



Evaluating and Improving Biosafety in Uganda and Rwanda

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ABSA 2012

Charge

- Work with MoH to improve TB and HIV national reference laboratories
- Train & mentor biosafety officers
- Introduce 14 point biosafety program
- Assist in meeting the *WHO Afro Laboratory Assessment Accreditation* criteria

Visits to Uganda Labs

- **March 2010 – self**
- **September 2010 – with Jim Herd, ME (Alliance Biosciences)**
- **March 2011 – with Jim Herd, ME (Alliance Biosciences)**
- **November 2011 – with Shanna Nesby (CDC) to conduct biosafety training course**

Key Personnel

- **Joel Opio, CDC BSO**
- **Joseph Bukusuba, HIV lab, UVRI, Uganda**
- **Henry Byabajumga, BSO, NTbRL**
- **Peter Awongo Chaiga, Principal Lab Technologist, NTbRL**
- **Ojwiya Amato Menya, Head Central PHL, AfBSA Counselor**

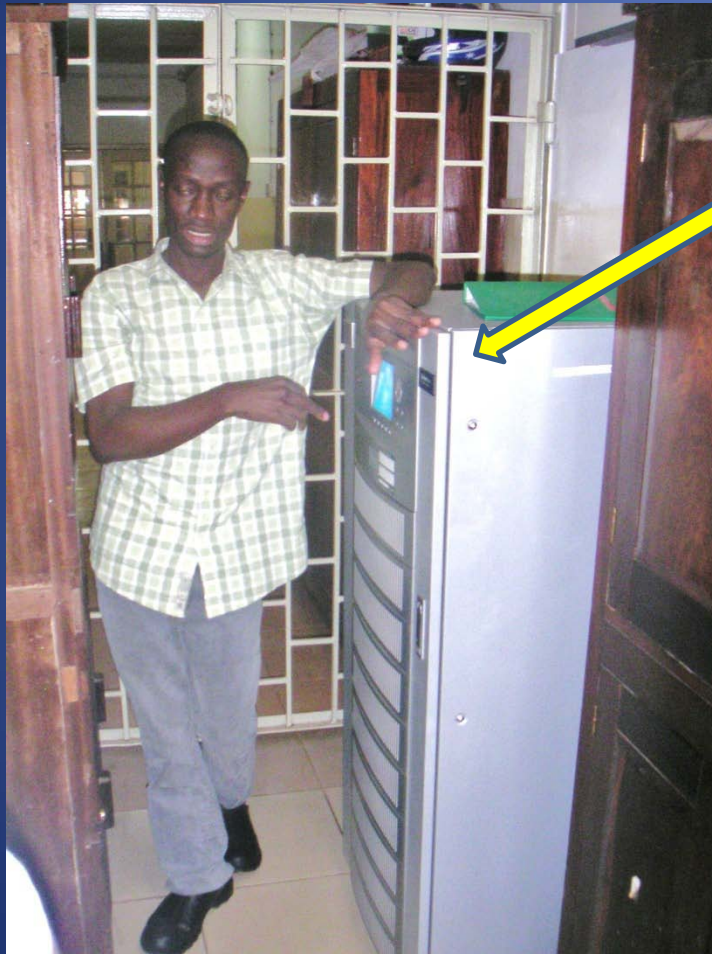
National TB Reference Lab, Kampala



Achieving BSL-3



NTB Facility, Kampala



New UPS



Henry Byabajumgu, BSO, and Dr. Nesby

Inside NTB BSL-3 Lab



Certified BSCs and double-door autoclave

NTB BSL-3 Support Systems Kampala



HEPA Exhaust System

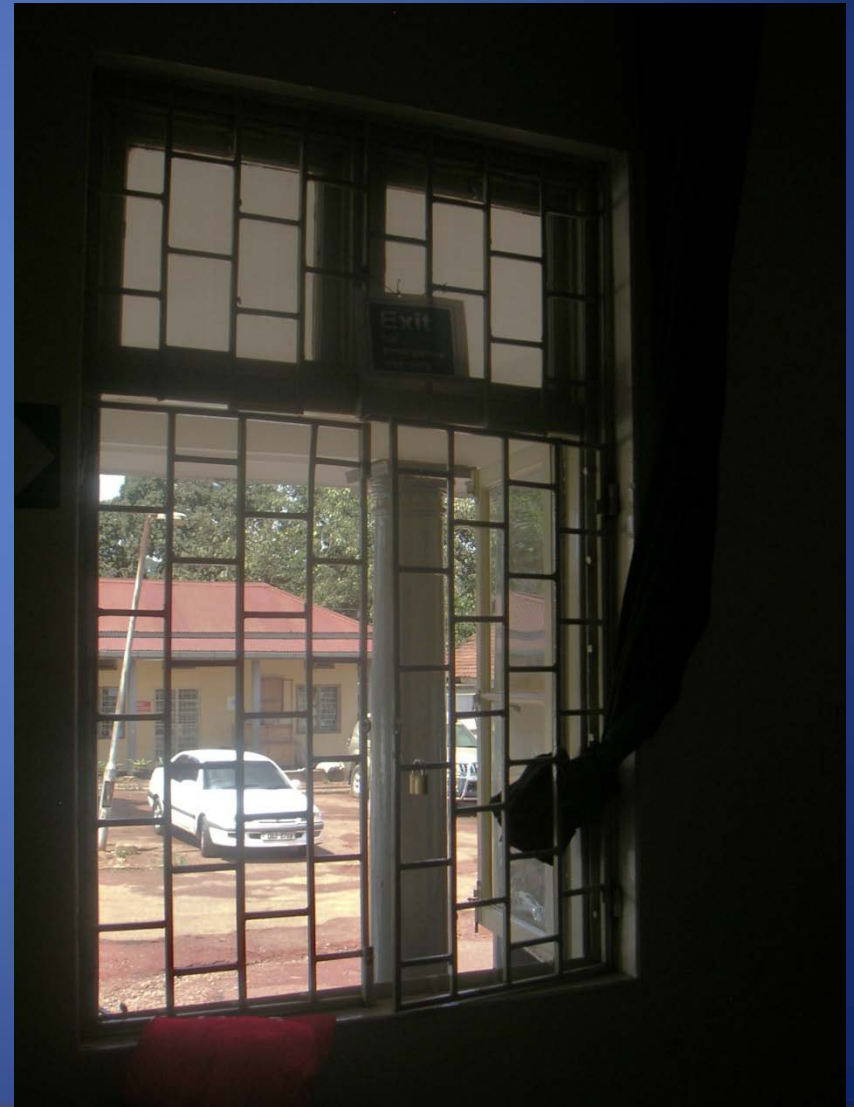


Emergency Generator

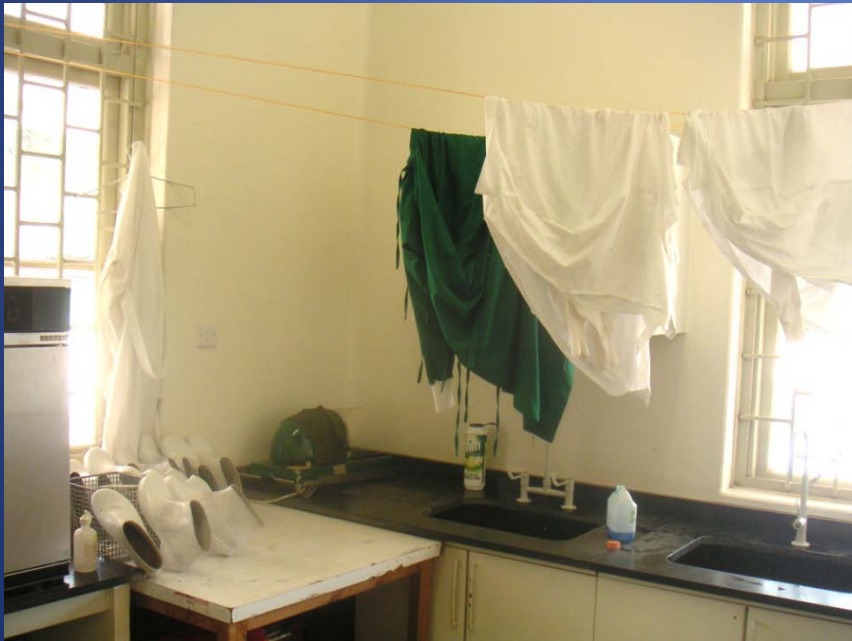
Chemical Issues



Chemical storage and
Emergency egress access



Hand washing lab coats & open pit burning



Uganda Virus Reference Institute



Dr. Edward Katogole Mbiddo , Director

Dr. Downing's HIV Lab (CAP accredited)



