

Joseph Tsung-Shu Wu, PhD

吳宗樹

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Epidemiologist and digital health specialist, based in Malawi continuously since 2007. Work spans the health information systems that run national programmes, the disease surveillance that detects outbreaks, and the institutional arrangements that keep government platforms running. Member of the WHO Roster of Experts in Digital Health and Innovation; co-chair of the Health Information System architecture subcommittee of Malawi’s Ministry of Health since 2010.

POSITIONS

2026–	Luke International, Norway	Head of Research, Innovation, Monitoring and Evaluation Department.
2025–	Luke International, Malawi	Acting Head of Programmes. Director of Research Department, Sep–Dec 2025.
2019–	Ministry of Health, Malawi / Luke International	Senior Digital Health Technical Advisor.
2018–	Ministry of Health, Malawi / Luke International	Official contact person to the Global Health Security Agenda (GHSa).
2017–	University of Livingstonia, Malawi	Expatriate lecturer.
2015–	National Taiwan University	Adjunct instructor, Department of Public Health.
2015–	Luke International, Malawi	Technical advisor.
2008–	Mzuzu University, Malawi	Senior lecturer (adjunct), Department of Biomedical Science.
2008–	Luke International, Malawi / Pingtung Christian Hospital	Programme manager.
2020–23	Ministry of Health, Malawi	Acting Manager, Public Health Emergency Operation Centre, COVID-19 response.
2013–15	Luke International, Norway	Acting Regional Representative, Southern Africa.
2008–15	Luke International, Malawi	Country Representative.
2007	Taiwan Medical Mission, Malawi	Epidemiologist on Taiwan’s public health alternative service, Mzuzu Central Hospital.

APPOINTMENTS AND AFFILIATIONS

2019–	Member, Roster of Experts in Digital Health and Innovation, World Health Organization.
2010–	Co-chair, Health Information System architecture subgroup, Ministry of Health, Malawi.

EDUCATION

2015–26	PhD, Informatics	Department of Informatics, Faculty of Mathematics and Natural Sciences, University of Oslo, Norway. Thesis on establishing the One Health Surveillance Platform to facilitate electronic integrated disease surveillance and response in Malawi.
2004–06	MSc, Epidemiology	Graduate Institute of Epidemiology, College of Public Health, National Taiwan University.
2003	BSc, Public Health	School of Public Health, China Medical University, Taiwan.

TECHNICAL LEAD AND ADVISORY

2024–	AIMS: advanced HIV disease improvement through MaHIS strengthening. Bill & Melinda Gates Foundation.
2023–24	Core support to the Digital Health Division, Ministry of Health, Malawi. Bill & Melinda Gates Foundation.
2023–24	Routine immunisation microplanning; interoperability between DHIS2, eBRS, eVax and eIDSR. UNICEF.
2016–23	Kuunika: Data for Action in Malawi. Bill & Melinda Gates Foundation.
2015–23	Quality of care and health impact through integrated information system technologies. PEPFAR / US CDC.
2019–21	Post-disaster IDSR strengthening in 14 districts. UNICEF.
2016–18	Electronic Integrated Disease Surveillance and Response implementation. World Bank, National IDS Commission.
2018–19	Community health systems by mobile technology, Mwami-Mchinji and Chipata. International Organization for Migration.

GRANTS AND PRINCIPAL INVESTIGATOR ROLES

2024–	Principal investigator	Pandemic Preparedness Toolkit, Wellcome Trust via the Office for National Statistics, UK. LIN Malawi team leader.
2023–24	Co-principal investigator	PAMODZI COVID-19 Study: public health assessment of Malawi’s digitized infrastructure. RIGHT Foundation. LIN Malawi team leader.
2014–16	Principal investigator	Capacity to manage HIV/AIDS, TB, hypertension and other diseases at community level and for mobile populations in Southern Africa. TaiwanICDF.
2013–17	Co-principal investigator	Supporting Low-cost Intervention for Disease Control (SLIDES), EU FP7-Health, reference 305292. LIN Malawi team leader.
2013–15	Principal investigator	Integrated Capacity Building Programme of Health Informatics in Malawi (iCBP-him), Norwegian Embassy via Norwegian Church Aid.
2009–15	Co-principal investigator	Exploring international health cooperation in Africa, Ministry of Health, Taiwan.

RESEARCH ASSISTANTSHIPS

National Taiwan University, 2003–2006: real-time syndromic surveillance for emerging and re-emerging infectious disease (DOH92-DC-SA03); intra-familial transmission of SARS in Taipei City (NSC92-2751-B002-020-Y); integrative emergency department-based real-time automatic syndromic surveillance and feedback (DOH94-DC-1113, DOH95-DC-1021).

