis, IN
Role: Attending Physician
Dates: 10/2006 – 12/2015

Organization: Vanderbilt University Medical Center (Vanderbilt University Hospital), Nashville, TN
Role: Inpatient Medicine Attending Physician (Hospitalist)
Time: 20% FTE
Dates: 2017 - present

PROFESSIONAL SERVICE – NATIONAL:
Organization: Society of General Internal Medicine
Activity: Ad hoc reviewer, Journal of General Internal Medicine
Dates: Mar 2007 – Present

Activity: Public Health Informatics – Ethics Track
Role: Invited Expert, American Medical Informatics Association
Inclusive Dates: May 25-27, 2011 in Orlando, Florida

Organization: Health Informatics Private-Public Partnership Research & Evaluation Committee
Activity: Member
Dates: 2011-2012

Organization: mHealth Alliance
Activity: Organizer, mHealth Evidence Matters Panel, mHealth Summit 2012
Dates: Dec 3-6, 2012

Organization: American Medical Informatics Association (AMIA)
Activity: Ad hoc reviewer, AMIA Annual Symposium Proceedings
Dates: Apr 2010 - present

Organization: Society of General Internal Medicine
Activity: Ad hoc reviewer, Journal of General Internal Medicine
Dates: Mar 2007 – Present

Organization: Journal of Public Health
Activity: Ad hoc reviewer, Journal of Public Health
Dates: Aug 2018 – Present

Organization: International Medical Informatics Association
Activity: Ad hoc reviewer, International Journal of Medical Informatics
Dates: May 2017 – Present

The Data Safety Monitoring Board (DSMB) member
mHealth Messaging to Motivate Quitline Use and Quitting (M2Q2) Study
Grant #: 1R01TW010647-01
Dates(s): Nov-2018 to present

The International and Cooperative Projects -1 [ICP1] Study Section

Study Section Member
FIH/NIH
Date:07/13/18

Development and Validation of Health Usage Indicators
Date: 04/08/2019
Role: Lead and Organizer
Location: Naivasha, Kenya

Developing Minimum Comparable Education Standards for MSc in Health Informatics for the East Africa Region
Date: May 9 & 10, 2019
Location: Nairobi, Kenya
Role: Lead and Convener

Organization: Pan African Health Informatics Organization
Activity: Education Working Group Chairman
Dates: Nov 2019 - Present

Organization: Fogarty International Center / NIH
Activity: Study Section. 2020/05 ZRG1 IMST-K 55R Study Section
PAR-19-376: Mobile Health: Technology and Outcomes in Low and Middle Income Countries
Study Section Member
FIH/NIH
Date:02/19/2020 - 02/20/2020

PROFESSIONAL DEVELOPMENT:
Course/Workshop Title: National Library of Medicine Informatics Fellows meeting
Provider: National Library of Medicine
Date(s): 2007 Stanford, Palo Alto

Course/Workshop Title: National Library of Medicine Informatics Fellows meeting
Provider: National Library of Medicine
Date(s): 2008, NIH. Bethesda, MD

Course/Workshop Title: Second National Ambulatory Primary Care and Education Conference on Patient Safety and Health Information Technology.
Provider: Academic Pediatric Association
Date(s): Oct 1-3, 2008

Course/Workshop Title: American Medical Informatics Association Annual Symposium
Provider: American Medical Informatics Association
Date(s): 11/09/2007 – 11/13/2007

Course/Workshop Title: American Medical Informatics Association Annual Symposium
Provider: American Medical Informatics Association
Date(s): Nov 2008

Course/Workshop Title: American Medical Informatics Association Annual Symposium
Provider: American Medical Informatics Association

Date(s): Nov 2009

Course/Workshop: Teaching Skills in Research Ethics (TaSkR I)
Provider: Indiana University Center for Bioethics
Date: April 19-21, 2009

Course/Workshop Title: Rapid Ethnographical Assessment
Provider: VA HSR&D Center of Excellence on Implementing Evidence-based Practice (Indiana)
Date(s) Jan 12-14, 2010 (Indianapolis, IN)

Course/Workshop Title: American Medical Informatics Association Annual Symposium
Provider: American Medical Informatics Association
Date(s): Nov 2010

Course/Workshop Title: American Medical Informatics Association Annual Symposium
Provider: American Medical Informatics Association
Date(s): Nov 2011

Course/Workshop Title: Minority Faculty Career Development Seminar
Provider: Association of American Medical Colleges.
Dates(s): 2011 (Fort Lauderdale)

