KII With Regional TB control lab Techni center

A-Background Information:

Name:

Age and Gender:

Designation:

Health Facility:

Experience years:

1. For what duration have you been utilizing the GeneXpert system?
2. Can you please describe your current role and responsibilities in the TB laboratory?

B-Laboratory Workflow and Capacity:

1. Can you walk me through what happens when a sample arrives at the lab, from registration to result reporting?

2-What is the average number of samples processed per day or per week?

3- What are the most common reasons for delays in processing samples or reporting results?

4-How is sample transportation organised from health facilities or mobile clinics to your lab?

5-What are the most common challenges you face in maintaining the timely processing of samples?

C-**Diagnostic Tools and Resources**

1- What TB diagnostic tools are available? How many GeneXpert machines are currently functioning in your lab?

2- Are there any challenges related to the availability or functionality of the GeneXpert machine (e.g., cartridge stock-outs, calibration, power supply)?
3- How reliable is the supply of laboratory reagents, cartridges, and consumables?
4- Is there any backup system for testing when the GeneXpert is not functional?

D- ACF Strategy Implementation

- **Awareness and Preparation**

1. Were you informed before the new ACF van started operating 5 months ago that samples would be coming to the lab?

2-Did you receive any new instructions, training, or resources specifically for handling samples from this new ACF van?

- ❖ **Comparing Past and Present ACF**

1- When the ACF strategy was implemented before (the previous period), how did samples from that activity reach the lab?

2- How is the current ACF van operation different from the previous ACF strategy from the lab's perspective?

D- Data Management and Reporting

1-How are test results recorded and reported to the TB Centre or the National TB Program?

2- Are there any delays or challenges in reporting results

3-What is the feedback process if a patient is diagnosed as DR-TB positive? How is that communicated to the TB field staff?

E- **Training, Quality Assurance, and Supervision**

1-Have you received any formal training in operating and maintaining the GeneXpert system?

F- Infrastructure lab assessment:

1-Does the laboratory have a functioning ventilation system that ensures directional airflow (negative pressure) and meets the required air changes per hour for the procedures being performed?

2. Are there currently trained and competent staff available to perform the required tests, and is the equipment (e.g., GeneXpert, Microscopes) functional and calibrated right now?

F-Barriers, Facilitators, and Recommendations:

1-In your opinion, what are the main barriers to improving early detection of DR-TB cases through laboratory services?

2-What improvements or support would help you enhance the performance of GeneXpert testing and contribute to achieving TB program targets?

3-Any barriers related to infrastructure? (electricity or others)

How often does someone from the NTP or a senior lab supervisor visit to check on quality or troubleshoot issues?

KII Guide – National TB Data Manager (Head of Statistics Department)

Introduction :
Thank you for agreeing to speak with me. This interview is part of an implementation research study on the new active case-finding (ACF) strategy for drug-resistant TB in Yemen. You are responsible for collecting TB data from 12 governorates, managing the national database, and producing final reports. I am interested in your perspective on how ACF implementation is being captured (or not) in the data, what barriers and facilitators affect data quality and timeliness, and how the data are actually used. Your responses will be kept confidential. The interview will take about 45–60 minutes.

Section A: Role & Data System Context (warm-up, maps to RQ2)

1. What is your current role, and how long have you been managing TB statistics at the national level?
    - How many governorates do you receive data from regularly? Which ones?
2. Can you describe the **flow of TB data** from a health facility in a governorate to your final national report?
    - (Probe: paper forms → district → governorate → national; electronic vs. manual; frequency)
3. In the past six months (since ACF began), have there been any changes to the **data collection tools or reporting forms** specifically for DR-TB or ACF-related activities?
    - What changed? What did not change but should have?

Section B: Barriers & Facilitators (RQ1) – CFIR Domains

B1. Innovation Domain (ACF & Data Systems)

4. **Innovation Complexity (Data tracking for ACF):**
   How complex is it to track ACF-specific indicators (e.g., number screened by mobile clinic, contact tracing yield, GeneXpert results, DR-TB cases linked to treatment) compared to routine TB data?
    - Which indicators are hardest to collect accurately?
5. **Innovation Design (Data tools):**
   How well designed are the current reporting forms and databases for capturing ACF and DR-TB data?

- What information is missing? What fields are confusing or redundant?

6. **Innovation Adaptability:**
   Have you been able to modify any data collection tools or reporting formats to better fit the ACF strategy or local conditions?
   - What changes were made? What changes were rejected and by whom?
7. **Innovation Cost (Data system):**
   What operational costs does your department bear to manage ACF-related data (e.g., printing forms, fuel for collecting reports, phone credit for follow-up, data entry overtime)?
   - Are these costs covered by the NTP budget or external donors?

B2. Outer Setting Domain

8. **Local Conditions – Security & Infrastructure:**
   How do security and political conditions in the 12 governorates affect your ability to receive timely and complete data?
   - Which governorates are most problematic? What data are typically missing?
9. **Partnerships & Connections:**
   How do you coordinate with governor-level data officers, IOM, WHO, and other partners on data reporting?
   - What works well? What are the bottlenecks?
10. **Financing (External):**
    Are there delays or gaps in funding for data management activities (e.g., training data officers, maintaining hardware, and software licenses)? How does that affect data quality?
11. **Critical Incidents (past 6 months):**
    Have any unexpected events (conflict escalation, internet shutdown, natural disaster) disrupted data transmission or reporting from governorates? How did you adapt?
12. **External Pressure (Performance measurement):**
    Is there pressure from WHO, IOM, or the Ministry to report certain ACF or DR-TB indicators? How does that affect what gets prioritized or possibly misreported?

B3. Inner Setting Domain (NTP Data Unit & Systems)

13. **Available Resources – Materials & Equipment:**
    - Do you have enough computers, printers, paper forms, and internet access to manage data from 12 governorates?
    - Is there a functional national TB database (electronic)? If yes, is it reliable?

14. **Available Resources – Funding (Data unit budget):**
    Does the NTP allocate a specific budget for data management (staff incentives, software maintenance, supervision visits to governorates)? Is it sufficient?

15. **Physical Infrastructure (Data office):**
    - Is there a secure space for data entry, storage of paper records, and backup systems?
    - Is there backup power (generator/solar) for computers?

16. **Information Technology Infrastructure:**
    - What software or platform do you use for TB data (Excel, DHIS2, custom database)?
    - How reliable is the system? What are the common technical failures?

17. **Work Infrastructure (Staffing for data):**
    - How many data entry staff, statisticians, and supervisors work in your unit? Is that enough for the additional ACF data load?
    - What roles are missing?

18. **Access to Knowledge & Information (Training):**
    - Have you and your staff received training on ACF data indicators, new reporting forms, or data quality assurance methods?
    - What training is still needed?

