Electronic medical records and clinical Decision Support Systems in HIV care in resource-limited settings
Oluoch, T.O.

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Dankwoord
When I made up my mind to find a world class PhD program that would equip me with skills to conduct high quality research, I spent many weeks reviewing websites of several universities in Africa, Europe and North America. University of Amsterdam (UvA) was to be my dream university and I thank several of the staff at the department of medical informatics without whom it would not have been possible to successfully complete my research studies at UvA and write this thesis.

I will single out a few special people who gave me outstanding guidance and encouragement. My supervisor, prof. dr. Ameen Abu-Hanna, and co-promotores dr. Nicolette de Keizer and dr. Ronald Cornet provided unrivalled mentorship and support during my studies. I learnt a great deal from them over the four years. The two-weekly conference calls, reminders, support visits to my country (Kenya), lectures and in-person meetings are among the many ways they used to guide my work and for that I say, again, a big thank you. They always provided prompt and very useful feedback to my questions and the fact that we were nearly 7,000 kilometers apart did not compromise the quality of support they provided to me. They always maintained high standards and I had to live up to it through hard work. Nicolet was always cheerful and encouraged hard work. As my main mentor, she brilliantly helped shape my research ideas in a way that led to protocols that were well received by my employer – the US Centers for Disease Control and Prevention (CDC) – and resulted in several manuscripts. Through working with Nicolet, I got a better understanding of the word “resilience”. Ameen always provided high-level support and his deep thoughts, experience, excellent analytical skills and an investigative mind were invaluable to my studies and writing up. Ronald's quick understanding of problems and proposing solutions ensured that we were never stuck with a problem for too long. I admire their collective brilliance that inspired me each day. Thanks to the lecturers and secretariat staff at the Klinische Informatiekunde (KIK) who were very friendly and always willing to help.

The going was quite tough at times... I recall one of our meetings at the Academisch Medisch Centrum (AMC), which I approached with a lot of confidence, to discuss my first protocol. I was extremely confused at the end of the meeting and was quite unsure whether I fully understood the objectives of the study, methodology and outcomes in a way that I could articulate in a protocol. After a short break and follow-on meetings with Ameen and Nicolet, things got a lot clearer and I was able to continue developing the protocol. Other sleepless nights were as a result of efforts to meet tight deadlines for submission of conference abstracts. Nicolet and Ronald always offered their best support and I can’t thank them enough for allowing me to ride on their wealth of experience in medical informatics at the global level.

The studies, articles and this PhD thesis would not have been realized without the support of my employer, CDC. CDC provides an environment that encourages evidence-based interventions, informed by data generated through well-designed evaluation studies. The national rollout of electronic medical records (EMR) funded through the US President’s Emergency Plan For AIDS Relief (PEPFAR) provided an opportunity for us to conduct evaluations on (EMR) models that work best in resource-limited settings and to better understand obstacles to their implementation. CDC made available critical resources which included statistical support, relevant software, funding for short courses at the University of Amsterdam and conference attendance. CDC’s office of Associate Director for Science (ADS) in Nairobi and Atlanta conducted rigorous scientific and ethical review of protocols, abstracts and manuscripts to ensure they were of the highest quality. My deep appreciation goes to the current and former CDC-Kenya leadership consisting of Dr. Kevin de Cock, Dr. Jonathan Mermin, Dr. Rebecca Bunnell, Dr. Nancy Knight, Dr. Lawrence Marum, Ms. Suzanne Theroux and my immediate former supervisor Ms. Katherine Robinson. These senior colleagues were extremely supportive and encouraging.

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Curriculum Vitae
Tom Oluoch was born in Kisumu, Kenya on 10th July 1969. He studied applied mathematics and computer science at undergraduate level and obtained a Bachelor of Science (BSc) degree at the University of Nairobi, Kenya in 1992. In 1997, he obtained a post-graduate diploma in Computer Science at the University of Nairobi after a year of full-time learning. He enrolled on a full-time Master of Science course at the University of Manchester, United Kingdom in 2001 and graduated with an MSc (Advanced Computer Science) in 2002. Since 2011, he has been pursuing a PhD in Medical Informatics at the University of Amsterdam, The Netherlands and is scheduled to defend his thesis in May 2015.

Tom worked for the BKH Consulting Engineers in Kisumu, Kenya as a systems analyst from 1993 to 1998 where he gained valuable experience developing database systems for monitoring the performance of a rural water project funded by the Dutch government. In 1998, he joined the Wellcome Trust/Kenya Medical Research Institute (KEMRI) research collaboration program as the head of the data management and ICT. He developed data management systems to support several research studies in one of the leading research institutes in Africa. He also led a team of data analysts and statisticians who provided data management and data analysis support for the research team. In addition, he was responsible for the ICT installations at the research center which included a local area network, VSAT communication, email and database servers and a helpdesk system. He left Wellcome Trust/KEMRI in 2005 to join the US Centers for Disease Control and Prevention (CDC) in Nairobi, Kenya as the Chief of Data Management.

From 2005 to date, Tom has provided leadership in data management and medical informatics at CDC and in Kenya. At CDC, he leads a team consisting of data managers, epidemiologists, statisticians and monitoring and evaluation advisors. He has led the implementation of large informatics projects, the latest being the national rollout of electronic medical records (EMRs) in Kenya and the integration of patient level information systems with aggregate reporting systems. He has also played a key role in a number of epidemiologic studies including the Kenya AIDS Indicator Survey which is a national, population-based survey on bio-behavioral factor associated with AIDS. He has conducted five evaluation studies and has published 15 articles on HIV epidemiology and medical informatics in peer-reviewed journals.

Tom is the founding and current chairman of the Kenya Health Informatics Association (KeHIA). KeHIA, which is affiliated to the International Medical Informatics Association (IMIA), brings together professionals from diverse backgrounds with an interest in health informatics. He previously served as the secretary to the board of management for the Consortium for National Health Research in Kenya and was responsible for health systems and informatics activities (2008 – 2012).