Course/Workshop Title: MedInfo
Provider: International Medical Informatics Association
Date(s): Sep 12 – 15, 2010 (Cape Town, South Africa)

Course/Workshop: Teaching Skills in Research Ethics (TaSkR III)
Provider: Indiana University Center for Bioethics
Date: April 12-14, 2011

Course/Workshop Title: The many faces of generalism – building 21st century medicine through education, research, policy and practice. Society of General Internal Medicine, 34th Annual Meeting. Phoenix, Arizona.
Provider: Society of General Internal Medicine (SGIM)
Date(s): May 4-7, 2011

Course/Workshop Title: 3rd Annual mHealth Summit
Provider: mHealth Alliance
Date(s): Dec 5 – 7, 2011

Course/Workshop Title: 4th Annual mHealth Summit
Provider: mHealth Alliance & HIMSS
Date(s): Dec 3 – 5, 2012

Course/Workshop Title: Public Health Informatics
Provider: American Medical Informatics Association
Date(s): May 25-27, 2011 in Orlando, Florida

Course/Workshop Title: Public Health Informatics
Provider: American Medical Informatics Association
Date(s): May 25-27, 2011 in Orlando, Florida

Course/Workshop Title: Information and Communications Technologies for Developing Counties (ICTD)
Provider: ICTD
Date(s): March 12-15, 2012 in Atlanta, GA.

Course/Workshop Title: REDCap User Training
Provider: Moi Institute of Biomedical Informatics (Organizer)
Date(s): Jul 27-28, 2016 in Nairobi, Kenya

PROFESSIONAL SERVICE – INTERNATIONAL:
Organization: University of Washington - UNITID
Activity: Conference Planning Committee: Building university-based health informatics programs.
Inclusive Dates: Nairobi, Kenya Dec 3-5, 2009.

Organization: World Health Organization
Activity: Core contributor, WHO-sponsored meeting and declaration on role of evidence on eHealth (Bellagio, eHealth Declaration).
Dates: Sep 2011.

Organization: Kenya Health Informatics Association
Activity: Founding Member
Dates: Dec 2011 – Present

Organization: World Health Organization
Activity: mHealth Technical Advisory Group on Evidence, Impact and Scale in Reproductive, Maternal, Newborn and Child Health
Dates: Dec 2012 – Dec 2014

Organization: International Development Research Center (IDRC), Canada
Activity: Grants Review Panel Member, SEARCH Grant Competition
Dates: 2012

Organization: Centers for Disease Control
Activity: Core Participant: eHealth Frameworks workshop
Dates: Jan 26-28, 2012 – San Francisco, CA

Organization: mHealth Alliance
Activity: Organizer, mHealth Evidence In-Country Workshop
Dates: Jan 13-14, 2013

Organizations: Moi University (Kenya), Makerere University (Uganda) and University of Bergen (Norway)
Activity: Health Informatics Research and Training to Improve Health In East Africa (HI-TRAIN) – Project Coordinator / Lead
Inclusive Dates: 2013 - present

Organization: Moi University (Kenya)

Activity: Masters in Health Informatics Candidate Selection Committee – Committee Chair
Inclusive Dates: June 2015

Organization: Moi University College of Health Sciences (Kenya)
Activity: College Academic Board Member
Inclusive Dates: Jan 2016 - Present

Organization: Moi University (Kenya)
Activity: Member, University Senate
Inclusive Dates: Jan 2016 - Sep 2018

Organization: Consortium for Advanced Research Training in Africa
Activity: Proposal Reviewer
Inclusive Dates: Apr 2020

HONORS AND AWARDS:
TEACHING
2011	Quality of Teaching: Upper 20% Housestaff Teaching Inpatient Setting - IUSM

RESEARCH
1997	Baccalaureate Incentive Award for Senior Foundation, Biochemistry Thesis - Ford
2007	Loan Repayment Program Award - NIH
2007	Distinguished Paper Award Finalist - AMIA Annual Symposium
2008	1st Place Student Paper - AMIA Annual Symposium
2010	Best Paper Selection - IMIA Yearbook of (Health and Clinical Management) Medical Informatics
2011	Notable Paper - Informatics Year in Review AMIA Symposium
2011	Gold Star Poster - International AIDS Society
2013	Young Investigator Award - Indiana University
2011-2014	Scholar, The Harold Amos Medical Faculty Development Program of the Robert Wood Johnson Foundation