19. **Compatibility:**
    - Does the ACF data reporting fit with existing data workflows (monthly reports, quarterly summaries, annual reports)?
    - What conflicts or mismatches have emerged since ACF started?

20. **Relative Priority:**
    - Compared to other data tasks (e.g., routine TB, HIV/TB, lab data), how much priority is given to ACF and DR-TB data?
    - Does this priority come from NTP leadership or donors?

21. **Tension for Change (Before ACF):**
    - Before ACF started, did you feel that the existing TB data system was inadequate for detecting and tracking DR-TB cases? How urgent was the need for change?

22. **Culture & Learning (within data unit):**

- Is there a culture of data quality checks, feedback to governorates, and learning from errors?
- Do you regularly discuss data problems as a team?

B4. Individuals Domain (Your Role & Characteristics)

23. **Your Capability:**
    - How confident are you in managing ACF and DR-TB data (indicators, data quality checks, analysis, reporting)?
    - What skills or knowledge gaps do you have?
24. **Your Opportunity:**
    - Do you have enough time and authority to enforce data quality standards with governorates?
    - Can you request changes to reporting forms or systems?
25. **Your Motivation:**
    - What motivates you to ensure accurate TB data despite the challenges?
    - What demotivates you (e.g., delayed reports, lack of feedback, low priority)?
26. **Support from Leaders (NTP Manager, MOH):**
    - How supportive is the NTP Manager and Ministry leadership regarding data system improvements? Do they act on your recommendations?

Section C: Implementation Patterns & Processes (RQ2) – Data Perspective

27. **Assessing Needs (Data needs for ACF):**
    - How did you determine what new data elements were needed to monitor ACF (e.g., mobile clinic screenings, contact tracing, GeneXpert results from ACF vs. passive)?
    - Were data officers from governorates consulted?
28. **Planning (Data system planning):**
    - Was there a plan for ACF data management developed before implementation began?
    - Did it include timelines, training, data quality audits, and feedback mechanisms?
29. **Engaging (Governorate data officers):**

- How do you encourage governorate data officers to submit timely, complete, and accurate reports?
- What strategies work? What fails?

30. **Tailoring Strategies (Data system adaptations):**
    - Since ACF began, have you made any changes to how you collect, clean, or report data?
    - (Probe: new validation rules, simplified forms, use of mobile data collection, changed reporting deadlines)

31. **Reflecting & Evaluating (Data quality & use):**
    - Do you conduct regular data quality assessments (e.g., comparing reported cases with lab registers, facility visits, cross-checking with drug dispensing records)?
    - How are the results of these assessments used?
    - Do you produce feedback reports for governorates? If yes, what do they contain?

32. **Adapting (Informal workarounds):**
    - Can you give a specific example of when the **formal data reporting process** failed, and you had to use an **informal workaround** (e.g., calling a nurse directly, using WhatsApp instead of forms, manually calculating missing data)?
    - What was the workaround? Was it later formalized?

33. **Real vs. Formal Data Flow (Gap analysis):**
    - Thinking about the official data flow (facility → district → governorate → national), where are the **biggest gaps** between what should happen and what actually happens? Why do those gaps exist?

34. **What the data show (early ACF implementation):**
    - Based on the data you have received in the past six months, can you share:
        - How many governorates have reported ACF activities?
        - What is the approximate number of DR-TB cases detected through ACF vs. passive case finding?
        - Are there noticeable differences between governorates?

35. **Data gaps specific to DR-TB and ACF:**

- What key information about ACF or DR-TB is **not** being captured by current data systems (e.g., time from screening to diagnosis, patient costs, loss to follow-up reasons, side effects)?
- How does this affect program decision-making?

Section D: Recommendations & Sustainability (RQ3)

37. If you could change **three things** about how TB data (especially for ACF and DR-TB) are collected, transmitted, analyzed, or used nationally, what would they be and why?
38. What are the **three biggest facilitators** that help you produce accurate and timely TB reports?
39. What are the **three biggest barriers** that prevent you from having high-quality data on ACF and DR-TB?
40. How sustainable is the current TB data system (staffing, funding, technology, training) for monitoring ACF over the next 2–3 years?
41. Based on the data you have seen so far, do you think the ACF strategy is being **implemented as planned** across governorates? Why or why not?
42. Is there anything else I should know about TB data management, ACF reporting, or DR-TB tracking that I haven't asked?

Closing:
Thank you very much for your time and for the essential work you do. Your insights will help strengthen data systems for ACF and improve DR-TB monitoring in Yemen.

Distract coordinator KII:

Section A:

Background **Date:** **Location:**

Name:

Age:

Gender:

Designation:

Facility/block/district:

Year of experience with TB:

Years of experience with active case finding:

Training received on DR-TB / PMDT / ACF (specify):

Section B: Diagnostic Pathway

Can you tell me about your role here – what does a typical day look like for you in terms of TB patients?

How long have you been doing this work? Has your role changed in the past year?

SECTION B: How Patients Are Identified and Referred (Process + Outer Setting)

Let me start with how TB patients typically reach you for treatment. Where do they come from?

Are you receiving more TB patients? Fewer? No change? Can you give me an example of a patient who came through the mobile clinic? During the last 5 months

Think of the most recent TB patient you started on treatment. Walk me through how that patient was identified and how they came to you.

SECTION C: Treatment Initiation and Follow-up (Inner Setting + Process)

When a patient is diagnosed with TB – whether through the mobile clinic or another way – how do you receive that information?

How many TB patients are currently under your care? Has that number changed since October 2025?

What are the biggest challenges you face in starting TB patients on treatment?

What about keeping patients on treatment – what challenges do you see?

SECTION D: Tracking and Monitoring (Process)

Do you have a system for tracking patients who miss appointments? Can you describe how it works?

How do you record and report TB cases – especially those detected through ACF? Are the registers and forms easy to use?

Section E: Barriers to Early TB Detection (Most Important)

From your perspective, what are the main reasons why TB cases in your district are found late or not found at all?

Even with the new mobile clinic, are there still patients who are being missed? Why do you think that happens?

How does the ongoing conflict affect your ability to provide treatment and follow up with patients?

Section F: Facilitators and Recommendations (Most Important)

Despite the challenges, what is working well in the current system for treating TB patients in your district?

What is the single biggest change or support that would help you find more TB cases earlier and get them on treatment faster?

KII Guide – National TB Program (NTP) Manager by CFIR Framework

Introduction :
Thank you for agreeing to speak with me. This interview is part of an implementation research study on the new multi-component active case-finding strategy for drug-resistant TB in Yemen. The strategy (mobile clinic, contact tracing, GeneXpert expansion) has been implemented for approximately six months. I am interested in your perspective as the national program manager: what barriers and facilitators you see, how implementation is actually unfolding, and what recommendations you have for improvement. Your responses will be kept confidential. The interview will take about 60 minutes.

