

BIOGRAPHICAL SKETCH

NAME: Jonathan Izudi

eRA COMMONS USER NAME: JIZUDI

POSITION TITLE: Research Scientist

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Soroti Sch of Comprehensive Nursing, Uganda	Diploma	11/2007	Nursing
Islamic University in Uganda, Uganda	BSc.	02/2012	Health Services Management
Clarke International University, Uganda	MPH	12/2014	Public Health
Mbarara University of Science and Technology, Uganda	Ph.D.	04/2021	Public Health
University of California Berkeley, CA, USA	Fellowship	12/2021	Impact Evaluation
Infectious Diseases Institute (IDI) Makerere University, Uganda	Postdoc	05/2022	HIV and co-infections
African Population and Health Research Center	Postdoc	01/2024	Impact Evaluation
University of California San Francisco (UCSF), USA.	Postdoc	12/2023	Global Health
University of Global Health Equity, Rwanda	M.Sc	8/2024	Global Health (One Health)
University of California San Francisco (UCSF) and University of California Berkeley, USA.	Fellowship	7/2025	Tuberculosis Research

A. Personal Statement

I am a Research Scientist at the Makerere University Infectious Diseases Institute (IDI), an Honorary Research Fellow at the Department of Community Health, Mbarara University of Science and Technology (MUST), Uganda, and a Fellow at the University of California, San Francisco (UCSF) / University of California, Berkeley Tuberculosis Research Advancement Center (UC TRAC), USA. My overall career goal is to become a global leader and an independent researcher devoted to improving treatment outcomes among people with TB/HIV. Between 2018 and 2023, I conducted extensive research on TB and HIV using operational, epidemiologic, and quasi-experimental approaches. For my Ph.D., I studied sputum smear monitoring and treatment success among people with TB in rural eastern Uganda, resulting in 12 first-author publications (9 before graduation, 3 post-graduation). Subsequently, I completed postdoctoral training in global health at UCSF as a UCGHI GloCal Fellow, in HIV and co-infections at Makerere University IDI as a Fogarty D43 postdoctoral fellow, and in impact evaluation of infectious diseases at UC Berkeley as an NIH Visiting Fellow. I then spent two years as a postdoctoral research scientist in impact evaluation at the African Population and Health Research Center in Nairobi, Kenya. I am a recipient of the NIH Emerging Global Leader (K43) award and my work focuses on integrating TB treatment in community pharmacies for people with TB and HIV in Kampala, Uganda. The completion of the K43 award will enable me to gain expertise in qualitative and mixed-methods research, implementation research, and interventional study design, conduct, and data analysis, while also providing preliminary data for an R01 grant application. I specialize in advanced methodologies including systematic reviews and meta-analyses, quasi-experimental studies, impact evaluation, and epidemiologic techniques, with a particular emphasis on TB and HIV. I have authored 86 peer-reviewed publications (excluding 4 accepted manuscripts), which have collectively garnered over 1,075 citations (33 i10-index, 19 h-index). In 2022, I was honored with the Dr. Charles Boucher Award for the best abstract and presentation at the INTEREST conference. I have delivered 25 oral presentations, including 6 where I was recognized as the best presenter, and 3 scientific talks. Additionally, I am ranked among the top 150 research scientists in Uganda by the AD Scientific Index.

Supporting citations out of 86:

- a. **Izudi J, Cattamanchi A**, Castelnovo B, King R. Barriers and facilitators to viral load suppression among people living with HIV following intensive adherence counseling in Kampala, Uganda: A qualitative study. *Soc Sci Med*. 2024 Jan 14;343:116595. doi: 10.1016/j.socscimed.2024.116595. Epub ahead of print. PMID: 38242033.
- b. **Izudi J**, Castelnovo B, King R, **Cattamanchi A**. Impact of intensive adherence counseling on viral load suppression and mortality among people living with HIV in Kampala, Uganda: A regression discontinuity design. *PLOS Glob Public Health*. 2023 Aug 7;3(8):e0002240. doi: 10.1371/journal.pgph.0002240. PMID: 37549128; PMCID: PMC10406184.
- c. **Izudi J**, Castelnovo B, King R, **Cattamanchi A**. Risk factors for unsuppressed viral load after intensive adherence counseling among HIV infected persons in Kampala, Uganda: a nested case-control study. *AIDS Res Ther*. 2023 Dec 19;20(1):90. doi: 10.1186/s12981-023-00583-3. PMID: 38110982; PMCID: PMC10729480.
- d. **Izudi J**, Sheira LA, Bajunirwe F, McCoy SI, **Cattamanchi A**. Effect of 6-month vs. 8-month regimen on retreatment success for pulmonary TB. *Int J Tuberc Lung Dis*. 2022 Dec 1;26(12):1188-1190. doi: 10.5588/ijtld.22.0357. PMID: 36447325; PMCID: PMC9728952.