SERVICE
2011	Top 11 mHealth Innovator in 2011Rockefeller/UN Foundation/ 2011 mHealth Alliance

OVERALL/OTHER
1991	Top National Student - Kenya Certificate of Secondary Education
1997	Scholar for Academic Achievement Award - W. Barry Wood

TEACHING ACTIVITIES:

GRADUATE
Course #: Masters in Health Informatics Curriculum - Moi University (Kenya) & Makerere University (Uganda)
Role: Curriculum Development Lead
Term: 2014

Course #: HIC 822 – Moi University, Kenya
Short Title: Health Information Systems

Format: Lecture & Practical Sessions
Role: Course coordinator & teacher
Term: April – May 2016
Enrollment: 14

Course #: HII 811 – Moi University, Kenya
Short Title: Introduction to Health & Health Systems
Format: Lectures
Role: Core faculty
Term: Jan - Feb 2016
Enrollment: 14

Course #: Inpatient Medicine Rotation
Short Title: Inpatient Medicine Rotation
Format: Lectures & Bedside teaching
Role: Faculty Staff physician
Term: 2004 - 2015
Enrollment: 6

Course #: MHI 702 – Makerere University, Uganda
Short Title: Law, Ethics & Governance in Health Informatics
Format: Lectures
Role: Core faculty
Term: May 2017
Enrollment: 18

 SHORT COURSES
 Title: Health Information Exchange
 Organization: Better Immunization Data Initiative
 Activity: Lecture
 Dates: June 1, 2016

 Title: Health Informatics
 Organization: Center for Global Health Studies (Fogarty International Center, NIH)
 Activity: Faculty, mHealth Research Training Institute
 Dates: June 8, 2016

MENTORING:
 Mentee: Sheraz Noormahamed, MD.
 Role: Indiana University-Purdue University at Indianapolis, Masters in Informatics Advisor.
 Primary Project: Approaches to computerized decision support for HIV care in resource-limited settings.
 Inclusive Dates: 1/1/09 – 12/31/10

Mentee: Samuel Kimani, MB ChB.
Role: Internal Medicine Residency Advisor.
Inclusive Dates: 01/06/2008 – 30/05/2011.

Mentee: Kevin Chang, MD.
Role: National Library of Medicine Informatics Fellowship Mentor and Fellowship Project Advisor.

Primary Project: Enhanced Laboratory Reports.
Inclusive Dates: 07/01/08 – 06/30/2010.

Mentee: Nareesa Mohammed, MD MPH.
Role: National Library of Medicine Informatics Fellowship Mentor and Fellowship Project Advisor.
Primary Project: Research tools to evaluate computerized decision support interventions.
Inclusive Dates: 09/01/09 – 06/30/2011

Mentee: Sergey Gorbachev, MD.
Role: National Library of Medicine Informatics Fellowship Mentor and Fellowship Project Advisor**.**
Primary Project: Using natural language processing to analyze hospital discharge summaries.
Inclusive Dates: 2009 – 2010.

Mentee: Jonathan Monda, MB ChB.
Role: Fogarty Informatics Fellowship Faculty Mentor.
Primary Project: Approaches to data quality in electronic health records.
Inclusive Dates: 2010 – 2012.

Mentee: Mustafa Fidahussein, MD.
Role: National Library of Medicine Informatics Fellowship Mentor and Fellowship Project Advisor.
Primary Project: Evaluation of a patient-provider attribution algorithm.
Inclusive Dates: 2009 – 2012.

Mentee: Yaw Anokwa, PhD (University of Washington).
Role: PhD Advisor and Project Mentor.
Primary Project: Open Data Kit application for clinical care in developing countries.
Inclusive Dates: 2011 – 2012.

Mentee: Jason Cadwallader, MD.
Role: Residency Mentor, NLM Fellowship Faculty Mentor, Project Advisor.
Primary Project: Using health information technology to improve management of test results returning after hospital discharge.
Inclusive Dates: 2008 – 2010.

Mentee: Judy Wawira, MB ChB.
Role: Fogarty Informatics Fellowship Faculty Mentor.
Primary Project: Mobile and computerized decision support for resource-limited settings.
Inclusive Dates: 2011 – 2013.

Mentee: Leonard Njeru, MB ChB.
Role: Fogarty Informatics Fellowship Faculty Mentor.
Primary Project: Computerized Decision Support Systems for Chronic Disease Management.
Inclusive Dates: 2012 – 2014.

