

Curriculum Vitae (Lulu Mussa MUHE)

Personal details

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Summary of Educational Background

Year	Name of Institution	Degree/diploma type
1990-95	Umeå University, Sweden	Ph.D (Epidemiology and Public health)
1989-90	Karolinska Institute, Sweden	Certificate (Clinical Microbiology)
1982-85	Addis Ababa University	Specialization in Pediatrics
1970-80	Addis Ababa University	MD (Doctor of Medicine)

Summary of professional experiences

Employer's Name:	Period	Positions
Ministry of Health, Ethiopia	1980-1985	Medical officer
Addis Ababa University, Ethiopia	1986-1997 & 1999-2000	Full Professor by 2000
World Health Organization, AFRO, Lomé, Togo	1998-1999	Medical officer, IMCI team, WHO/AFRO
World Health Organization/HQ,	2000-2002	Medical officer, RBM (now GMP), Geneva
World Health Organization/HQ	2002-2006	Medical officer, CAH department, Geneva
World Health Organization/HQ	2006-2010	Medical officer, HIV and MCA departments Double position, Geneva
World Health Organization/HQ	2010-2014	Medical officer, WHO/HQ, MCA department, Geneva
Addis Ababa University	2015- now	Honorary professor, Addis Ababa University
Addis Ababa University	2016- now	Principal Investigator- Study of preterm illness and mortality (The SIP Project)

Achievements in Global Health:

Child health

- Principal Investigator: the multicentre study to determine the major causes of preterm mortality in Ethiopia– The SIP project (2015 – 2019)
- Principal Investigator: The Ethiopia Task shifting for MITS project (2020 -)
- Co-principal investigator: Optimizing place of treatment and antibiotic regimens for young infants presenting with signs of possible serious bacterial infection (2020 -)

Country level support:

- Consultant: the evaluation of distance learning IMCI in Tanzania (2015-2016) : <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-018-3336-y>
- Led and facilitated the adaptation and roll out of pediatric ART and PMTCT in India, Indonesia, Myanmar, Botswana (IATT mission), Ghana, Zimbabwe (2007-2012).
- Led and facilitated the field-testing, updating and adaptation of a 6-day IMNCI training materials and chart booklet including a module on *possible serious bacterial infections*, in India and Pakistan (2015-2017).
- Led and facilitated the field-testing, of iCCM materials to include a one week iCCM training materials including a module on *possible serious bacterial infections*, in Ethiopia, India and Bangladesh for the iCCM study which is about to be completed (2015-2017).
- Supported the adaptation of IMNCI training materials and chart booklet to include ebola virus disease in children (2015)
- Field-testing of the IMCI materials in Ethiopia (1994-97), early implementation of IMCI globally.
- Introducing innovative blended approaches, IMCI computer-based adaptation and training tool(ICATT) and paper-based distance learning materials for IMCI.(2014)
- Quality of district hospital care using ETAT and referral care tools, standards and training materials (2006)
- Guidance on community health workers (CHW), training of CHWs, monitoring and supervising CHWs

HIV, Tb and malaria areas

- Led, coordinated and contributed to the planning and development of global norms, standards and policies on HIV
 - Paediatric ART guidelines as part of the Consolidated Guidelines on ARV's (2013)
 - Cotrimoxazole prophylaxis guideline development (2006) and updating (2014)
 - Guidelines on pneumonia and diarrhoea in HIV infected children (2010),
 - HIV-related skin and oral conditions (2014),
 - Cryptococcal infections in children and adults(2014),
- Led the development of (Integrated Management of Childhood Illness (IMCI) and HIV

materials

- IMCI/HIV chart booklet and training materials (2006)
- guidelines on paediatric HIV care and treatment for district hospitals (2011)
- 2016: The Union's desk guide for diagnosis and management of TB in children, Third edition, 2016. Member of the group work.
http://www.theunion.org/what-we-do/publications/english/2016_Desk-guide_Africa_Web.pdf
- Contributed to the development of childhood tuberculosis guidance
 - The Union's desk guide for diagnosis and management of TB in children, Third edition, (2016)
 - Guidelines for intensified tuberculosis case-finding and isoniazid preventive therapy for people living with HIV in resource constrained settings (2011)
 - Guidance for national tuberculosis programmes on the management of tuberculosis in children (2014)
- Contributed to the development of malaria guidelines
 - Management of severe malaria: a practical handbook, 3rd edition (2013)
 - Guidance for district managers on community involvement in rolling back malaria (2002)
- Contributed to work on humanitarian complex emergencies on child health including malaria.