Section A: Role & National Context (warm-up)

1. What is your current role, and how long have you been the NTP Manager
2. From your perspective, what are the main goals of the new multi-component ACF strategy for DR-TB in Yemen?
    - How does it differ from previous case-finding approaches?
3. In the first six months (early implementation), how would you describe the overall progress of ACF rollout nationally?
    - Which governorates are actively implementing? Which are not? Why?

Section B: Barriers & Facilitators (RQ1) – CFIR Domains

B1. Innovation Domain

(Characteristics of ACF)

4. Innovation Source & Evidence-Base:
   Who developed the ACF strategy (NTP, IOM, WHO)?
5. To what extent do you trust the source and the evidence supporting ACF for DR-TB in a conflict setting like Yemen?
6. Relative Advantage:
   How is this ACF strategy better than passive case finding for detecting DR-TB cases? Are there any disadvantages?
7. Innovation Complexity:
   How complex is the ACF strategy to implement at the national level (coordinating mobile units, GeneXpert supply, contact tracing, drug delivery)?

- What is the most complex component?

8. Innovation Adaptability:
   Has the ACF strategy been designed to allow modifications for different governorate contexts (security, infrastructure, population density)?
   - Have you allowed any adaptations in the first six months?
9. Innovation Design & Packaging:
   How well designed are the ACF materials, protocols, and equipment (e.g., mobile clinic layout, GeneXpert placement, contact tracing forms) for Yemen's setting?
   - What is missing or poorly designed?
10. Innovation Cost (National Level):
    What are the national-level operational costs your office bears for ACF (e.g., central training, supervision visits, coordination meetings, data management)?
    - Have there been unexpected costs since ACF began?

B2. Outer Setting Domain (National & External Environment)

10. Local Conditions – Political & Security:
    How do national security and political conditions affect the rollout of ACF across different governorates?
    - Which governorates are most affected? How do you compensate?
11. Financing (External Funding):
    IOM provides significant support. Are there any gaps, delays, or uncertainties in external funding that affect ACF implementation?

12. Partnerships & Connections:
    How would you describe your working relationship with IOM, WHO, and other partners for ACF?

13. Policies & Laws:
    Are there national TB policies or laws that support or hinder ACF (e.g., mandatory reporting, isolation requirements, migrant health policies)?
14. Critical Incidents (Past 6 months):
    Have any large-scale unexpected events (e.g., conflict escalation, natural disaster, port closure) disrupted national ACF implementation?
    - How did the NTP respond?

15. External Pressure:
    Is there pressure from donors, WHO, or global TB targets to implement ACF quickly? How does that affect your decisions?

B3. Inner Setting Domain (NTP Central Office & National Systems)

16. Available Resources – Materials & Equipment (National):
    - Are GeneXpert cartridges, DR-TB drugs, mobile clinic supplies, and PPE available in sufficient quantities at the national level?
    - Have there been any national stockouts in the past six months?
17. Available Resources – Funding (NTP Budget):
    Does the NTP have a dedicated budget line for ACF implementation (training, supervision, data management, coordination)? Is it adequate?
18. Physical Infrastructure (Central):
    Does the NTP central office have adequate space, IT systems, and cold chain storage to support ACF coordination?
19. Work Infrastructure (Staffing at NTP):
    How many national-level staff are dedicated to ACF coordination? Is that sufficient?
    - What roles are missing?
20. Access to Knowledge & Information:
    Have you and your central team received training on ACF implementation (e.g., WHO guidelines, contact tracing, data monitoring)?
    - What additional training is needed?
21. Compatibility:
    Does the ACF strategy fit with existing national TB systems (e.g., TB register, LMIS, laboratory network, reporting to WHO)?
    - What conflicts or mismatches exist?
22. Relative Priority:
    Compared to other NTP priorities, how much priority is given to DR-TB ACF?
    - Is this priority reflected in the budget and staffing?
23. Tension for Change (Before ACF):
    Before ACF started, did you feel that passive case finding was failing to detect DR-TB cases? How urgent was the need?
24. Mission Alignment:
    How well does the ACF strategy align with the NTP's overall mission and the End TB Strategy?

B4. Individuals Domain (National-Level Roles)

25. High-level Leaders (Ministry, Donors):
    How supportive are the Ministry of Public Health and donor representatives? Do they provide adequate authority and resources?

26. Implementation Facilitators (IOM, WHO advisors):
    How effective are the IOM and WHO facilitators who support your office? What do they do well? What is lacking?

27. Implementation Team (NTP central team):
    Who are the key people on your central ACF implementation team? How well do they work together?

28. Your Own Role (NTP Manager):
    - Do you have the capability (knowledge, skills) to lead ACF implementation?
    - Do you have the opportunity (time, authority, resources)?

Section C: Implementation Patterns & Processes (RQ2) – National Level

29. Planning (Before Implementation):
    Was there a written national ACF implementation plan developed before the first six months? Who was involved (NTP, IOM, governorates)?
    - Did the plan include forecasting, distribution schedules, contingency arrangements for security or stockouts?

30. Assessing Needs (National Forecasting):
    How does the NTP forecast the number of DR-TB cases expected from ACF?

31. Teaming & Coordination:
    How do you coordinate with governorate TB managers on a weekly/monthly basis?

32. Doing (Actual Implementation – National View):
    Walk me through the national-level process from when a governorate reports a presumptive DR-TB case to when treatment is initiated.
    - Where are the biggest delays or failures?
    - What actually happens vs. the official protocol?

33. Engaging (Stakeholders):
    How do you engage governorate health offices, district coordinators, and community leaders to support ACF?
    - What engagement strategies have worked or failed?

34. Tailoring Strategies (National-level adaptations):
    In the past six months, have you made any changes to the national ACF strategy based on early experience?

- (Probe: changes to training content, reporting forms, drug distribution protocols, mobile clinic prioritization)

35. Reflecting & Evaluating (National Reviews):
    - Do you hold regular review meetings (with IOM, WHO, governorate managers) to assess ACF performance?
    - What indicators do you review (e.g., number screened, GeneXpert yield, DR-TB cases detected, time to treatment, loss to follow-up)?
    - How are these reviews used to change national policy or practice?
36. Real vs. Formal Processes (Gap Analysis – National):
    Thinking about the national-level ACF system (drug forecasting, cartridge distribution, training, supervision), where are the biggest gaps between the official plan and what actually happens? Why?

Section D: Recommendations & Sustainability (RQ3)

38. If you could change three things about how ACF for DR-TB is implemented nationally (policy, funding, coordination, training, supply chain, etc.), what would they be and why?
39. What are the three biggest facilitators that have helped ACF implementation nationally?
40. What are the three biggest barriers that have hindered implementation?
41. How sustainable is the current ACF model (with IOM-supported mobile units, donor-dependent GeneXpert cartridges, and external funding) over the next 2–3 years?
    - What would need to change for it to be sustainable?
42. Is there anything else I should know about the early implementation of DR-TB ACF in Yemen that I haven't asked?

