

**Grant Number:** U2RTW006879

**Project Title:** Uganda HIV/TB COHRE Training Program

**Name of Grantee Organization:**

Joint Clinical Research Centre (JCRC)  
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**Project Period:** 06/28/2004 – 03/31/2015

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**FINAL PROGRESS REPORT**

## **I. Final Technical Progress Report**

### **A: Summary of the progress towards the originally stated aims.**

The goal of Uganda HIV/TB Clinical Operational and Health Services Research (COHRE) Training Program is to strengthen national capacity to address the public health and scientific challenges of the evolving HIV and TB epidemic in Uganda through conducting training, mentoring upcoming scientists and operationalizing research findings. The program also aimed at strengthening collaboration between HIV and TB control programs as well as collaboration between these programs and academic/research institutions with the view of promoting HIV/TB co-infection prevention, care and treatment. COHRE represents a successful collaboration between the following institutions: Joint Clinical Research Center (JCRC), Makerere, Mbarara, Gulu Universities of Uganda, Kampala Capital City Authority (KCCA), National TB and Leprosy Program (NTLP), Uganda Ministry of Health in Uganda grant No. U2RTW006879 and Case Western Reserve University (CWRU) USA and University of Georgia in USA grant No. TW006900. Prof Peter Mugenyi (Executive Director, JCRC) is the Principal Investigator (PI) in Uganda and Prof. Chris Whalen (University of Georgia) the PI in USA.

During the past ten years (2004 -2014), collaborating institutions implemented a coherent and integrated training program that has promoted the scientific leadership in HIV and TB control. As described in this Progress Report, this successful program has met very important milestones to create a sustainable and internally relevant capacity in operational and health services research. The program had 4 (four) major objectives. A summary of progress towards fulfillment of each of the four specific objectives is provided here below:

#### **i). To strengthen the research training capacity and infrastructure of the collaborative institutions in Uganda.**

In order to strengthen the research training capacity at collaborating institutions in Uganda, COHRE HIV/TB program managed to create a critical mass of scientists for clinical, operational and health services in Uganda. The program offered scholarships to a total of 49 Masters Degree Students, 04 PhD students and 3 HIV/TB fellowships. Out of the 49 Masters' students, there were only 2 Students who did not successfully complete their studies because of indiscipline cases and were expelled by their respective universities. Their sponsorship was terminated as per COHRE Students terms of reference. One PhD student at Makerere University could not complete his studies due to ill-health. Therefore, the completion rate (for fellowship, masters and PhD combined) under normal University progress was 96.14%. This is a great achievement for partner institutions and faculty members but also at national level. All long-term trainees (n=56) conducted their research projects in the area of HIV and or TB.

In order to support research infrastructure at collaborating institutions (Makerere, Mbarara, and Gulu Universities), COHRE supported internet connectivity for students and faculty throughout the ten years period. The program also strengthened research and grants offices at those institutions through: training selected personnel, providing desk top computers and supporting review of respective institutional research policies. In addition, research investigators, administrators and other scientists at these institutions were trained in pre-and post-award management, grants writing and awards management, scientific writing and publication, fiscal accountability and reporting requirements for the National Institutes of Health (NIH) and other international funding agencies in general. All the institutions were registered in grants.gov. and can electronically apply for federal funds.

#### **ii). To promote the culture of mentorship of independent upcoming health scientists.**

The COHRE program promoted the culture of mentorship for upcoming health scientists from various disciplines in Uganda. This was done through short term trainings on Mentorship targeting both mentors and mentees. Participants for mentorship training workshops included; Lecturers, Graduate students, Researchers, Principal Investigators and in-service multi-discipline personnel at both public/private research and academic institutions in Uganda. The COHRE-supported students benefited from assigned primary mentors, peer mentorship and joint mentorship provided by senior scientist including COHRE faculty members during joint meeting between mentors and trainees on the program. The COHRE program faculty demonstrated commitment to promoting mentorship in Africa by writing and publishing the "Mentors' Manual for Health Sciences Training in Africa" ISBN 978-9970-02-792-7. The editors for this manual are Professor Peter Mugenyi (Executive Director of JCRC/COHRE PI) and

Professor Nelson Sewankambo (Principal of Makerere University College of Health Sciences). The manual describes and encourages mentor/mentee behaviors and procedures that are mutually beneficial to parties in the mentoring relationship. The manual is based on the experience of the COHRE training program in Uganda and USA and it targets health sciences trainers, lecturers and up to professors at universities, and students of health sciences up to PhD level. To access the manual, please paste the following link in internet explorer and browse: <http://jcrc.org.ug/publications/mentors%E2%80%99-manual-health-sciences-training-africa>. Each trainee on COHRE was involved in selecting a mentor, who in most cases is COHRE faculty member. When the mentor accepts to be paired with the mentee he /she is then appointed officially by the program director. In addition to one-one mentorship, the program encouraged peer mentorship by bringing students together for a one day presentation, discussions and sharing experiences. The program also organized a one day mentor/mentee joint meeting twice in a year. At this meeting all mentees/mentors from the program come together for group discussion, mentorship and continued networking following a specific program based on identified priorities of the trainees. During the meeting, mentor(s) provides guidance, specialized skills, knowledge and all desired support in a manner that allow the mentee to willingly receive and benefit from the relationship. This mentors manual attempts to explain the importance of mentorship and summarizes processes that are common to successful mentoring relationships. Although the manual is based on health science training, many of the ideas and processes therein are very important to mentors in various professions. The manual has been disseminated widely; it is found on websites of JCRC and fountain publishers, Uganda. It is also used as a training material for various programs and annual conferences for various associations in Africa such as: The Association of Research Administrators in Africa (ARAA); Uganda Society for Health Scientists (founded by Forgarty alumni in Uganda), Medical Education Partnership Initiative (MEPI), National Institute of Health and Human Development (NICHD) funded by International Extramural Associates Research Development Awards (IEARDA) in Sub-Saharan Africa including 3 in Uganda, 2 in Kenya and 2 in Tanzania among other FIC/NIH supported programs in Africa. The manual was also disseminated to over 140 people who are on the JCRC IEARDA/COHRE list-serve. The manual is also used by the Makerere University Wellcome Trust funded program Training Health Researchers Into Vocational Excellence in East Africa (THRIVE), individual scientists and several research/academic institutions in Uganda/Africa through different networks. Feedback from users indicates that the manual provides a good benchmark guide upon which mentors/mentees can build creatively in order to realize a successful mentorship relationship.

**iii). To strengthen the capacity to translate research findings on HIV and TB infections into health policy and practice, thereby ensuring that evidence-based interventions are implemented in an efficient and sustainable manner.**

This objective was achieved through short-term trainings, conducting research and providing mentorship. The program has participated in policy formulation in the area of HIV and TB in Uganda. This was fulfilled through the External Quality Assessment (EQA) TB microscopy short-term trainings and on site support supervision, research and training on HIV/TB collaborative activities, onsite laboratory support supervision working in partnership with the National TB Leprosy Program (NTLP) and the Uganda Ministry of Health, contributed to translating research findings into practice later on to policy formulation. In collaboration with NTLP and Uganda Ministry of Health (MoH), the program supported the development of national training manuals on External Quality Assessment (EQA) TB microscopy and training health workers on HIV/TB collaborative activities in Uganda. Over the years, these have been used by the MoH, NTLP, Medical Research Council (MRC) -Uganda, the Union (TB intervention), Districts Health Services training and personnel in Uganda and Stop TB programs. This helped to ensure that evidence-based interventions are implemented in an efficient and sustainable manner. Several Ugandans (n=175) benefited from short term trainings on "Translation of research findings into practice and policy". This training has equipped trainees with skills and knowledge to translate research findings into practice and to ensure that evidence-based interventions are implemented in an efficient and sustainable manner.

**iv). To strengthen the national capacity to address HIV/TB challenges and collaboration between HIV and TB control programs as well as collaboration between academic and research institutions with the view of promoting HIV/TB infection, prevention, care and treatment.**

In order to harmonize the program activities with different partners, COHRE program faculty adopted joint planning meetings where by collaborators were involved in developing the annual activity plans and timelines including key personnel responsible for particular activities. All key partner institutions and the national HIV/TB

programs managers were always attended these joint consensus building meetings. The activity plan was always approved by the representative of respective programs with key personnel responsible for leading specific activities. There was joint planning, joint mentorships and publication of research findings. In order to strengthen the national capacity to conduct integrated clinical, operations and health services and to address the public health and scientific challenges of the evolving HIV and TB epidemic in Uganda, COHRE program implemented an inter-disciplinary training in graduate degree (Masters and PhD). The program developed the Masters in Health Services Research training among other graduate programs established at Makerere, Gulu and Mbarara Universities in Uganda. The program implemented non-degree (short-term and intermediate term) courses in Uganda as well as in U.S institutions (Case Western Reserve University and University of Georgia USA), in specialties relevant to HIV/TB prevention and management (such as epidemiology, health services research, implementation science, health policy and management, health promotion, public health and clinical specialties). This goal was achieved and exceeded the earlier on proposed number of trainees. The long term trainees were provided with: mentorship, tuition, stipend, scholastic materials, internet, laptop, networking, research funds, travel to attend conferences and relevant short courses in and outside Uganda. Research training for long term trainees on the program was linked with the ongoing training and research projects of the collaborating institutions in Uganda and the USA. Below is a short description of each of the long-term trainees:

## **1. Long Term, Degree Training in Uganda**

### **A). Brief on each of the Long term trainee supported at Masters, PhD and Fellowship**

**1. Rogers Sekabira** is a pharmacist (B.Pharm, 2004, Makerere University) who successfully completed a Masters degree in Health Services Research (MHSR) at Makerere University School of Public Health in 2010. He is one of the MHSR program's first cohort who was awarded a full sponsorship in 2008 under the US-ICOHRTA training grant. He developed two manuscripts resulting from his Master's research thesis; one of which is "*Determinants of Health-Related Quality of Life among Adults in Routine HIV Care, Kampala-Uganda*" has been accepted by OMICS group for publication. In 2014, Baylor Uganda where he had been working for the last three years became a Clinical Research Site (CRS) for the John Hopkins Kampala Clinical Trials Unit which is part of the International Maternal Pediatric Adolescent AIDS clinical Trials (IMPAACT) group. Mr. Sekabira was appointed as the Pharmacist of Record to spearhead the establishment of a research pharmacy for the Baylor Uganda CRS. In his program work, Mr. Sekabira has proven expertise in implementation, coordination and managing logistics of multi-year donor programs and managing teams in wide range of areas, including; maternal and child health, comprehensive HIV/AIDS care and treatment, safe male circumcision and reproductive health. Undertaking roles such as building teams of trainer of trainers in logistics supply chain, coordination of shipments from donors in the US to beneficiaries in Africa and supporting these teams to better manage these medical commodities and providing accountability to the donors, Mr. Sekabira continues to look for opportunities to advance his career in research, as well as executing his day-to-day activities and responsibilities at Baylor College of Medicine in Uganda.