Maternal and child health global standards and policies

- Led and facilitated the development of global guidelines and tools on child health.
 - Technical updates of the Integrated management of Childhood Illness materials (IMCI) including pneumonia, diarrhoea, measles, malaria, malnutrition and immunization (2006, 2014),
 - Hospital care guidelines on care of sick children (2008, 2013)
 - Emergency Triage Assessment and Treatment (ETAT) (2006 and 2014)
 - Guidance for district managers on community involvement in rolling back malaria (2002)
- Provided technical assistance to plan, adapt, monitor and evaluate implementation and develop and promote innovative approaches for skills building of health professionals and community care providers:
- Contributed to policy development by Federal MOH of Ethiopia on public health issues such as co-chairing the board for Ethiopian Public Health Institute, previously the National Nutrition & Health Research Institute, other technical clinical national committees around child health, emerging epidemics such as meningitis.
- Contributed to community-based research on acute respiratory infections in children in Ethiopia. Won 8 research grants to conduct studies community based longitudinal surveillance of rural population in Southern Ethiopia, in a district called Butajira. The project identified Mothers' knowledge, attitude and practices in the care of children

with acute respiratory infections. The project also looked at the etiologic agents for pneumonia and their susceptibility pattern to common antibiotics. Based on the findings, an intervention project was designed and implemented. Contributed to the adoption of the ARI control programme in Ethiopia including translation to local languages.

Summary of Primary Health Care experience

- Had first-hand experience in planning and programming district-level primary health care including managing peripheral clinics, expanding MCH clinics, immunization programmes, managing epidemics of malaria, typhoid fever relapsing fever, managing campaigns, managing the routine activities of a district hospital in Eastern Ethiopia.

Summary of professional membership

- **Adviser to MOH of Ethiopia in various capacities:** Member and chairperson of IMCI Task Force in Ethiopia (1995-97), Technical advisory committee (TAC) of Ethiopian Health and Nutrition Research Institute, member of subcommittee for guidelines on management of HIV/AIDS, Panel of assessors of health professionals, MOH of Ethiopia,
- **Member of steering committees:** TDR/WHO task force on the sick child-malaria initiative, 1994/95. Member of Steering committee on Applied Field Research on tropical diseases, WHO/TDR, 1994/95. Member, Network of AIDS researchers of Eastern and Southern Africa (NARESA) (1994-98).
- **Member of the group that** developed the integrated approach in the management of the sick child (now called IMCI), 1994, 1995, also on inpatient management of the sick child, 1995, 1996, 1997 Geneva

Awards and honours

- Haile Selassie I prize for distinguished academic performance
- Senior Public Health Research award by Ethiopian Public Health Association (2000)

Summary of advisory role for PHD students

- I have advised several dozen PHD theses; I have evaluated PHD theses both in Ethiopia and globally.

Language and computer skills

Amharic	Mother tongue
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English	Excellent writing, speaking
Francaise	Good to fair writing, speaking
Computer skills	Excellent with word, excel, PowerPoint, SQL, Epi Info, Epi Data, Stata, etc.

Research and development

Two types of publications:

- Publications related to WHO guidelines
- Publications in peer-reviewed journals

1. Global policies on paediatric HIV

Facilitated and led the development of the paediatric aspect of this guideline including the systematic reviews that are required by WHO and preparation of evidence profiles.

Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: Recommendations for a public health

approach http://apps.who.int/iris/bitstream/10665/85321/1/9789241505727_eng.pdf?ua=1

2. Global policies on Integration of HIV (including opportunistic infections) to MNCH

Facilitated and led the development of several global guidelines and tools related to HIV-associated opportunistic infections and comorbidities:

WHO recommendations on the management of diarrhoea and pneumonia in HIV-infected infants and children http://whqlibdoc.who.int/publications/2010/9789241548083_eng.pdf

Manual on paediatric HIV care and treatment for district

hospitals http://whqlibdoc.who.int/publications/2011/9789241501026_eng.pdf

Guideline Development Group Meeting on Cotrimoxazole prophylaxis in the context of

HIV <http://www.who.int/hiv/pub/meetingreports/cotrim-meeting-report/en/>

Guidelines on the treatment of skin and oral HIV-associated conditions in children and adults.

http://www.who.int/maternal_child_adolescent/documents/skin-mucosal-and-hiv/en/

3. Global policies on childhood illnesses

Coordinated the development of distance learning IMCI materials, field-tested them in several countries. I developed IMCI technical updates and contributed to the work on the pocketbook for hospital care. I also contribute to the work on quality of care in district hospitals.