Closing:
Thank you very much for your time and candid insights. Your perspective is critical to understanding national-level barriers and facilitators, and your recommendations will directly inform the NTP and partners for improving ACF implementation.

KII with the DR-TB doctor

Introduction (to be read to participant):
Thank you for agreeing to speak with me. This interview is part of an implementation research study on the new active case-finding (ACF) strategy for drug-resistant TB in Yemen. You are directly involved in managing patients who are diagnosed with DR-TB – from the moment you receive the diagnosis through their entire treatment journey. I am interested in your real experiences: what helps, what gets in the way, how the new ACF strategy has changed your work, and what recommendations you have. Your responses will be kept confidential. The interview will take about 45–60 minutes.

Section A: Role & Context (warm-up, maps to RQ2)

1. What is your current role, and how long have you been managing DR-TB patients?

2. How do you typically receive notification that a patient has been diagnosed with drug-resistant TB?

3. In the past six months (since ACF began), have you noticed a change in the number or characteristics of DR-TB patients coming to you?
    - (Probe: more patients, different age groups, migrants, previously treated, asymptomatic)

Section B: Barriers & Facilitators (RQ1) – CFIR Domains

B1. Innovation Domain (ACF & DR-TB Treatment Protocol)

4. **Innovation Complexity (Treatment protocol):**
   How complex is the current DR-TB treatment regimen (duration, number of drugs, side effects, monitoring) compared to drug-sensitive TB?
    - Which part is most challenging for you or your patients?
5. **Innovation Adaptability (Treatment):**
   Are you allowed to modify the treatment protocol based on patient circumstances (e.g., side effects, drug interactions, availability of second-line drugs)?

6. **Innovation Design (Diagnostic linkage):**
   How well-designed is the referral pathway from ACF diagnosis (mobile clinic / GeneXpert) to your treatment initiation?
    - What information is missing when a patient arrives? What delays happen?

7. **Innovation Cost (Patient & facility level):**
   What costs do patients face to start and continue DR-TB treatment (transport, lab tests, food, lost wages)?

B2. Outer Setting Domain

8. **Local Conditions – Security & Access:**
   How do security conditions affect your patients' ability to come for follow-up visits or pick up their medications?

9. **Local Attitudes – Stigma:**
   How does community stigma toward TB (especially drug-resistant TB) affect your patients' willingness to start or continue treatment?
   - What do you do to address stigma?

10. **Financing & External Support:**
    Are there gaps in funding or supplies that affect your ability to treat DR-TB patients (e.g., second-line drug stockouts, lab reagent shortages, lack of patient incentives)?

11. **Critical Incidents (past 6 months):**
    Have any unexpected events (conflict escalation, flooding, port closure) disrupted your ability to follow DR-TB patients? How did you respond?

B3. Inner Setting Domain (Health Facility & Team)

12. **Available Resources – Drugs & Supplies:**
    - Are all second-line TB drugs consistently available at your facility?
    - Have you experienced any stockouts in the past six months? Which drugs, for how long?
    - What about lab supplies for monitoring (liver function tests, creatinine, etc.)?

13. **Available Resources – Equipment & Space:**
    - Do you have a private space to counsel DR-TB patients?
    - Is there adequate equipment for monitoring (BP monitor, scale, side effect assessment tools)?

14. **Physical Infrastructure:**
    - Is the treatment area clean, well-lit, and accessible for patients with mobility issues?
    - Is there a secure place to store second-line drugs?

15. **Work Infrastructure (Staffing):**

- How many doctors, nurses, and counselors are available to manage DR-TB patients? Is that enough?
- Do you have dedicated staff for DOT (directly observed therapy) or home follow-up?

16. **Access to Knowledge & Information:**
    - Have you received training on DR-TB treatment (WHO guidelines, side effect management, adherence support, patient communication)?
    - What training is still needed?
17. **Compatibility:**
    - Does the DR-TB treatment protocol fit with your existing daily workflow (consultations, prescribing, lab ordering, patient education)?
    - What conflicts or mismatches exist?
18. **Relative Priority:**
    - Compared to other clinical duties (e.g., drug-sensitive TB, general medicine), how much priority is given to DR-TB patient management?
    - Does this priority come from your supervisor or from your own sense of urgency?
19. **Tension for Change (Before ACF):**
    - Before ACF started, did you feel that DR-TB patients were being diagnosed too late or not at all? How did that affect your ability to help them?
20. **Culture & Learning (within facility):**
    - Is there a team culture where you can discuss difficult DR-TB cases, share failures, and learn from each other?
    - Do you have regular case reviews?

B4. Individuals Domain (Your Role & Characteristics)

21. **Your Capability:**
    - How confident are you in managing DR-TB patients (initiating treatment, adjusting for side effects, managing co-morbidities)?
    - What skills or knowledge gaps do you have?
22. **Your Opportunity:**
    - Do you have enough time per patient to provide quality DR-TB care?

- Do you have the authority to make clinical decisions (e.g., stop a drug due to toxicity, refer to a specialist)?

23. **Your Motivation:**
    - What motivates you to manage DR-TB patients despite the challenges?
    - What demotivates you (e.g., lack of drugs, difficult patients, no incentives)?
24. **Support from Leaders (Facility & NTP):**
    - How supportive is your facility manager and the NTP central level? Do they respond to your requests (e.g., drug resupply, training, supervision)?

Section C: Implementation Patterns & Processes (RQ2) – Patient Journey Focus

25. **Walk me through the actual process** from when you first hear about a new DR-TB diagnosis to when the patient starts treatment:
    - How do you contact the patient?
    - What happens at the first visit (counseling, baseline labs, prescribing)?
    - What is the time between diagnosis and treatment initiation?
    - What usually goes wrong or gets delayed?
26. **Follow-up journey (typical patient):**
    - How often do you see DR-TB patients for follow-up?
    - What do you do at each visit (side effect check, adherence assessment, lab monitoring, drug refill)?
    - What are the common challenges during follow-up (missed appointments, side effects, drug shortages, travel costs)?
27. **Real vs. Formal Protocol:**
    - Can you describe a situation where the formal treatment protocol was not possible, and you had to use an informal workaround?
    - What was the workaround? Did it work?
28. **Engaging Patients:**
    - How do you encourage patients to stay on treatment for 6 months?
    - What strategies work best? What fails?
29. **Tailoring Strategies (since ACF began):**

- Have you changed how you manage DR-TB patients because of the new ACF strategy (e.g., more patients, different patient profiles, different referral pathways)?

