

Yalemzewod Gelaw

RESEARCH OFFICER

Telethon Kids Institute, Perth, Australia

✉ yalassefa@gmail.com | 📷 Yalemzewod | 🌐 yalemzewod-gelaw | 🐦 yalassefa

Bio

I hold master's and PhD degrees in Epidemiology and Biostatistics, specializing in data analytics, data science, and research. With expertise in advanced statistical modeling, including regression, Growth Mixture modeling, decision trees, geostatistical modeling, and Bayesian statistics, I proficiently use R and Python for analysis. I have successfully managed large datasets, published over 30 peer-reviewed articles, and possess a strong passion for impactful research in Epidemiology and Biostatistics.

Education

University of Queensland

PHD IN EPIDEMIOLOGY & BIOSTATISTICS

Brisbane, Australia

July 2016 - July 2020

- Thesis: Towards sustainable TB control in Ethiopia—profiling high-risk geographical areas using spatial modelling.
- Studied courses include regression analysis and advanced epidemiology and biostatistics.

University of Gondar

MPH IN EPIDEMIOLOGY AND BIOSTATISTICS

Gondar, Ethiopia

Sept 2011 - July 2013

- Thesis: Effect of residence on mothers' health care seeking behavior for common childhood illness in Northwest Ethiopia: a community based comparative cross-sectional study
- Studied a broad range of courses covering many aspects of public health, epidemiology and biostatistics.

Debab University

BSC IN ENVIRONMENTAL HEALTH SCIENCE

Hawassa, Ethiopia

Sept 2002 - July 2006

- Studied a broad range of public health courses.

Professional Experiences

RESEARCH AND TEACHING EXPERIENCE

Child Health Analytics, Telethon Kids Institute

RESEARCH OFFICER

Perth, Australia

May 2021 - Present

- Provided expertise in spatio-temporal modeling and assisted in data management, analysis, modeling, and research.

University of New South Wales

RESEARCH ASSOCIATE

Sydney, Australia

March 2020 - May 2021

- Engaged in data management, analysis, modeling, and research, specializing in longitudinal data analysis and machine learning techniques.

University of Queensland

SESSION ACADEMICS

Brisbane, Australia

Sept 2017 - May 2018

- Taught undergraduate university students courses on Public Health, Epidemiology, and Biostatistics on a seasonal basis.

University of Gondar

LECTURER

Gondar, Ethiopia

Sept 2013 - Jun 2016

- Teaching, research & community service.

INDUSTRY EXPERIENCE

Queensland Health, Metro North Public Health Unit

EPIDEMIOLOGIST

Brisbane, Australia

Sept 2019 - Feb 2020

- Provided statistical analysis support to the communicable disease unit.

Ethiopia Ministry of Health, Amhara Regional Health Bureau

JUNIOR ENVIRONMENTAL HEALTH OFFICER

West Gojjam, Ethiopia

Sept 2006 - Jun 2011

- Coordinated community health extension programs, conducted risk assessments, and investigated outbreaks.

Research output

PRESENTATIONS

- 2023 **Web-based interactive tool to improve decision-making for malaria elimination in Vietnam:** Invited speaker on ACREME Annual Meeting
<https://www.acreme.edu.au/acreme-annual-meetings/>
- 2022 **Geostatistical analysis:** Invited speaker on Geospatial analysis for point data
<https://sctravelmedconference.com/speakers-2022/>
- 2019 **Poster presentation: Districts of HIV clustering in Ethiopia: 2015-2017:** 11th European Congress on Tropical Medicine and International Health.
<https://espace.library.uq.edu.au/view/UQ:56e0df8>
- 2019 **Poster presentation: Epidemiology of tuberculosis and HIV coinfection and its collaborative services towards ending the TB epidemic in Ethiopia:** 68th Annual Meeting of the American Society for Tropical Medicine and Hygiene.
<https://doi.org/10.4269/ajtmh.abstract2019>
- 2017 **Oral presentation: The Effect of Climate and Altitude Variability on Tuberculosis: A Systematic Review:** ISEE Conference.
<https://ehp.niehs.nih.gov/doi/abs/10.1289/isee.2017.2017-313>

Awards & Achievements

AWARDS

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|------|---|-------------------|
| 2023 | Travel grant (AUD \$2,500) | ACREME, Australia |
| 2022 | Seed grant (AUD \$15,000) | ACREME, Australia |
| 2019 | ASTMH Travel Award | ASTMH, the USA |
| 2017 | Thomas McIntyre Travel Scholarship (AUD \$3,000) for tuberculosis researchers | UQ, Australia |
| 2018 | HDR Travel Scholarship (AUD \$2,500) | UQ, Australia |