IMCI set of distance learning

modules http://www.who.int/maternal_child_adolescent/documents/9789241506823/en/

IMCI chart

booklet http://www.who.int/maternal_child_adolescent/documents/IMCI_chartbooklet/en/

Recommendations for management of common childhood conditions: Evidence for technical update of pocket book

recommendations http://www.who.int/maternal_child_adolescent/documents/management_childhood_conditions/en/

Technical updates of the guidelines on the IMCI: Evidence and recommendations for further adaptations. http://www.who.int/maternal_child_adolescent/documents/9241593482/en/

4. Global policies on humanitarian emergencies

I worked as focal person for child health in complex emergencies; coordinated technical assistance and developed technical guidance on child health in humanitarian emergencies:

PEER-REVIEWED JOURNAL ARTICLES

2020 Golam Mothabbir, et al. Management of fast breathing pneumonia in young infants aged 7 to 59 days by community level health workers: protocol for a multi-centre cluster randomized controlled trial. International Journal of Clinical Trials. EMPIC study group. Int J Clin Trials. 2020 May;7(2):83-93.

2020 Golam Mothabbir, et al . Community case management of chest indrawing pneumonia in children aged 2 to 59 months by community health workers: study protocol for a multi-country cluster randomized open label non-inferiority trial. International Journal of Clinical Trials EMPIC study group. Int J Clin Trials. 2020 May;7(2):131-141

2019. Muhe M Lulu, McClure E, Nigussie AA, et al. Major causes of death in preterm infants in selected hospitals in Ethiopia (SIP project): a prospective, cross-sectional, observational study: [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(19\)30220-7/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(19)30220-7/fulltext)

2019. Eshetu B, Gashaw M, Berhane M, Abdissa A, McClure EM, Goldenberg RL, **Muhe LM**. Intravenous fluid contaminated with Klebsiella oxytoca as a source of sepsis in a preterm newborn: case report. American Journal of Clinical Infection Control 2019. pii: S0196-6553(19)30001-X. doi: 10.1016/j.ajic.2018.12.025..

2018. Robert L. Goldenberg, **Lulu Muhe**, Sarah Saleem, Sangappa Dhaded, Shivaprasad S. Goudar, Janna Patterson, Assaye Nigussie & Elizabeth M. McClure. Criteria for assigning cause of death for stillbirths and neonatal deaths in research studies in low middle income countries. The Journal of Maternal-Fetal & Neonatal Medicine, DOI: 10.1080/14767058.2017.1419177

2018. **Muhe M Lulu**, McClure E, Mekasha A et al. A Prospective Study of causes of illness and death in preterm infants in Ethiopia (The SIP Ethiopia Project): Study protocol. BMC reproductive health. 15:116. <https://doi.org/10.1186/s12978-018-0555-y>

2018. **Muhe M Lulu**, Iriya N, Bundala F et al. Evaluation of distance learning IMCI training program:The case of Tanzania. BMC Health Services Research (2018) 18:547. <https://doi.org/10.1186/s12913-018-3336-y>.

2016. Suchismita Paul, Rachel Evans, Toby Maurer, **Lulu M. Muhe**, and Esther E. Freeman.

Treatment of Dermatological Conditions Associated with HIV/AIDS: The Scarcity of Guidance on a Global Scale. *AIDS Research and Treatment*. Volume 2016, <http://dx.doi.org/10.1155/2016/3272483>.

2016. Marie-Renée Lajoie, Olivier Drouin, Gillian Bartlett-Esquillant, Quynh Nguyen, Andrea Low, Georgios Gavriliides, Natasha Larke, Philippa Easterbrook, **Lulu Muhe**. Incidence and Prevalence of Opportunistic and Other Infections and the Impact of Antiretroviral Therapy Among HIV-infected Children in Low- and Middle-income Countries: A Systematic Review and Meta-analysis. *Clin Infect Dis*. 2016 Jun 15;62(12):1586-94. doi: 10.1093/cid/ciw139. Epub 2016 Mar 21.

