HEALTH FOR AFRICA
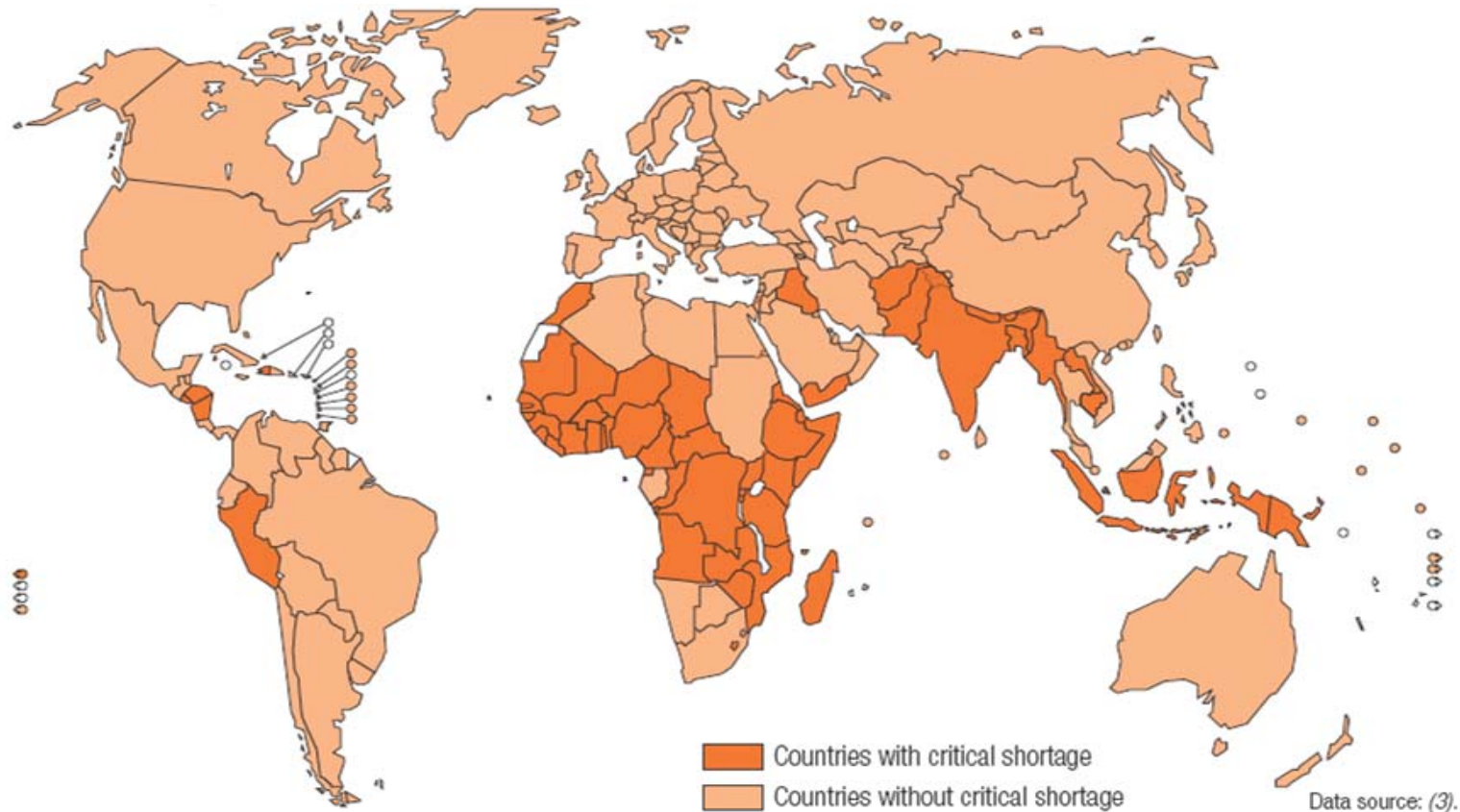# Building e-health services for Sub-Saharan Africa

Alexander Horsch

Prof. Dr.rer.nat. Dr.med.habil., TU München, Germany

Professor, Telemedicine & eHealth, University of Tromsø, Norway

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Health Workforce Crisis

Countries with a critical shortage of health workers
(doctors, nurses and midwives)

Countries with critical shortage
Countries without critical shortage

Data source: *(3)*.

(World Health Report 2006)

Background

- The initiative started in January 2006 with a dedicated workshop, where it was demonstrated the pertinence of satcom technology for extending the reach of health services to remote areas and supporting health system development in sub-Saharan Africa (SSA).