SCHOLARSHIPS

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| 2019 | Scholarship to attend an Introduction to Infectious Disease Modelling course | NIGMs, the USA |
| 2016 | University of Queensland International Scholarship (UQI) for PhD study (AUD \$ 78,000) | UQ, Australia |
| 2011 | Postgraduate Scholarship Award for MPH | ARHB, Ethiopia |

SOFTWARE SKILLS AND EXAMPLE PROJECTS

Software	Skills
R, SPSS, STATA, Python	Data management, descriptive and exploratory analysis
Microsoft Excel, R, Python	Visualization
R, SPSS, Python	Conducting advanced statistical analyses, including logistic and linear regression linked and longitudinal data analysis, survival analysis, growth mixture modeling propensity score matching, confirmatory factor analysis, and principal component analysis
R, Python	Machine learning – decision tree analysis to identify risk profiles
R, Python, ArcGIS, GeoDa	Geostatistical analysis
STATA	Group-based trajectory models

PUBLICATIONS

- Hu, N., Gelaw, Y. A., Katz, I., Fernandez, E., Falster, K., Hanly, M., Newton, B., Stephensen, J., Hotton, P., Zwi, K., et al. (2023). Developmental trajectories of socio-emotional outcomes of children and young people in out-of-home care—insights from data of pathways of care longitudinal study (POCLS). *Child Abuse & Neglect*, 106196.
- Dzianach, P. A., Rumisha, S. F., Lubinda, J., Saddler, A., Berg, M. van den, Gelaw, Y. A., Harris, J. R., Browne, A. J., Sanna, F., Rozier, J. A., et al. (2023). Evaluating COVID-19-related disruptions to effective malaria case management in 2020–2021 and its potential effects on malaria burden in sub-saharan africa. *Tropical Medicine and Infectious Disease*, 8(4), 216.
- Newton, B., Katz, I., Gray, P., Frost, S., Gelaw, Y., Hu, N., Lingam, R., & Stephensen, J. (2023). Restoration from out-of-home care for aboriginal children: Evidence from the pathways of care longitudinal study and experiences of parents and children. *Child Abuse & Neglect*, 106058.

