DIGITAL MOBILE CXR – THE NIGERIA FIELD EXPERIENCE

NIGERIA TEAM PRESENTATION

@ UN CC, ADDIS ABABA 5-8, 2010
Specific objectives

1. To determine the prevalence of smear positive pulmonary TB among the eligible population
2. To determine the prevalence of symptoms suggestive of TB among eligible population
3. To determine the prevalence of chest radiological abnormalities among the eligible population
4. To determine the health-seeking behaviour of individuals with symptoms suggestive of TB
Screening methods

There will be three methods:
1. Interview of eligible population
2. Screening by X-rays
3. Examination of sputum samples for AFB and by culture.
Preparation for trainings

• Clearance from the National Radiation Regulatory Agency mandatory for ethical and legal reasons,
  – Essential before order of equipment

• Order of equipment to used
  – Portable/mobile X-ray machine (Min X-ray) with Computed Radiography (CR) reader and workstation,
  – Power source (generator)
  – Other accessories

• Identification of trainees and facilitators:
  – Trainees
    • Medical Officers and
    • Radiographers
  – Facilitators
    • Radiologist
    • Radiographer
Preparation for trainings

- Development of a Radiology Reference Guide (was developed with TA from WHO)
  - Describe the responsibilities of the team,
  - Equipment description and requirements,
  - Standard Operating Procedures,
  - Radiation Protection,
  - Quality Assurance,
  - Interpretation,
  - Training and,
  - Tools.
Preparations cont.

• Training site
  – Site with portable/mobile x-ray machine with Computed Radiography (CR) reader and workstation already in use,
  – Good outpatient flow.

• Identification of suitable trainees
  – Medical Officers working as clinicians,
  – Radiographers
Training 1

• Took place April 2010 – Duration 4 days
• Aim – trainees to;
  – have a good knowledge of the survey protocol and SOPs (especially the radiology reference guide),
  – know and understand their respective roles in the TB prevalence survey,
  – for the medical officers - know how to distinguish between a normal and abnormal chest-x-rays,
  – radiographers - know and understand how to use the digital x-ray unit in order to obtain a good quality chest-ray, and for all to;
  – discuss logistic plans for the field operation during the survey.
2nd Training

• Took place September 2010 – Duration 5 days.
  – Refresher aim at improving on speed of performance
• The workshop was meant to familiarize participants with;
  – assembling and disassembling of the x-ray equipment and the CR unit,
  – the software to be used during the survey,
  – data entry, scanning, processing and archiving, and
  – to have hands-on feeling of community work and the intricacies (working as a team, innovations required for smooth field operation, etc).
AT THE REFRESHER TRAINING
Equipment unpack
Equipment unpack
Scanner
Positioning
Chest x-ray exposure
Feeding CR cassette into scanner for image processing
Final image viewing, processing and acceptance
SCHEDULE OF ACTIVITIES

• Advocacy to the communities
• Overview of previous training
  – Class room
  – X-ray unit
• Field work in two communities
  – Day 1
    • 78 chest x-ray taken, processed and read
  – Day 2
    • 89 chest x-ray taken, processed and read
• Post field work session
  – Exposure, data entry, scanning and processing
ONE OF THE SITES
PEOPLE BEING REGISTERED
MEN WAITING FOR THEIR TURN
Lessons learnt

• The mini x-ray machines and CR units are of good quality and can work under field conditions. However careful handling is required,
• Familiarity with computers and digital imaging is required,
• Two radiographers and an assistant will make a good team in the field,
• Adequate logistic arrangements (transport, suitable generating sets for power, etc) is prerequisite for smooth field operations,
• The services of an IT expert is required for smooth operation in the field,
VERY IMPORTANT!
DONGLE KEY
Important issues to note while placing order

• Some CR units may not come with formatted lap-tops. Regular laptops can be use for imaging. That had some draw backs as certain feature may not be activated e.g. archiving images or copy on an external hard drive,

• Equipments may not come in a sturdy, weather proof carry cases important for transportation and handling as seen above. Orders has to be very clear,

• Tool kit (sets of spanners) essential for assembling and disassembling of equipments,

• Some participants are not use to handling commuters as such mouse pad of lap tops used not user friendly. External mouse are to be procured for use,
Important issues to note while placing order (Cont..)

• Clearance from the National Radiation Regulatory Agency need to be obtained.
THANK YOU!