- Consequently a Telemed Task Force (TTF) was set up with a view to developing a picture of telemedicine opportunities in SSA and formulating recommendations.

- The aim of the initiative was to propose a program for developing sustainable, satellite-enhanced eHealth and telemedicine services for the whole of sub-Saharan Africa

TTF Mission & Stakeholders

MISSION. In the Telemedicine Task Force (TTF) European organisations, African stakeholders and the World Health Organization pool their efforts towards a programme for building a sustainable, satellite-enhanced eHealth and telemedicine network for the whole of sub-Saharan Africa, embracing as key elements African ownership, a focus on the UN's Millennium Development Goals (MDGs) and counteracting the health workforce crisis.

- African Union Commission (AUC)
- New Partnership for Africa's Development (NEPAD)
- African Development Bank (AfDB)
- Communauté Economique et Monétaire de l'Afrique Centrale (CEMAC)
- Organisation de Coordination pour la lutte contre les Endémies en Afrique Centrale (OCEAC)
- East African Community (EAC)
- Economic Community of West African States (ECOWAS)
- Secretariat of the African, Caribbean and Pacific Group of States (ACP Sec)
- World Health Organisation (WHO)
- European Commission (EC)
- European Space Agency (ESA)

Achievements

1. **TTF Study on SSA Current Situation (2007)** (health, health systems, ICTs, political priorities) → highest burden of communicable diseases, low health service coverage, serious health workforce crisis, low overall ICT penetration, demo projects recommended

2. **PricewaterhouseCoopers SSA eHealth Cost Benefit Study (2008)** on economic impact and cost-implications of up-scaling for selected operational cases of clinical services, eLearning, eSurveillance and health management

3. **Short-term Demonstration project (2010-12)** with 1 MEUR budget SAHEL – Satellite African eHEalth vaLidation (running)

4. **Horizontal studies on Governance, Regulation, Interoperability, and Sustainability** to prepare the eHSA programme

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Cost Benefit Analysis of Satellite-Enhanced Telemedicine and eHealth Services in Sub-Saharan Africa

November 2008

eCare in the Clinic: IKON in Mali

eCare in the Village: Uganda Health Information Network

eLearning: Kenyan Nurses; and Réseau Afrique Francophone de Télémédecine (RAFT)

eSurveillance: Nigeria Malaria Surveillance

eAdministration/eGovernance: Rwanda TRACnet; and Pharmaceuticals Tracking

The **Mali IKON project** enables rural clinics to forward radiology outputs to specialists for review through ICT connections. These specialists are then able to advise the doctors in the remote clinics on what treatments should be provided and whether patients need to travel to specialist care in the capital or not.

The **Uganda Health Information Network** provides communication devices to health workers in rural areas to enable communications between health workers, health information dissemination and collection of data for health systems. The system enables health workers to leverage further information to provide more appropriate and focussed care for their patients.

The **NCK/AMREF programme** enables community health nurses in Kenya to attain certificated status through distance learning at centres equipped with computers and communication equipment. This should help to ensure that the patients in the areas where the trained nurses operate received higher quality and more appropriate care.

The **Nigerian Malaria Surveillance programme** uses Nigeria's satellite capacity to observe the metrological and geographical drivers linked to malarial risk and transmission rates. Highlighting disease hotspots enables more effective and efficient distribution of health resources and focus to prevent and combat malaria.

TRACnet has enabled Rwanda to develop a comprehensive programme to deliver Anti-Retroviral Treatment across all the country's AIDS patients by providing a consistent information collection system across all areas of the country. This should enable a considerable reduction in annual mortality rates by enabling patients and health system to better manage their condition.

Cost Benefit Analysis of Satellite-Enhanced Telemedicine and eHealth Services in Sub-Saharan Africa

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Sub-Saharan Africa health impact	Lives Saved p.a.	One Year Value	Lifetime Value[1]
eCare in the Clinic	16,800	$680 million	$746 million
eCare in the Village	151,800	$259 million	$2,576 million
eLearning	85,100	$145 million	$1,444 million
eSurveillance	644,100	$1,248 million	$55,902 million
eAdministration/ eGovernance	477,900	$934 million	
TOTAL	1,375,700	$3,266 million	$60,668 million

