



HEALTH FOR AFRICA

Building e-health services for Sub-Saharan Africa

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Personal background



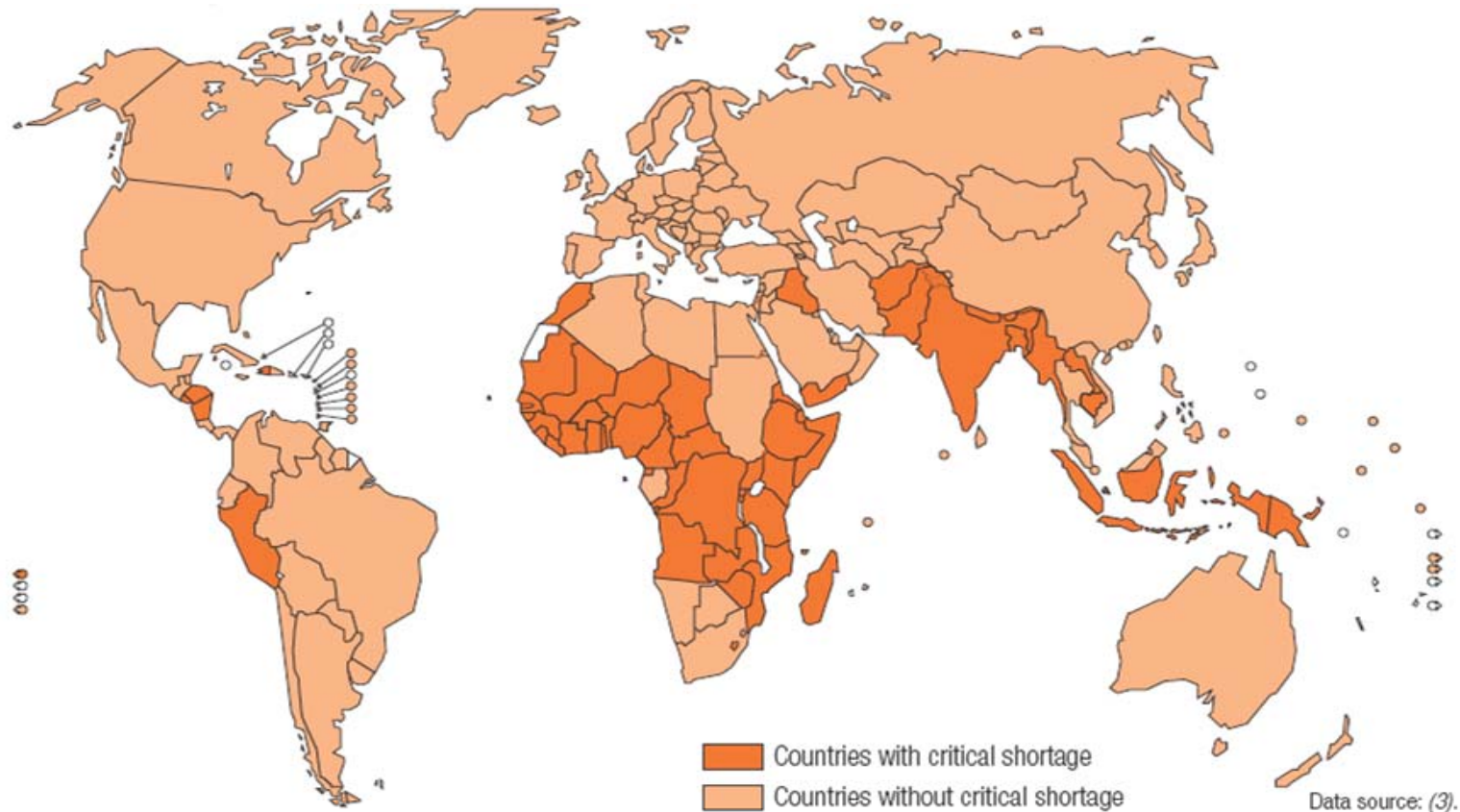
- **Doctoral degrees in computer science and medical informatics**
- **Professor for medical informatics and telemedicine at universities in Munich (TUM), Germany, and Tromsø (UiT), Norway**
- **25 years experience with eHealth R&D projects in hospital and region, and in operative IT service (medical computing center)**
- **Research fields: eLearning, telemedicine, computer-aided diagnosis, biosensors, cancer, chronic diseases, healthy ageing, global health**

Supporting actions of WHO, ESA, EC over ten years as eHealth expert:

- **WHO Interoperability & eHealth Observatory**
- **ESA Telemed Working Group 2004**
- **TTF (ESA, EC, WHO, AUC, RECs, etc.) Telemed Task Force (since 2006)**
- **Satellite-Enhanced Telemedicine and eHealth for Sub-Saharan Africa Programme (eHSA) (currently)**

Health Workforce Crisis

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



(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 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. **Demonstration project (2010-12)** with 1 MEUR budget SAHEL – Satellite African eHealth vaLidation (running)

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

November 2008

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.