2016. Andrea Low, Georgios Gavriliides; Natasha Larke, Marie-Renee Lajoie, Olivier Drouin; **Lulu Muhe**, Philippa Easterbrook. HIV-related opportunistic infections and the impact of ART in low and middle income countries: A systematic review. *Clin Infect Dis*. 2016 Jun 15;62(12):1595-603. doi: 10.1093/cid/ciw125. Epub 2016 Mar 6.

2014: Rahman et al. Childhood diarrhoeal deaths in seven low- and middle-income countries. *Bull World Health Organ* 2014;92(9):664-672. *Bulletin of the World Health Organization* 2014;92:664-671. doi: <http://dx.doi.org/10.2471/BLT.13.134809>

2014: Theodoratou, McAllister, Reed, Adeloje, Rudan, **Muhe L**, Madhi, Campbell, Nair. Global, regional and national estimates of burden of disease due to pneumonia in young HIV-infected children in 2010. *Lancet ID* 2014.

2014 Ciaranello A., Doherty K, Babiker A, Essajee S, Kelly K, Harrison K, Hou T, Lindsey, L, **Muhe L**, L, Palumbo, P. Cost-effectiveness of first-line antiretroviral therapy for HIV-infected African children less than three years of age. *AIDS* 2014 (Accepted for publication).

2014: Easterbrook PJ, Irvine CJ, Vitoria M, Shaffer N, Muhe LM, Negussie EK, Doherty MC, Ball A, Hirschall G. Developing the 2013 WHO consolidated antiretroviral guidelines. *AIDS* 2014;28(suppl 2):S 93-S100.

2014: Penazzato M, Prendergast AJ, Muhe L, Tindyebwa, Abrams EJ. Optimization of antiretroviral therapy in HIV-infected children under 3 years of age: a systematic review. *AIDS* 2014;28(suppl 2):S137-S146

2013: Siegfried N, Davies MA, Penazzato M, **Muhe LM**, Egger M. Optimal time for initiating antiretroviral therapy (ART) in HIV-infected, treatment-naive children aged 2 to 5 years old. *Cochrane Database Syst Rev*. 2013 Oct 10;10

2013: Modi S, Chiu A, Ng'eno B, Kellerman SE, Sugandhi N, **Muhe L**; Child Survival Working Group of the Interagency Task Team on the Prevention and Treatment of HIV Infection in Pregnant Women, Mothers and Child. Understanding the contribution of common childhood

illnesses and opportunistic infections to morbidity and mortality in children living with HIV in resource-limited settings. *AIDS*. 2013 Nov;27Suppl 2:S159-67

2013: Tolle MA, Phelps BR, Desmond C, Sugandhi N, Omeogu C, Jamieson D, Ahmed S, Reuben E, **Muhe L**, Kellerman SE; Child Survival Working Group of the Interagency Task Team on the Prevention and Treatment of HIV infection in Pregnant Women, Mothers and Children. Delivering pediatric HIV care in resource-limited settings: cost considerations in an expanded response. *AIDS*. 2013 Nov;27Suppl 2:S179-86.

2013: Michael Schomaker; Karl Technau; Robin Wood; Carolyn Bolton Moore; CleophasChimbetete; Vivian Cox; 2013. Mary-Ann Davies; Matthias Egger; Brian Eley; ShaffiqEssajee; Janet Giddy; Thomas Gsponer; Olivia Keiser; Harry Moultrie; **Lulu Muhe**; James Ndirangu; Martina Penazzato; Sam Phiri; Helena Rabie When to start antiretroviral therapy in children aged 2-5 years: a collaborative causal modelling analysis of cohort studies from southern Africa. *PLoS medicine* 2013;10(11):e1001555.

2013: Emmanuel Luyirika; Justus Muhangi; Joyce Achan; Frank Lule; Catherine Senyimba; Megan S Towle; **Lulu Muhe**. Scaling up paediatric HIV care with an integrated, family-centred approach: an observational case study from Uganda. *PloS one* 2013;8(8):e69548.

