Global Virtual Research Organizations

FIM4R11

McGill University, Montreal, Quebec – Sept. 18, 2017
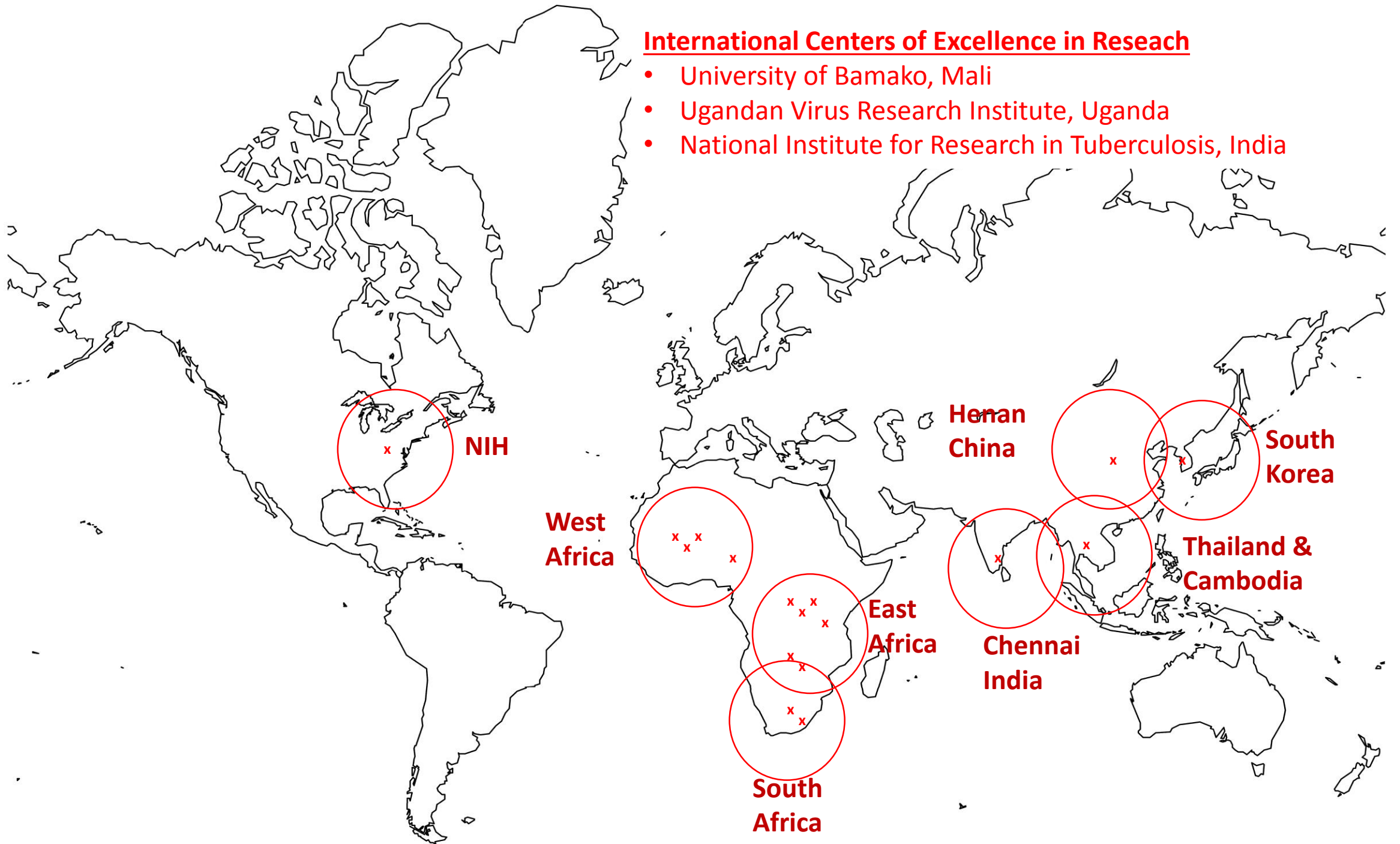
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International Cyberinfrastructure Program

National Institute of Allergy and Infectious Diseases, NIH

International Centers of Excellence in Reseach
- University of Bamako, Mali
- Ugandan Virus Research Institute, Uganda
- National Institute for Research in Tuberculosis, India

In the beginning we had this idea of a VRO….