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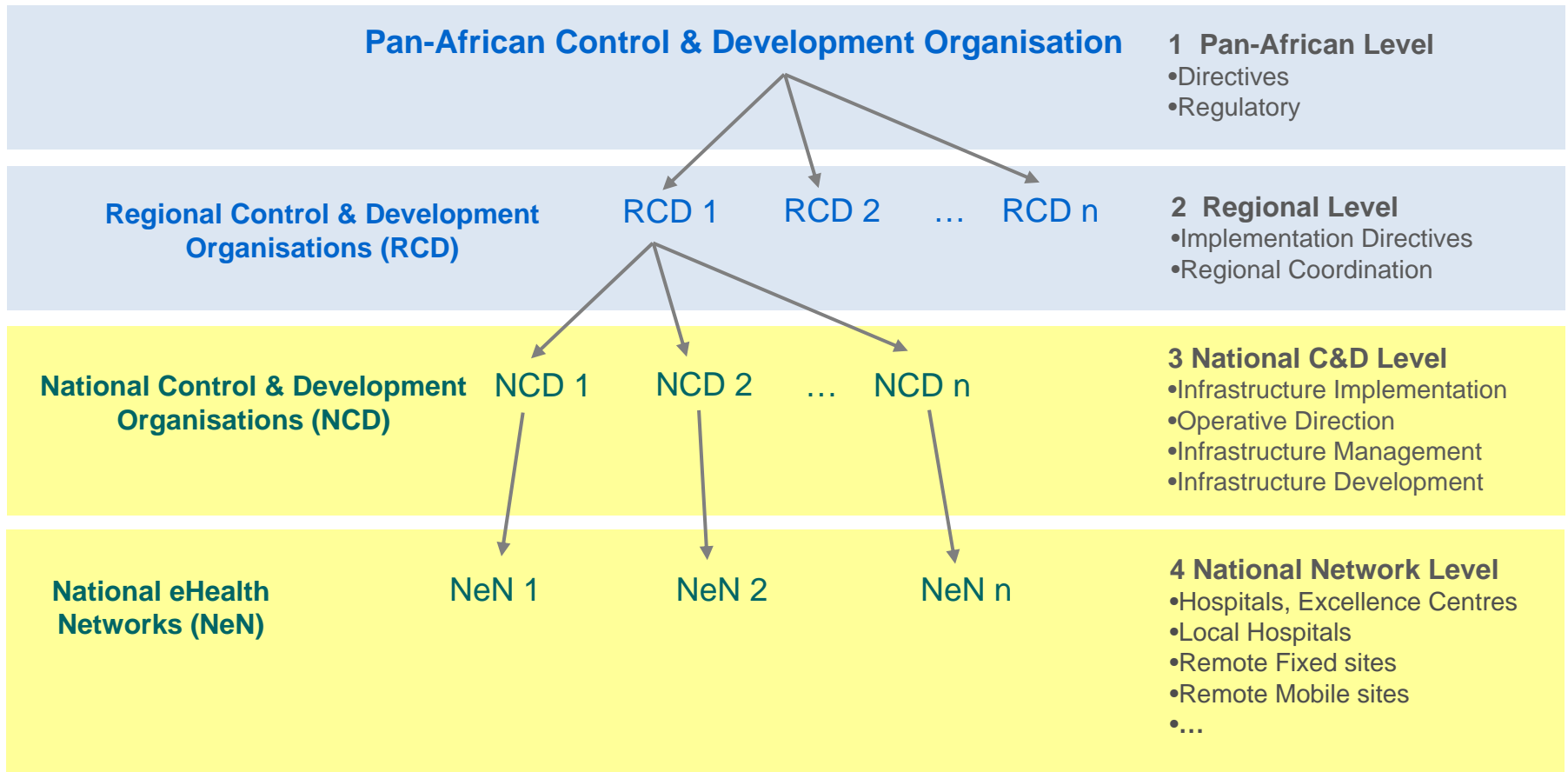
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Sub-Saharan Africa health impact	Lives Saved p.a.	One Year Value	Lifetime Value¹
eCare in the Clinic	16,800	\$680 million	\$746 million
eCare in the Village	151,800	\$259 million	\$2,576 million
eLearning	85,100	\$145 million	\$1,444 million
eSurveillance	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.