**2. Kemigisha Elizabeth** started her M.Med in Paediatrics and Child health in August 2011 at Mbarara University of Science and Technology (MUST). She was awarded a COHRE full scholarship (2011-2014). Elizabeth graduated with a Masters degree in Paediatrics and Child health in January 2015. The title of her dissertation that she did in partial fulfilment of her Masters program was "*Factors associated with tuberculosis among children admitted with severe malnutrition at Mbarara Regional Referral Hospital*". She was supported by COHRE and presented her work at the "Consortium of Universities for Global Health conference in March 26-28<sup>th</sup> 2015, Boston, USA .Her published abstract for the conference was titled "E Kemigisha, V Katawera, J Mwanga "Prevalence and clinical predictors of TB among severely malnourished Ugandan Children", Global Health, 2015 Abstract # 01CD011". This work was also presented at the Global Forum for TB vaccines that was held 21-24<sup>th</sup> April 2015, in Shanghai, China sponsored by TREAT TB Initiatives. Elizabeth is currently working as principal investigator on a project titled "improving diagnostics in TB in children using urine LAM point of care test" at Epicentre Mbarara Research Base and as a doctor at Mbarara Regional Referral hospital. She is working with her mentor on the manuscript from her Master's dissertation for publication.

**3. Kalema Nelson** started his M.Med in Internal Medicine in August 2011 and was awarded COHRE scholarship in 2011. In May 2011, he gave an oral presentation on: "Oral antimicrobial rinse reduces Mycobacterial culture contamination among TB suspects in Uganda" at the American Thoracic Society (ATS) conference. He later

developed the presentation into a paper that was published with him as first author in the PLoS journal in 2012. He also attended the summer Epidemiology summer courses at University of California, Berkeley, June-August 2012. In 2013 he was Professor in Residence (PIR) coordinator for the Infectious Diseases Institute (IDI) Kampala and also participated in the 2013 “Micro-research workshop” held at IDI. Nelson and his team made a presentation titled: Factors affecting adherence to HAART among Adolescents attending semi-urban ART provision centres.” The title of his M.MeD dissertation which he completed in partial fulfillment of his degree program was “*Prevalence of late Pulmonary TB recurrence Rifampicin resistance and 60-day survival among previously- treated TB suspects admitted at Mulago Hospital*”. He graduated in January 2015. He is currently working as lecturer at the Department of Medicine, Medical School Makerere University College of Health Sciences.

**4. Robert Harrison Sekimpi** is a senior medical officer who earned his MBChB in 2004 at China Medical University. He was awarded a COHRE scholarship in 2011. He successfully completed his Master’s degree in Public Health (MPH) at Mbarara University of Science and Technology in 2014. The title of his dissertation which he did in partial fulfillment of his graduate program was “*Incidence Rate And Risk Factors For Pulmonary Tuberculosis Diagnosis In Human Immunodeficiency Virus Clients Attending Immuno-Suppression Syndrome Clinic at Mbarara Regional Referral Hospital*”. During his Masters degree course, Robert also attended the following short training certificate courses organized by COHRE Training Program: Grants writing and Awards management, Scientific writing and publication, Monitoring and Evaluation of HIV programs, Bio Ethics and Good clinical practice, Implementation Research and mentorship. From his dissertation, Robert wrote and submitted an abstract to 15<sup>th</sup> Uganda Society of Health Scientists conference 2014, which was accepted and he made an oral presentation. Currently, Robert is working at Kinoni health centre IV, Mbarara District as the health centre incharge.

**5. Nabaggala Catherine** started her Master of Medicine in Pediatrics and Child Health in August 2009 at Makerere University College of Health Sciences, Department of Paediatrics and Child Health. She was awarded COHRE Scholarship in 2009. She successfully completed her three year MMed Pediatrics degree under normal University progress and graduated on 22<sup>nd</sup> January 2013. The title of her research dissertation that she did in partial fulfillment of her MMed pediatrics is: “*Association between maternal HIV infection and low birth weight at Mulago Hospital*”. Catherine is currently a Senior House Officer at Makerere University College of Health Sciences, Department of Paediatrics where she is involved in conducting ward rounds, working at outpatient clinics and management of Paediatric emergencies at Acute Care Unit.

**6. Ssengooba Willy** earned a Bachelor’s degree in Biomedical Laboratory Science in 2004 from Makerere University. He was awarded a COHRE scholarship in 2008 to pursue a Masters degree in Health Services Research (MHSR) at Makerere University School of Public Health. He completed his MHSR degree and graduated top of his class on 16<sup>th</sup> January 2012. The title of his dissertation which he did in partial fulfillment of his MHSR program is “*Optimal number of samples required to diagnose tuberculosis by sputum culture among HIV infected smear negative suspects in Kampala, Uganda*”. As a result of good performance, Willy got support from other funding agencies to offer practicum in Austria. In January 2012, after a practical course in Austria, he was awarded a Diploma in Clinical Research Associates (CRA)/Monitors from Vienna School of Clinical Research - Austria. His publication title is “*Incremental yield of serial sputum cultures for diagnosis of tuberculosis among HIV infected smear negative pulmonary TB suspects in Kampala, Uganda*” PMID: PMC3358271. Currently, Willy participates in training under graduate students in various laboratory course units in the Department of Medical Microbiology Makerere University College of Health Sciences. He has several research topical areas of interest and has high hopes to pursue a PhD in the near future as soon as funds become available.

**7. Sebunya Robert MBChB** started his MMed in paediatric and Child Health at Makerere University College of Health Sciences in August 2009. He was registered under the Faculty of Medicine, Department of Pediatric and Child Health. He was awarded COHRE scholarship in 2009. Among the courses that Robert did during his Masters degree include: Social paediatrics, pulmonologist, nephrology and clinical practices. Robert attended the nephrology conference and Emergency Triage and Assessment Training (ETAT) from 23<sup>rd</sup> to 25<sup>th</sup> January 2012. Robert successfully completed his three year MMed degree under normal University progress and graduated on 22<sup>nd</sup> January 2013. The title of his research dissertation which he did in partial fulfillment of his M.Med is:

"Incidence and factors associated with first line antiretroviral treatment failure in children attending the JCRC Kampala, Uganda". From his dissertation, he made a publication titled: "Incidence and risk factors for first line antiretroviral treatment failure among children attending an urban HIV clinic".

<http://www.ncbi.nlm.nih.gov/pubmed/24215971> PMID:24215971. Robert is currently working at Nsambya hospital Kampala as a pediatrician.

**8. Dr. Davis Kibirige** MBChB (MUK), MMed-Internal Medicine (MUK). He started his M.Med in Internal Medicine in August 2009 and was awarded the COHRE full scholarship. He completed his MMed- Internal Medicine degree and graduated on 22<sup>nd</sup> January 2013 under normal University progress. The title of the dissertation which he did in partial fulfillment of his M.Med Internal Medicine program is "Prevalence and factors associated with vitamin D deficiency among adults patients with Tuberculosis admitted on the Pulmonology wards of Mulago hospital". From his dissertation, Davis wrote and published two Manuscripts namely: (i). *Vitamin D deficiency among hospitalized Ugandan tuberculosis patients: a cross sectional study (published in BMC Pulmonary Medicine journal* <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4594645/> PMID: PMC4594645. (ii). *Overt diabetes mellitus among newly diagnosed Ugandan tuberculosis patients: a cross sectional study.* Published in BMC Infectious disease <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3599954/> PMID: PMC3599954. <http://www.ncbi.nlm.nih.gov/pubmed/24593933> PMID: PMC3974012. He is currently the acting Head of department of Medicine and a specialist physician at Uganda Martyrs Hospital, Rubaga Kampala. His roles at the Uganda Martyrs Hospital include: participating in daily ward rounds, supervising and teaching intern doctors, nurses and other trainees attached to medical units. He participates in the review and monitoring of patients at the hospital's daily outpatient HIV/ART clinic. He is in the process of implementing a screening program for NCDs- Diabetes Mellitus; Hypertension and Cardiovascular diseases among all HIV infected patients attending the HIV/ART clinic and those admitted on Uganda Martyrs Hospital medical unit. His aspiration with prospective funding is to undertake a PhD study on vitamin D profile among HIV infected patients, associated vitamin D receptor polymorphisms and the correlation of vitamin D levels and cardiovascular disease using specific surrogates like carotid intimal media thickness and ankle brachial index.

**9. Kusiima Joy** received her degree of Bachelor of Medicine and Surgery (MBChB) in November 2003 at Makerere University. She started her Masters in Health Service Research (MHSR) in August 2011 at Makerere University School of Public Health under COHRE sponsorship. The title of the dissertation which she did in partial fulfillment of her MHSR program is "Determinants of health related quality of life in smear positive and smear negative adult tuberculosis patients in Kampala, Uganda". She graduated in January 2014. After completing her MHSR degree, she won a travel award to attend a one-month course on HIV and emerging epidemics at the University of Georgia which she successfully completed in June 2014. In November 2014, Joy was competitively recruited as a deputy programme manager for the Lake Kyoga fishing community project, a project under Makerere School of Public Health where she worked for six months. After the six months, she was promoted to project manager for the "Enhanced surveillance project" under the Makerere School of Public Health where she is working to date.

**10. Ninsiima Emily** received her degree of Bachelors of Medical Laboratory Sciences of Mbarara University of Science and Technology (MUST) in 2005. Emily started her Master's in Public Health (MPH) in August 2009 sponsored by COHRE training program. She was registered under Mbarara University of Science and Technology, Department of Medicine. The title of her research dissertation which she did in partial fulfillment of her degree program was "Predictors of time to failure on first -line antiretroviral therapy among HIV-infected adults at a large urban HIV clinic in Mbarara, South-Western Uganda". She pursued her MPH and successfully completed the course under normal university progress. She was among the postgraduate students who graduated on the 28<sup>th</sup> of January 2012 at MUST. She presented her paper titled "Predictors of time to failure on first -line antiretroviral therapy among HIV-infected adults at a large urban HIV clinic in Mbarara, South-Western Uganda" during the Joint Scientific conference of Uganda Medical Laboratory Association (UMLTA) and Federation of East African Associations of Medical Laboratory Scientists (FEAMLS), March 2013 in Mbale-Uganda. After her degree program, she was promoted and is currently working as head Laboratory of the JCRC Regional Centre of Excellence in Mbarara, Western Uganda.