2013: Leita J, Chandramohan D, Byass P, Jakob R, Bundhamcharoen K, Choprapawon C, de Savigny D, Fottrell E, França E, Frøen F, Gewaifel G, Hodgson A, Hounton S, Kahn K, Krishnan A, Kumar V, Masanja H, Nichols E, Notzon F, Rasooly MH, Sankoh O, Spiegel P, AbouZahr C, Amexo M, Kebede D, Alley WS, Marinho F, Ali M, Loyola E, Chikersal J, Gao J, Annunziata G, Bahl R, Bartolomeus K, Boerma T, Ustun B, Chou D, **Muhe L**, Mathai M. Revising the WHO verbal autopsy instrument to facilitate routine cause-of-death monitoring. *Glob Health Action*. 2013 Sep 13;6:21518

2012: Alexander K Rowe; Samantha Y Rowe; Kathleen A Holloway; Verica Ivanovska; **Lulu Muhe**; Thierry Lambrechts. Does shortening the training on Integrated Management of Childhood Illness guidelines reduce its effectiveness? A systematic review. *Health policy and planning* 2012;27(3):179-93.

2012: WaruneePunpanich; Shamim A Qazi; Michelle Groome; **Lulu Muhe**; Shabir A Madhi. Antibiotic and systemic therapies for pneumonia in human immunodeficiency virus (HIV)-infected and HIV-exposed children. *Journal of infection in developing countries* 2012;6(2):109-19.

2012: Jane N Mutanga; Simon Mutembo; Juliette Raymond; Megan S Towle; Robert Captain Fubisha; Frank Lule; **Lulu Muhe** Institutionalizing provider-initiated HIV testing and counselling for children: an observational case study from Zambia. *PloS one* 2012;7(4):e29656.

- 2011: WaruneePunpanich; Shamim A Qazi; Michelle Groome; **Lulu Muhe**; Shabir A Madhi. Systematic review on the etiology and antibiotic treatment of pneumonia in human immunodeficiency virus-infected children. *The Pediatric infectious disease journal* 2011;30(10):e192-202.
- 2011: Goga AE, **Muhe LM**. Global challenges with scale-up of the integrated management of childhood illness strategy: results of a multi-country survey. *BMC Public Health*. 2011 Jun 27;11:503. doi: 10.1186/1471-2458-11-503.
- 2011: Goga AE, **Muhe LM**, Forsyth K, Chopra M, Aboubaker S, Martines J, Mason EM. Results of a multi-country exploratory survey of approaches and methods for IMCI case management training. *Health Res Policy Syst*. 2009 Jul 17;7:18. doi: 10.1186/1478-4505-7-18.
- 2008: World Health Organization. Manual for the health care of children in humanitarian emergencies. http://apps.who.int/iris/bitstream/10665/43926/1/9789241596879_eng.pdf
- 2006: William J Moss; Meenakshi Ramakrishnan; Dory Storms; A.Siegle; W Weiss; Ivan Lejnev; **Lulu Muhe**. Child health in complex emergencies. *Bulletin of the World Health Organization* 2006;84(1):58-64.
- 2006: William J Moss; Meenakshi Ramakrishnan; Dory Storms; Annie Siegle; William Weiss; **Lulu Muhe**. Child health in complex emergencies. *National Academy of Sciences* at <http://www.nap.edu/catalog/11527.html>
- 2006: Peter Byass; Edward Fottrell; Lan Huong Dao; YemaneBerhane; TumaniCorrah; Kathleen Kahn; **Lulu Muhe**; Duc Van Do. Refining a probabilistic model for interpreting verbal autopsy data. *Scandinavian journal of public health* 2006;34(1):26-31.
- 2004: Ayo Palmer; John B Carlin; Joachim Freihorst; SalvacionGatchalian; **Lulu Muhe**; Kim Mulholland; Martin W Weber. The use of CRP for diagnosing infections in young infants < 3 months of age in developing countries. *Annals of tropical paediatrics* 2004;24(3):205-12.
- 2003: Martin W Weber; John B Carlin; SalvacionGatchalian; Deborah Lehmann; **Lulu Muhe**; E Kim Mulholland. Predictors of neonatal sepsis in developing countries. *The Pediatric infectious disease journal* 2003;22(8):711-7.
- 2002: Ingela Berggren Palme; BerhanuGudetta; Judith Bruchfeld; **Lulu Muhe**; Johan Giesecke. Impact of human immunodeficiency virus 1 infection on clinical presentation, treatment outcome and survival in a cohort of Ethiopian children with tuberculosis. *The Pediatric infectious disease journal* 2002;21(11):1053-61.
- 2002: **Muhe L**. Community Involvement in Rolling Back Malaria. World Health Organization, WHO/CDS/RBM/2002.42, Geneva, 2002

