

Nana A. Y. Twum-Danso, MD, MPH, FACPM

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SUMMARY:

Licensed medical doctor who is board certified in preventive medicine and public health and has 15 years of experience in global health research, strategy, policy and practice with:

- Subject matter expertise in continuous quality improvement (CQI), change management, health systems strengthening, community health, maternal, neonatal and child health (MNCH), parasitic disease control, and pharmacovigilance.
- Strong leadership and management skills.
- Excellent quantitative and qualitative analysis skills.
- Track record of training, coaching and mentoring individuals and teams for improved performance.
- Proven ability to build and nurture partnerships for program implementation, policy change, and resource mobilization at international and national levels.
- Work experience in Cameroon, Ghana, Liberia, Nigeria, Pakistan and USA.

EMPLOYMENT:

MAZA, Accra, Ghana

Founder & Chief Executive Officer *May 2015 – present*

- Lead the conceptualization, development and implementation of a start-up social enterprise providing affordable and reliable transportation for health emergencies in rural Ghana.

Bill & Melinda Gates Foundation, Seattle, WA, USA

Secondment to UNMEER & WHO/Liberia *Medical Officer* *Jan. 2015 – Apr. 2015*

- Contributed to the monitoring and improvement of restoration of safe essential health services in both public and private health facilities as the Ebola virus disease outbreak waned in Liberia, with a focus on infection prevention and control.
- Assisted the Ministry of Health of Liberia with the development and refinement of the health service delivery and community engagement components of the Investment Plan for Rebuilding a Resilient Health System.

Maternal, Neonatal and Child Health Department *Senior Program Officer* *Apr. 2012 – Jan. 2015*

- Conceptualized, designed, developed and managed a grant portfolio across the continuum of care from the community to the hospital to improve MNCH outcomes at scale in Sub-Saharan Africa (SSA). Portfolio > US \$100 million.
- Led the development and execution of a strategy to apply CQI approaches to improving intrapartum and immediate postpartum care delivery and outcomes across multiple initiatives in the MNCH department.
- Co-led a cross-departmental initiative to address structural barriers to adolescent reproductive health, nutrition and empowerment through evidence generation, strategy development and grant shaping.
- Advised internal colleagues on context-relevant strategies and project designs to better achieve large-scale behavior change and population-level impact including the development of a demand generation strategy for the Integrated Delivery team.

Institute for Healthcare Improvement, Accra, Ghana

Low- & Middle-Income Countries Program *Executive Director for Africa* *Jul. 2011 – Feb. 2012*

- Oversaw the design, implementation, and monitoring of CQI projects in Ghana, Malawi and South Africa that were focused on MNCH and HIV/AIDS.
- Provided technical, strategic and programmatic guidance to country directors on project design and implementation.
- Developed new business opportunities in Africa.

Project Fives Alive! *Director* *Feb. 2008 – Nov. 2011*

- Led a large-scale CQI project to reduce child mortality in Ghana through systems and process improvements in service delivery for MNCH in partnership with the National Catholic Health Service (NCHS) and the Ghana Health Service (GHS), the two largest health service delivery agencies of the Ministry of Health (MOH).
- Trained, coached and mentored the project's technical staff, frontline health care providers and their managers and leaders at district and regional levels in CQI methods on an ongoing basis for improved health system performance.
- Built and nurtured strategic and technical relationships with NCHS, GHS, World Health Organization (WHO), United Nations Children's Fund (UNICEF), non-governmental organizations (NGOs) and other stakeholders in MNCH and quality improvement in Ghana and other African countries.

Task Force for Global Health, Atlanta, GA, USA

Children Without Worms

Director

Mar. 2006 – Feb. 2008

- Developed and led a start-up initiative to control soil-transmitted helminth (STH) infections in young children in Africa, Asia and Latin America through regular mass deworming, hygiene education and environmental sanitation.
- Established an advisory committee of technical experts from around the world and collaborated with them to design, execute, monitor and improve the program over time.
- Built collaborative relationships with MOHs, Johnson & Johnson, UNICEF, WHO, World Food Programme (WFP), and NGOs to promote and advocate for a broad-based, multi-sectoral approach to STH control.

Mectizan® Donation Program

Associate Director

Aug. 2001 – Nov. 2006

Serious Adverse Event Research, Surveillance & Management

- Oversaw Serious Adverse Event (SAE) surveillance, data analysis, and reporting following community-based mass treatment with Mectizan for onchocerciasis control, and with Mectizan and albendazole for lymphatic filariasis (LF) elimination in 35 countries in SSA, the Middle East and Latin America.
- Provided technical support to MOHs in Cameroon and the Democratic Republic of Congo on SAE surveillance, referral and clinical management in areas that were co-endemic for onchocerciasis and loiasis.
- Designed and implemented research studies and literature reviews to answer critical operational questions for field programs, in consultation with the Mectizan Expert Committee, the program's technical advisory and policy-setting body.
- Developed policy briefs and technical guidance documents on safe administration of Mectizan for field programs in areas that were co-endemic for onchocerciasis and loiasis.