Pan-African Network

Possible network organisation (system of systems)



Demonstration Project

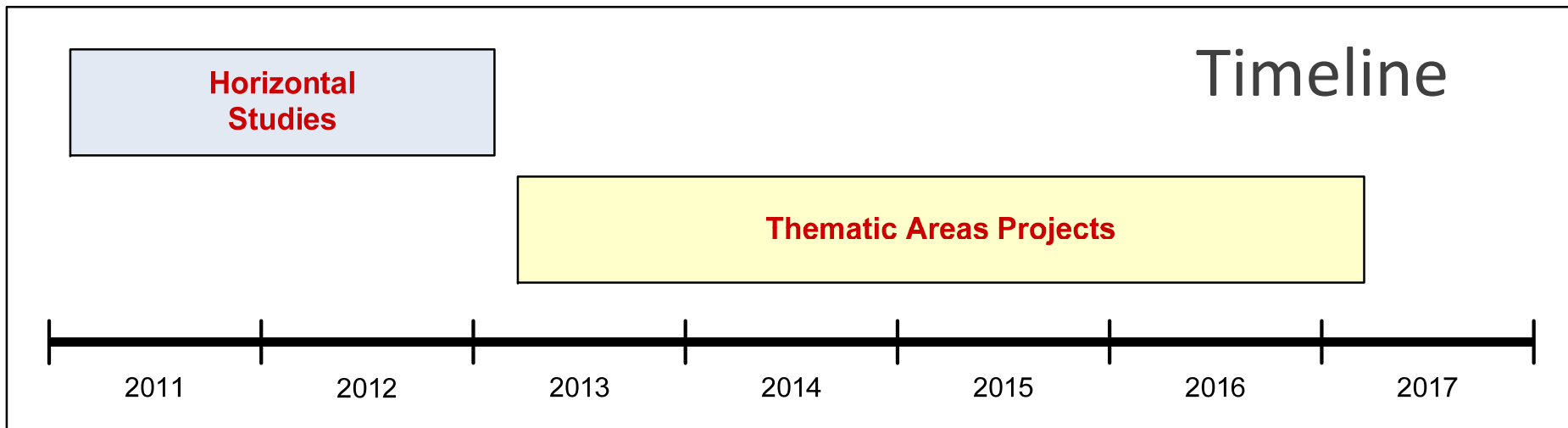
SAHEL – Satellite African eHealth vaLidation