**11. Drasiku Amos** received COHRE scholarship in 2008 to pursue a Masters in Health Services Research (MHSR) at Makerere University School of Public Health. The MHSR is a two year program which was developed by COHRE training program and Amos was one of the four MHSR pioneer students who were sponsored by COHRE out of a total of 11 who were admitted on the program. Amos successfully fulfilled all the requirements for MHSR degree of Makerere University and graduated in January 2011. Amos's research topic for his dissertation in partial fulfillment of his MHSR degree is: "*Acceptability and Satisfaction of Male Partner with Antenatal Clinic-Based HIV Testing for PMTCT at Old-Mulago Hospital, Uganda*". He wrote a manuscript out of his dissertation and submitted it to Health Services Research journal but it was not considered for publication. In the year 2012 Amos attended training workshop on Training of Trainers in Responsible Conduct of Research which was organized by COHRE training program. From May 2012 to present, Amos has been working as a Clinical Trial Coordinator at JCRC on a project titled "Children with HIV in Africa, Pharmacokinetics, and Adherence/Acceptability of Simple Anti retroviral regimens" (CHAPAS-3 trial) funded by European Developing Countries Clinical Trial Partnership (EDCTP).

**12. Doris Kwesiga** completed her undergraduate degree in Social Work and Social Administration (SWASA) at Makerere University in 2004. She started her Master of Health Services Research (MHSR) degree at Makerere University in February 2008 as one of the pioneers. The MHSR graduate program was established at Makerere University with support from COHRE. She was one of the MHSR program's first cohort who was awarded a ICOHRTA full sponsorship in 2008. Doris completed her MHSR degree in 2010 and graduated in January 2011. Her dissertation which she did in partial fulfillment of her MHSR is titled: "*A comparative analysis of client satisfaction among people receiving HIV/AIDS care from public and private health facilities in Kabale district*". She worked as a researcher at Makerere University Child Health and Development Centre from May 2010 until February 2011. Since March 2011 to present, she is working as Assistant Lecturer Masters in Health Services Research (MHSR) program at the Department of Epidemiology and Biostatistics, Makerere University School of Public Health.

**13. Mugerwa Henry** is a medical doctor (MChB). He registered for his Masters of Science in Clinical Epidemiology and Biostatistics (Msc. CEB) at Makerere University College of Health Sciences in August 2009. He successfully completed the course under normal university progress. The title of the dissertation which he completed in partial fulfillment of his degree program was "*Prevalence and Associated Factors of Tuberculosis Infection among Medical and Veterinary Undergraduate Students at Makerere University Kampala*". He graduated on the 16<sup>th</sup> January 2012 with a Masters of Science degree in Clinical Epidemiology and Biostatistics. From his dissertation, he wrote his manuscript titled: "*High Prevalence of tuberculosis infection among medical students in Makerere University, Kampala: Results of a cross sectional study*". His draft manuscript was extensively discussed during the Publication and manuscript writing retreat organized by COHRE. The retreat took place in 2012 at Jinja Uganda. The manuscript was later published in the Journal of Public Health. See link: [http://www.archpublichealth.com/imedia/1430463361849500\\_article.pdf](http://www.archpublichealth.com/imedia/1430463361849500_article.pdf). <http://www.ncbi.nlm.nih.gov/pubmed/23601111>. PMID 23601111. He is the Director for Research and Grants at JCRC, since November 2012 to present. At JCRC he is also the site leader of a multicenter open-label randomized clinical trial project called "Strategic Timing of Antiretroviral Therapy (START)".

**14. Okiira Christopher** started his Masters in Health Service Research at Makerere University School (MHSR) of Public Health in 2009 under COHRE sponsorship. Before enrolling for MHSR, he was working with the AIDS Control Program, Uganda Ministry of Health (2005 to 2007) as one of the national HIV counseling and testing trainer. He developed and conducted his master's research dissertation titled "*Quality of HIV Counseling and Testing Services Provided by Private Health Facilities in Soroti District*". He graduated with MHSR on the 16<sup>th</sup> January 2012. From his dissertation he submitted an abstract entitled "*Quality of HIV Counseling and Testing Services in Private Health Facilities Soroti District, Uganda*" and he presented it at the 4th Annual East Africa Health and Scientific Conference & International Health Exhibition and Trade Fair at Serena Hotel Kigali Rwanda from March 27<sup>th</sup> to March 29<sup>th</sup> 2013. Currently, Christopher is volunteering with Uganda Ministry of Health, department of AIDS Control Program. He has ambitions of pursuing a PhD if he gets funding.

**15. Zalwango Vivian Winifred** graduated with a Bachelors of Arts (Social Sciences) in 2006 from Makerere University. She started her Masters degree in Health Services Research (MHSR) in February 2008 at Makerere

University School of Public Health. Vivian was one of the pioneers of MHSR who was awarded COHRE mentored research scholarship. She successfully completed the program and graduated in January 2011. The topic for her dissertation in partial fulfillment of her MHSR was: “*Disclosure of HIV Sero status and contraceptive utilization among HIV positive women at AIDS Information Center (AIC) Kampala*”. Vivian is currently employed as a data manager by School of Public Health College of Health Sciences. She is stationed at Kasangati community outreach center for Makerere University School of Public Health School since February 2011. She is working on the Family Health and Wealth study funded by Melinda Gates Foundation.

**16. Alice Bajwaha** attained her degree of Bachelor of Social Work and Social Administration (SWAS) in 2004 at Uganda Christian University. She started her Masters in Health Services Research (MHSR) in February 2008. She was awarded CHORE/ICOHRTA full scholarship in 2008. Her research is titled “*Intensified case finding for Tuberculosis among patients with Human Immune virus in Kasese District*”. She slightly lagged behind normal university progress but received special support from COHRE faculty members and peer mentorship. She received her degree of MHSR in January 2014. Since 2010, Alice is working at a health centre III under Kasese district. When she completed her degree program, she was promoted and is now the overall administrator of health centre III with Kasese district and her duties are ranging from administration to managing patients at the centre.

**17. Helen Koyokoyo Buteme** earned her BSc in Biochemistry in 2002 at Makerere University and an MSc in Molecular Biology in 2005 at the same University. She got COHRE scholarship and started her HIV/TB immunology fellowship in June 2007 based at the Joint Clinical Research Centre. Helen was attached to the JCRC-Case Western Reserve University (CWRU) Immunology laboratory and while there, she was the laboratory contact for the TU Study that aims to characterize the T cell response to MTB antigens in children with localized or disseminated TB. Helen was also attached to a Gates Grand Challenge Study, that sought to identify differences in the immune response between people exposed to TB yet were not infected and those who were infected and developed TB. Helen completed her COHRE HIV/TB fellowship in June 2009 but continues to be mentored by COHRE faculty members. Using the laboratory techniques learned and writing skills developed during her COHRE fellowship, Helen has co-authored a publication on “Lipoarabinomannan, and its related glycolipids, induce divergent and opposing immune responses to Mycobacterium tuberculosis depending on structural diversity and experimental variations. <http://www.ncbi.nlm.nih.gov/pubmed/26586646> PMID: 26586646 (PubMed - in process). She is currently and PhD candidate at Makerere University College of Health Sciences.

**18. Opila Otun Isaac** was awarded his Bachelor of Dental Surgery (BChD) in 2001 at Makerere University and did his internship at Mulago National Referral Hospital in the year 2002. He enrolled for a Masters in Health Services Research (MHSR) at Makerere University School of Public Health in 2009. He was competitively awarded COHRE scholarship to pursue his Masters degree. The title of the dissertation that he did in partial fulfillment of his degree was “*Clients’ perceptions of the quality of Provider-Initiated HIV Testing and Counseling (PITC) in Kayunga district*”. He graduated on 16<sup>th</sup> January 2012. Since January 2012 to present, Isaac is working with Kayunga local government as a dental surgeon at Kayunga District referral hospital.

**19. Kabanda Joseph** earned his MBChB in the year 2002 from Makerere University Medical School in 2002. He did his internship training at Rubaga Hospital Kampala. From September 2004 to October 2011, he was working as a research physician on different research protocols conducted at the Joint Clinical Research Centre (JCRC). He worked as the lead physician for the ACTG Protocol-5207 at JCRC from May 2007 to October 2011. In the year 2007 Joseph enrolled for his Masters in Public Health (MPH) at Makerere University School of Public Health. He was awarded COHRE mentored research scholarship in April 2009 to conduct his research and wrote a dissertation for partial fulfillment of the award of the MPH. The title of his dissertation was: “*Investigating the Physical and Psycho-social effects of Lipodystrophy syndrome among HIV positive individuals on HAART at Joint Clinical Research Centre*”. He successfully completed his Masters of Public Health and graduated on 16<sup>th</sup> January 2012 at Makerere University. He is currently working as the HIV Care and Treatment specialist/Technical management agent at the Centre for Diseases Control (CDC) in Uganda.

**20. Kateete David Patrick** (PhD Makerere University, completed) was awarded COHRE Scholarship in 2006 to pursue his PhD at Makerere University. While pursuing his PhD, Kateete continued to work as an Assistant



Lecturer in the Department of Medical Microbiology, Makerere University. Kateete submitted his thesis titled “*Functional Characterization of rhomboid homologues in mycobacteria*” to the graduate school for examination which he passed and was awarded his PhD. From his PhD, David discovered novel genes called ‘*rhomboids*’ that are hotspots for multi-drug resistant tuberculosis (TB). Currently, Kateete is an international scholar at the University of Georgia (UGA), USA, acquiring skills in bioinformatics of *Mycobacterium tuberculosis* from HIV-associated pulmonary TB in Uganda. He is under the supervision of Prof. Chris Whalen (COHRE PI based at UGA) and Prof. Moses Joloba (COHRE Faculty member and head of Microbiology Makerere University).

Publications: 1) Rhomboids of Mycobacteria: characterization using an *aarA* mutant of *Providencia stuartii* and gene deletion in *Mycobacterium smegmatis*. <http://www.ncbi.nlm.nih.gov/pubmed/23029216> PMID: PMC3448690 2) Rhomboid homologs in mycobacteria: insights from phylogeny and genomic analysis. <http://www.ncbi.nlm.nih.gov/pubmed/21029479> PMID: PMC2989971.

**21. Okwera Alphonse** MBChB, received COHRE scholarship in 2007, to pursue his PhD in Microbiology at Makerere University department of Internal medicine. His PhD proposal is titled: “*Prevalence of Pneumocystis jirovecii pneumonia and bacterial co-morbidity in AFB sputum smear negative recurrent pulmonary tuberculosis in HIV positive adults in Mulago national referral Hospital*”. Alphonse completed enrolling participants for his study in March 2011 and started on data analysis. In March 2012, he wrote an abstract titled: “*Frequent detection of Pneumocystis jirovecii among smear negative suspected recurrent PTB in HIV infected adults in Mulago Hospital, Kampala*” out of his PhD work. He presented it during the 3<sup>rd</sup> East African TB Consortium Meeting held in Dar-es-Salaam, 2012. He was working on two more manuscripts in addition to “*Level of understanding of co-trimoxazole use among HIV-infected suspected recurrent PTB adults in a large referral TB clinic in Kampala, Uganda: A qualitative prospective study*” but could not complete the manuscripts due to ill-health. He was one of the COHRE students’ participants that attended the three days manuscript writing and publication workshop that was organized by COHRE on November 14<sup>th</sup> to November 16<sup>th</sup> 2012 at Nile Hotel, Jinja Uganda. He is currently bed ridden and there is least hope that he will complete his PhD program.