TEACHING

RECOGNITION

2024 Personal Medical Contribution Award, 34th Medical Contribution Awards, Taiwan.

PUBLICATIONS

1. Thawani A, Ngwira S, Masoambeta J, et al, **Wu TSJ**. Public acceptance of digital health surveillance tools in Malawi: evidence from a multi-district household survey. *BMC Digital Health* 2026;4(1):32. — senior author
2. Staunton P, Makrooni MA, Chisale M, Nyambolo B, **Wu J**, et al. Prediction of hospitalisation in young children with pneumonia in Malawi: a machine learning-based approach. *PLOS Medicine* 2026;23(6):e1005122.
3. **Wu TSJ**, Mvula MV, Chado EKK, et al, Bjune GA, Kaasbøll JJ. Establishing One Health Surveillance Platform for electronic integrated disease surveillance and response in Malawi: action design research study. *JMIR Public Health and Surveillance* 2026;12:e72029. — first and corresponding author
4. Ndemera I, Hsieh YTS, Chirwa K, et al, **Wu JTS**, et al. Describing a national chatbot deployed by the Ministry of Health in Malawi during the COVID-19 pandemic: retrospective data analysis. *Journal of Medical Internet Research* 2026;28:e80960.
5. **Wu TSJ**, Billy RE, Mwale AC, et al. Development of an integrated and interoperable WhatsApp chatbot with the national digital systems for COVID-19 pandemic responses in Malawi. *BMC Digital Health* 2025 (preprint). — first author
6. O'Donoghue J, Muller SD, Fadahunsi P, **Wu J**, et al. Transforming Healthcare through Research, Innovation and Value Engineering (THRIVE): a framework for sustainable health solutions in LMICs. *VeriXiv* 2025;2:327.
7. Xiong H, Ledwidge M, Fadahunsi KP, Lee HY, **Wu J**, et al. Global artificial intelligence governance, trust and ethics for sustainable health (GATES): a protocol for a methodological framework. *VeriXiv* 2025;2:187.
8. Zao JKK, **Wu JTS**, Kanyimbo K, et al. Design of a trustworthy cloud-native national digital health information infrastructure for secure data management and use. *Oxford Open Digital Health* 2024;2:oqae043. — second author
9. Denny A, Curtin B, Taylor-Robinson S, Chirambo GB, Cilliers L, **Wu TSJ**, et al. Evaluating the appropriateness of podcasts to improve knowledge and awareness of selected health topics among undergraduate nursing students: protocol for an international feasibility study. *JMIR Research Protocols* 2024;13(1):e50735.
10. Denny A, Ndemera I, Chirwa K, **Wu JTS**, et al. Evaluation of the development, implementation, maintenance and impact of three digital surveillance tools deployed in Malawi during the COVID-19 pandemic: protocol for a modified Delphi expert consensus study. *JMIR Research Protocols* 2024;13(1):e58389.
11. Sinyiza FW, Kaseka PU, Chimbata CS, Chisale MR, Hsieh YTS, **Wu TSJ**, et al. Quality of life of cancer patients in palliative care in Northern Malawi: a descriptive cross-sectional study. 2024 (preprint).
12. Mbakaya B, Chisale MR, **Wu TSJ**, et al. A human factors approach to childhood pneumonia: a qualitative study in Malawian primary care. *medRxiv* 2024.
13. Chisale MRO, Jordan A, Kamudumuli PS, et al, **Wu TJ**, et al. Six months survival and risk factors for attrition for patients detected with cryptococcal antigenemia through screening in Malawi. *PLOS ONE* 2023;18(5):e0284367.
14. Chisale MRO, Sinyiza FW, Kaseka PU, et al, **Wu TJ**, et al. COVID-19 reinfection rates in Malawi: a possible tool to guide vaccine prioritisation and immunisation policies. *Vaccines* 2023;11(7).
15. Mghamba J, Gilmour E, Robinson L, et al, **Wu JTS**, et al. The use of innovative approaches to strengthen health system resilience during the COVID-19 pandemic: case studies from selected Commonwealth countries. *Frontiers in Public Health* 2023;11.
16. Sinyiza FW, Chisale MRO, Kayira AB, et al, **Wu TJ**, Mbakaya BC. Histopathological profile of orbito-ocular cancers at a tertiary hospital in Northern Malawi: a retrospective cross-sectional study. *BMJ Open Ophthalmology* 2022;7(1):e000977.
17. Sinyiza FW, Kaseka PU, Chisale MRO, et al, **Wu TJ**, Kayira AB. Patient satisfaction with health care at a tertiary hospital in Northern Malawi: results from a triangulated cross-sectional study. *BMC Health Services Research* 2022;22(1):695.
18. Chimbata CS, Chisale MR, Kayira AB, et al, **Wu TJ**. Paediatric sickle cell disease at a tertiary hospital in Malawi: a retrospective cross-sectional study. *BMJ Paediatrics Open* 2021;5(1):e001097.