30. **Reflecting & Evaluating (at facility level):**
    - Do you have regular meetings with other clinicians or the NTP to review DR-TB treatment outcomes (cure, failure, death, loss to follow-up)?
    - How are these reviews used to improve your practice?
31. **Documentation & Reporting:**
    - How do you record DR-TB treatment data (paper registers, electronic)?
    - Is the data complete and accurate? What challenges do you face in reporting?

Section D: Recommendations & Sustainability (RQ3)

32. If you could change **three things** about how DR-TB patients are diagnosed, referred to you, or followed up (resources, protocols, support, coordination), what would they be and why?
33. What are the **three biggest facilitators** that help you manage DR-TB patients effectively?
34. What are the **three biggest barriers** that make your job difficult?
35. How sustainable is your current ability to manage DR-TB patients (given drug supply, staffing, funding, security) over the next 2–3 years?
36. Based on your experience in the first six months of ACF, do you think the new strategy is finding the **right patients** (those who will complete treatment) or is it finding patients who are hard to follow up? Why?
37. Is there anything else I should know about managing DR-TB patients under the new ACF strategy that I haven't asked?

Closing:
Thank you very much for your time and for the critical work you do. Your insights will help improve DR-TB patient care and inform the national program.

KII Guide for the Aden Regional Central Lab Director

SECTION A: Background & Role (Warm-up)

1. Can you tell me about your role as Central Laboratory Director here – what does your day-to-day work actually look like?

2. How long have you held this position, and what experience did you bring to this role?

SECTION B: Laboratory Capacity & Resources (Inner Setting)

1. Can you describe the current staffing situation in your lab – how many technicians, and is that sufficient for the work you're being asked to do?

2. Tell me about the GeneXpert modules here. How many are installed, and how reliably do they function?

3. Walk me through what happens when a cartridge or reagent runs low. How do you monitor stock levels, and what do you do when supplies are delayed?

4. What about other essentials – power, internet, temperature control? How do these affect your lab's ability to run GeneXpert tests reliably?

SECTION C: The New ACF Strategy & Lab Preparation (Intervention Characteristics + Outer Setting)

1. Were you consulted beforehand? Did you receive any additional resources – staff, cartridges, budget? What was missing?
2. Who brings the samples? What happens if the mobile clinic is delayed or can't go out? Have there been security issues?
3. What has been the biggest unexpected challenge with this new strategy, from the lab's perspective?

SECTION D: Communication & Feedback Loops (Process + Outer Setting)

1. Can you describe how positive DR-TB results are communicated from your lab to the NTP central office and to district coordinators?

SECTION E: Comparing Old vs. New Strategy (Implementation Patterns)

2. Are you seeing more samples? Fewer? Are the samples better or worse quality? What's easier now? What's harder?

SECTION F: Barriers, Donor Dependency & Conflict (Outer Setting + Sustainability)

1. In your dual role as director and supervisor, what would you say are the top three barriers to detecting drug-resistant TB early using this new ACF strategy?

2. How does the uncertainty of donor funding affect your ability to plan for your lab?

3. How has the ongoing conflict affected your lab operations specifically? I'm thinking about staff attendance, sample transport, access to the lab by drivers or patients, or anything else.

SECTION G: Closing & Recommendations

1. If you could change one thing about how this ACF strategy is currently implemented – from the lab's perspective – what would it be and why?

2. Is there anything else you think I should understand about how this lab works, the ACF strategy, or the challenges of DR-TB detection in Aden that I haven't asked about?

1. KII for Aden districts supervisor

SECTION A: Background & Role (Warm-up)

Can you tell me about your role as District Laboratory Supervisor – what does a typical week look like for you?

How long have you held this position, and what did you do before this?

You supervise 8 district labs. Can you describe the range of labs – are they all similar, or are some very different from others?

SECTION B: District Lab Capacity & Activities (Inner Setting)

What TB diagnostic services are actually available at the district labs you supervise?

How many laboratory technicians work across your 8 districts? Is that enough?

Walk me through how a presumptive TB patient typically reaches a district lab. Who refers them? Do patients ever come on their own?

How often do you visit each lab? What problems do you find most often?

SECTION C: Sample Referral from District to Central Lab (Process + Inner Setting)

Can you describe the process when a district lab collects a sputum sample that needs GeneXpert testing – what happens next, step by step?

What are the main challenges you see in getting samples from district labs to the central lab?

How do district labs receive results back from central lab for the samples they sent?

Have you encountered situations where a sample sent from a district lab was rejected by the central lab?

SECTION D: Impact of the New ACF Strategy (Outer Setting + Process)

Have you seen fewer samples at district labs? More? No change? How do you feel about that?

From your perspective, has the ACF strategy helped or hurt early DR-TB detection in the districts you supervise?

SECTION E: Monitoring Case Numbers & Reporting (Inner Setting + Process)

You mentioned you monitor the number of positive TB cases at district level. Can you walk me through how you do that?

Is the reporting system easy to use? Are there delays? What happens if data is incomplete?

In your experience, are there DR-TB cases that are being missed at district level? Why do you think that happens?

SECTION F: Barriers to Early DR-TB Detection (All CFIR domains)

Have you had to cancel field visits? Have labs been closed? Have staff been unable to come to work?

How does donor funding uncertainty affect your district labs?

SECTION G: Facilitators, Workarounds & Recommendations

Despite the challenges, what is working well in the current TB diagnostic system from district to central lab?

Sometimes staff develop informal solutions when official systems fail. Have you seen any creative workarounds at district labs to get samples tested or results returned?

If you could change one thing about how TB samples are handled between district and central lab, what would it be and why?

Aden Governorate coordinator

Introduction:

Thank you for agreeing to speak with me. This interview is part of an implementation research study on the new active case-finding (ACF) strategy for drug-resistant TB in Yemen. You are responsible for Aden governorate coordination. I am interested in your perspective on how ACF implementation is being captured (or not) in the Aden governorate , what barriers and facilitators affect it, and how the data are actually used. Your responses will be kept confidential. The interview will take about 45–60 minutes.

Section B: Role & Clinical Diagnosis

Can you tell me about your role here – what does a typical day look like for you in terms of TB patients?

How long have you been doing this work? Has your role changed in the past year?

When you clinically diagnose a patient as presumptive TB, what happens next? Walk me through the process.

Section C: How Patients Are Identified (Detection & Referral)

How do patients with presumptive TB typically reach you?

Are you seeing more presumptive cases? Fewer? Can you give me an example of a patient who came through the mobile clinic?

What were their symptoms? How long did it take from symptoms to your diagnosis? Were there delays?

Section D: Data Review from 8 Districts (NEW – Most Important)

You mentioned you receive and review TB data from 8 districts. Can you describe what data you receive, what kind of information, from whom, and how often?

How is this data reported to you – paper forms, electronic, phone calls, something else?

What are the most common problems you see with the data when you review it?