**22. Muyanja Daniel** received his degree of Bachelors of Medicine and Surgery (MBChB) in October 2001 from Makerere University Kampala. He did his internship at Mbarara Regional Referral Hospital (MRRH) Mbarara District Western Uganda. Daniel started his Masters of Medicine (M.Med) in Internal Medicine at Mbarara University of Science and Technology (MUST) in August 2011 and was awarded COHRE scholarship. Daniel successfully completed his Masters of Medicine (M.Med) in Internal Medicine at (MUST) in August 2014. The title of his dissertation which he did in partial fulfillment of his M.Med was “*Dyslipidemia in patients on first line antiretroviral regimens at Mbarara regional referral hospital immune suppression clinic: a cross-sectional comparative study*”. From his thesis, Daniel developed a manuscript titled: “*High prevalence of metabolic syndrome and cardiovascular disease risk among people with HIV on stable ART in Southwestern Uganda*”. The manuscript was submitted to the AIDS patient care and STIs Journal. High Prevalence of Metabolic Syndrome and Cardiovascular Disease Risk Among People with HIV on Stable ART in Southwestern Uganda.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=muyanja+daniel> PMID: PMC4717524. He is currently employed as a clinical lecturer in the department of Internal Medicine at MUST. He is also currently involved in ongoing clinical research in respiratory medicine with a focus on environmental lung health in collaboration with scientists from the Massachusetts General Hospital.

**23. Ingabire Prossie Merab** graduated with a Bachelor of Medicine and Bachelor of Surgery (MBChB) in October, 2006 at the College of Health Sciences, Makerere University. She did her internship for one year at St. Francis Hospital, Nsambya, She was recruited in the same hospital and continued to work as a medical officer. At Nsambya Hospital, she had an opportunity of working in the HIV/AIDS clinic supported by JCRC TREAT programme in collaboration with and Ministry of Health, Uganda for three years. This enhanced her interest in infectious diseases and clinical research. She completed a short course in Applied Clinical Research and Evidence Based Medicine (ACREM) organized by the Infectious Diseases Network for Treatment and Research in Africa (INTERACT). This was implemented in collaboration with Infectious Diseases Institute (IDI) Makerere University. In 2013 she received COHRE mentored research support and she completed her Masters of Medicine (MMed) in Internal Medicine at Makerere University College of health sciences. The title of her dissertation that she did in partial fulfillment of her MMed was “*Predictors for delayed initiation of antiretroviral therapy in HIV infected patients admitted in Mulago hospital*”. She completed her MMed program and graduated in August 2013.

**24. Ekwaro A. Obuku** attained his MBChB at Makerere University in 2003. He was also awarded MSc. Clinical Trials University of London, London School of Hygiene and Tropical Medicine, in 2010. He was competitively awarded and started his COHRE TB/HIV Fellowship in October 2011. Ekwaro got support from workshop organizers and was also partially supported by COHRE to travel and presented his paper entitled: “*Determinants of clinician knowledge on aging and HIV/AIDS: A survey of practitioners and policy makers in Kampala District, Uganda*” which he did out of his fellowship program. He also presented the paper at the 3<sup>rd</sup> International Workshop on HIV and Aging that took place on November 5 and November 6<sup>th</sup> 2012, Baltimore, MD, USA. The paper was further developed, submitted, reviewed and published in PLoS One. <http://www.ncbi.nlm.nih.gov/pubmed/23468905> PMID: 23468905.

**25. Akello Susan Adakun** attended her undergraduate studies at Makerere University Medical School and received her degree of Bachelor of medicine and surgery (MBChB) in 2006. In September 2010, she started her Master of Medicine (MMed) in Internal Medicine at Mbarara University of Science and Technology (MUST). She was awarded COHRE mentored Research Scholarship in January 2013. The title of her dissertation that she did in partial fulfillment of her MMed degree was “*Prevalence of Tuberculosis meningitis among patients admitted on the medical ward of Mbarara Regional Referral Hospital*”. Out of her MMed dissertation, Susan published a paper in the Journal of AIDS (JAIDS) in January 2012. The paper is titled ‘Higher Baseline CD4 cell count predicts treatment interruptions and persistent viraemia in patients initiating ARVs in rural Uganda’. The manuscript can be accessed at <http://www.ncbi.nlm.nih.gov/pubmed/23242160>. PMID: PMC3696032.

**26. Acaku Moses** received his Bachelor of Medical laboratory Sciences (BMLS) degree in January, 2009 at Mbarara University of Science and Technology (MUST). He worked at Case Hospital Kampala for 5 years before joining the Joint Clinical Research Centre, Mbarara Regional Centre of Excellence as a Laboratory technologist. While working at JCRC for six years he was a part-time lecturer at MUST for 2 years. In September 2009, Moses started his Masters of Science (MSc.) degree in Clinical Microbiology at MUST. In January 2013 he was one of the successful applicants who was awarded the COHRE mentored Research Scholarship. He graduated in August 2013 under normal University progress. The title of his dissertation which he did in partial fulfillment of his Masters Degree program was on the topic “*Characterization of extended spectrum beta-lactamases produced by gram negative bacilli isolated at Mbarara regional referral hospital, Mbarara-western Uganda*”. He is currently working as Master of Laboratory head with Uganda Ministry of health in charge of Mbale Region-Eastern Uganda.

**27. Etolu John Wilson** received his degree of Bachelors of Medicine and Surgery (MBChB) in October 2007 from Makerere University Kampala. He was a senior house officer in Internal medicine at Makerere University College of Health Sciences for the period November 2009 to August 2009. He was admitted for MMed Internal Medicine at Makerere University under the department of internal medicine in 2010. He applied and was competitively awarded the COHRE training program mentored research scholarship in January 2013. The title of his dissertation which he accomplished in partial fulfillment of his MMed Internal Medicine is “*Prevalence of Cryptococcal Antigenemia and Performance of the lateral flow assay for detection of Cryptococcal antigen*” The specific objectives of his dissertation were (i). To determine the prevalence of cryptococcal antigenemia among Hospitalized HIV-infected patients with CD4 less than 100 cells/μl in Mulago hospital. (ii). To determine the percentage agreement between the Lateral flow assay and the Latex agglutination test in detecting cryptococcal antigen. Etolu is currently working as a Medical Officer at Soroti Regional Referral Hospital in North Eastern Uganda.

**28. Bosco Turyamureeba** received his Bachelor’s degree in Social Work and Social Administration in April, 2005 (First class) at Makerere University. He was admitted to pursue his Masters in Public Health (MPH) in 2012 at MUST. He was awarded the COHRE mentored research scholarship in 2013. He graduated in 2014 and the title of his dissertation in partial fulfillment of his MPH was “*Factors associate with accepting to test or not for HIV under the Home Based Approach in rural Western Uganda*”. In December 2014 he presented his research findings at the international conference in Cape Town South Africa as a poster presentation with support from COHRE. In May, 2015, Bosco also presented his research findings at a national stakeholders HIV/AIDS

conference supported by Uganda Aids Commission (UAC) under the theme, getting to zero infections with evidence. In January 2015, with support from University of Washington, Bosco undertook a one month course on HIV/STI Research at in Seattle Washington. Bosco is currently working as the Research Coordinator at Integrated Community Based Initiatives-ICOBIs in South Western Uganda focusing on HIV/AIDS prevention and treatment.

**29. Karenye Kimani David;** completed his degree of Bachelors of Pharmacy (B.Pharm) in May 2008 at Makerere University. He is a registered pharmacist and member of pharmaceutical society of Uganda. He enrolled for MSc. Clinical Epidemiology and Biostatistics in August 2011 at Makerere University College of Health Sciences. He supervises the students on research proposal writing, analysis of the findings and writing of the dissertations as well as tutoring on pharmaceutical microbiology and biotechnology. In January 2013, he was awarded the COHRE training program mentored research support scholarship to complete his research dissertation. The title of his research dissertation which he did in partial fulfillment of his Masters program is *“Prevalence and factors associated with Isonized mono-resistance and Multi-drug resistance among new Tuberculosis patients in Kampala District”* He successfully completed his program and graduate in 2014.

**30. Dr. Namara Emily Christabel** is a holder of a Bachelor’s degree in Medicine and Surgery (MBCHB) from Mbarara University of Science and Technology (MUST) which she obtained in 2004. She enrolled for her Master’s in Public Health at Makerere College of Health Sciences, School of Public health in 2010 as a long distance student .She was awarded COHRE mentored research scholarship in January 2013 to conduct her research. The title of her dissertation a dissertation which she did in partial fulfillment of her master’s degree in public health was *“unknown HIV status among women delivering in Mulago Hospital”*. From her dissertation she wrote and submitted a manuscript titled “Unknown HIV status among women delivering in Mulago National Referral Hospital, Kampala, Uganda” which is still under review. Currently, Emily is working as a senior medical officer in charge of PMTCT clinic under Johns Hopkins University (MU-JHU) Research Collaboration at Mulago National Referral Hospital. Her responsibilities include; providing care and antiretroviral therapy to HIV infected women identified during antenatal screening, supervision and training of health workers and provision of health education to HIV infected pregnant women and their families in the PMTCT clinic.

**31. Grace Mongo** received her degree of Bachelor of Environmental Health Science (BEH) in August 2010 at Makerere University School of Public Health. In January 2013, Grace was awarded the COHRE mentored Research scholarship. She successfully completed her MPH in the year 2014 under normal university progress. The title of her dissertation in partial fulfillment of her MPH was: *“Utilization of HIV Counseling and Testing services among adolescents in Arua Municipality, Arua district: A Case control study”*. Since January 2015, Grace is working with Resilient Africa Network, a USAID funded project under the Makerere University School of Public Health. The project aims at strengthening the resilience of communities vulnerable to shocks and stresses by building and testing innovative solutions. One of the project’s thematic areas in the Southern Africa Resilience Innovation Laboratory is, “resilience to the effects of chronic diseases (HIV/AIDS) on livelihoods”. The research question(s) for this them is “What are the effects on livelihoods of communities affected by effects of chronic diseases e.g HIV/AIDS?” What makes them resilient? What makes them able to adapt? She is working on this thematic area as the program coordinator.

**32. Namanda Cissie** obtained her Bachelor of Nursing Science in January 2008 from Mbarara University of Science and Technology (MUST). She volunteered in Makerere University-Case Western Reserve university research collaboration between August to October 2008 as a home visiting nurse. Later in 2009 she joined Uganda heart institute where she worked for two years. She started her Masters programme in Public Health at Makerere University School of Public Health in 2011 while working as a nurse in a cardiac institute in Mulago hospital. During her second year of MPH she moved to the nursing training institution where she worked as Principal of the school. In January 2013, Cissie was competitively awarded the COHRE mentored Research scholarship. She successfully completed her MPH in 2015 under normal university progress. The title of her dissertation which she did in partial fulfillment of her MPH was: *“Factors influencing adherence to antiretroviral therapy among women initiated on treatment during antenatal care clinic in Kampala district”*. Since January 2015 to present, she is working as a program coordinator for a nutrition project being implemented by World Vision Uganda in Partnership with Makerere University School of Public health.