Mentee: Sight Ampamya, BA
Role: Masters in Health Informatics Student, Moi University (Faculty Supervisor)
Primary Project: Evaluating Use of Facial Recognition Technology for Patient Matching in a Resource Limited Setting.

Inclusive Dates: 2014 – present.

Mentee: Noah Kasiiti
Role: Masters in Health Informatics Student, Moi University (Faculty Supervisor)
Primary Project: A quantitative evaluation of fingerprint technology for unique patient matching and identification at AMPATH, Eldoret.
Inclusive Dates: 2014 – present.

Mentee: Nicholas Kirui, MBChB, mMed
Role: Masters in Health Informatics Student, Moi University (Faculty Supervisor)
Primary Project: Evaluation of computer-generated reminders for uncontrolled hypertension in primary care settings in western Kenya.
Inclusive Dates: 2014 – present.

Mentee: Augustine Miencha
Role: Masters in Health Informatics Student, Moi University (Faculty Supervisor)
Primary Project: Feasibility and usability of "Referral Patient Scheduling" (RPS) system for Moi Teaching and Referral Hospital
Inclusive Dates: 2014 – present.

Mentee: Simon Savai
Role: Masters in Health Informatics Student, Moi University (Faculty Supervisor)
Primary Project: Evaluating use of mHealth-facilitated monitoring of health-worker performance in Western Kenya
Inclusive Dates: 2017 – present.

Mentee: Philomena Waruhari, MS
Role: PhD candidate, University of Bergen (Faculty Supervisor)
Primary Project: Evaluation of Electronic Medical Records (EMR) Systems Implementations in Kenya.
Inclusive Dates: 2017 – present.

Mentee: Job Nyangena, MBChB, MS
Role: PhD candidate, University of Bergen (Faculty Supervisor)
Primary Project: A Model Driven Approach to the Gamification of Interactive Clinical Guidelines.
Inclusive Dates: 2017 – present.

Mentee: Thomas Mwogi, MBChB, MS
Role: PhD candidate, University of Bergen (Faculty Supervisor)
Primary Project: Evaluation of Laboratory Workflow Process of a National Referral Hospital and Application of Relevant Informatics Solutions.
Inclusive Dates: 2017 – present.

Mentee: Milka Gesicho, MS
Role: PhD candidate, University of Bergen (Faculty Supervisor)
Primary Project: Assessment of HIV indicator data reporting and barriers in use of HIV-data and data sources at the national-level in Kenya.
Inclusive Dates: 2017 – present.

Mentee: Onesmus Kamau, MS

Role: Masters in Health Informatics Student, Moi University (Faculty Supervisor)
Primary Project: Systematic review of digital health information systems security in Kenya
Inclusive Dates: 2018 – present.

Mentee: David Juma
Role: Masters in Health Informatics Student, Moi University (Faculty Supervisor)
Primary Project: Designing a Personal Health Record System to support self-care hypertension care in Kenya
Inclusive Dates: 2018 – present.

Mentee: Eurico Jose
Role: Masters in Health Informatics Student, Universidade Eduardo Mondlane (Faculty Mentor)
Primary Project: Development and Implementation of a Model Data Warehouse for HIV patients: A Case Study in the Province of Zambezia.
Inclusive Dates: 2018 – present.

Mentee: Emmanuel Sackey
Role: Masters in Public Health (Faculty Mentor)
Primary Project: Cervical cancer: Screening history and risk factors in Davidson county women, 2008-2018
Inclusive Dates: 2019 – 2020.

OTHER SIGNIFICANT ACTIVITIES:

TECHNOLOGICAL AND OTHER SCIENTIFIC INNOVATIONS

Innovation	Description
mUzima (Mobile application for health):	An open source Android-based smartphone application for use by providers in resource-limited settings. Features include generic data collection and retrieval, tele-consultation and media management.
Security & Device Management Application:	A comprehensive application that enables organizations to comprehensively manage and secure their Android devices.
Computerized Clinical Decision Support System for OpenMRS:	A mobile and OpenMRS-based application to provide alerts and reminders to providers taking care of patients in resource-limited settings.
eLearning / mLearning application:	We have customized the Moodle learning management system to support the eLearning needs for the Masters in Health Informatics program at Moi University, and to support the Ministry of Health in Kenya.
Magnesium Sulfate Administration App	To support PATH, we have developed a cross-platform mobile application that helps providers with dose preparation and administration of Magnesium sulfate as part of managing eclampsia.

mPHR App	Developed a tethered mobile personal health record system to work with the widely implemented OpenMRS system.