Lymphatic Filariasis Program Development, Management & Policy

- Developed and managed LF operations to ensure safe, effective and appropriate donations of Mectizan and albendazole to LF Elimination Programs in 29 countries in SSA and the Middle East for approximately 400 million people at risk of LF.
- Collaborated with MOHs, NGOs, WHO, World Bank, Merck & Co., Inc., GlaxoSmithKline, academic institutions and other partners to ensure effective implementation of LF Elimination Programs.

Harvard College, Cambridge, MA, USA

Cabot House

Premedical Advisor

Sept. 1995 – Jun. 1999

- Provided advising, coaching and counseling services to Harvard College students interested in medical careers.
- Assisted Harvard undergraduate students applying to medical school with the entire application process including personal statements, recommendation letters, mock interviews, and school selection.

CONSULTANCIES & ADVISORY COMMITTEES:

Continuous Quality Improvement & Health Systems Strengthening

International Development Research Centre

Technical Committee Member

Jul. 2014 – present

- Review implementation research proposals to improve MNCH in SSA, provide feedback to applicants, and recommend finalists for funding from the Global Health Research Initiative of the Canadian government.

World Health Organization, Service Delivery & Safety

Advisory Committee Member

Feb. 2014 – present

- Contribute technical input during the conceptualization, drafting and editing of WHO's Global Report on Safety and Quality of Health Care Services.

Institute of Medicine, Bureau of Global Health

Committee Member

Nov. 2013 – present

- Provide technical input to the Standing Committee to Support USAID's Engagement in Health Systems Strengthening in Response to the Economic Transition of Health as it evolves policies, plans and programs to assist recipient countries.
- Contribute to the conceptualization, drafting and editing of a Consensus Report to the US congress on American investment in health systems in low- and middle-income countries given the increasing economic transition in many recipient countries.

Africa Routine Immunization System Essentials

Advisor

Apr. 2010 – May 2012

- Served on External Panel of Experts for a CQI project in childhood immunization in Uganda implemented by JSI Research and Training Institute, Dartmouth Institute for Health Policy & Clinical Practice and Makerere University.

Expanded Quality Management Using Information Power

Advisor

Dec. 2010 – Nov. 2011

- Advised implementers and researchers from Karolinska Institutet and the London School of Hygiene and Tropical Medicine on the design and implementation of a CQI project in maternal and newborn health in Uganda and Tanzania.

Parasitic Disease Control & Pharmacovigilance

Wyeth/Pfizer

Consultant

Apr. 2009 – Oct. 2011

- Served on Pfizer's 3-member Drug Safety Monitoring Board for development of a new drug for mass treatment of onchocerciasis in Africa which was being undertaken in conjunction with WHO.
- Reviewed and analyzed safety data regularly to advise on continuation or stoppage of the clinical trial.

WHO Special Programme on Tropical Disease Research **Advisor** **Oct. 2008 – Sept. 2011**
 • Provided strategic and technical advice to WHO on its business line for drug development and evaluation for helminths and other neglected tropical diseases through a Scientific Advisory Committee.

National Onchocerciasis Task Force/WHO, Cameroon **Consultant** **Oct 2000 & Apr. 2002**
 • Evaluated availability, distribution and effectiveness of Information, Education and Communication materials in national onchocerciasis mass treatment program and developed strategies for improvement with key stakeholders in Cameroon.
 • Evaluated surveillance system for SAEs following mass treatment with Mectizan in southern Cameroon where onchocerciasis and loiasis are co-endemic and developed strategies for improvement of surveillance in consultation with key stakeholders within the affected communities, MOH staff at national, provincial and district levels and NGO partners.

ADJUNCT FACULTY POSITIONS:

Gillings School of Global Public Health, University of North Carolina at Chapel Hill, NC, USA

Department of Maternal and Child Health **Adjunct Assistant Professor** **Feb. 2012 – present**
 • Teach occasional sessions in courses as a guest lecturer.
 • Advise and mentor MPH and PhD students on theses and dissertations.

Emory University School of Medicine, Atlanta, GA, USA

Department of Family & Preventive Medicine **Clinical Instructor** **Oct. 2001 – Feb. 2008**
 • Taught and facilitated didactic sessions in global health for the Emory Preventive Medicine Residency Program.
 • Collaborated on hospital emergency preparedness research with the National Center for Environmental Health of the U.S. Centers for Disease Control and Prevention and Prevention in Atlanta.

