Tuberculosis Program Evaluation Guidelines

2012

Georgia Department of Public Health
Division of Health Protection
Tuberculosis Program
http://www.health.state.ga.us

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Introduction to Program Evaluation

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Introduction to Program Evaluation

Overview

The mission of the Georgia Tuberculosis (TB) Program is to control transmission, prevent illness and ensure treatment of disease due to tuberculosis. This is accomplished by the following:

1. Identify and treat persons who have active TB disease
2. Locate, evaluate and treat contacts
3. Screen high-risk populations

The number of TB cases in Georgia has decreased from a peak of 909 TB cases in 1991 to 411 TB cases in 2010. However, many challenges remain such as the increased proportion of foreign-born TB cases, outbreaks in shelters and correctional facilities and diminished resources. In addition, there have been major changes in the U.S. health care financing, organization and delivery systems. While the goal has not changed, the methods of reaching that goal have.

Evaluation Defined

Evaluation is the systematic investigation of merit, worth or significance of an activity. It helps to manage and improve the program by determining if the program is doing what it needs to do effectively, if it is using resources efficiently and guides the program in future resource allocation. "Evaluation provides accountability to the funder, to the staff, to the clients and to the community" (McCurtis, 2012).

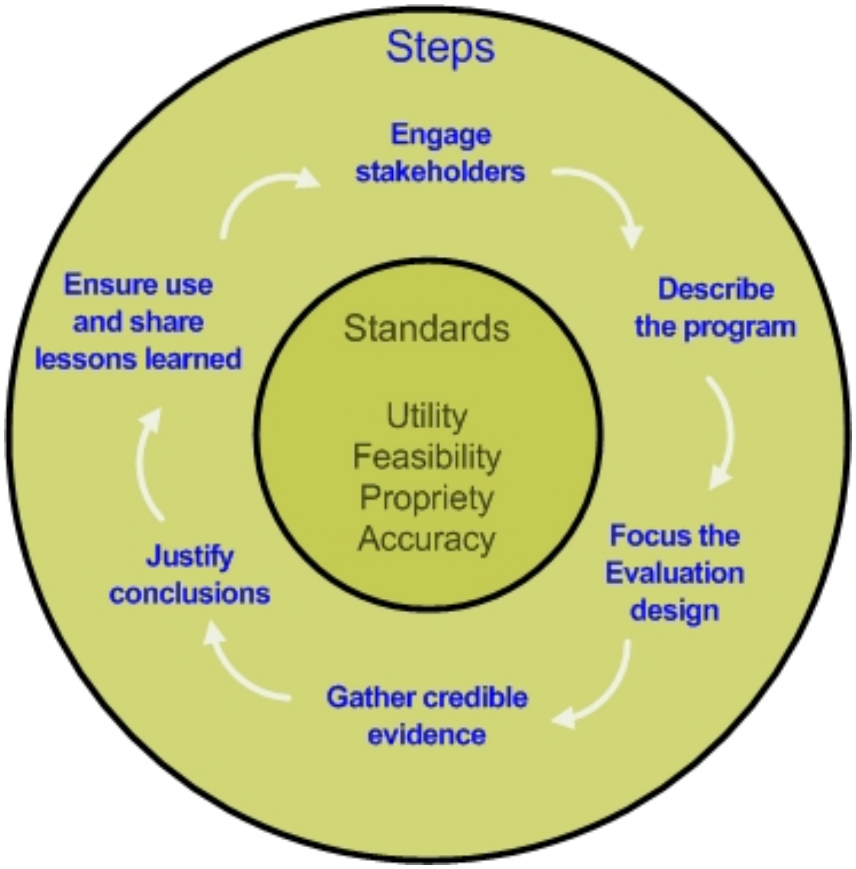
Program evaluation assists in the formal articulation and recognition of interventions that provide progress towards the goals. Many times these interventions are already in place but have not formally been recognized as an integral component of care. According to the CDC, "Often these goals are not formally articulated, but are reflected in program practice, resource allocation, and general program operations. For example, a TB program with a stated goal of increasing completion of therapy, may implicitly reach the goal by providing extensive services for persons in a high-risk immigrant community. Specific outreach, testing, and treatment strategies are implemented to achieve this goal. Another program may reach the same goal by focusing on specific populations. Part of the evaluation cycle, as you will see, necessitates that these implicit, unstated goals (e.g., provision of extensive services for persons in high risk immigrant community) be formally recognized and documented" (CDC, 2006).