What do you do after you review the data? Do you send feedback to the districts? Do you prepare reports for the NTP?

Section E: Coordination & Screening Activities

You coordinate TB activities across districts. What does that coordination involve day-to-day?

What TB screening activities do you conduct? Can you describe a recent screening event?

How do you decide which areas to target for screening? Does the data you review help with that?

Section G: Barriers to Early TB Detection (General)

From your perspective looking at the data from all 8 districts, what are the main reasons why TB cases are found late or not found at all?

How does the ongoing conflict affect the data you receive – for example, districts not reporting, delays, incomplete information?

Section H: what are the Facilitators & your Recommendations?

KII Guide – Pharmacy Supply Chain Officer

Introduction :
Thank you for agreeing to speak with me. This interview is part of an implementation research study on the new active case-finding (ACF) strategy for drug-resistant TB in Aden. I am interested in your real experiences managing TB and DR-TB drugs after they arrive from IOM – the barriers you face, what actually happens day-to-day, and any adjustments you have made since ACF began. Your responses will be kept confidential and anonymised. The interview will take about 45 minutes.

Section A: Role and Responsibilities (context for RQ2)

1. Can you please describe your current role and responsibilities specifically related to **TB and DR-TB drug supply** after shipments arrive from IOM?

2. What does a **typical workday** look like for you regarding DR-TB drug management?

- (Probe: receiving, storage checks, preparing orders for health facilities, tracking inventory, reporting)

Section B: ACF-Specific Responsibilities (directly addresses RQ1 & RQ2)

3. Since the **new active case-finding (ACF) strategy** (mobile clinic, contact tracing, expanded GeneXpert use) began, what specific **new responsibilities** have you taken on related to DR-TB drugs?

4. Walk me through what happens **after a shipment arrives from IOM** – from the moment it arrives at your storage location until drugs reach a patient in Aden.
    - (Probe for: verification, storage, cold chain management, distribution to health facilities, inventory tracking, reporting)
    - At which step do you most often see delays or problems?

5. **Comparison with first-line TB drugs:**
   How complex is the in-country supply chain for **DR-TB drugs** compared to first-line TB drugs?

- (Probe: cold chain requirements, limited quantities, patient-specific regimens, expiry management)

Section C: Innovation Cost & Complexity (RQ1 – barriers)

6. **Operational costs borne by your office:**
   While IOM handles procurement, what **operational costs** does your office cover for the storage and distribution of TB and DR-TB drugs?
   - (Probe: fuel for delivery vehicles, electricity for cold storage, staff overtime, extra packaging)
7. Have there been **unexpected costs** since the ACF strategy began?
   - (Probe: more frequent deliveries needed, additional storage space, last-minute resupply to mobile clinic sites)

Section D: Innovation Adaptability & Design (RQ2 – implementation patterns)

8. Can you change **delivery schedules or routes** to health facilities as needed?
   - What **constraints** are imposed by IOM's procedures or reporting requirements?
9. How well-designed are the **drug shipments and packaging** from IOM for the local setting in Aden?
   - (Probe: temperature damage during transport, ease of repackaging for distribution, labelling clarity)
10. **Mobile clinic adaptation:**
    The mobile clinic changes locations based on security and community needs. How does this affect your ability to predict which sites need drug resupply and when?
    - What **informal solutions or workarounds** have you developed when the formal supply chain process doesn't work?

Section E: Inner Setting – Resources, Infrastructure, Staffing (RQ2 – contextual factors)

11. **Drug availability & stockouts:**
    What is the current availability of DR-TB drugs in your supply chain?
    - Can you describe any **recent drug stockouts** (last 6 months)? Which drugs, for how long, and what was the cause?

12. **Funding for operations:**
    Does IOM provide any operational support **beyond drug procurement** (e.g., storage equipment, delivery fuel)?
    - How does funding affect your **operational budget** for storage, distribution, and staffing?
13. **Physical infrastructure:**
    Do you have sufficient storage space with **proper temperature control** (cold chain for second-line drugs)?
    - (Probe: backup generator, temperature logs, space for buffer stock)
14. **Staffing:**
    How many staff work in the pharmacy supply unit? Is that enough for ACF-related demands?
15. **Training & information:**
    Did you receive training on inventory management systems (e.g., electronic tracking, reporting to IOM/NTP)?
    - (Probe: who provided it, was it adequate?)
16. **Compatibility & priority:**
    Have you had to change **how you track inventory or report** to IOM since ACF began?
    - Compared to your other responsibilities, how much **priority** is given to DR-TB drug supply management?

Section F: Outer Setting – Security, Financing, Critical Incidents (RQ1 – barriers)

17. How do **security and political conditions** in Aden affect your ability to manage drug distribution?
    - (Probe: roadblocks, checkpoints, curfews, fuel shortages)
18. Have there been **gaps or delays** in IOM shipments over the past year? If yes, how long and what was the impact?
19. Any **unexpected events** (e.g., conflict escalation, port closures, electricity cuts) that disrupted the supply chain? How did you respond?

Section G: Implementation Process – Forecasting, Reflection, Tailoring (RQ2 & RQ3)

20. **Forecasting drug needs:**
    How does your office forecast TB and DR-TB drug quantities?

- What data do you use (historical consumption, expected DR-TB cases from ACF, buffer stock rules)?
- How often is forecasting done, and who provides the final numbers?

21. **Regular review:**
    Is there a regular review with IOM or the National TB Program (NTP) about supply chain performance?
    - (Probe: what is discussed, are your concerns acted upon?)
22. **Tailoring strategies since ACF began:**
    Have you made any **changes to how you manage drug supply** because of the ACF strategy?
    - (Probe: new delivery schedules, different stock allocation to facilities, informal coordination with mobile clinic team)
23. **Real vs. formal processes (RQ2 – implementation patterns):**
    Can you describe a situation where the **formal procedure** (e.g., requisition form, approval chain) failed, and you had to use an **informal process** to get drugs to a patient or facility? What happened?

Section H: Recommendations & Sustainability (RQ3 – evidence-based recommendations)

24. **If you could change ONE thing** about how DR-TB drugs are managed between IOM shipment and patient delivery in Aden, what would it be and why?
25. What are the **three biggest facilitators** (things working well) in your current drug supply system?
26. What are the **three biggest barriers**?
27. How **sustainable** is the current drug supply arrangement (with IOM procurement) over the next 2–3 years, given the security and funding situation?
28. Is there anything else I should know about managing DR-TB drugs in Aden that I haven't asked?
29. How confident do you feel in handling unexpected drug supply crises? Can you give an example?
30. How well do you communicate with the mobile clinic team about drug needs?

Closing:
Thank you very much for your time and honesty. Your input will help us generate practical recommendations to improve the ACF implementation for drug-resistant TB in Aden.