PROFESSIONAL TRAINING:

Institute for Healthcare Improvement, Cambridge, MA, USA **Improvement Advisor** **Feb. 2008 – Dec. 2008**
 • Completed 10-month professional development course in the theory and practice of the science of improvement which included didactic and practical training in advanced methods, leading and facilitating change, and systems transformation.

Emory Preventive Medicine Residency Program, Atlanta, GA, USA **Medical Resident** **Aug. 1999 – Jul. 2001**
 • Completed residency training in preventive medicine and public health which entailed academic work towards an M.P.H. degree at Emory University and practicum experiences in clinical prevention and public health settings.
 • Focused public health experience in epidemiological research on SAEs in Cameroon with the Task Force for Global Health (6mths), project management, training, monitoring and evaluation in polio eradication Pakistan (3mths) and emergency preparedness in the USA and the Pacific Islands (3mths) with the US Centers for Disease Control and Prevention.

Harvard Emergency Medicine Residency Program, Boston, MA, USA **Medical Intern** **Jul. 1998 – Jun. 1999**
 • Completed internship training in emergency medicine at the Massachusetts General Hospital and Brigham & Women’s Hospital, affiliates of Harvard Medical School in Boston.
 • Provided clinical care under the supervision of attending physicians in the emergency care of adult and pediatric patients, inpatient care of adults in medical wards and intensive care units, anesthesia, orthopedics and obstetrics.

EDUCATION:

Emory University School of Public Health, Atlanta, GA, USA **Aug. 1999 – Jul. 2001**
 • M.P.H. degree in Health Policy & Management

Harvard Medical School, Boston, MA, USA **Sept. 1994 – Jun. 1998**
 • M.D. degree

Harvard College, Cambridge, MA, USA **Sept. 1990 – Jun. 1994**
 • A.B. degree in Biochemical Sciences

AWARDS & HONORS:

- Jane Rainie Opel Young Alumna Award for Outstanding Contribution to Profession 2004
- William H. & Anne E. Foege Global Health Scholarship 2000
- NBI Healthcare Foundation Humanism in Medicine Award 1998
- Harvard Public Service Work Abroad Fellowship 1993

- Harvard Committee on African Studies Research Fellowship 1993
- Ford Grant for Undergraduate Research 1992
- Harvard College Scholarship 1991, 1993 & 1994

PROFESSIONAL MEMBERSHIPS:

- International Society for Quality in Health Care 2010 – present
- American College of Preventive Medicine 2000 – present
 - Fellow since 2006
- American Society of Tropical Medicine and Hygiene 2002 – 2013

PUBLIC SERVICE – REVIEWS, BOARDS & COMMITTEES:

Peer Review for Scientific Journals

- BMJ Quality and Safety in Health Care Jun. 2014 – present
- BMC Pregnancy and Childbirth Jun. 2014 – present
- Global Health Action Mar. 2014 – present
- Global Health Science and Practice Mar. 2014 – present
- Bulletin of the World Health Organization Jun. 2013 – present

Harvard University

- **Harvard Crimson Compass**
 - Career Advisor, Medicine and Public health: Jun. 2006 - present
- **Harvard Medical School Class of 1998, 15th Reunion**
 - Member, Planning Committee: Oct. 2012 – Jun. 2013
- **Harvard Alumni Association**
 - Member, Board of Directors: Jul. 2007 – Jun. 2010
- **Harvard African Students' Alumni Network**
 - Past Chair, Board of Directors: Jan. 2007 – Dec. 2010
 - Founder, President & Chair, Board of Directors: May 2000 – Dec. 2006
 - Advisor, Philippe E. Wamba Memorial Fund for Road Traffic Safety: Apr. 2004 – Dec. 2010
- **Harvard Club of Georgia**
 - Member, Schools & Scholarships Committee: Oct. 2001 – Aug. 2005

American College of Preventive Medicine

- **Annual Preventive Medicine Conference Planning Committee**
 - Member, Global Health Track – 2006, 2014 & 2015

STATISTICAL SKILLS:

- In-depth experience in the management and analysis of epidemiological and process improvement data.
- Proficient with the following software: EpiInfo, Filemaker Pro, SAS, and SPSS, and Chartrunner.

LANGUAGE SKILLS:

- Western Languages: English – fluent; French – proficient.
- African Languages: Ga – fluent; Twi – fluent.

PUBLICATIONS: See attached.

REFERENCES: Available upon request.