2001: Gudetta B, **Muhe L**. et al. Prevalence of HIV seropositivity among newborn hospitalized infants in Ethio-Swedish Children's Hospital, Addis Ababa. *Ethiop J Hlth Development* Vol 17,

2001: Ingela Berggren-Palme; BerhanuGudetta; H Degefu; **Lulu Muhe**; Judith Bruchfeld; Johan Giesecke. A controlled estimate of the risk of HIV infection in Ethiopian children with tuberculosis. *Epidemiology and infection* 2001;127(3):517-25.

2001: Ingela Berggren Palme; BerhanuGudetta; H Degefu; Judith Bruchfeld; **Lulu Muhe**; Johan Giesecke. Risk factors for human immunodeficiency virus infection in Ethiopian children with tuberculosis. *The Pediatric infectious disease journal* 2001;20(11):1066-72.

2001: **Lulu Muhe**; M Weber. Oxygen delivery to children with hypoxaemia in small hospitals in developing countries. *The international journal of tuberculosis and lung disease : the official journal of the International Union against Tuberculosis and Lung Disease* 2001;5(6):527-32.

2001: Terry Nolan; P Angos; A J Cunha; **Lulu Muhe**; S Qazi; E A Simoes; G Tamburlini; M Weber; Nathan Pierce. Quality of hospital care for seriously ill children in less-developed countries. *Lancet* 2001;357(9250):106-10.

2001: M Hailu; **Lulu Muhe**. Childhood meningitis in a tertiary hospital in Addis Ababa: clinical and epidemiological features. *Ethiopian medical journal* 2001;39(1):29-38.

2000: **Lulu Muhe**; B Oljira; H Degefu; ShabbarJaffar; Martin W Weber. Evaluation of clinical pallor in the identification and treatment of children with moderate and severe anaemia. *Tropical medicine & international health : TM & IH* 2000;5(11):805-10.

2000: **Lulu Muhe**. Oxygen therapy for children with acute respiratory infections in small hospitals. *Ethiopian medical journal* 2000;38(1):55-65.

2000: Mohammed E. Muhe L, Geyid A et al Prevalence of potential bacterial pathogens for acute respiratory infections in children in Gondar, North-West Ethiopia.. *Ethiop J H Develop* 2000; 14(2): 191-197.

2000: Mohammed E. **Muhe L**, Geyid A et al Prevalence of potential bacterial pathogens for acute respiratory infections in children in Addis Ababa. *Ethiop Med J* 2000; 38:165-174

1999: Yemane B, Wall S, Kebede D Emmelin A, Enquasellassie F, Byass P, **Muhe L** et al. Establishing an epidemiological field laboratory in rural areas - potentials for public health research and interventions. *Ethiop J Hlth Development* Vol 13, 1999.

1999: **Lulu Muhe**; MeazaTilahun; SileshiLulseged; S Kebede; D Enaro; S Ringertz; GöranKronvall;

S Gove; E Kim Mulholland. Etiology of pneumonia, sepsis and meningitis in infants younger than three months of age in Ethiopia. *The Pediatric infectious disease journal* 1999;18(10 Suppl):S56-61.

1999: **Lulu Muhe**; B Oljira; H Degefu; F Enquesellassie; Martin W Weber Clinical algorithm for malaria during low and high transmission seasons. *Archives of disease in childhood* 1999;81(3):216-20.

1999: The WHO Young Infants Study Group(Principal Investigator of Ethiopian site). Serious infections in young infants in developing countries: rationale for a multicenter study. *Pediatr Infect Dis J* 1999;18:S4-7.

1999: The WHO Young Infants Study Group (Principal Investigator). Methodology for a multicenter study of serious infections in young infants in developing countries. *Pediatr Infect Dis J* 1999;18:S8-16.

1999: The WHO Young Infants Study Group (Principal Investigator). Bacterial etiology of serious infections in young infants in developing countries: results of a multicenter study. *Pediatr Infect Dis J* 1999;18:S17-22.