- 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

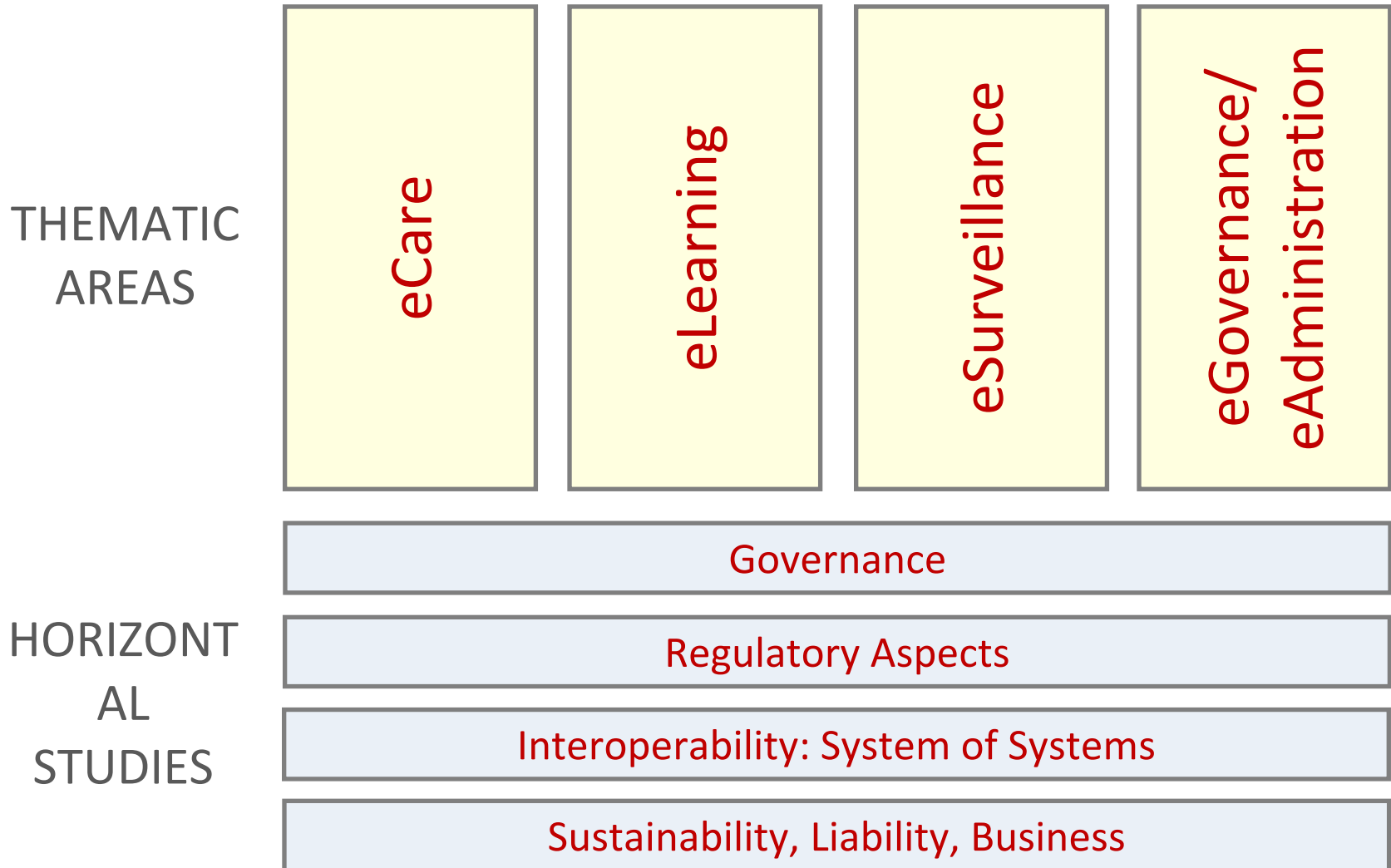


eHSA Programme

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

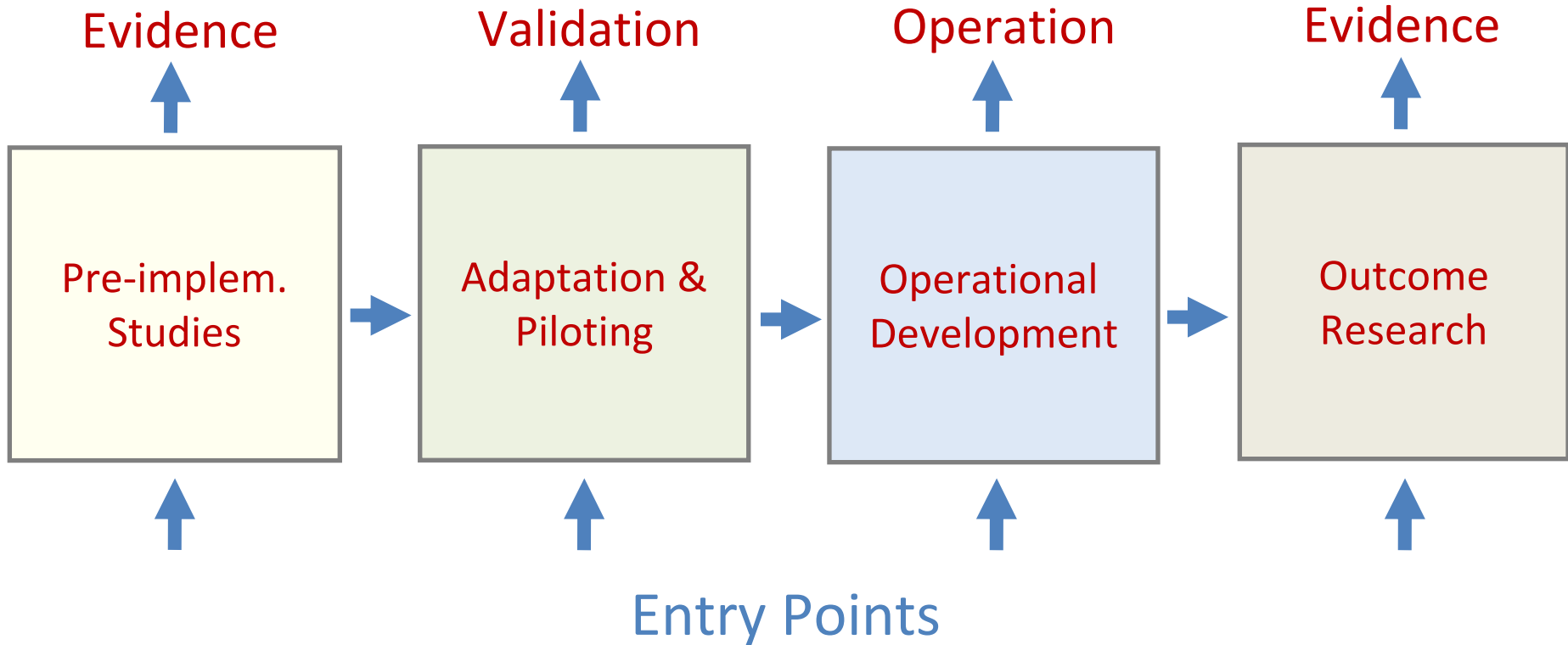


eHSA Programme



eHSA Programme

From EVIDENCE to SUSTAINABILITY





Questions?

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