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2023–Present:	Honorary Research Fellow, Mbarara University, Mbarara, Uganda.
2021–Present:	Research Scientist, Infectious Diseases Institute, Makerere University, Uganda.
2017–Present:	Adjunct Lecturer, Clarke International University, Kampala, Uganda.
2022–2023:	Fogarty UCGHI GloCal Postdoc Fellow, Infectious Diseases Institute, Uganda.
2021–2022:	Fogarty Postdoc Fellow, Infectious Diseases Institute, Makerere University, Uganda.
2021–2021	Impact Evaluation Fellow, EASST, University of California Berkeley, USA.
2021–2021	Senior Program Officer Research and Innovations, PATH Uganda.
2020–2021	WHO Consultant, Makerere University School of Public Health, Uganda.
2018–2019	TB/HIV Research/ Technical Officer, Baylor Children's Foundation Uganda.
2017–2018	Quality Assurance Coordinator, Baylor Children's Foundation Uganda.
2015–2017	Regional Quality Improvement Officer, Baylor Children's Foundation Uganda.
2014–2014	Health Program Officer, International Rescue Committee (IRC), Uganda.
2010–2014	TB/HIV Clinician, Soroti Center of Excellence, TASO Uganda.
2008–2009	Primary Healthcare Supervisor, Medical Relief International, South Sudan.

Honors

2022	Recipient of the Charles Boucher Award at the 2022 INTEREST conference.
2017	Awarded DAAD in-region/in-country doctoral sponsorship, Mbarara University.
2017	Awarded summer school scholarship, Heidelberg University, Heidelberg, Germany.
2016	Awarded Silver medal winner as the best research-oriented staff, Baylor Uganda.
2016	Recipient of the best oral presenter award, JASH Conference, Makerere University.
2016	Recipient of the best oral presenter award, USHS Conference, Kampala, Uganda.
2015	Recipient of the best oral presenter, USHS Conference, Kampala, Uganda.
2014	Recipient of the best oral presenter, USHS Conference, Kampala, Uganda.
2004	Awarded Government of the Republic of Uganda scholarship.

C. Contributions to Science

1. Tuberculosis (TB) treatment monitoring and treatment outcomes. My doctoral research, supervised by Dr. Francis Bajunirwe, utilized routinely collected data from 10 large TB clinics in rural eastern Uganda to examine the magnitude of treatment monitoring through sputum smear microscopy and treatment outcomes among people with TB. I employed several study designs: 1) a systematic review and meta-analysis to provide pooled evidence on treatment success rates at the continental level; 2) a convergent mixed-methods design to identify factors associated with completing sputum smear monitoring; 3) a quasi-experimental design using propensity score matching to assess the causal effect of sputum smear monitoring completion on cure and treatment success rates; and 4) a qualitative study to explore the facilitators and barriers to treatment success. I analyzed data from 1,123 participants, producing 12 first-author publications that contribute valuable insights into sputum smear monitoring and treatment outcomes.

Supporting citations:

- a. **Izudi J**, Semakula D, Sennono R, Tamwesigire IK, Bajunirwe F. Treatment success rate among adult pulmonary tuberculosis patients in sub-Saharan Africa: a systematic review and meta-analysis. *BMJ open*. 2019;9(9):e029400. PMCID: PMC6731779.
- b. **Izudi J**, Tamwesigire IK, Bajunirwe F. Explaining the successes and failures of tuberculosis treatment programs; a tale of two regions in rural eastern Uganda. *BMC Health Services Research*. 2019;19(1):979. PMCID: PMC6923886.
- c. **Izudi J**, Tamwesigire IK, Bajunirwe F. Treatment success and mortality among adults with tuberculosis in rural eastern Uganda: a retrospective cohort study. *BMC Public Health*. 2020;20(1):501. PMCID: PMC7161267.
- d. **Izudi J**, Tamwesigire IK, Bajunirwe F. Association between GeneXpert diagnosis and same-day initiation of tuberculosis treatment in rural eastern Uganda. *Am J Trop Med Hyg*. 2020;103(4):1447-1454. PMCID: PMC7543837.