19. Chirambo GB, Thompson M, Hardy V, et al, **Wu TSJ**, O'Donoghue J. Effectiveness of smartphone-based community case management on urgent referral, reconsultation and hospitalisation of children aged under five in Malawi: cluster-randomised, stepped-wedge trial. *Journal of Medical Internet Research* 2021;23(10):e25777.
20. Gallagher J, Chisale M, Das S, et al, **Wu TJ**, et al. Aetiology and severity of childhood pneumonia in primary care in Malawi: a cohort study. *BMJ Open* 2021;11(7):e046633.
21. Kayira A, Chisale MRO, Sinyiza FW, et al, **Wu J**, Mbakaya BC. Histopathological profile of breast cancer at a tertiary hospital in Malawi: a retrospective cross-sectional study. *African Journal of Reproductive Health* 2021;25(1):76–80.
22. Kumwenda P, Adukwu EC, Tabe ES, et al, **Wu JTS**, Chisale MR. Prevalence, distribution and antimicrobial susceptibility pattern of bacterial isolates from a tertiary hospital in Malawi. *BMC Infectious Diseases* 2021;21(1).
23. Chisale MRO, Sinyiza F, Kaseka P, **Wu JST**, et al. Cancer obscures extrapulmonary tuberculosis at a tertiary hospital in Northern Malawi. *Epidemiology and Infection* 2020.
24. Dick S, O'Connor Y, Thompson MJ, O'Donoghue J, Hardy V, **Wu TSJ**, et al. Considerations for improved mobile health evaluation: retrospective qualitative investigation. *JMIR mHealth and uHealth* 2020;8(1):e12424.
25. **Wu TSJ**, Kagoli M, Kaasbøll JJ, Bjune GA. Integrated Disease Surveillance and Response (IDSR) in Malawi: implementation gaps and challenges for timely alert. *PLOS ONE* 2018;13(11):e0200858. — first and corresponding author
26. Withers M, Li M, Manalo G, et al, **Wu TSJ**, Lin HH. Best practices in global health practicums: recommendations from the Association of Pacific Rim Universities. *Journal of Community Health* 2018;43(3):467–476.
27. Mastellos N, Tran T, Dharmayat K, et al, **Wu JT**, et al. Training community healthcare workers on the use of information and communication technologies: a randomised controlled trial of traditional versus blended learning in Malawi. *BMC Medical Education* 2018;18(1):61.
28. Hardy V, Hsieh J, Chirambo B, **Wu TJ**, et al. Assessing the feasibility of mobile phones for follow-up of acutely unwell children presenting to village clinics in rural northern Malawi. *Malawi Medical Journal* 2017;29(1):53–54.
29. Hardy V, O'Connor Y, Heavin C, et al, **Wu TJ**, et al. The added value of a mobile application of community case management on referral, re-consultation and hospitalisation rates of children aged under five in two districts in Northern Malawi: study protocol for a pragmatic, stepped-wedge cluster-randomised controlled trial. *Trials* 2017;18(1):475.
30. O'Connor Y, Ryan D, Hardy V, Thompson M, **Wu TSJ**, Heavin C, O'Donoghue J. Stakeholders' perspectives on paper-based and electronic clinical decision support systems in Malawi, Africa. *Journal of Decision Systems* 2016;25(sup1):410–420.
31. Liu S, Chan TC, Chu YT, **Wu JT**, et al, King CC. Comparative epidemiology of human infections with Middle East respiratory syndrome and severe acute respiratory syndrome coronaviruses among healthcare personnel. *PLOS ONE* 2016;11(3):e0149988.
32. Wen TH, Lin NH, Chao DY, et al, **Wu JT**, et al, King CC. Spatial-temporal patterns of dengue in areas at risk of dengue haemorrhagic fever in Kaohsiung, Taiwan, 2002. *International Journal of Infectious Diseases* 2010;14(4):e334–43.
33. Yen MY, **Wu TSJ**, Chiu AWH, et al. Taipei's use of a multi-channel mass risk communication programme to rapidly reverse an epidemic of highly communicable disease. *PLOS ONE* 2009;4(11):e7962. — second author
34. Lu HM, Chen H, Zeng D, King CC, Shih FY, **Wu TS**, Hsiao JY. Multilingual chief complaint classification for syndromic surveillance: an experiment with Chinese chief complaints. *International Journal of Medical Informatics* 2008.

35. **Wu TS**, Shih FY, Yen MY, et al, King CC. Establishing a nationwide emergency department-based syndromic surveillance system for better public health responses in Taiwan. *BMC Public Health* 2008;8:18. — first author; the first nationwide real-time syndromic surveillance system in Asia

36. King CC, **Wu TSJ**, Lin HP, et al. Facing the global challenges of emerging and re-emerging infectious diseases in Taiwan. *International Journal of Infectious Diseases* 2008;12:e195.

37. Liu CM, Lin SH, Chen YC, Lin KCM, **Wu TSJ**, King CC. Temperature drops and the onset of severe avian influenza A H5N1 virus outbreaks. *PLOS ONE* 2007;2(2):e191.

LANGUAGES

English and Mandarin.