Differences in Lifetime value are attributed to the differences in target populations the programmes are designed to address.
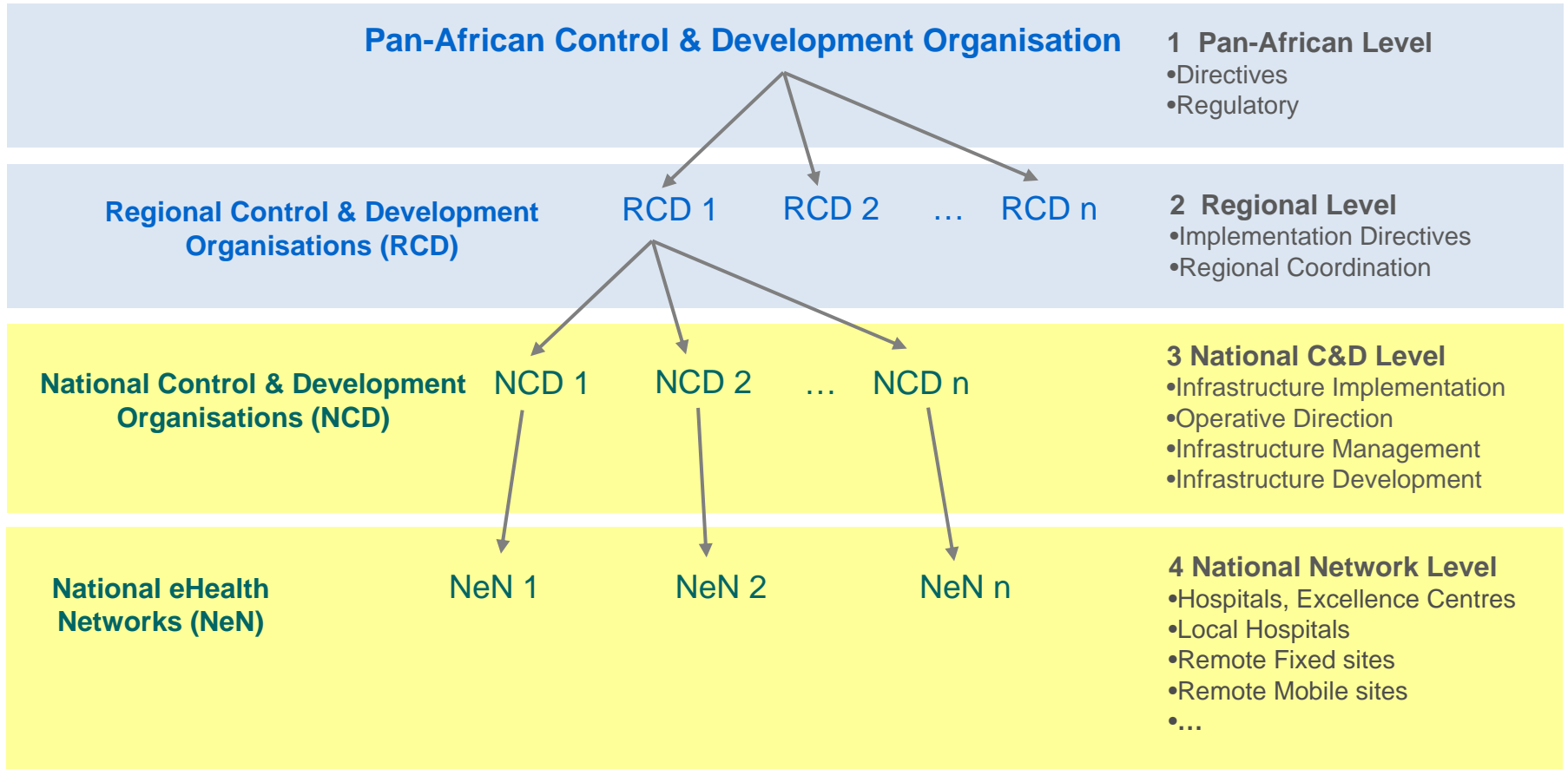
Cost Benefit Analysis of Satellite-Enhanced Telemedicine and eHealth Services in Sub-Saharan Africa

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Sub-Saharan Africa health impact	Impact Measure	Number
Kenyan Nursing (eLearning)	Additional Nurses Trained (total)	44,085
RAFT (eLearning)	Additional Physicians Involved in on-going training (total)	2,846
Pharmaceuticals Tracking (eAdministration/eGovernance)	Reduction in drugs lost	$299mn - $897mn p.a.

