TB Prevalence Survey

-Beyond and Behind Protocols/Guidelines-

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TB prevalence survey

Today’s session

• Some keys for successful surveys
• Experiences in Cambodia, Myanmar and other countries: Bottle necks
• More practical tips than theories
Too precise info can’t be used, and it could be a burden on survey operation

- Researchers want to know many, however, studies with too much breakdown components often don’t have any meaningful conclusion due to limited sample size
- Time consuming individual interview could be a bottleneck in survey operation

You have >10,000 S+ cases a year by NTP. However, a survey may detect only around 100 cases.
Budgeting

Basically very similar to routine activities

• Planning Budget
• Pre Survey
  – Procurement
  – Training
• During Survey
  – Field Operation & Central Management
    • Quality Assurance
• Post Survey
  – Analysis
  – Dissemination

However, who will put machine oil, additional money, for smooth operation?
Procurement

- Capital investment
  - Find very early if you need to procure expensive items especially through international shopping
    - Ex. X-ray equipment, cars

- Consumables
  - Find if your regular items can cover most needs or you need something different
    - Ex. sputum cup, X-ray films

Lesson: We need to consider some specific arrangement of procurement for surveys and researches to avoid delay and to get proper quality items.
Very hard to get right things for the study through international procurement

- Sputum Container
  - Screw cap or Snap cap?

- Tuberculin
  - 2TU or 5TU?
  - From Denmark or Japan or Viet Nam?

- Slide Glass
  - Tropical or Regular package?
Logistics

• Screening method
• Car
  – Availability of cars could be a major bottle neck factor to operate numbers of teams at one time
• Tuberculin and Sputum Transportation
  – Cold chains for both directions
• Contract/Out Sourcing: Private sector
  – May ask private sector for non-medical supply and some transportation by contract
Designating a survey area in a selected cluster village

- Village leader often asks a survey team to have his house in survey (bias)
- Survey center could be out of designated survey area
  - Security
  - Facility (electricity, housing ----)
Census: Population & Eligibility

UN estimate vs. Local estimate: Issue in CDR and burden estimate  (Total: 14 mil or 12 mil, Proportion of Children: 30% or 25%)

Need clear definition and examples: Visiting relatives, Visitors, Homeless, and Students and Factory workers in dormitory

“All slept last night”: Some community tries to hide those with sickness, while some community invites sick relatives from village nearby
Census: Confirming eligible population and asking for participation

People who basically stay in a defined area more than a month are eligible population regardless the possession of their house and their availability on the survey day (Cambodia Survey)

Proper informed consent to avoid creating fears

Example in Cambodia: Note book
Census: Confirming eligible population and asking for participation

To know population structure including children is often important especially when available population information is not reliable and when there are significant floating populations.
Onsite date management: survey site design of flow of “participants and date sheets” is a key for smooth operation

Rural village in Cambodia

Urban center, Viet Nam
Individual or Family Assisted Structured Interview by a Trained Health Worker

- A chance to identify migration of non-eligible participants
  - Sick relatives invited from other village nearby

Home visit will be carried out to those who can’t afford to come due to illness, age etc
X-ray and results on the spot

• Take *any abnormality, NOT only TB suspects*, for sputum exam

• No time gap between screening and sputum collection

• At least first sputum can be collected under professional supervision

• Reassessment of the interview: history, current treatment etc. (people can’t hide the disease)

• Additional diagnostic evidence for single specimen positive
Digital Chest-Xray

- Immediate result without film processor/water
- No stock space for films
- Easy data management
- Capital cost
- Still sensitive to bumpy road
- Few professional readers on screen image

(Reading system in a mobile digital X-ray unit, digital X-ray car)
Supervision and **Mid-term review**

- Define role and responsibility
- Retreat to exchange info.
- Minimize inter-team bias
Data entry and analysis

• What data sets? (No necessary to put all log books into PC): **Must have a rule to name a file**

• Entry of data from Lab, X-ray ---

• Double data entry and verification

• Analysis and interpretation

• Reporting and Dissemination
Patients’ information

- Confidentiality issues
- Additional study data
- Arrangement of treatment and/or further examinations: Who will tell what to whom when and how
  
  \[ S(+) \]

  \[ S(-)C(+) \]

  \[ S(-)C(-) \] TB suggestive by X-ray

  Other disease suspected

Survey site could be out of NTP service area
Data analysis and Interpretations

• Expert consultation is essential
• Clear requests/instructions to statisticians and epidemiologists
• Consider implication for the program to interpret
• Need to defend NTP from political attack
Reporting & Dissemination

Results are assets of everybody: Neither of researchers nor the government

- Consensus meeting with experts and stakeholders to share information and to get advises for further analysis
- Early presentation of key preliminary results (no secret)
- Data clean up, further analysis, WS on interpretation
- Drafting an official report
- Consensus meeting with stakeholders
- International Exposure
- Dissemination WS of final results
- Publish the official report
- Submit scientific papers to journals
Table A-1: Survey result by cluster

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Total: 31050 30032 96.7% 23084 22160 96.0% 81 190 309 271 580 366 857 1394 1223 2617
Avg: 739.3 715.0 96.6% 549.6 527.6 96.2% 1.9 4.5 7.4 6.5 13.8 5.8 854 1376 1218 2594

*Access to DOTS facility: a<3km; b 3-10km; c>10km
**Active TB suspected by X-ray

Showing cluster wise results
Technical Assistance

Good Epidemiologist
Quality Assurance
Not only central desk work but also field work are essential

Lesson: Interagency collaboration with flexible budget support is essential to assist a country to carry out a prevalence survey

(JICA-Pasteur-RIT-WHO-WB/MOH-ITSC)
Consultation WS
Finalizing the results
DOTS-P for Successful Surveys in resource poor countries

• Dignity
• Ownership
• Technology
• Solidarity

• Partnership (with NTP)
  – CAM: WB-JICA-RIT/JATA-WHO- Pasteur
  – Myanmar: GF-ATM(UNDP)- JICA- RIT/JATA-WHO