- Many services
- Many users from many institutions
- Scientists around the world coming together to work
  - To collaborate
  - To innovate
- They would not need to have new credentials managed by us
- They would bring credentials from their own institution
- We would know them
- And because we knew them, we could group them with their collaborators
- And it was a good idea

NIAID VRO – Milestones and missteps phase 1 & 2
An entity in every pot

- Phase 1 – Distributed Service Providers – 17% success rate
  - Comanage
  - Shibboleth Service Providers – Comanage and SharePoint
  - Shibboleth Identity Providers at the African NIH sponsored centers
  - NIH Sponsored the sites in Mali and Uganda into InCommon
  - ADFS – Custom Attribute Store for SharePoint
  - Eduroam for International Center of Excellence in Research in Mali and Uganda through the local NREN/Trust Federations (WACREN/MaliREN and RENU)

NIAID VRO – Milestones and missteps of phase 1 & 2
One entity to rule them all

- Completed May 2017
- Phase 2
  - SaToSa: IdP-SP Proxy
  - Moved service providers behind the proxy
    - SharePoint
    - REDCap
    - BioLinux servers (OpenStack under development in Uganda)
    - Comanage
    - Internal Only Services
      - AWS
      - Slack
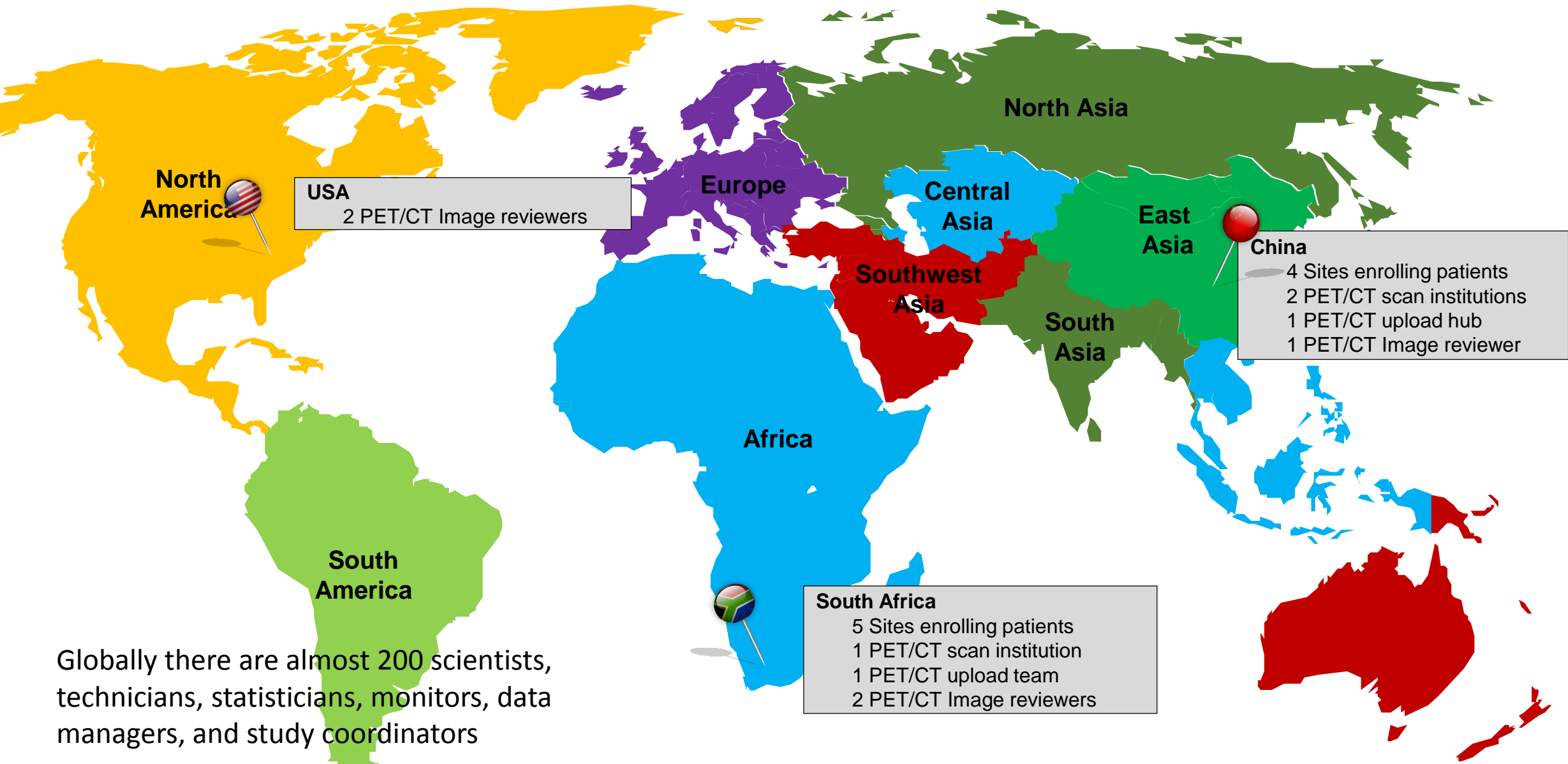 - Eduroam and IdP for the site in India through INFLIB