Pan-African Network

Possible network organisation (system of systems)

Pan-African Control & Development Organisation	**1 Pan-African Level** •Directives •Regulatory
Regional Control & Development Organisations (RCD) — RCD 1 RCD 2 … RCD n	**2 Regional Level** •Implementation Directives •Regional Coordination
National Control & Development Organisations (NCD) — NCD 1 NCD 2 … NCD n	**3 National C&D Level** •Infrastructure Implementation •Operative Direction •Infrastructure Management •Infrastructure Development
National eHealth Networks (NeN) — NeN 1 NeN 2 NeN n	**4 National Network Level** •Hospitals, Excellence Centres •Local Hospitals •Remote Fixed sites •Remote Mobile sites •…

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Short-term Demonstration Project

SAHEL – Satellite African eHEalth vaLidation

- Objectives: Realization of a telemedicine solution deploying both health worker training and clinical services in selected underserved areas
- Users: health centers of excellence in 2-3 SSA countries
- Budget: ca. 1 MEUR, co-funded by EU, AU and bidder
- Duration: 18 months
- Prime: has been selected through open competition
- Implementing agency: ESA
- Status: running

Le Kinkeliba: NGO providing medical, educational and economic aid in Eastern Senegal

The African Medical and Resaerach Foundation (AMREF), is one of the leading centers of medical excellence in Africa located in Kenya
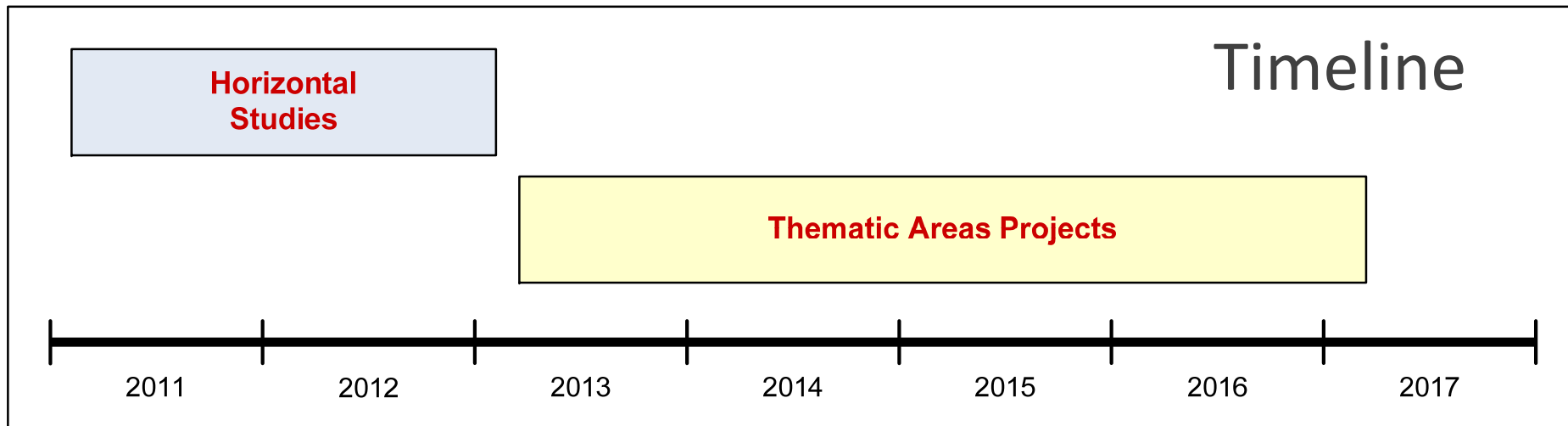
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eHSA Programme

Satellite Enhanced e-Health and Telemedicine for Sub-Saharan Africa

To develop a programmatic framework for development of sustainable eHealth infrastructure for the whole of sub-Saharan Africa

Funded by the European Space Agency (ESA), Luxembourg Agency for Cooperation and Development (LUX-DEV) and with co-funding of the Government of Luxembourg and the EU-Africa Infrastructure Trust Fund (ITF)

Timeline

Horizontal Studies

Thematic Areas Projects

2011   2012   2013   2014   2015   2016   2017

eHSA Programme

Phase-2: THEMATIC AREAS

- eCare
- eLearning
- eSurveillance
- eGovernance/ eAdministration

Phase-1: HORIZONTAL STUDIES

- Governance
- Regulatory Aspects
- Interoperability: System of Systems
- Sustainability, Liability, Business

eHSA Programme & Status

Phase-1) PREPARATORY HORIZONTAL STUDIES

Study	Budget	Status 23/09/2011
Governance	1 MEUR	ITT closed
Regulatory Aspects	1 MEUR	ITT open*
Interoperability	1 MEUR	ITT in preparation
Sustainability	1 MEUR	ITT in preparation

*expected closing date: 25 October 2011

Phase-2) PROJECTS ON THEAMTIC AREAS
- 4 Studies per year, one in each Theme
- Maximum 2 MEURO per Project

Questions?

Alexander Horsch

alexander.horsch@tum.de

alexander.horsch@uit.no