**33. Lusiba Kafuluma John** received his degree of Bachelor of Medicine and Surgery (MBChB) in January 2003 at Makerere University Kampala and joined Mulago National Referral hospital as an Intern doctor for one year. He started his MMed in Internal Medicine in August 2010. In January 2013, John was competitively awarded the COHRE mentored Research scholarship. The title of his dissertation which she did in partial fulfillment of his MMed in Internal Medicine was: "*The accuracy of Cepheid's gene Xpert test for diagnosis of Tuberculosis pleural effusion among adult patients in Mulago hospital*". From his dissertation, John working with his mentors managed to write and submitted a manuscript in peer reviewed journal. Its citation is: Lusiba JK, Nakiyingi L, Kirenga BJ, Kiragga A, Lukande R, and et al. (2014) Evaluation of Cepheid's Xpert MTB/RIF Test on Pleural Fluid in the Diagnosis of Pleural Tuberculosis in a High Prevalence HIV/TB Setting. PLoS ONE July 2014 9(7): e102702. doi:10.1371/journal.pone.0102702. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4106856/pdf/pone.0102702.pdf> . PMID: PMC4106856

John is currently working as a physician in Mogadishu, Somalia. In his duties as a Physician, his exposure with HIV/TB co-infection cases for management in the various communities within and outside Uganda; together with the diverse cultural and religious interactions, he has an ambition of curving a carrier in infectious diseases with tuberculosis and HIV co-infections as well as pulmonology as a speciality. He is under Uganda People's Defence Forces (UPDF) and his duties while in Mogadishu included: managing the daily screening, consenting, enrolment and evaluation of HIV suspects, initiating HAART and treatment of opportunistic infections like TB and documentation of all these patients. This he did in addition to treatment of other infectious diseases like pneumonia not directly associated to HIV.

**34. Justine Mirembe** earned her MBChB in 2002 at Mbarara University of Science and Technology (MUST) and immediately joined MUST as a Teaching Assistant in the Department of Pediatrics. She started her M.Med in Pediatrics and Child Health at MUST in October 2004. At Mbarara University, Justine continued to participate in teaching undergraduate students. At the same time Justine was involved in the management of general pediatric patients as well as those children living with HIV/AIDS. With COHRE support, she progressed well up to end of second year. The title of her research topic which she had developed in partial fulfillment of her Masters was "*Adherence to PMTCT interventions among women attending Mbarara University teaching hospital*". While in her third year, Justine became an indiscipline case as a staff of MUST and was expelled from the University. Based on that, COHRE sponsorship was terminated because she failed to fulfill her obligations as accorded to sponsored students contract and terms of reference.

**35. Ssebutinde Peter** received his degree of Bachelor of Medicine and Bachelor Surgery (MBChB) in October 2004 at Mbarara University of Science and Technology (MUST) and joined Mbarara University Teaching Hospital (MUTH/MRRH) as an Intern doctor for one year. He then worked as a medical officer at Kagando Hospital, a private not-for-profit organization before joining Joint Clinical Research Center in 2007. His duties while at JCRC included: assessment and management of HIV/AIDS patients daily, screening, consenting, enrolment and evaluation of TB suspects, diagnose causes of pneumonia especially in the HIV infected population initiating TB, and HAART treatment as well as monitoring treatment outcomes. He also participated in data collection and cleaning, Standard Operation Procedures (SOP) formulation and manuscript writing trainings. Peter started his Masters of Public Health in August 2011 at MUST. He was awarded COHRE mentored research scholarship in January 2013 and the title of his dissertation is "*The Effect of age on mortality and immunological response among patients receiving antiretroviral therapy in Western Uganda*". He is now working with Makerere-Mbarara University Joint AIDS Program (MJAP) Mbarara.

**36. Nahabwe Christopher** is a clinical officer (DCM, 2002, School of Clinical Officers Fort-portal) has a Bachelor of Development studies (BDVS,2010, Mbarara University of Science and Technology) and he successfully completed Masters degree in Public Health (MPH) at Mbarara University of Science and Technology in 2013. He received CORHE mentored research sponsorship in 2012. The title of his dissertation was "*Factors associated with treatment success among smear positive pulmonary Tuberculosis patients in rural Mbarara*". He is currently developing a manuscript entitled "Factors associated with treatment completion among smear positive pulmonary Tuberculosis patients in rural Mbarara". He is the in charge at Kabwohe health facility. His general duties as the in- charge of the health facility included: Routine patient management in Out Patient Department and In Patient Department, enrolling HIV/AIDS patients onto care, monitoring HIV/AIDS patients started on treatment,

management of other opportunistic infection among HIV/AIDS patients, preparation of periodic reports, Supervision of lower level facility and appraising other junior staffs.

**37. Akatukwasa Cecilia** started her Master of Public Health (MPH) degree in August, 2011 at Mbarara University of Science and Technology (MUST) and was awarded her Master's degree in January 2015. While in her second year (2012-2013) of her studies, she was awarded a COHRE mentored research scholarship to do her research dissertation in partial fulfillment of her Masters' degree. As an MPH student, she completed a dissertation looking at *'Factors influencing the integration of HIV and reproductive health services for young people in public health facilities in Mbarara Municipality.'* This was a qualitative study from which Cecilia gained skills in qualitative research methods. During her time as an MPH student, Cecilia had the opportunity to work on various research projects within Mbarara University and has presented some of the findings at local and international meetings. She presented the 'Healthcare workers' reproductive counseling knowledge, views and practices for people living with HIV in Mbarara, Uganda' at the Canada sub-Saharan HIV/AIDS network (CANSSA) meeting in Durban, south Africa. Currently, Cecilia is working at the infectious Diseases Research Collaboration as a Qualitative research Assistant where she is participating in evaluation of a community trial named Sustainable East Africa Research on Community Health (SEARCH) using qualitative methods.

**38. Ampaire Anne Musika** received her degrees of Bachelor of Medicine and Surgery (MBChB) in 1997 and Master of Medicine (MMED) in Ophthalmology in 2003 both at Makerere University. She started her Masters in Clinical Epidemiology and Biostatistics in August 2011 at Makerere University. In January 2013, she was awarded the COHRE training program mentored research support scholarship to complete her research dissertation. The title of her research dissertation which she did in partial fulfillment of her Masters in Clinical Epidemiology and Biostatistics program is *"Prevalence and factors associated with ocular manifestations of tuberculosis among patients at the national tuberculosis referral centre, Mulago hospital"*. She successfully completed her Master's program and graduated in 2014.

**39. OKELLO GERALD** started his Master of Health Services Research (MHSR) at Makerere University School of Public Health in 2012. In 2013, he was awarded COHRE mentored research scholarship. The title of his research dissertation is *"Quality of Prevention of Mother to Child Transmission of HIV/AIDS at the government health facilities in Soroti district"*. He completed his MHSR and graduated in 2014. After graduating, Gerald worked with Social and Scientific Systems Inc. (SSS), Monitoring and Evaluation of Emergency Plan Progress (MEEPP) project for three months as a Monitoring, Evaluation and Research Intern where he was responsible for conducting data quality assessments on HIV/AIDS data and report writing. Since January 2015, Gerald is working with International Rescue Committee (IRC) as a Monitoring and Evaluation Officer for UNFPA project in Kiryandongo Refugee settlement, DFID Maternal and child health project in Acholi Sub-region and Pfizer immunization project in Acholi sub-region, where he is applying knowledge and skills gained during the training as well as the practical skills gained during internship at MEEPP.

**40. Regina Nakiranda** is a medical doctor (MBChB 2002, Mbarara University) who successfully completed a Master's degree in Paediatrics and child health at Makerere University College of Health Sciences in 2014. During her second year of studies, she was awarded full sponsorship by COHRE training grant and also received research funds for her dissertation. The title of her dissertation was *"Factors associated with adherence to anti-tuberculosis treatment among Children attending TB clinics in Mulago Hospital, Nsambya Home Care and Kawempe (KCCA Health Centre)"*. In an effort to advance her career in research she applied and in June 2015 she was admitted to pursue a master's program in Public health and recently graduated as Public health Specialist from Umea University in Sweden. Upon returning to Uganda she will utilize her knowledge and skills acquired to work with research institutions in Uganda. She also plans to join lecturing and train other students in the department of Paediatrics and also in Public Health in Universities in Uganda.

**41. Namusoke Eleanor** MBChB, earned her MBChB in 2001 at Makerere University. She received COHRE scholarship to pursue her M.Med Degree (Paediatrics and Child Health) at Makerere University (2004 -2007). The title of her dissertation in partial fulfillment of her M.Med degree was *"Barriers to Timely Initiation of Antiretroviral Therapy among HIV Infected Children Admitted to Mulago Hospital Paediatric Wards"*. Eleanor graduated from

Makerere with her MMed in 2007 and thereafter worked with the Joint Clinical Research Centre as a Paediatric Outreach Program Coordinator from March 2008 to July 2009. In July 2009, JCRC seconded Eleanor to STAR-E (strengthening TB/HIV/AIDS Responses in Eastern Uganda) Project, a 5-year USAID funded project as the Paediatrics Advisor where she worked up to June 2011. STAR-E project is a district based project supporting 12 districts and it implements its activities through providing technical support to health workers implementing TB/HIV/AIDS activities at government facilities. She is currently working on a Ministry of Health and Baylor College of Medicine Children's Foundation Uganda collaborative program and capacity building and quality improvement specialist. The program supports the implementation of paediatric HIV/TB services according to the policies and guidelines; develop strategies to ensure a quality and comprehensive service is offered. Together with her team they ensure that the capacity of health workers to offer a quality service is built through training, mentorships, and support supervision.

**42. Kalyesubula Robert** earned his MBChB in 1999 at Makerere University. In 2004, he started his Masters of Medicine (internal Medicine) at Makerere University under the sponsorship of COHRE program. The title of his dissertation in partial fulfilment of his Masters degree was: *"The role of liver function tests in monitoring antiretroviral therapy-associated hepatotoxicity in adult patients in Mulago hospital AIDS clinics"*. As a result of his excellent performance at Makerere University, Robert received an offer to attend electives at Mc Master University Canada from 1<sup>st</sup> March 2006 to 30<sup>th</sup> June 2006 where he did his electives in Nephrology, Rheumatology and General Medicine. He graduated in January 2008 under normal University progress. He is also expected to publish his M.Med research findings in peer reviewed journal by August 2008. Out of his COHRE supported work he made a publication in peer reviewed journal "Hepatotoxicity from first line antiretroviral therapy: an experience from a resource limited setting" in Afr. Health Sci. March 2011. PMID: PMC3092323. Currently, Robert is a Lecturer at Makerere University Medical School, Department of Internal Medicine and also conducts ward rounds at Mulago National Referral Hospital under Makerere University medical school.

