

Mario Toti



Centro
Salute Globale



Azienda Ospedaliera
Universitaria Senese



Working together to improve the
quality of healthcare:
10 years of cooperation between
Kenya and the Tuscany Region

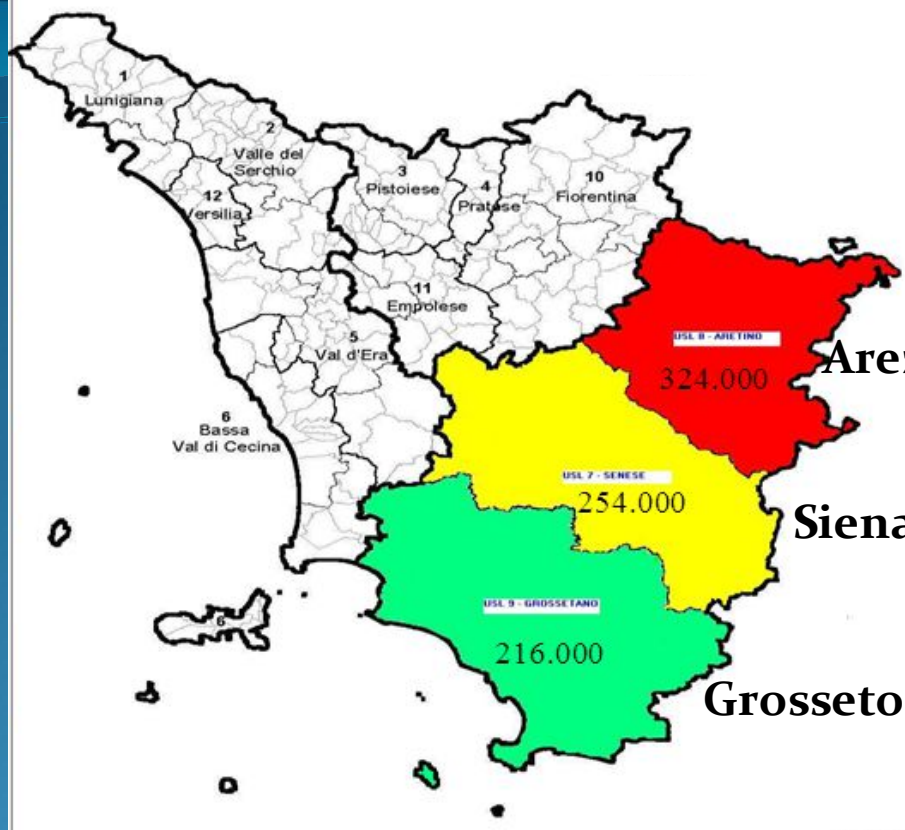


5th September
2017

Ruaraka Uhai Neema Hospital
Nairobi



Tuscany region , above all Local Health Unit South-East and Misericordia hospital of Grosseto has supported Ruaraka Uhai Neema Hospital from 2008, with some medical educational programs about infectious diseases (HIV- AIDS, TB, malaria, viral hepatitis, nosocomial infections) antibiotic therapy and echography.



Local Health
Unit South-
East, Tuscany
region

University of Siena
Santa Maria alle Scotte hospital – Siena
San Donato hospital - Arezzo
Misericordia hospital - Grosseto

cav. doct. **Barbara Tomasini**:director of international
cooperation



PROJECT

“NEEMA MAMY, right to health care for mothers and babies of the slums ”

Country

Kenya, Nairobi, Ruaraka Uhai Neema Hospital

Applicant organization

Local Health Unit South-East (Arezzo, Grosseto, Siena)

Partners

- World Friends Onlus,
- Neema Hospital
- Nairobi Archdiocese
- Mbaghati Hospital





Program for 3 years

AIM : to reduce mothers and newborns mortality

Action : on the job training of health workers

Topics : neonatology, infectious diseases, microbiology



Maternity statistics : opening 13 settembre 2011.

***SVD *CS**

YEAR 2011

SEPTEMBER	26	10	36
OCTOBER	50	30	80
NOVEMBER	71	17	88
DECEMBER	98	47	145
Total	245	104	349

TOTALS

YEAR 2012

JANUARY	67	36	103
FEBRUARY	82	10	92
MARCH	141	54	165
APRIL	100	50	150
MAY	114	44	158
JUNE	117	50	168
JULY	106	43	149
AUGUST	130	44	174
Total	857	331	1159

*** spontaneous vaginal delivery**

*** Caesarean section**

Dr. W. Njogu Neema





research \longleftrightarrow medical assistance

We think that the research and the assistance must be complementary in an hospital like Neema



European and Developing Countries Clinical Trials Partnership



The European and Developing Countries Clinical Trials Partnership (EDCTP) was created in 2003 as a European response to the global health crisis of poverty-related diseases. It is a public-public partnership between countries in Europe, and in sub-Saharan Africa, as well as the European Commission.

The objective is to accelerate the development of new or improved drugs, vaccines, microbicides and diagnostics against HIV/AIDS, tuberculosis and malaria as well as other poverty-related and neglected infectious diseases in sub-Saharan Africa.



The famous “*Karolinska Institute* “ of Stockholm , in 2009 coordinated an EDCTP study about HIV/AIDS infection in some special populations in 3 african countries :

Etiopia , Tanzania ,Kenya and the involved institutions was :

- Addis Ababa University
- Muhimbili University - Dar es Salaam
- Ruaraka UHAI Neema Hospital - Nairobi

Our team studied the trasmission of HIV infection from mother to child (MTCT) and the possible viral mutations.



