Collaboratories for HIV/AIDS Research in Southern Africa

Gary M. Olson
Matthew J. Bietz
Marsha Naidoo
Derrick L. Cogburn
Stephanie D. Teasley

School of Information
University of Michigan, USA
Organization of Talk

- Definition of “collaboratory”
- Lessons learned from past collaboratories
- Risk mitigation
- HIV/AIDS research in southern Africa
- Specific activities
- Beyond these initial projects
The Collaboratory Concept

- **Collaboratory** <-- Collaborate + Laboratory

- W. Wulf -- “… a ‘center without walls,’ in which the nation’s researchers can perform their research without regard to geographical location” (1989)

- Many collaboratory initiatives
  - US, EU, etc.
Definition of a Collaboratory

A collaboratory is an organizational entity that spans distance, supports rich and recurring human interaction oriented to a common research area, and provides access to data sources, artifacts and tools required to accomplish research tasks.
www.scienceofcollaboratories.org
Lessons Learned

- Collaboration readiness
  - Experience & attitude about working together
  - Real need to collaborate
- Collaboration infrastructure readiness
  - Technical
  - Human – adequate technical support
- Collaboration technology readiness
Collaboration technology readiness

- Technologies requiring minimal training
  - Electronic mail
  - Electronic mail with attachments
  - Using repositories
  - Group calendaring

- Technologies requiring training in both collaboration and the tools
  - Creating repositories
  - Hand-off collaboration
  - Synchronous collaboration
Lessons Learned

- Collaboration readiness
  - Experience & attitude about working together
  - Real need to collaborate
- Collaboration infrastructure readiness
  - Technical
  - Human – adequate technical support
- Collaboration technology readiness

- All essential for collaboratory success
Risk Mitigation

How can we ensure collaboratory success?

Two related approaches

- User-centered design
- Longitudinal evaluation
User-centered Iterative Rapid-Prototyping Approach to System Design

**Conceptualize:** Interview, Observe & Define objects in current practice; establish baseline.

**Build:** Rapid prototyping

**Modify:** Extend design, evolution

**Trials:** Deploy, use, evaluate.
Longitudinal Evaluation

- Continuous evaluation
  - Surveys, interviews
  - System usage
- Examples from our experience
  - Effects on training & education
  - Elaboration & maintenance of social networks
- Emergence of new organizational forms
Challenge: Collaboratories in Africa?

- Less developed technical infrastructure
- More mixed experience with relevant applications
- But very high motivation
Prior Experience with Distance Education Between US & SA (Cotelco Project)

- University of Michigan
  - Ann Arbor, MI
- University of the Witwatersrand
  - Johannesburg, South Africa
- American University
  - Washington, DC
- University of Fort Hare (Joined 2000)
  - Alice, South Africa
- Howard University (Joined 2001)
  - Washington, DC
- University of Pretoria (Joined 2002)
  - Pretoria, South Africa
Prof. Cogburn with class in Pretoria
Tools that Work

- Voice conferencing – voice over IP
- Application sharing – share any relevant work artifact
- These are the two most powerful collaboration technologies in ANY setting
Centra Session between US and SA

Definition of a Collaboratory

- A collaboratory is a network-based facility and organizational entity that **spans distance**, supports rich and recurring **human interaction** oriented to a **common research area**, fosters contact between researchers who are both known and unknown to each other, and provides **access** to data sources, artifacts and tools required to accomplish research tasks.
Two Similar Projects in Africa

- Basic research on the nature of HIV-C
- Clinical trials
  - Mother-infant transmission
  - Antiretroviral (ARV) Therapies
  - Vaccine candidates
- Education
  - Members of the public
  - Health care workers
1. Project Participants

Partners AIDS Research Center, Harvard U

Nuffield Dept. of Clinical Medicine, U of Oxford

Nelson Mandela College of Medicine, U of Natal, Durban
Lab in Durban
Clinic in Soweto
2. Project Participants

Harvard AIDS Institute
School of Public Health, Harvard University

Ministry of Health, Republic of Botswana

Botswana
BHP Building in Gaborone
BOTSWANA - HARVARD
H.I.V. REFERENCE LABORATORY

OFFICIALLY OPENED
ON DECEMBER 1st 2001

BY

HIS EXCELLENCY
THE PRESIDENT OF THE REPUBLIC OF BOTSWANA

Mr. FESTUS GONTEBANYE MOGAE PHD,MP
# Readiness Overview

<table>
<thead>
<tr>
<th></th>
<th>Botswana</th>
<th>Durban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration readiness</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Collaboration infrastructure readiness</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Collaboration technology readiness</td>
<td>Moderate</td>
<td>Mixed</td>
</tr>
</tbody>
</table>
Specific Activities

- Facilitate collaboratory deployment
  - Analysis based on visits to research sites
- Longitudinal study
  - Baseline data collection
- Human capacity development
  - Training in collaboratory development, deployment, evaluation
- Partner with local universities
What is being supported?

- Lab meetings
- Clinical meetings
- Remote colloquium speakers
- Our own project coordination with collaborators in the region
Beyond these initial projects

- Disseminate concepts throughout region
- Regional needs for HIV/AIDS research & education
- Extension to other arenas
  - Education
  - Government
  - Economic development
Conclusion

- Collaboratory is a new model for distributed scientific research
- “Readiness” is a key concept
- User-centered design and longitudinal evaluation can minimize risks
- Rich opportunities for Africa
For further information:

- iarc.si.umich.edu
- www.scienceofcollaboratories.org
- www.crew.umich.edu
- www.cotelco.net
- Or contact
  - gmo@umich.edu
  - mbietz@umich.edu
  - marshan@umich.edu