**43. Kwarisiima Dalsone** MBChB started her Masters degree in Public Health at Makerere University School of Public Health under COHRE sponsorship in September 2005. The title of her dissertation is *"Assessment of integration of HIV/AIDS care with TB treatment in Mbarara district"* She graduated in January 2009 under normal University progress. After graduation, she continued to work with Mulago-Mbarara Teaching Hospitals' Joint AIDS Program (MJAP). She was promoted to position Clinical Services Coordinator from February 2009 - April 2011 where she coordinated HIV/AIDS care services in four HIV/AIDS clinics in Mbarara. She was promoted and is now working as Prevention Advisor in the program and is a member of the senior management team.

**44. Nansera Denis** M.Med, MBChB earned his M.Med in Paediatrics and Child Health at Mbarara University of Science and Technology (MUST) in 2003 and had earned MBChB in 1998 at same University. He started his HIV/TB fellowship in August 2006 under the sponsorship of COHRE Program based at faculty of medicine MUST while serving as an Honorary Lecturer. Between April – May 2007 while a COHRE fellow, Denis travelled to the University of Wisconsin (USA). While at the University of Wisconsin he worked along with HIV experts in the University of Wisconsin HIV care clinics and learnt a lot of skills in HIV/TB care. He also participated as a guest presenter during the global health class that is organized on weekly basis at the University of Wisconsin. As part of his fellowship he conducted two studies: *"Evaluation of Health Units Offering TB Care Services in Mbarara District"* and *"Knowledge, Attitudes and Practice towards TB Prevention and Access to Care among TB Patients Attending Mbarara Regional Referral Hospital"*. He is currently working as a pediatrician consultant offering clinical care to HIV patients in the HIV care clinics of Mbarara Regional Referral Hospital in addition to working in the integrated TB/HIV care clinic.

**45. Nakawuka Mina** MBChB, completed her MBChB in 1998 at Makerere University and joined Mulago Hospital as an intern in Obstetrics and Gynecology department. Dr. Mina was given COHRE scholarship in 2005 to do her 3 year Master of Public Health (Distance learning) at Makerere University School of Public Health. She attended the first two years under normal University progress. The title of her dissertation which she developed in partial fulfilment of her MPH was titled *"Process Evaluation of Community-Led Initiative (CHAI) in HIV/AIDS prevention in Hoima District"*. The proposal was approved by Makerere University School of public health ethical review board. She collected data and started analysis. At a joint meeting for COHRE students and faculty members/mentors, Mina declared that she had lagged behind schedule. The program appointed another faculty

member to help her proceed with her studies. Along the way Mina used her Masters of Public Health partial transcript and secured a position at Uganda cares as the Deputy National Medical Director and Advocacy Coordinator. In her position, Mina was responsible for planning the delivery of health services for Uganda Cares. Uganda Cares is a Non-profit organization that provides free Anti-retro- viral and opportunistic infection treatment in Uganda. Efforts to reprimand her back using COHRE program students' terms of reference were futile. She failed to study under normal progress and she was discontinued by Makerere University. Hence she did not complete her MPH program.

**46. Mpomedde David** graduated from Makerere University with an MBChB in 2004. He did his internship at Kitovu Hospital and Masaka Regional Referral Hospital in Uganda. On completion of his MBChB, David worked as a medical officer at Nakasongola Military Hospital and gained experience and skills to manage HIV/TB cases in the army. David started his Masters of Medicine in Internal Medicine in August 2009 at Mbarara University of Science and Technology (MUST) under the sponsorship of COHRE training program. While in his second year of normal university progress, David adopted worrying behavior, became irregular for classes and his academic performance deteriorated. He received support in form of special guidance; counseling and caution from his mentor, respective heads of departments and officials of Mbarara University. He finally failed to cope with Mbarara University standards and the COHRE training program regulations. He was discontinued as a student by the University and COHRE training program stopped supporting him.

**47. Nalwoga Prosscovia** is a Social worker (BSWSA, 2011, Uganda Christian University). She also holds a Diploma in Nursing (earned in 2008) from Nsambya School of Nursing and Midwifery. She started her Master's degree in Public health (MPH) at Uganda Christian University in 2013. While in her final year, she was awarded COHRE mentored Research scholarship to help her complete dissertation. The title of her dissertation which she did in partial fulfillment of her MPH was "*Factors influencing feeding practices among infants born to HIV positive women attending Kisenyi health center IV in Kampala district – Uganda*". She graduated in October 2015 under normal university progress. Since December 2015, when she left JCRC, Prossy is working as health nurse and HIV/TB focal person at the International Organization for Migration (IOM) – Kampala. She is responsible for strict follow-up on refugees who are HIV/TB disease co-infected .

**48. Cissy Kityo Mutuluza** is COHRE faculty member (2004 to 2014) and as part of her mandate she has been involved in conducting training and mentoring for both national and international students. She is also involved in scientific review of students research proposals/manuscript and facilitating sessions during short courses. She has over 15 years experience in Institutional administration and managing HIV/AIDS research and care programs. For over fifteen years, she has consistently contributed to the Uganda Clinical Guidelines. She got enrolled for a PhD at the University of Amsterdam. She was supported by COHRE with funds for contracting a person to help her in data analysis including cleaning so that she is able to write a booklet as required for her PhD program. She is in final stages of her program. Cissy is the Deputy Executive Director, Joint Clinical Research Centre, Kampala, Uganda (2002 - to date). She is (2003 - to date) Adjunct Associate Professor, Case Western Reserve University, Cleveland, Ohio, USA.

**49. Ivan Mwebaza** (Registered Nurse) started his Masters of Immunology and Clinical Microbiology in 2013 at Makerere University. In 2014 , Ivan got research mentors sponsorship from JCRC-COHRE research training program to do his final year project which was about exploiting the potential of Mycobacterium tuberculosis thymidylate kinase enzyme as a diagnostic biomarker. He successfully completed and defended his project under the mentorship of Prof. Moses Joloba. He was awarded his Masters of Science in Immunology and Clinical Microbiology of Makerere University in January 2016. He currently holds a position of Research Scientist at the School of Biomedical Sciences, Makerere University where his roles involve coordinating laboratory based research projects. Together with Dr. Misaki Wayengera, he won a grant from Uganda National Council of Science and Technology (UNSCT) to develop a strip test for active tuberculosis basing on that enzyme, thymidylate kinase. The project is ongoing. He is also developing a PhD proposal basing on the same enzyme.

**50 Musisi Emmanuel** is a graduate of Biomedical Laboratory Technology (B.BLT) of Makerere University. In 2013 he enrolled for a two year Master of Science (MSc) degree in Biochemistry Makerere University College of Natural Sciences. While in his final year, he was awarded a COHRE HIV/TB mentored research support to

conduct research for his dissertation. The title of his dissertation in partial fulfillment of his degree is “*Biomarkers of antioxidant and oxidative damage status in HIV mono-infected and HIV-TB co-infected patients on highly active antiretroviral therapy*”. He successfully completed his dissertation and is awaiting defense. He is expected to graduate in January 2017. Out of his dissertation he wrote abstracts and continues to present his findings at local and international conferences. Under guidance of his mentor (s), he is in the process of preparing a manuscript to be submitted in a peer review Journal. Currently Musisi is working with Makerere University as a laboratory technician where he is helping undergraduate students with their laboratory schedules and providing lectures.

**51. Aggrey Bukuru** is a Senior Medical Officer and Research Clinician working with Joint Clinical Research Centre (JCRC), who graduated with a Bachelors of Medicine and Surgery (MBChB) from Makerere University Kampala in the year 2000. He has worked at the Joint Clinical research Centre for over ten years mainly as Clinical Researcher. In June 2014, he received financial assistance from COHRE training program to undergo the Global Clinical Scholars Research Training at Harvard Medical School which he successfully completed in June 2015. His final dissertation for the course was, “*A Multicentre Study to determine Antimicrobial Resistance and Drug susceptibility patterns among HIV infected Adults diagnosed with Blood stream infections*”. This proposal has been shared with various funders to be implemented as a research protocol. This training was one of considerations in his appointment as a Protocol Vice-Chair for the ACTG protocol A5264 (Study focused on the treatment options in Limited Kaposi’s sarcoma) and as a mentoring Clinician for another ACTG protocol A5263 (focused on treatment options in advanced Kaposi’s sarcoma) that was being implemented at the Uganda Cancer Institute. Over that one year, Aggrey has progressed to become the lead Sub-investigator of all ACTG studies at the Joint Clinical Research Centre (JCRC) Kampala.

**52. Etima Azazoa Jovine** started her Master of Health Services Research in 2012 at Makerere University School of Public Health. While in her second year she was awarded the COHRE mentored research scholarship to do her research dissertation in partial fulfillment of her Masters degree. She completed the program and is awaiting graduation in January 2017. The title of her dissertation was ‘*Barriers and outcomes of family support group attendance among PMTCT mothers, Mulago Hospital*’. Jovine is currently actively involved in providing graduate training to students attending the Master of Nursing in Mukono Christian University in Biostatistics and Epidemiology. She also provides assistance in data analysis and research writing as part of a team whose main aim is to carry out rigorous research in the Health sector with emphasis on communicable diseases including HIV and TB. Jovine also participates in the quarterly National Stop Polio campaigns organised by World Health Organisation and African Field Epidemiology Network with the main aim of providing support training to Health workers all over the country in the area of disease surveillance. She has attended a number of short training in the field of research for example the 2013 *Cost Effectiveness Analysis training* organised by COHRE in conjunction with the Makerere University College of Health Sciences. She also attended the *Uganda HIV Monitoring and Evaluation Training* organised by Monitoring and Evaluation Technical Assistance (META) to mention but a few.

**53. Kirimunda Samuel** is a Laboratory scientist (BBLT, 2008, Makerere University). He successfully completed the requirements for the award of a Master’s degree in Molecular Biology and Biotechnology (MBB) at Makerere University College of Veterinary Medicine Animal Resource and Biosecurity (COVAB). He was awarded COHRE mentored research support in January 2013. He did his research from June 2013 to June 2014. The title of his dissertation was “*HLA class II allele distribution in patients with pulmonary tuberculosis at Mulago hospital in Kampala Uganda*”. He is utilizing the research skills he acquired during his training at the College of Health Sciences Makerere University where he serves as a Laboratory Manager. Samuel is currently involved in training and guiding post graduate scholars in their laboratory research planning and implementation. He is currently in his advanced stages of starting his PhD studies at Makerere University Department of microbiology under the direct support Prof. Moses Joloba (COHRE Faculty).