2. HIV care and treatment. UNAIDS aims to achieve 95% HIV diagnosis, treatment, and viral load suppression (95-95-95). However, progress is hindered by several health system challenges, including delayed diagnosis, delayed treatment initiation, suboptimal ART adherence, treatment failure, and poor retention. These issues became evident during my tenure as a TB/HIV Clinician with the AIDS Support Organization from 2010 to 2014, where I provided HIV prevention, care, treatment, and support services. I investigated these challenges through operational research, analyzing 10 years of routinely collected data on people living with HIV to explore treatment failure. I compared clinical, immunologic, and virologic outcomes between facility-based and community-based ART delivery models. My findings showed better treatment outcomes with the community-based model, which informed the design of psychosocial support interventions to improve viral load suppression in facility-based ART delivery.

Supporting citations:

- a. Adrawa N, Alege JB, **Izudi J**. Alcohol consumption increases non-adherence to ART among people living with HIV enrolled to the community-based care model in rural northern Uganda. *PLoS One*. 2020 Nov 24;15(11):e0242801. doi: 10.1371/journal.pone.0242801. PMID: 33232369; PMCID: PMC7685449
- b. Apangu P, **Izudi J**, Bajunirwe F, Mulogo E, Batwala V. Retention of HIV exposed infants in care at Arua regional referral hospital, Uganda: a retrospective cohort study. *BMC Public Health*. 2019;19(1):436. PMCID: PMC6485049.
- c. **Izudi J**, Auma S, Alege JB. Early Diagnosis of HIV among Infants Born to HIV-Positive Mothers on Option-B Plus in Kampala, Uganda. *AIDS Res Treat*. 2017;2017:4654763. doi: 10.1155/2017/4654763. Epub 2017 Oct 19. PMID: 29201460; PMCID: PMC5671668.
- d. **Izudi J**, Alioni S, Kerukadho E, Ndungutse D. Virological failure reduced with HIV-serostatus disclosure, extra baseline weight and rising CD4 cells among HIV-positive adults in Northwestern Uganda. *BMC Infect Dis*. 2016;16(1):614. PMCID: PMC5084428.

3. Use of continuous quality improvement (CQI) in TB/HIV care. TB and HIV programs face significant gaps in care, treatment, and prevention. From 2014 to 2023, my research focused on using continuous quality improvement (CQI), an implementation science tool, to address these gaps. In collaboration with HIV/ART teams, I guided the identification of care quality issues through program data analysis and conducted root cause analysis using CQI tools such as cause-effect diagrams, key driver diagrams, and brainstorming. I then developed context-specific solutions based on these root causes using a countermeasures matrix, followed by the implementation of these solutions through the widely-used Plan-Do-Study-Act (PDSA) cycles. By applying CQI, I contributed to improving the quality of TB and HIV care, treatment, and support.

Supporting citations:

- a. Adrawa N, Ongiro S, Lotee K, Seret J, Adeke M, **Izudi J**. Use of a context-specific package to increase sputum smear monitoring among people with pulmonary tuberculosis in Uganda: a quality improvement study. *BMJ Open Qual*. 2023 Aug;12(3):e002314. doi: 10.1136/bmjopen-2023-002314. PMID: 37558284; PMCID: PMC10414073.
- b. **Izudi J**, Akot A, Kisitu GP, Amuge P, Kekitiinwa A. Quality Improvement Interventions for Early HIV Infant Diagnosis in Northeastern Uganda. *Biomed Res Int*. 2016;2016:5625364. doi: 10.1155/2016/5625364. Epub 2016 Dec 26. PMID: 28105426; PMCID: PMC5220451.

- c. **Izudi J**, Mugenyi J, Mugabekazi M, Muwanika B, Tumukunde Spector V, Katawera A, Kekitiinwa A. Retention of HIV-Positive Adolescents in Care: A Quality Improvement Intervention in Mid-Western Uganda. *Biomed Res Int*. 2018 May 6;2018:1524016. doi: 10.1155/2018/1524016. PMID: 29854727; PMCID: PMC5960514.
- d. **Izudi J**, Akot A, Kisitu GP, Amuge P, Kekitiinwa A. Quality Improvement Interventions for Early HIV Infant Diagnosis in Northeastern Uganda. *Biomed Res Int*. 2016;2016:5625364. PMCID: PMC5220451.