Lab now has a trained
BSC certifier



HIV Reference Lab, Entebbe



Accessioning & sample storage



BSL-2 HIV Lab



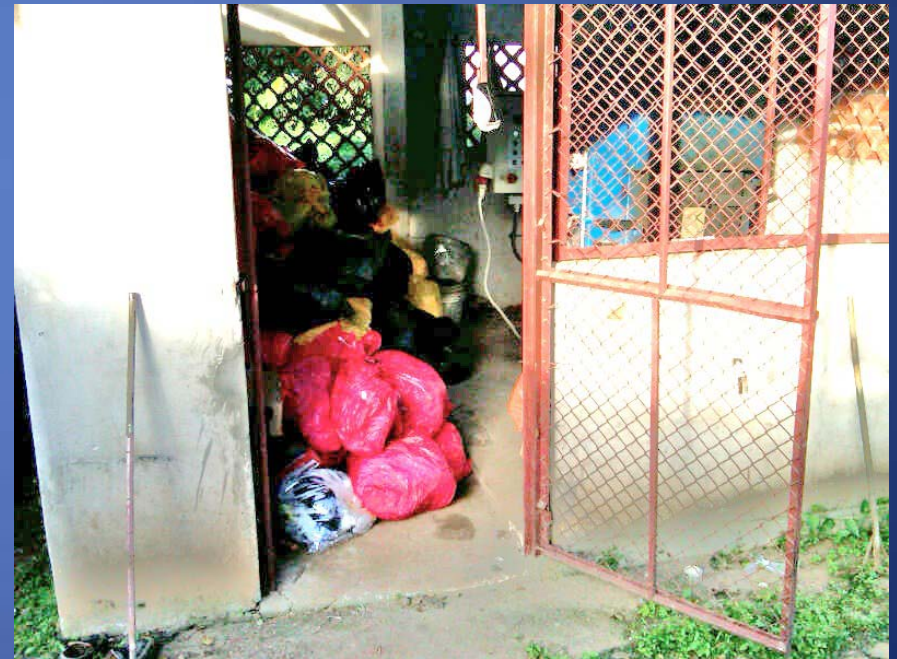
PPE & pipetting devices appropriate



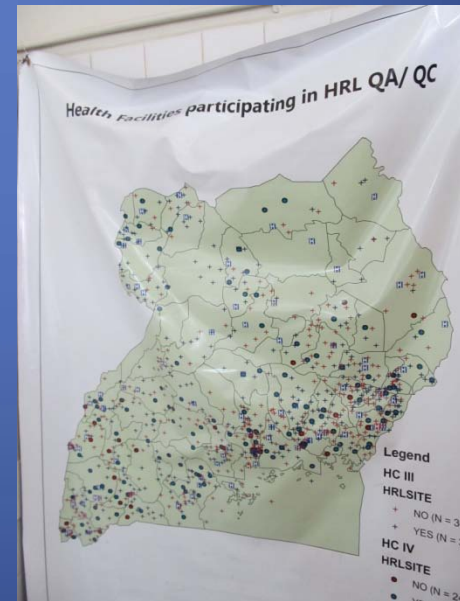
Windows open, BSC not certified



Medical Waste Management, UVRI, Entebbe



Future Planning



2nd & 3rd tier labs



**Biosafety Class
Entebbe – November 2011**



Kigali, Rwanda



National Reference Laboratory

- **NRL is the top-level diagnostic laboratory in Rwanda.**
- **Capable of blood-spot analysis for HIV/AIDS and BSL-2 level TB diagnostics**
 - **Microscopy**
 - **Solid culture (agar slants and plates)**
- **Wishes to do liquid culture at BSL-3**

NRL HIV lab



Preparing blood
spot tests

Principal Contacts



Sabin, NRL BSO

Eugene, CDC

Infectious waste treatment at NRL



**Autoclave before
incineration**



Major Accomplishments

- BSO appointed, mentored, trained & full time
- Staff training begun by BSO
- Signage, security & fire safety up-grades
- In-coming sample delivery system activated
- Emergency power system (UPS, generator)
- Lab clothing washing on site
- Planning for BSL-3 up-grades for liquid TB work

More Accomplishments

- **Safety committee appointed, trained**
- **Biosafety manual prepared, many SOPs done**
- **Staff training accomplished**
- **Lab accident / incident reporting initiated**
- **Addition of Senior Technical Consultant from the International Center for AIDS Care and Treatment Program, Columbia U. (ICAP)**

Needing Attention

- **Better understanding of budgetary process**
- **Replacement of 2 BSCs**
- **Decision on construction of new facility**
- **Continued outreach to lower-level labs**
- **Networking / training to improve biosafety country-wide**
- **Tb lab renovations to BSL-3**

NRL Tb lab improvement recommendations

- **Provide directional inward air flow, pressure indicators, door closers for lab**
- **Provide emergency eye wash station**
- **Install backflow preventer in the supply water**
- **Ensure windows in Tb rooms are secured closed**
- **Seal through-the-wall and floor penetrations**
- **Seal tile cove moldings**

Achieving Directional Inward Flow



New Biosafety Association

**Uganda Biosafety and Biosecurity
Association (UBBA).**

July 2012