**54. Peace Bagasha** is a medical doctor (MBCh.B, 2009) from Mbarara University of Science and Technology. She successfully completed her Master’s degree in Internal Medicine at Makerere University College of Health Sciences in 2013. Her master’s thesis titled “*Prevalence and clinical patterns of Acute kidney Injury among*



*patients with sepsis in Mulago Hospital* was sponsored by COHRE. Out of her dissertation, she made a poster presentation at the East African Health Educators Association conference. She went on to write up a manuscript which was published in BMC Nephrology. see link: <http://www.biomedcentral.com/1471-2369/16/4> PMID: PMC4361197. She is currently involved in medical education training for both postgraduate and undergraduate students at Makerere University at the department of medicine. She has been awarded a Scholarship to McMaster University in Canada to pursue a Fellowship in Clinical Nephrology as she continues to pioneer the development of kidney related medicine especially in the advent of sepsis and drug toxicities at Makerere University.

**55. Nyesigire Eunice Ruhinda** holds MBChB which she earned at Mbarara University of Science and Technology (MUST). She was awarded COHRE Scholarship in August 2006 to do her M.Med in Paediatrics and Child health at Mbarara University of Science and Technology. Eunice graduated in October 2010 under normal university progress. Her dissertation was titled, “*Anaemia in HIV infected children attending Mbarara Regional Referral Hospital (MRRH) HIV clinic: severity, types and effect on response to Antiretroviral Therapy*”. Out of her dissertation she wrote an article titled “Anaemia in HIV-infected children: severity, types and effect on response to HAART” which she published in a peer review journal. See the link: <http://www.biomedcentral.com/1471-2431/12/170> PMID: PMC3536625. Eunice is currently involved in teaching under graduated medical students at MUST.

**56. Ssemmanda Kyambadde Michael** started his MPH degree in 2009 at Makerere University on a distance program. While in his final he was awarded a scholarship from Clinical Operational and Health Services Research (COHRE) Training program based at JCRC to conduct a research study in partial fulfillment of his Master’s degree. The research project was titled “Prevalence and factors associated with disclosure to sexual partners of HIV positive pregnant women attending ANC in Kampala.” He successfully completed this project and graduated on Jan/28/2014. Following this achievement he was immediately recruited by Deloitte Uganda Limited as a Program specialist for the Civil Society Fund Project which was a basket funding mechanism for civil society organizations engaged in HIV prevention treatment and support. Worked with Deloitte for 2 years and then moved to Research Triangle (RTI) International as Senior Program Officer in-charge of HIV care treatment and support as well as TB/HIV Co-management. In his current employment at RTI International, Michael is engaged in ensuring quality HIV and TB services in the Military facilities across the country. Michael has been involved at the national level in the review of guidelines as a member of the HIV technical working group, was involved in review of the National PEP guidelines as well as the HSSP 2016 -2020.

**v). To foster and strengthen collaboration among social science, medical, clinical, nursing and public health disciplines so that trainees can develop capacity to carry out multi-disciplinary and interdisciplinary research on HIV and TB infections.**

The program created a list-serve of multi-discipline team currently consisting of 117 active participants who are scientists, program supported long-term trainees, research administrators, post graduate students and Principal Investigators among others. The program encourages participants on the list serve to identify, verify eligibility and regularly disseminate funding opportunities and other relevant information to persons on the list-serve including discussion of relevant challenging issues and lessons learnt. The list-serve created and gained experience is being utilized for the HIV annual update meeting. The JCRC coordinates a national HIV Update meeting annually as a CME certified 3 day program to facilitate continuous learning for health care providers through: i). updating Healthcare workers on the most recent advances/findings in HIV care and treatment. ii). Discussing case management for patients on ART. iii). Exchanging ideas and sharing experiences with regard to clinical care for HIV patients and best practices.

**B. List of significant results (positive or negative)**

**1. The ICOHRTA AIDS/TB established the following four, new degree programs in Uganda:**

- i). Master’s in Health Services Research at Makerere University School of Public Health (MUSPH): The MHSR program, was launched in February 2008. The program was reviewed in 2013 and found still relevant.
- ii). PhD in Health Services Research at Makerere University School of Public Health (MUSPH): The curriculum development for this program has been supported by ICOHRTA. Experiences from running the MSHR has been

used to develop (still ongoing) the PhD curriculum for this PhD program at Makerere University School of Public Health where MHSR is also hosted. Trainees shall be encouraged to enroll.

iii). Masters of Public Health at Mbarara University of Sciences and Technology (MUST): The Master's program in Public Health was developed at MUST and launched in July 2010.

iv). Masters of Science in Masters in Public Health at Gulu University: The experiences gained from developing graduate courses at MUST and Makerere University have also been used to develop the Master's in Public Health graduate program at Gulu University. The process was expected to be completed in August 2015.

## 2. Other Key milestones and Achievements of the program over the years

- The COHRE Published "Mentors Manual for Health Sciences Training in Africa" ISBN 978-9970-02-792-7
- The development of training of Trainers' manual for TB Microcopy External Quality Assessment
- The development of Training manual for training health workers on HIV/TB collaborative activities and implementation
- The Responsible Conduct of Research (online Course is active on the JCRC website)

### C. List of publications resulting from the project

Publications for research findings resulting from COHRE project supported research in peer reviewed journal was one of the project objectives. This objective was not well achieved given the earlier targets and to the satisfaction of the project director and faculty members. To improve on publications, COHRE program organizes three days residential retreat for COHRE sponsored students to polish their draft manuscripts for submission to journals. The students' draft manuscripts are reviewed and those that are ready are submitted to journals for publication. Although the COHRE terms are about publication, the challenge observed is that once students finish their Masters program, they take on jobs and responsibilities that make them change priorities. Those who stay in touch with their mentors are more likely to make publications. Below are the publications:

1. Kalyesubula R<sup>1</sup>, Kagimu M, Opio KC, Kiguba R, Semitala CF, Schlech WF, Katabira ET: Hepatotoxicity from first line antiretroviral therapy: an experience from a resource limited setting. *Afr Health Sci*. 2011Mar; 11(1):16-23. (PMCID: PMC3092323)
2. Bagasha P, Nakwagala F, Kwizera A, Ssekasanvu E, Kalyesubula R. Acute kidney injury among adult patients with sepsis in a low-income country: clinical patterns and short-term outcomes. *BMC Nephrol*. 2015 Jan 16;16:4. doi: 10.1186/1471-2369-16-4. <http://www.biomedcentral.com/1471-2369/16/4> PMCID: PMC4361197)
3. Kiggundu DS, Mutebi E, Kibirige D, Boxer R, Kakande B, Kigozi BK, Katabira E. Vitamin D deficiency and its characteristics among patients with acute stroke at a national referral hospital in Kampala Uganda. *BMC Endocr Disord*. 2015 Oct 5;15:53. (PMCID: PMC4594645)
- 4 . Lusiba JK, Nakiyingi L, Kirenga BJ, Kiragga A, Lukande R, and et al. (2014) Evaluation of Cepheid's Xpert MTB/RIF Test on Pleural Fluid in the Diagnosis of Pleural Tuberculosis in a High Prevalence HIV/TB Setting. *PLoS ONE* July 2014 9(7): e102702. doi:10.1371/journal.pone.0102702. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4106856/pdf/pone.0102702.pdf> . PMCID: PMC4106856
5. **Kalyesubula R**, Kagimu M, Opio KC, Kiguba R, Semitala CF, Schlech WF, Katabira ET. "Hepatotoxicity from first line antiretroviral therapy: an experience from a resource limited setting". *Afr. Health Sci*. 2011. Mar;
6. Adakun SA, Siedner MJ, Muzoora C, Haberer JE, Tsai AC, Hunt PW, Martin JN, Bangsberg DR. 'Higher Baseline CD4 cell count predicts treatment interruptions and persistent viraemia in patients initiating ARVs in rural Uganda'. *BMC Infect Dis*. 2014 Dec 19;14:703. doi: 10.1186/s12879-014-0703-0. <http://www.ncbi.nlm.nih.gov/pubmed/23242160>. PMCID: PMC3696032.

7. Muyanja D, Muzoora C, Musingo A, Muyindike W, Siedner MJ. High Prevalence of Metabolic Syndrome and Cardiovascular Disease Risk Among People with HIV on Stable ART in Southwestern Uganda. *AIDS Patient Care STDS*. 2016 Jan;30(1):4-10. PMID: PMC4717524
8. Kateete DP, Katabazi FA, Okeng A, Okee M, Musinguzi C, Asimwe BB, Kyobe S, Asimwe J, Boom WH, Joloba ML. Rhomboids of Mycobacteria: characterization using an *aarA* mutant of *Providencia stuartii* and gene deletion in *Mycobacterium smegmatis*. *PLoS One*. 2012;7(9):e45741  
<http://www.ncbi.nlm.nih.gov/pubmed/23029216> PMID: PMC3448690.
9. Kateete DP, Okee M, Katabazi FA, Okeng A, Asimwe J, Boom HW, Eisenach KD, Joloba ML. Rhomboid homologs in mycobacteria: insights from phylogeny and genomic analysis. *BMC Microbiol*. 2010 Oct 29;10:272.  
<http://www.ncbi.nlm.nih.gov/pubmed/21029479> PMID: PMC2989971.
10. Kasule GW, Kateete DP, Joloba ML. *Mycobacterium tuberculosis* Uganda II is more susceptible to rifampicin and isoniazid compared to Beijing and Delhi/CAS families. *BMC Infect Dis*. 2016 Apr 21; 16(1):173. PMID: PMC4843195.
11. Ezati N, Lukoye D, Wampande EM, Musisi K, Kasule GW, Cobelens FG, Kateete DP, Joloba ML. The *Mycobacterium tuberculosis* Uganda II family and resistance to first-line anti-tuberculosis drugs in Uganda. *BMC Infect Dis*. 2014 Dec 19;14:703. PMID: PMC4367914.
12. Ssenkooba W, Kiwanuka N, Kateete DP, Katamba A, Joloba ML. Incremental yield of serial sputum cultures for diagnosis of tuberculosis among HIV infected smear negative pulmonary TB suspects in Kampala, Uganda. *PLoS One*. 2012; 7(5):e37650. doi: 10.1371/journal.pone.0037650. PMID: PMC3358271
13. Obuku EA, Parikh SM, Nankabirwa V, Kakande NI, Mafigiri DK, Mayanja-Kizza H, Kityo CM, Mugenyi PN, Salata RA. Determinants of clinician knowledge on aging and HIV/AIDS: a survey of practitioners and policy makers in Kampala District, Uganda. *PLoS One*. 2013; 8(2):e57028. PMID: PMC3585272.
14. Källénus G, Correia-Neves M, Buteme H, Hamasur B, Svenson SB. Lipoarabinomannan, and its related glycolipids, induce divergent and opposing immune responses to *Mycobacterium tuberculosis* depending on structural diversity and experimental variations. *Tuberculosis (Edinb)*. 2016 Jan;96:120-30. doi: 10.1016/j.tube.2015.09.005. Epub 2015 Oct 2] <http://www.ncbi.nlm.nih.gov/pubmed/26586646> PMID: 26586646  
[PubMed - in process
15. Kibirige D, Atuhe D, Sebunya R, Mwebaze R. Suboptimal glycaemic and blood pressure control and screening for diabetic complications in adult ambulatory diabetic patients in Uganda: a retrospective study from a developing country. *J Diabetes Metab Disord*. 2014 Mar 4;13(1):40. doi: 10.1186/2251-6581-13-40.  
<http://www.ncbi.nlm.nih.gov/pubmed/24593933> PMID: PMC3974012.
16. Daniel S. Kiggundu, Edrisa Mutebi, Davis Kibirige, Rebecca Boxer, Barbara Kakande, Brian K. Kigozi, and Elly Katabira : Vitamin D deficiency and its characteristics among patients with acute stroke at a national referral hospital in Kampala Uganda. in *BMC Pulmonary Medicine* journal 2014 Mar 4;13(1):40. doi: 10.1186/2251-6581-13-40. PMID: PMC4594645.
17. Davis Kibirige, Richard Ssekitoleko, Edrisa Mutebi, and William Worodria: Overt diabetes mellitus among newly diagnosed Ugandan tuberculosis patients: a cross sectional study. *Published in BMC Infectious disease*. *BMC Infect Dis*. 2013 Mar 5;13:122. doi: 10.1186/1471-2334-13-22.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3599954>
18. Sebunya R<sup>1</sup>, Musiime V, Kitaka SB, Ndeezi G. Incidence and risk factors for first line antiretroviral treatment failure among children attending an urban HIV clinic. *AIDS Res Ther*. 2013 Nov 11;10(1):25.  
<http://www.ncbi.nlm.nih.gov/pubmed/24215971> PMID:24215971.