PUBLICATIONS

1. Fokom-Domgue J, Pion SD, Gounoue R., Akame J, Nguipdop-Djomo P, **Twum-Danso NAY** et al. Absence of an association between *Plasmodium falciparum* infection and post-ivermectin loa-related non-neurologic serious adverse events. *American Journal of Tropical Medicine and Hygiene* 2014; 90:335-338
2. Darmstadt GL, Marchant T, Claeson M, Brown W, Morris S, Donnay F et al. A strategy for reducing maternal and newborn deaths by 2015 and beyond. *BMC Pregnancy and Childbirth* 2013, 13:216
3. Singh K, Speizer I, Handa S, Boadu RO, Atinbire S, Barker PM, **Twum-Danso NAY**. Impact evaluation of a quality improvement intervention on maternal and child health outcomes in northern Ghana: early assessment of a national scale-up project. *International Journal for Quality in Health Care* 2013; 25 (5): 477-487.
4. **Twum-Danso NAY**, Akanlu GB, Dasoberi IN, Amenga-Etego IA, Adondiwo A, Kanyoke E et al. Using quality improvement methods to test and scale-up a new early postnatal care policy in Ghana. *Health Policy and Planning* 2013:1-11
5. **Twum-Danso NAY**, Akanlu GB, Osafo E, Sodzi-Tettey S, Boadu RO, Atinbire S et al. A nationwide quality project to accelerate Ghana's progress towards Millennium Development Goal Four: design and implementation progress. *International Journal for Quality in Health Care* 2012; 24(6): 601-611.
6. Barker PM, **Twum-Danso NAY**, Provost LP. Retrospective evaluation of UNICEF's ACSD programme. *Lancet* 2010; 375: 1521.
7. Thylefors B, Alleman MM, **Twum-Danso NAY**. Operational lessons from 20 years of the Mectizan® Donation Program for the control of onchocerciasis. *Tropical Medicine and International Health* 2008; 13: 689-696.
8. Fay MP, Huang C-Y, **Twum-Danso NAY**. Monitoring rare serious adverse events from a new treatment and testing for difference from historical controls. *Clinical Trials* 2007; 4: 598-610.
9. Kamgno J, Pion SDS, Tejiokem MC, **Twum-Danso NAY**, Thylefors B, Boussinesq M. Randomized, controlled, double-blind trial with ivermectin on *Loa loa* microfilaraemia: efficacy of a low dose (~25 µg/kg) versus current standard dose (150 µg/kg). *Transactions of the Royal Society of Tropical Medicine & Hygiene* 2007; 101: 777-785.
10. Alleman MM, **Twum-Danso NAY**, Thylefors BI. The Mectizan® Donation Program – Highlights from 2005. *Filaria Journal* 2006; 5: 11.
11. Gyapong JO, **Twum-Danso NAY**. Global elimination of lymphatic filariasis: fact or fantasy? *Tropical Medicine and International Health* 2006; 11: 125-128.
12. Malecela-Lazaro M, **Twum-Danso N**. Towards a strategic plan for research to support the global program to eliminate lymphatic filariasis. Summary of immediate needs and opportunities for research on lymphatic filariasis. 2.4 Program implementation. *American Journal of Tropical Medicine and Hygiene* 2004; 71(5 Suppl): 16-19.
13. **Twum-Danso NAY**. Mass treatment of onchocerciasis with ivermectin: should people with epilepsy and/or growth-retardation syndromes be excluded? *Annals of Tropical Medicine and Parasitology* 2004; 98: 99-114.
14. **Twum-Danso NAY**, Meredith SEO. Variation in incidence of serious adverse events after onchocerciasis treatment with ivermectin in areas of Cameroon co-endemic for loiasis. *Tropical Medicine and International Health* 2003; 8: 820-831.
15. **Twum-Danso NAY**. Serious adverse events following treatment with ivermectin for onchocerciasis control: a review of reported cases. *Filaria Journal* 2003; 2(Suppl 1): S3.
16. **Twum-Danso NAY**. *Loa loa* encephalopathy temporally related to ivermectin administration reported from onchocerciasis mass treatment programs from 1989 to 2001: implications for the future. *Filaria Journal* 2003; 2(Suppl 1): S7.
17. Addiss D, Rheingans R, **Twum-Danso NAY**, Richards FR. A framework for decision-making for mass distribution of Mectizan® in areas endemic for *Loa loa*. *Filaria Journal* 2003; 2(Suppl 1): S9.
18. Keim ME, Pesik N, **Twum-Danso NAY**. Lack of hospital preparedness for chemical terrorism in a major U.S. city: 1996-2000. *Prehospital and Disaster Medicine* 2003; 18: 193-199.
19. **Twum-Danso NY**. Disaster epidemiology: prudent public health practice in the Pacific Islands. *Pacific Health Dialog* 2002; 9: 58-63.
20. Collins JJ, Geake J, Grier HE, Houck CS, Thaler HT, Weinstein HJ, **Twum-Danso NY**, Berde CB. Patient-controlled analgesia for mucositis pain in children: a three-period crossover study comparing morphine and hydromorphone. *Journal of Pediatrics* 1996; 129: 722-728.