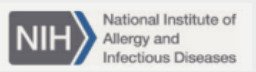# Predict TB
Status of the TB epidemic and MDR-TB crisis - 2016

- ❖ 10.4 Million new cases
- ❖ 10% are < 18 years
- ❖ 580,000 new cases of MDR TB
- ❖ 45% of the MDR TB cases are in India, China, and the Russian Federation
- ❖ 1.4 million deaths
- ❖ .4 million TB+HIV deaths

Source - WHO Global Tuberculosis Report 2016

PredictTB: Global footprint

North America

USA
   2 PET/CT Image reviewers

Europe

North Asia

Central Asia

East Asia

China
   4 Sites enrolling patients
   2 PET/CT scan institutions
   1 PET/CT upload hub
   1 PET/CT Image reviewer

Southwest Asia

South Asia

Africa

South America

South Africa
   5 Sites enrolling patients
   1 PET/CT scan institution
   1 PET/CT upload team
   2 PET/CT Image reviewers

Globally there are almost 200 scientists, technicians, statisticians, monitors, data managers, and study coordinators

SharePoint

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NIH National Institute of Allergy and Infectious Diseases

PredictTB Space 信息共享空间 ✎ EDIT LINKS

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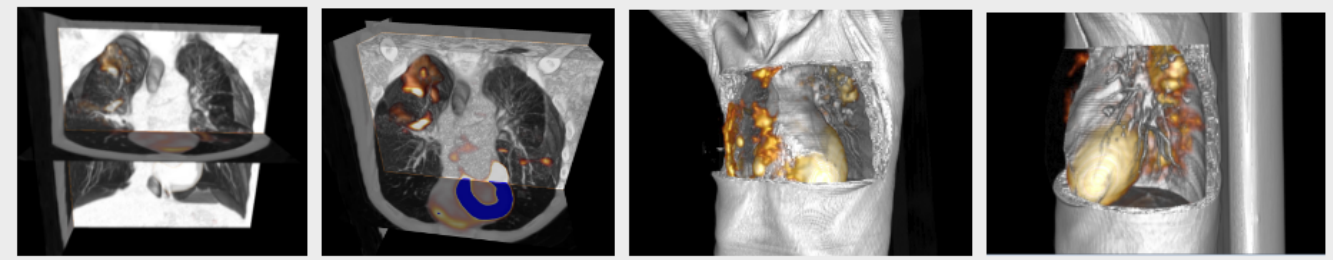
The World Health Organization estimates that the global epidemic of tuberculosis (TB) was responsible for approximately 10.4 million TB cases worldwide in 2015 alone. This high prevalence of TB along with the growing number of drug-resistant cases urgently requires interventions to help shorten the duration of TB chemotherapy.

Shortening treatment for TB has been an important goal for over 30 years. During this time, the treatment duration for drug susceptible TB was successfully shortened from 24 to 6 months. Recent studies that attempted shortening to less than 6 months, however, all failed and thus six months remains the standard treatment duration for drug susceptible TB. Despite this, evidence suggests that most patients do not require such an extensive treatment duration but identifying those cured before 6 months has proven challenging. PredictTB makes use of state-of-the-art tools (specifically, [^{18}F]-FDG PET/CT imaging and GeneXpert) to identify participants with a lower burden of disease who have a strong early response to treatment, and will test whether treatment can be shortened to 16 weeks in this lower risk cohort. The study hypothesizes that a combination of radiographic characteristics at baseline, the rate of change of these features at one month, and markers of residual bacterial load at the end of treatment will identify patients with tuberculosis who are cured with 4 months (16 weeks) of standard treatment.

PredictTB is a prospective, randomized, phase 2b noninferiority trial, with three study groups:

- a non-randomized higher risk cohort (Arm A), undergoing standard treatment, and
- two groups from a lower risk cohort who are randomized to standard treatment (Arm B) or to shortened treatment (Arm C).