Evaluating the Early Adaptation of a Multi-Component Active Case Finding Strategy for Drug-Resistant Tuberculosis in Aden, Yemen, Implementation Science Study

KEY INFORMATIVE INTERVIEW

IOM Intermediatory participants

I appreciate your willingness to participate in this study. This interview constitutes a component of a research project focused on the novel active case-finding approach for drug-resistant tuberculosis in Yemen. I would like to hear your insights on the factors that promote and hinder this method, along with any suggestions you might offer. Your replies will remain entirely private. The interview is expected to last approximately 15 minutes.

Name of participant:

Designation:

Acceptance for participation:

Q1:What function does the International Organization for Migration (IOM) serve as a facilitator in the active case-finding initiative for tuberculosis and drug-resistant tuberculosis in Aden and the other southern governorates?

Q2: From your viewpoint, what are the primary obstacles affecting the efficacy of the TB program's active case-finding initiatives, in relation to support (financial, technical, or administrative) or other factors?

Q3:What are the primary obstacles that the TB program has highlighted as impediments encountered during the operational phase of active case detection for TB and drug-resistant TB?

Q4: From the standpoint of an intermediary organization, how do you assess the operational stage of the active case-finding initiative for TB and DR-TB, regarding the quantity of cases documented in the initial and subsequent quarters?

Q5: What apparatus was provided to the center to commence the active case-finding initiatives, and is it deemed sufficient to maintain these efforts during the grant duration—especially with GeneXpert cartridges?

Q6:What hurdles and obstacles presented by the program were encountered during the execution of the necessary activities?

Q7: What do you perceive as the primary barriers to the efficacy of any initiatives within the TB program, whether active case-finding efforts or other undertakings?

Observational Checklist for ACF Strategy Implementation in Aden, Yemen

I. General Information:

1. Date of observation: _
2. Location: _____
3. Observer: _the _____
4. Type of ACF activity observed:

✓ Mobile clinic session _____
✓ Household contact investigation __
✓ Health facility-based screening _____
✓ Other: _____

II. Administrative & Operational Setup

i. Clear signage/information about TB screening available (Local language)
ii. Waiting area organised and ventilated.
iii. Privacy ensured during screening/interviews
iv. Staff present:(adequate or not)

1. Health worker
2. Community health worker
3. Lab technician
4. Pharmacist
5. Cheat X-ray Technician

6. Are staff following the screening protocol consistently? Yes / No / Partially
7. Are staff able to answer patient questions? Yes / No
8. Is there a clear team leader coordinating flow? Yes / No

❖ Notes on staff interactions:
❖ Availability of screening tools:

1. Chest X-ray (portable/digital)
2. Symptom screening form
3. Sputum collection kits
4. GeneXpert cartridges/equipment

Note:

5. Infection control measures observed:

✓ Masks worn by staff
✓ Hand hygiene facilities, and physical distance
✓ Sputum collection in a well-ventilated/outdoor space

III. Patient Flow & Triage Process

❖ Triage system in place to identify presumptive TB cases.
❖ Symptom screening conducted systematically,
❖ Referral system for diagnostic testing clearly explained?
❖ Time from screening to sputum collection observed: _____ minutes

Timeline of Key Steps (record in minutes/hours):

- Arrival → first contact: __
- Screening → sputum collection: ____
- Collection → transport: _____
- Transport → result available: ____
- Result → patient notified: _

NOTE: No sputum collection or Screening done

❖ Patient education materials provided (oral/written**)? No**

IV. Diagnostic Access & Linkage

❖ Sputum collection conducted on-site
❖ Specimens labelled and stored appropriately

❖ GeneXpert machine operational at time of observation? Yes / No
❖ Turnaround time for results is known to staff.
❖ System to communicate results back to the patient observed.
❖ Referral for treatment initiation if positive.

V. Community Engagement & Acceptability

1. Community leaders/representatives present or engaged. Stigma mitigation efforts observed (confidentiality, respectful communication)
2. Feedback from patients collected (verbal/formal)
3. Gender considerations addressed (female health workers for female patients).
4. **Engagement details:**

- How were community members informed about the activity? (e.g., announcement, flyers, word-of-mouth, community leader notification),
- Was there any resistance or concern from the community? Yes / No / If yes, describe:
- Were there community health workers facilitating trust? Yes / No

VI. Recording & Reporting

❖ Screening register/logbook maintained
❖ Information captured includes:

1. Name/ID
2. Symptoms
3. Risk group (Age)
4. Digital tool used (if any): _____
5. **Demographic information:**

Category **Male**
Female

a. **Total patients approached**

b. **Total patients who agreed to screening,**

c. Total presumptive TB cases identified:

2. Approximate age range of patients: _____

6. Is the register completed at the time of screening (not later from memory)? Yes / No
7. Review a sample of 5 entries: Are all fields complete? Yes / No / Partially
8. Are entries legible? Yes / No
9. Is there a unique identifier system to track patients across visits? Yes / No

VII. Patient-Provider Interaction:

1. Are patients greeted respectfully? Yes / No / Sometimes
2. Are explanations provided in a language/dialect patients understand? Yes / No/ Yes through translator
3. Do patients appear comfortable asking questions? Yes / No
4. Do providers show empathy (e.g., tone, body language, patience)? Yes / No / Notes
5. Observed instances of stigma or disrespect: _____

VIII. Mobile Clinic-Specific Considerations:

1. Time to set up: _____ minutes 2. Time to break down: ___ minutes 3. Accessibility of location (e.g., central, remote, difficult terrain): _____4. Were community members waiting before arrival? Yes / No, 5. Transport vehicle condition: Good / Fair / Poor 6. Was the mobile clinic appropriate (shade, safety, visibility)? Yes / No

IX. Challenges & Barriers Observed

1. Stock-out of supplies (sputum cups, gloves, forms)
2. Equipment malfunction (X-ray, GeneXpert)
3. Staff shortages
4. patient refusal or low turnout
5. Transportation/logistics issues
6. Security/access constraints
7. Language/communication barriers
8. Stigma observed (patient hesitancy, community resistance)

Was no challenges or barriers

Core ACF Components Checklist
1. **Screening**: Using a standardised symptom screening tool

2. **Referral**: Having a system to refer presumptive cases for GeneXpert testing
3. **Testing**: On-site GeneXpert available and functional
4. **Documentation**: Maintaining the ACF screening register
5. **Follow-up**: System to track test results and initiate treatment

Health Facility Assessment Checklist

TB & DR-TB Services under ACF Strategy
Yemen (Aden and other governorates)

Facility Name: _____
Governorate: _____
Facility Type: (circle one)

- District TB Center / General Hospital / Health Center / Mobile Clinic Base / Other: _____
  Date of Assessment: _____
  Assessor Name: _____

Instructions:

- Complete this checklist through observation, document review, and a brief interview with the facility in charge.
- Mark ✓ or ✗, record counts, and write notes where indicated.
- Use notes to capture contextual details (e.g., "generator broken for 3 days").