#### **D. Conferences, Meetings and Workshops Attended during the reporting period**

The COHRE program sponsored students, Faculty members and secretariat werwe be invited and get involved in conferences, meetings and workshops within and outside Uganda. The conferences attended which are directly linked to COHRE program are indicted bellow:

1. World conference on tuberculosis and Lung Health convened in Paris France (organized by the International Union against Tuberculosis and lung Disease (The Union 2005).
2. Mbarara University of Science and Technology Second Annual Research Dissemination Conference annual research dissemination
- 3). Conference on Building the Science of Dissemination and Implementation in the Service of Public Health in Bethesda, Maryland USA on September 10-11, 2007.
- 4). The 1st East African Community Health & Scientific Conference and 33<sup>rd</sup> Medical Africa International Exhibition.
- 5). Annual Scientific Conference organized by Makerere University Faculty of Medicine & Institute of Public Health.
- 6). The Annual Scientific Conference organized by the Uganda Society of Health Scientists.
- 7). Fogarty International Centre satellite meeting 3rd Annual National Institutes of Health (NIH) Conference. on the Science of Dissemination and Implementation: Methods and Measurement 15-16 March 2010 Bethesda Maryland.
- 8). The Annual Meetings for the Association of Research Administrators in Africa (ARAA)
- 9). Development of a Harmonized Curriculum for Implementation Research WHO Meeting 12-15 September 2010 Geneva, Switzerland.
- 10). J-PAL Africa executive training on Evaluating social programs (Cape Town South Africa).
- 11) The Sixth European and Developing Countries Clinical Trial Partnerships (EDCTP) forum.
- 12.) The Keystone Symposia meeting on “Drug Resistance and Persistence in Tuberculosis” 2012.
- 13). The Makerere University College of Health Sciences 7th Annual Scientific Conference 2011.
- 14). The 2<sup>nd</sup> Annual Fogarty East Africa HIV/TB Meeting on 18th June 2011.

#### **E. Short - term Non degree training courses and workshops:**

The short term non-degree training courses that were provided focused onenhancing specific skills and competencies to trainees to be able to conduct clinical, operational, health services, and implementation research in Uganda. The also aimed at providing skills for perfection. They were organized by program faculty in collaboration with lead person at partner institutions and other relevant programs. Training format included workshops, seminars, and scientific meetings. The trainings were tailored to meet the specific needs of health professionals, technicians, allied health professionals who are engaged in HIV/AIDS, TB research and training programs. Where applicable same training workshops were repeated in the different regions of Kampala (Central Uganda), Mbarara (Western Uganda) and Gulu (Northern Uganda) where partner institutions are located . The the number of trainees in table 1 reflect the aggregate number for each of the course over a the period of ten years including the no cost extension. The aggregate number has been developed using table 4 (short courses) which werwe submitted to FIC/NIH Annually. Some of the training workshops were co-funded and/or jointly planned with other programs/implementers within Uganda. The training drew facilitators from within and outside Uganda such as NIH (electronic presentations on Grants writing and awards managment orgnaised through Dr. Jeanne (the Program Officer at NIH), facilitators from University of Georgia, Case Western USA, University of Pretoria, WHO Implementation research working group and other recommended experts. The use of trainers from USA and outside Uganda reduced over the years as more capacity was built locally in Uganda.

**Table 1: Short courses conducted and number of trainees during the funding period 2004-2015**

	<b>Course</b>	<b>Goal of the training course</b>	<b>Totals Trainees</b>
1	TB Microscopy External Quality Assessment (EQA) and laboratory skills training	To train participants on how to conduct TB Laboratory Microscopy and External Quality Assessment (EQA), required laboratory skills and the processes for improving TB microscopy diagnosis	<b>175</b>

2.	Public Health Management, Cost-effectiveness program, Planning and Budgeting	Train participants on how to measure the expected program outcomes under different possible future conditions and linking program costs to outcomes using cost-effectiveness and cost-benefit analyses.	<b>21</b>
3.	The Health Services Research Sensitization Workshop	To sensitize and expose the Ugandan leaders in public health, academia, and health policy to the disciplines of operational research and health services research. One (1) took place at CWRU , USA followedby 1 in Uganda.	<b>35</b>
4.	Research Ethics and Good Clinical Practices	To introduce to the participants the foundations of ethical principles in Biomedical/Clinical Research and to ethical principles involved in Good Clinical Practice including standards of care and professional responsibilities	<b>155</b>
5.	Comprehensive HIV care Training Course	To provide participants with updates on basic principles and approaches to comprehensive care including guidelines for initiating, use and management of use of ARV therapy.	<b>126</b>
6.	Training of Trainers in TB Microscopy External Quality Assessment (EQA) and laboratory skills training	To train trainees who can train others on how to conduct TB Laboratory Microscopy External Quality Assessment (EQA), acquire desired laboratory skills and learn processes for improving TB diagnosis.	<b>54</b>
7.	Training Health workers in implementation of HIV/TB collaborative activities	To provide trainees with desired skills for proper implementation of TB/HIV joint activities (as per Uganda Ministry of Health guidelines) to ensure that TB/HIV co-infected patients are well managed.	<b>154</b>
8.	Grants Writing, award administration and Award Management	To introduce participants to basic approaches and skills to good grant proposal writing, application process and award management so that they are able to identify, interpret call for applications and select scientific areas/projects and independently write proposals for funding .	<b>197</b>
9.	Human Rights, Ethics and the Law on HIV/AIDS in Uganda	To enhance Trainees' understanding and appreciate the interaction of legal, human rights, ethics and the law in the context of HIV/AIDS and how these are applied in clinical, research and general service delivery settings in Uganda.	<b>110</b>
10.	Publication and Manuscript writing workshop	To introduce trainees to scientific and manuscript writing and submission.	<b>16</b>
11.	Mentorship and Student Supervision Training	To introduce and encourage mentoring habits, appropriate procedures, skills and insights to mentors/mentees to enhance effective mentoring.	<b>264</b>
12.	Monitoring and Evaluation of HIV Programs	To equip participants with skills to be able to measure and evaluate HIV/TB programs and Introduce them to vital linkages between theory and practice of M&E	<b>87</b>
13.	Dissemination and Implementation Research	To introduce participants to the concept of dissemination and implementation research and how it is applied in clinical, social, public health settings	<b>112</b>
14.	Medical /Health Informatics	Introduce participants to the concept of medical/health informatics and how this reinforces Data Management.	<b>108</b>
15.	Research Training program award Responsible Conduct of Research (RCR) Supplement	To build capacity and increase on the number of scientists, health professionals and academics with the right attitudes and in-depth knowledge and skills of the ethical concepts and applications in clinical, social and public health research.	<b>108</b>

16	Training of trainers in Responsible Conduct of Research (RCR) Training	To increase on the number of local research ethics trainers with appropriate skills, knowledge and tools to train and mentor scientists and Institutional Review Board (IRB) members in advanced RCR, ethical considerations, concepts and how these are applied in clinical, social and public health research.	<b>28</b>
17.	Optimising TB care in the context of HIV and ART (1 day consultative meeting)	To update scientists, policy makers, health service providers etc on key issues in TB/HIV co-infection and propose mechanisms for harmonization of HV/TB	
18	Advanced eight-Module-based Responsible Conduct of Research (RCR) e-learning	To establish a pool of research scientists with the necessary up to date knowledge and skills to conduct research in accordance to local and international research ethical principles, policies and procedures.	<b>284</b>
19.	HIV/TB Resarch Priority Areas	To identify and discuss gaps and critical issues that are not very clear but very important for people involved in HIV/TB service provision and research in Uganda.	<b>58</b>

Table 2 shows the breakdown of the courses over the years . The totals for year ten include the no cost extension trainees.

**Table 2: Short courses conducted and number of trainees during the funding period 2004-2015**

	Course	YEARS										TOTAL
		1	2	3	4	5	6	7	8	9	10	
1	TB Microscopy External Quality Assessment (EQA) and laboratory skills	21	80		22			24		28		175
2.	Public Health Management, Cost-effectiveness program, Planning and Budgeting Training in Uganda	21										21
3.	The Health Services Research Sensitization Workshop	11	24									35
4.	Research Ethics and Good Clinical Practices		37		31	30		26			31	155
5.	Comprehensive HIV care Training	36		36							54	126
6.	Training Trainers in TB Microscopy External Quality Assessment (EQA)			30						24		54
7.	Training Health workers in implementation of HIV/TB collaboration				32	30	32		29		31	154
8.	Grants Writing, award administration and Award Management			33	46				72		46	197
9.	Human Rights, Ethics and the Law on HIV/AIDS in Uganda					33		42		35		110
10.	Publication and Manuscript writing				05		11					16
11.	Mentorship and Student Supervision					38		72	47	39	68	264
12.	Monitoring and Evaluation of HIV pro.								41	46		87
13.	Dissemination and Implementation Research						58				54	112
14.	Medical /Health Informatics					41					67	108
15.	Responsible Conduct of Research (RCR) Administrative Supplement								48	60		108
16	Training of Trainers in Responsible Conduct of Research (RCR)									28		28
17	TB care in the context of HIV and ART											
18	Advanced eight-Module-based (RCR) Online e-learning Training										284	284
19	HIV/TB Resarch Priority Areas			35	23							58