EDCTP code:

(for secretariat use only)



Joint Programme Activities

Identifying and strengthening Joint Programme Activities

Full Proposal

Please fill in this application form using Verdana font 9pt

Project title (≤ 20 words)	Integrated training activities and IT infrastructures to improve capacities in eastern African area		
Call Identifier	JP_2008_10800		
Expected start Date of the project	<u>October 2009</u>	Expected end Date of the project	<u>September 2012</u>

Information on the applicants

Project Coordinator					
Surname	<u>Sönnernborg</u>	First Name(s)	<u>Anders</u>		
Title	MD, Ph.D., Professor of virology	Gender	Female	<input checked="" type="checkbox"/>	Male
					X



Addis Ababa October 2011



In this study was recruited at Neema hospital and at the sanatories of the slums **237** pregnant women HIV+ ; CD4+ count and HIV viral load was performed.

Sequencing of the PCR products was stored at +4 C° and shipped to virologic department of Siena University for genotyping drug resistance testing

Dr. W. Njogu Neema





Training and strategy for HIV drug resistance testing in Eastern Africa

Maurizio Zazzi¹, Genny Meini¹, Arthur Emary², Nigus Fikrie³, Silvia Kadima⁴, Ezekiel Marandu⁵, Doreen Mloka⁵, Sabina Mugusi⁵, Stephen Mutuku⁶, Washington Njogu⁶, Amare Worku⁷, Muhammad Bakari⁵, Daniel Fekade³, Ferdinand Mugusi⁵, Matilu Mwau⁴, Mario Toti⁸, Francesca Incardona⁹, Anders Sonnerborg¹⁰

¹EuResist Network/University of Siena, Italy; ²Kivuli Center, Nairobi, Kenya; ³School of Medicine, Addis Ababa University, Ethiopia; ⁴Kenya Medical Research Institute, Nairobi, Kenya; ⁵Muhimbili University of Health and Allied Sciences, Dar Es Salaam, Tanzania; ⁶Neema Hospital, Nairobi, Kenya; ⁷Black Lion Hospital, Addis Ababa University, Ethiopia; ⁸Area Vasta Toscana Sud, Grosseto, Italy; ⁹EuResist Network/Informa srl, Rome, Italy; ¹⁰EuResist Network/Karolinska Institute, Stockholm, Sweden

BACKGROUND

DISCUSSION

Paper presented and accepted for poster session at :
Sixth EDCTP FORUM –Strengthening research Partnership for Better Health and Sustainable Development

Addis Ababa 9-12 October 2011

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Background:

Genotypic HIV drug resistance testing (GRT) is seldom feasible in African laboratories. A possible strategy is to perform the first steps of GRT locally and sequence PCR products at distant laboratories. We have established an East African network for capacity building and training in HIV drug resistance.



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Methods:

The training was performed by two trainers at the Kenya Medical Research Institute, Nairobi. The ten trainees mainly had a background in serology and parasitology.

The training consisted *of RNA extraction from plasma by spin columns followed by homebrew reverse transcription and nested PCR* to obtain the HIV protease/reverse transcriptase which is normally sequenced for estimating susceptibility to protease and reverse transcriptase inhibitors. Amplification products were brought at room temperature to the University of Siena for sequencing and quality control.



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RESULTS

The course was attended by ten trainees. Their background experience spanned different areas, mainly including serology and parasitology. Only two trainees had some experience with molecular techniques. The facilities kindly offered at KEMRI allowed to perfectly run all the activities as scheduled. The trainers completed one run, from plasma RNA extraction to generation of the RT-PCR products. The trainees completed another run on their own and had some extra time to start a third run. Each run was made of ten blood samples. The time to complete one run by the trainees was only slightly delayed with respect to the scheduled time. The only issue noticed during the trainee session were minor inconsistencies in reaction volumes due to marginally inaccurate pipetting.

In the first and second run, 7/10 and 6/10 samples were successfully amplified. Viral load data for the samples analysed were not available but current treatment information was available. Overall, 7/7 amplification failures vs. only 2/13 successful amplifications were derived from patients under treatment suggesting that most failures could be due to low or undetectable viral load.

Sequencing of the PCR products carried to Italy at room temperature and stored at +4°C for additional two weeks worked fine. The complete protease region and the reverse transcriptase region coding for amino acids 1-300 were obtained with quality values comparable to the standard procedures run on fresh samples.

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CONCLUSIONS

- ◆ The one-week hands-on laboratory training on GRT was performed as scheduled without any inconvenience. KEMRI is a highly recommended for HIV-related lab training activities.
- ◆ The trainees were able to reproduce on their own the procedure learned from the trainers.
- ◆ The split GRT strategy was shown to be perfectly feasible, providing results comparable to those obtained with fresh samples at the reference remote lab.
- ◆ With minimal lab facilities and funding, GRT could be made available to several centres in African countries. Implementation of a dedicated HIV data management workflow for storing and analysing data is a further step required to complement lab activity and foster cooperation among different centres as well as participation to international initiatives.



**Training on HIV drug resistance Nairobi 21-25 Febbraio
2011**



We believe that this result (a one-week intensive hands-on training course was effective for learning plasma RNA extraction and generation of PCR products) is ***very important*** for health-care workers of Neema Hospital and that it shows an already good background. However we think that will need to continue to improve structures and professionalism.