1999: The WHO Young Infants Study Group (Principal Investigator). Clinical prediction of serious bacterial infections in young infants in developing countries. *Pediatr Infect Dis J* 1999;18:S23-31.

1999: The WHO Young Infants Study Group (Principal Investigator). Conclusions from the WHO multicenter study of serious bacterial infections in young infants. *Pediatr Infect Dis J* 1999;18:S32-34.

1999: Lulu Muhe; Keith Klugman Pneumococcal and Haemophilus influenzae meningitis in a children's hospital in Ethiopia: serotypes and susceptibility patterns. *Tropical medicine & international health : TM & IH* 1999;4(6):421-7.

1999: P Lindkvist; F Enquesellassie; D Asrat; I Nilsson; Lulu Muhe; Johan Giesecke Helicobacter pylori infection in Ethiopian children: a cohort study. *Scandinavian journal of infectious diseases* 1999;31(5):475-80.

1999: Muhe L. Oxygen delivery systems. 30th World Conference of the IUATLD, Madrid, September 14-18, 1999.

1999: Muhe L. Guest editor, *Child Health Dialogue*, issue CHD 16, September 1999.

1999: Mohammed E, Muhe L, Geyid A, Dejene A, Mekonnen Y, Lemma E, Prevalence of acute

respiratory bacterial pathogens in children in Addis Ababa. Ethiop Med J 1999 (abstract).

1999: Emmelin A, Muhe L, Kebede D, Wall S. Local variation in Infant and child mortality in Butajira, Ethiopia. The XVth Scientific Conference of the International Epidemiological Association, Florence, Italy, August 1999. (Abstract).

1999: Emmelin A, Muhe L, Berhane Y, Kebede D, Wall S. Local variation in Infant and child mortality in Butajira, Ethiopia. Ethiopian Public Health Association, Xth Annual scientific conference, Addis Ababa Ethiopia, October 1999. (Abstract).

1999: Mohammed E, Muhe L, Asmelash T, Geyid A, Dejene A, Tessema T, Lemma E, et al. Occurrence of potential bacterial pathogens with acute respiratory infection in some selected sites of Ethiopia. Annual Public Health Conference, 19-20 October 1999, Addis Ababa, Ethiopia.

1999: Mohammed E, Muhe L, Asmelash T, Geyid A, Dejene A, Tessema T, Lemma E, et al. Public health risk factors and the potential bacterial pathogens with acute respiratory infection in children in Addis Ababa. Annual Public Health Conference, 19-20 October 1999, Addis Ababa, Ethiopia.

1999: Dejene A, Mohammed E, Muhe L, Asmelash T, Geyid A, Makonnen Y. Possible risk factors of ARI using unmatched case control study in the urban community of Ethiopia. Annual Public Health Conference, 19-20 October 1999, Addis Ababa, Ethiopia.

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1998: Lulu Muhe; H Degefu; Bogale Worku; B Oljira; E Kim Mulholland Comparison of nasal prongs with nasal catheters in the delivery of oxygen to children with hypoxia. Journal of tropical pediatrics 1998;44(6):365-8.

1998: F E Harrell; Peter Margolis; S Gove; K E Mason; E Kim Mulholland; D Lehmann; Lulu Muhe; Salvacion Gatchalian; H F Eichenwald. Development of a clinical prediction model for an ordinal outcome: the WHO Multicentre Study of Clinical Signs and Etiological agents of Pneumonia, Sepsis and Meningitis in Young Infants Multicentre Study Group. Statistics in medicine 1998;17(8):909-44.

1998: Lulu Muhe Pattern of resolution of tachypnoea and fever in childhood pneumonia. East African medical journal 1998;75(2):63-7.

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1998: P Lindkvist; F Enquesselassie; D Asrat; Lulu Muhe; I Nilsson; Johan Giesecke Risk factors for infection with *Helicobacter pylori*--a study of children in rural Ethiopia. *Scandinavian journal of infectious diseases* 1998;30(4):371-6.

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1997: Lulu Muhe; SileshiLulseged; K E Mason; E A Simoes Case-control study of the role of nutritional rickets in the risk of developing pneumonia in Ethiopian children. *Lancet* 1997;349(9068):1801-4.

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