4. Koye, D. N., Melaku, Y. A., Gelaw, Y. A., Zeleke, B. M., Adane, A. A., Tegegn, H. G., Gebreyohannes, E. A., Erku, D. A., Tesfay, F. H., Gesesew, H. A., et al. (2022). Mapping national, regional and local prevalence of hypertension and diabetes in ethiopia using geospatial analysis. *BMJ Open*, 12(12), e065318.
5. Gelaw, Y. A., Koye, D. N., Alene, K. A., Ahmed, K. Y., Assefa, Y., Erku, D. A., Tegegn, H. G., Tesema, A. G., Zeleke, B. M., & Melaku, Y. A. (2022). *Socio-demographic correlates of unhealthy lifestyle in ethiopia: A secondary analysis of a national survey*.
6. Tessema, G. A., Kinfu, Y., Dachew, B. A., Tesema, A. G., Assefa, Y., Alene, K. A., Aregay, A. F., Ayalew, M. B., Bezabhe, W. M., Bali, A. G., et al. (2021). The COVID-19 pandemic and healthcare systems in africa: A scoping review of preparedness, impact and response. *BMJ Global Health*, 6(12), e007179.
7. Samir, N., Amarasena, L., Sealy, L., Hodgins, M., Gelaw, Y., Lingam, R., & Zwi, K. (2022). Ethics and governance for a multi-site study in australia: Navigating the snakes and ladders. *Journal of Paediatrics and Child Health*, 58(1), 16–23.
8. Prasetyowati, H., Dhewantara, P. W., Hendri, J., Astuti, E. P., Gelaw, Y. A., Harapan, H., Ipa, M., Widyastuti, W., Handayani, D. O. T. L., Salama, N., et al. (2021). Geographical heterogeneity and socio-ecological risk profiles of dengue in jakarta, indonesia. *Geospatial Health*, 16(1).
9. Alene, K. A., Gelaw, Y. A., Fetene, D. M., Koye, D. N., Melaku, Y. A., Gesesew, H., Birhanu, M. M., Adane, A. A., Muluneh, M. D., Dachew, B. A., et al. (2021). COVID-19 in ethiopia: A geospatial analysis of vulnerability to infection, case severity and death. *BMJ Open*, 11(2), e044606.
10. Gesesew, H. A., Koye, D. N., Fetene, D. M., Woldegiorgis, M., Kinfu, Y., Geleto, A. B., Melaku, Y. A., Mohammed, H., Alene, K. A., Awoke, M. A., et al. (2021). Risk factors for COVID-19 infection, disease severity and related deaths in africa: A systematic review. *BMJ Open*, 11(2), e044618.
11. Gelaw, Y. A., Assefa, Y., Soares Magalhaes, R. J., Demissie, M., Tadele, W., Dhewantara, P. W., & Williams, G. (2020). TB and HIV epidemiology and collaborative service: Evidence from ethiopia, 2011–2015. *HIV/AIDS-Research and Palliative Care*, 839–847.
12. Kassa, G. M., Tadesse, A., Gelaw, Y. A., Alemayehu, T. T., Tsegaye, A. T., Tamirat, K. S., & Akalu, T. Y. (2020). Predictors of mortality among multidrug-resistant tuberculosis patients in central ethiopia: A retrospective follow-up study. *Epidemiology & Infection*, 148, e258.
13. Gelaw, Y. (2020). *Towards sustainable TB control in ethiopia—profiling high-risk geographical areas using spatial modelling*.
14. Assefa, Y., Woldeyohannes, S., Gelaw, Y., Hamada, Y., & Getahun, H. (2019). Screening tools to exclude active pulmonary TB in high TB burden countries: Systematic review and meta-analysis. *The International Journal of Tuberculosis and Lung Disease*, 23(6), 728–734.
15. Gelaw, Y. A., Yu, W., Magalhães, R. J. S., Assefa, Y., & Williams, G. (2019). Effect of temperature and altitude difference on tuberculosis notification: A systematic review. *Journal of Global Infectious Diseases*, 11(2), 63.
16. Gelaw, Y. A., Williams, G., Assefa, Y., Asressie, M., & Soares Magalhães, R. J. (2019). Sociodemographic profiling of tuberculosis hotspots in ethiopia, 2014–2017. *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 113(7), 379–391.
17. Dagne, S., Gelaw, Y. A., Abebe, Z., & Wassie, M. M. (2019). Factors associated with overweight and obesity among adults in northeast ethiopia: A cross-sectional study. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*, 391–399.
18. Assefa, Y., Gelaw, Y. A., Hill, P. S., Taye, B. W., & Van Damme, W. (2019). Community health extension program of ethiopia, 2003–2018: Successes and challenges toward universal coverage for primary healthcare services. *Globalization and Health*, 15, 1–11.
19. Gelaw, Y. A., Magalhães, R. J. S., Assefa, Y., & Williams, G. (2019). Spatial clustering and socio-demographic determinants of HIV infection in ethiopia, 2015–2017. *International Journal of Infectious Diseases*, 82, 33–39.
20. Amare Minyihun, Y. A. G., Measho Gebreslassie Gebregziabher. (2019). Willingness to pay for community-based health insurance and associated factors among rural households of bugna district, northeast ethiopia. *BMC Research Notes*, 12(1), 55.
21. Gelaw, Y. A., Williams, G., Soares Magalhães, R. J., Gilks, C. F., & Assefa, Y. (2019). HIV prevalence among tuberculosis patients in sub-saharan africa: A systematic review and meta-analysis. *AIDS and Behavior*, 23, 1561–1575.
22. Assefa, Y., Assefa, Y., Woldeyohannes, S., Hamada, Y., & Getahun, H. (2018). 3-month daily rifampicin and isoniazid compared to 6-or 9-month isoniazid for treating latent tuberculosis infection in children and adolescents less than 15 years of age: An updated systematic review. *European Respiratory Journal*, 52(1).
23. Agonafir, M., Assefa, Y., Girmachew, F., & Jerene, D. (2018). Factors affecting the utilization of xpert MTB/RIF assay among TB clinic health workers in addis ababa. *Journal of Clinical Tuberculosis and Other Mycobacterial Diseases*, 12, 48–53.
24. Sisay, M. M., Ayele, T. A., Gelaw, Y. A., Tsegaye, A. T., Gelaye, K. A., & Melak, M. F. (2018). Incidence and risk factors of first-line antiretroviral treatment failure among human immunodeficiency virus-infected children in amhara regional state, ethiopia: A retrospective follow-up study. *BMJ Open*, 8(4), e019181.
25. Chekol, D. A., Biks, G. A., Gelaw, Y. A., & Melsew, Y. A. (2017). Exclusive breastfeeding and mothers' employment status in gondar town, northwest ethiopia: A comparative cross-sectional study. *International Breastfeeding Journal*, 12(1), 1–9.
26. Gita Devi Mishra, Y. A. G., Hsin-Fang Chung. (2018). The role of smoking in the relationship between intimate partner violence and age at natural menopause: A mediation analysis. *Women's Midlife Health*, 4(1), 1.