4. Causal inference and impact evaluation. Using HIV and TB observational data, I have designed and conducted quasi-experimental studies to establish causal associations and generate evidence where randomized controlled trials (RCTs) are impractical, unethical, or infeasible. I have used propensity score matching, double robust estimation, regression discontinuity design, interrupted time series analysis, and instrumental variables regression methods. When rigorously executed, evidence derived from observational data holds strong external validity, as it reflects real-world conditions.

Supporting citations:

- a. Bagayoko M, Kadengye DT, Odero HO, **Izudi J**. Effect of high-risk versus low-risk pregnancy at the first antenatal care visit on the occurrence of complication during pregnancy and labour or delivery in Kenya: a double-robust estimation. *BMJ Open*. 2023 Oct 29;13(10):e072451. doi: 10.1136/bmjopen-2023-072451. PMID: 37899166.
- b. **Izudi J**, Kadengye DT. Effect of comprehensive knowledge of HIV on risky sexual behaviours associated with HIV transmission among adult Ugandans: a propensity score-matched analysis. *BMJ open*. 2022;12(12):e064011. PMCID: PMC9748972.
- c. **Izudi J**, Okoboi S, Lwevola P, Kadengye D, Bajunirwe F. Effect of disclosure of HIV status on patient representation and adherence to clinic visits in eastern Uganda: A propensity-score matched analysis. *PLoS One*. 2021;16(10):e0258745. PMCID: PMC8525739.
- d. **Izudi J**, Tamwesigire IK, Bajunirwe F. Does completion of sputum smear monitoring have an effect on treatment success and cure rate among adult tuberculosis patients in rural Eastern Uganda? A propensity score-matched analysis. *PLoS One*. 2019;14(12):e0226919. PMCID: PMC6932753.

5. Epidemiology of the COVID-19 pandemic in Uganda. As co-PI on a study of COVID-19 epidemiology in Uganda, I led data collection through multimedia platforms like Twitter and Facebook and published reports on COVID-19 transmission patterns. I also supported the design and implementation of a national, population-based online survey to assess public knowledge, attitudes toward preventive measures and presidential directives, and the practice of these measures. Our findings directly informed Uganda's national COVID-19 response.

Supporting citations:

- a. Bajunirwe F, **Izudi J**, Asiimwe S. Long-distance truck drivers and the increasing risk of COVID-19 spread in Uganda. *Int J Infect Dis*. 2020;98:191-193. PMCID: PMC7323644.
- b. Okello G, **Izudi J**, Tegurizigwa S, Kakinda A, Guido HV. Findings of a cross-sectional survey on knowledge, attitudes, and practices about COVID-19 in Uganda: implications for public health prevention and control measures. *Biomed Res Int*. 2020. PMCID: PMC7729389.

From 2021 to 2022, I served as the PI for the SARS-CoV-2 Impact Restriction (SARI) study, which assessed the impact of COVID-19 pandemic restrictions on HIV care outcomes among people living with HIV (PLHIV) in Kampala, Uganda. I analyzed data from nearly 10,000 PLHIV (4,858 pre-pandemic cohort and 5,094 pandemic cohort). The SARI study found improved access to viral load monitoring and suppression during the pandemic, but a decline in all-cause mortality and retention compared to pre-pandemic periods. To further explore how HIV clinics adapted to ensure continued service delivery during COVID-19 restrictions, I designed a qualitative evaluation. The findings revealed that several measures were implemented to maintain service continuity, and some of these measures are now being tested in randomized controlled trials.

Supporting citations:

- c. **Izudi J**, Kiragga AN, Kalyesubula P, Okoboi S, Castelnovo B. Effect of the COVID-19 pandemic restrictions on outcomes of HIV care among adults in Uganda. *Medicine*. 2022;101(36):e30282.
- d. **Izudi J**, Kiragga AN, Okoboi S, Bajunirwe F, Castelnovo B. Adaptations to HIV services delivery amidst the COVID-19 pandemic restrictions in Kampala, Uganda: A qualitative study. *PLOS Global Public Health*. 2022;2(8):e0000908. PMCID: PMC10022311.

Complete List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/jonathan.izudi.1/bibliography/public/>