Expanding the worlds largest HIV drug resistance database, EuResist, into an African contex

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Objectives

- To support the development of *local databases* and *enrich* the EuResist database with African data
- To *train* personnel in IT and the EuResist predictive engine
- To evaluate an *adapted EuResist predictive engine* based on African data, with the aim of predicting optimal new regimens without resistance data

Methods (1)

Background

- EuResist GEIE is a non-profit consortium of clinicians, virologists, computer scientists and bioinformaticians
- Worlds largest HIV resistance database with clinical data
- Predictive engine developed which rank the best drug combinations to use after treatment failure
- Freely available on internet world wide
- Best research project, electronic health, Dec 2008 within EU

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Methods (2)

Strategy

- assess and upgrade on site IT-infrastructures
- provide easy to use management systems for HIV (InfCare HIV or open source local EuResist DB)
- conduct on-site training courses in IT data management and management of drug resistance
- to upload to the EuResist database, data derived in collaborating African centers
- to retrain and evaluate the EuResist Prediction tool with African data

Results (1)

- Ongoing collaborations, e.g.
  - Sweden/Germany/Ethiopia/Tanzania; EDCTP
  - Italy/Neema Mamy Hospital, Nairobi, Kenya
  - Luxemburg/Rwanda
  - Karolinska/South Africa
- Application to Joint Programme Activities, EDCTP, has been submitted
- Assessment of IT-infrastructure and laboratory facilities at Muhimbili National Hospital, Dar-es-Salaam, shows feasibility
- Implementation is in process of the data management system InfCare HIV in Muhimbili National Hospital

Discussion & Conclusions

- Transferring clinical data to the expanding EuResist db *from medical treatment into an R&D context* in a structured and simple way creates new opportunities for doctors to contribute to clinical HIV research and care of African patients with drug resistance
- Synergistic effects in trials performed in Africa can be obtained by cross-border systems, such as an adapted EuResist db
- EuResist consortium uses strict ownership and publication policies

Future perspectives

- Important to follow pattern of HIV drug resistance development and the related effectiveness of second line therapies
- EuResist consortium is open for new partners and the database to be feeded with new data
- Optimization of the use of HIV drugs after treatment failure can eventually be obtained by a new EuResist prediction tool without more advanced diagnostics in clinical care

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