Section 1: Facility Demographics & General Information

Indicator	Response	Notes
1.1 Total number of TB patients currently enrolled (all forms)	____	Per quarter
1.2 Number of DR-TB patients currently on treatment	____	No drug resistance Department
1.3 Number of DR-TB patients diagnosed in the last 6 months	____	(Since ACF started)
1.4 Does the facility offer TB diagnosis?	Yes / No	
1.5 Does the facility offer DR-TB treatment?	Yes / No	If no, referral site: _Reginal center for TB control_____

Section 2: ACF Integration & Diagnostic Pathways

Indicator	Response	Notes
2.1 Is the facility a referral point for ACF mobile clinic cases?	Yes / No	
2.2 Does the facility conduct contact tracing for DR-TB?	Yes / No	
2.3 Does the facility have a GeneXpert machine?	Yes / No	If yes, model: _____
2.4 If GeneXpert is available: Is it functional today?	Yes / No	
2.5 Number of GeneXpert cartridges in stock	_____ (Rif: ____, other: ____)	
2.6 Does the facility perform AFB smear microscopy?	Yes / No	
2.7 Does the facility have chest X-ray (digital/conventional)?	Yes / No	
2.8 Is there a formal referral linkage from the ACF mobile unit to this facility?	Yes / No	Describe:

Section 3: Drug Availability & Supply Chain (Inner Setting – Available Resources: Materials & Equipment)

Indicator	Response	Notes
3.1 Are first-line TB drugs available today?	Yes / No	If no, which missing?

Indicator	Response	Notes
3.2 Are second-line (DR-TB) drugs available today?	Yes / No	
3.3 Stockout of any DR-TB drug in the last 6 months?	Yes / No	
3.4 Does the facility have a buffer stock (≥1 month supply)?	Yes / No	
3.5 Is there a functional cold chain for drugs requiring refrigeration?	Yes / No	
3.6 Temperature log maintained and within range (2–8°C)?	Yes / No	
3.7 Backup power (generator/solar) for cold chain?	Yes / No	
3.8 Is there a dedicated pharmacy/store for TB drugs?	Yes / No (there is a small Cabat for the drug)	

Section 4: Physical Infrastructure & Equipment (Inner Setting – Physical Infrastructure)

Indicator	Response	Notes
4.1 Adequate space for patient registration and waiting (privacy, crowding)?	Yes / No	
4.2 Private consultation room for TB patients?	Yes / No	
4.3 Adequate ventilation in TB consultation area (e.g., windows, fans, cross-ventilation)?	Yes / No	

Indicator	Response	Notes
4.4 Separate sputum collection area (well-ventilated, away from others)?	Yes / No	
4.5 Reliable electricity (≥8 hours/day)?	Yes / No	
4.6 Backup power for GeneXpert (if applicable)?	Yes / No	
4.7 Access to clean water and handwashing facilities?	Yes / No	
4.8 Functional computer for data entry?	Yes / No	
4.9 Internet access (any type)?	Yes / No	

Section 5: Staffing & Training (Inner Setting – Work Infrastructure & Access to Knowledge)

Indicator	Response	Notes
5.1 Number of doctors trained in DR-TB management	____	
5.2 Number of nurses trained in DOT/patient support	____	
5.3 Number of lab technicians trained on GeneXpert	____	
5.4 Number of data entry staff	_____	
5.5 Is there a designated TB coordinator at the facility?	Yes / No	
5.6 Any staff vacancy for TB services currently?	Yes / No	Which role?
5.7 Have staff received ACF-specific training (mobile clinic, contact tracing, new protocols) in the last 6 months?	Yes / No	Date(s):

Indicator	Response	Notes
5.8 Does the facility have a staff member responsible for patient follow-up (e.g., defaulter tracing)?	Yes / No	

Section 6: Infection Prevention & Control (IPC)

Indicator	Response	Notes
6.1 Are masks (N95 or surgical) available for staff?	Yes / No	
6.2 Are masks available for patients (surgical)?	Yes / No	
6.3 Is there a triage system for cough patients?	Yes / No	
6.4 Are sputum samples collected in a well-ventilated area or outdoors?	Yes / No	
6.5 Is there a system for safe disposal of sputum cups and contaminated waste?	Yes / No	

Section 7: Data Management & Reporting (Inner Setting – Information Technology Infrastructure)

Indicator	Response	Notes
7.1 Does the facility maintain a TB register (paper)?	Yes / No	
7.2 Is the TB register up to date (within the last week)?	Yes / No	
7.3 Does the facility have a separate DR-TB register?	Yes / No	
7.4 Are GeneXpert results recorded in a logbook?	Yes / No	

Indicator	Response	Notes
7.5 Does the facility submit monthly reports to the governorate/NTP?	Yes / No	Last submis date:
7.6 Are reports submitted on time (within 5 days of the month end)?	Yes / No	
7.7 Does the facility receive feedback on data quality from a higher level?	Yes / No	
7.8 Does the facility track DR-TB treatment outcomes (cure, failure, death, LTFU)?	Yes / No	

Section 8: Patient Support & Adherence Services (Process – Engaging, Reflecting)

Indicator	Response	Notes
8.1 Does the facility provide patient education/counselling at treatment initiation?	Yes/ No	
8.2 Is DOT (directly observed therapy) practised?	Yes / No	(e.g., at facility, home, community)
8.3 Are their community health workers / TB home observers active?	Yes / No	Number: _____
8.4 Does the facility have a defaulter tracing mechanism (e.g., phone calls, home visits)?	Yes / No	
8.5 Does the facility provide any patient incentives (transport money, food, supplements)?	Yes / No	Describe:
8.6 Is there a support group for DR-TB patients?	Yes / No	

Section 10: Barriers & Facilitators (Brief Open-Ended – for qualitative notes)

Ask the facility in charge (briefly):

10.1 **What are the biggest challenges this facility faces in managing DR-TB patients?**

10.2 **What helps you (facilitators) to provide good DR-TB care?**

10.3 **What support do you need from NTP / IOM / governorate that you are not currently receiving?**

10.4 **Any other observations (security, community issues, supply chain gaps, etc.)?**

No

Section 11: Overall Readiness Score (Optional – for internal use)

Rate each domain (1 = very poor, 5 = excellent):

Domain	Score (1–5)
Diagnostic capacity (GeneXpert, microscopy)	1
Drug availability (first-line & second-line)	5
Physical infrastructure & equipment	2
Staffing & training	2
Infection control	3
Data management & reporting	4
Patient support & adherence	4
ACF integration	1

Total readiness score (sum of 8 domains, max 40): __

Assessor Signature: _____ Date: _____