Start HRZE | HR only | Complete HR | Primary Endpoint and Follow up completed

A | Follow-up

Not Eligible
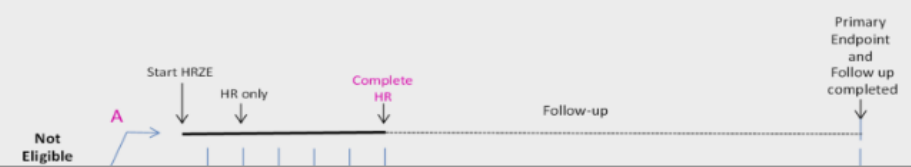
Predict TB – Lessons Learned for VROs

- Enrollment process
  - Incomprehensible to users
  - Conscription partial solution (for known IdPs)
  - Administrator training
  - Identity Aggregation critical but difficult to understand
- Authentication
  - Working with Federations
  - Working with Academic IdPs
  - Desperately seeking Commercial IdPs (in China)
  - IdPoLR
- Staffing operations vs development
- Confusion in Discovery

New Federation Development

CARSI – CERNET Authentication and Resource Sharing Infrastructure   中文版(Chinese)

NIH

Henan China

South Korea

West Africa

WACREN

RENU

Thailand & Cambodia

East Africa

Chennai India

SAFIRE
SOUTH AFRICAN IDENTITY FEDERATION
South African Identity Federation

South Africa

INFLIBNET Centre
Information and Library Network Centre
Infocity Gandhinagar
INFLIBNET
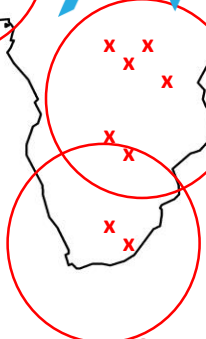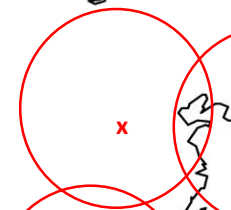
NIAID VRO - Discovery
Who am I and where do I come from?

Computer Centre in Gdansk (CI TASK)

Phase 3.5 - Discovery

Trust and the VRO

- How do we build trust behind the Proxy wall?

Organization Name: **Carnegie Mellon University**

Information URL: http://www.cmu.edu/

Number of Entities: 1 IdP; 553 SPs

Identity Provider: Carnegie Mellon University

Service Providers: 2fa Production
AB Tech DS Web Application
ABTech Club Website
ABTech Tracker Dev
AC APP Test Environment
AC application
ACIS Administrative System
ACIS dev
ACR Development System
ACR Service
ADFS development server
AWA Dev
AWA Development Server
AWA Production
AWA QA
AWA QA Server 4
AWA QA2
AWA Server
Accounts Test
Accounts service page
ActiveMQ test environment
Activities Board Signage App
Administrative Services Printing
Administrative Services Web Server
Advance Web QA server
Advancement Web Production Server Instance
Advancement Web Test Server Instance
Al's Ubuntu Shibboleth Test
Andrew 3 / RHEL 6 shibboleth configuration testing
Andrew Health System Service
Andrew Mailing List Service
Andrew Metrics server
Andrew Reporting Development Server
Andrew Reporting Server
Andrew Reporting Test Server
Andrew Web Publishing Development
Andrew Web Publishing System
Andy Puppet Test Service

NIH – InCommon Metadata

- https://www.incommon.org/federation/info/org.html?orgName=National%20Institutes%20of%20Health

Organization Name:	**National Institutes of Health**
Information URL:	http://www.nih.gov/
Number of Entities:	3 IdPs; 12 SPs
Identity Providers:	ICER - Mali
	ICER - Uganda
	National Institutes of Health
Service Providers:	NIAID ICER Collaboration Manager
	NIAID ICER Collaboration Manager (development)
	NIAID ICER-Mali Federation Gateway
	NIAID ICER-Uganda Federation Gateway
	NIAID Science Forum Development Federation Gateway #2
	NIAID Science Forum Federation Gateway
	NIAID Science Forum Federation Gateway (deprecated)
	NIAID Science Forum Mobile Data Capture Service (Development)
	NIAID Science Forum SharePoint Services
	NIH Dev SP
	NIH SP
	Scien-CV

Published Proxy Services

What does it mean to have commercial services behind a proxy?

Acknowledgements

Thank you