27. Yenit, M. K., Gelaw, Y. A., & Shiferaw, A. M. (2018). Mothers' health service utilization and attitude were the main predictors of incomplete childhood vaccination in east-central ethiopia: A case-control study. *Archives of Public Health*, 76, 1–9.
28. Zenebe, C. B., Adefris, M., Yenit, M. K., & Gelaw, Y. A. (2017). Factors associated with utilization of long-acting and permanent contraceptive methods among women who have decided not to have more children in gondar city. *BMC Women's Health*, 17, 1–7.
29. Alamaw, S. D., Kassa, A. W., & Gelaw, Y. A. (2017). Pertussis outbreak investigation of mekdela district, south wollo zone, amhara region, north-west ethiopia. *BMC Research Notes*, 10, 1–7.
30. Worede, A., Alemu, S., Gelaw, Y. A., & Abebe, M. (2017). The prevalence of impaired fasting glucose and undiagnosed diabetes mellitus and associated risk factors among adults living in a rural koladiba town, northwest ethiopia. *BMC Research Notes*, 10(1), 1–8.
31. Getahun Gebre BogaleEmail author, D. T. D., Kassahun Alemu Gelaye, & Gelaw, Y. A. (2017). Spatial patterns of childhood diarrhea in ethiopia: Data from ethiopian demographic and health surveys (2000, 2005, and 2011). *BMC Infectious Disease*, 17(426).
32. Berhe Beyene Gebrezgabher, M. K., Yigzaw Kebede, & Gelaw, Y. A. (2017). Determinants to antiretroviral treatment non-adherence among adult HIV/AIDS patients in northern ethiopia. *AIDS Research and Therapy*, 14(16).
33. Yirga, B., Assefa Gelaw, Y., Derso, T., & Wassie, M. M. (2016). Disordered eating attitude and associated factors among high school adolescents aged 12–19 years in addis ababa, ethiopia: A cross-sectional study. *BMC Research Notes*, 9, 1–7.
34. Adane, W. G., Alemie, G. A., W/yonhones, S. M., & Gelaw, Y. A. (2017). Prevalence and associated factors of khat use among university students in the university of gondar, northwest ethiopia. *Journal of Substance Use*, 22(2), 176–181.
35. Gelaw, Y. A., Biks, G. A., & Alene, K. A. (2014). Effect of residence on mothers' health care seeking behavior for common childhood illness in northwest ethiopia: A community based comparative cross-sectional study. *BMC Research Notes*, 7(1), 1–8.
36. Belay, A. D., Mengesha, Z. B., Woldegebriel, M. K., & Gelaw, Y. A. (2016). Married women's decision making power on family planning use and associated factors in mizan-aman, south ethiopia: A cross sectional study. *BMC Women's Health*, 16, 1–6.
37. Gelaw, Y. A., Senbete, G. H., Adane, A. A., & Alene, K. A. (2015). Determinants of late presentation to HIV/AIDS care in southern tigray zone, northern ethiopia: An institution based case-control study. *AIDS Research and Therapy*, 12(1), 1–8.
38. Asfaw, A. G., Koye, D. N., Demssie, A. F., Zeleke, E. G., & Gelaw, Y. A. (2016). Determinants of default to fully completion of immunization among children aged 12 to 23 months in south ethiopia: Unmatched case-control study. *Pan African Medical Journal*, 23(1).
39. Helelo, T. P., Gelaw, Y. A., & Adane, A. A. (2014). Prevalence and associated factors of hypertension among adults in durame town, southern ethiopia. *PloS One*, 9(11), e112790.
40. Tadesse, S., Kelaye, T., & Assefa, Y. (2016). Utilization of personal protective equipment and associated factors among textile factory workers at hawassa town, southern ethiopia. *Journal of Occupational Medicine and Toxicology*, 11, 1–6.
41. Tadesse, S., Bezabih, K., Destaw, B., & Assefa, Y. (2016). Awareness of occupational hazards and associated factors among welders in lideta sub-city, addis ababa, ethiopia. *Journal of Occupational Medicine and Toxicology*, 11(1), 1–6.