Gathering surveillance data has been standardized over the years and provides a good foundation in answering the questions of "what" and "how" a program operates. Evaluation represents an extra step and answers "why" or "why not" something works. CDC states in the TB Program Handbook, "As we continue to move into the future, CDC

is expected to focus on achieving results in health improvement through performance reports and budget requests. The effectiveness of our programs is measured by evaluation information. To help programs provide credible information on program effectiveness, CDC developed a framework for program evaluation which describes a systemic way to collect, analyze, and evaluate public health actions."

The Georgia TB Program uses the CDC framework for program evaluation which includes the following steps:

1. Engage the stakeholders
2. Describe the program
3. Focus the evaluation design
4. Gather credible evidence
5. Justify conclusions
6. Ensure use and share lessons learned.



Program evaluation can be done at a number of levels. It can look at administrative systems to determine barriers and create more effective methods to conduct daily business. It can review the infrastructure of a program to determine resource need and allocation. Direct service interventions can be evaluated to assure that best practices are being followed for maximum patient outcomes.

The most valuable part of the evaluation is to make recommendations based on what was learned and then sharing the lessons learned with all the stakeholders. Focusing

on what is learned and how to do something better is far more beneficial than using evaluation to place blame or to highlight shortcomings. Evaluation is simply a tool to promote the validity of the current way or to show a more effective way to accomplish the goals of a program.

The purpose of this document is to clarify the program evaluation activities at the state, district and local levels of TB programs that are currently being measured. It provides a description of the activity and the reason certain benchmarks were chosen. Guidelines on the process and reporting requirements and examples are included. The Appendixes include helpful tools and forms that can be used for evaluation.

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Description of Georgia's Benchmarks

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Description of Georgia's Benchmarks

Program evaluation plans change over time. The Georgia TB Program has decided to focus most of the evaluations on case management activities. Below are four benchmarks reflecting case management activities and skills that can be tracked over time to be used in a number of different evaluations.

1. Case Reviews

Description:

Case reviews are a systematic, real-time evaluation of a patient's progress. During a case review, all participants in a patient's care discuss together the patient's clinical status, adherence status and contact investigation status.

Reason:

Case reviews are a vital component of case management. It is already conducted on a routine basis at the local/district level and once a year on the state level. While it is an activity that is routinely done, it has not been formally recognized as an effective intervention and has not been documented well.

Measure:

Number of case review events held at the local, district and state level
Number of cases, LTBI and contacts reviewed at each event
Key findings identified

2. Record Audits

Description:

According to the *Division of Public Health Quality Assurance/Quality Improvement for Public Health Nursing Practice December 2010*

"Clinical record reviews can serve the following purposes:

a. To determine if services were provided in accordance with quality program standards, policies, procedures, best practices and nurse protocols;
b. To determine the appropriateness of diagnoses, problem identification, treatment, and plan of care;
c. To assess completeness of documentation;
d. To assess outcomes; and
e. To determine adherence to documentation standards."

Reason:

Record audits were chosen because it is currently a requirement of the nursing QA/QI initiative. It is also a deliverable of the Annex 031 TB Case Management grant-in-aid. This will not place an undue burden on the district and local staff.

Measure:

Number of record audit events at the local, district and state level
Number of records reviewed at each event
Key findings identified

3. Cohort Reviews

Description:

Cohort review is the systematic review of the management of patients with TB and their contacts. A cohort is a group of TB cases counted over a specific period of time and the review occurs close to or after treatment is completed.

Reason:

Cohort review is used as a tool to review patient outcomes and to monitor program activities. It is used to promote accountability and as an opportunity to share lessons learned.

Measure:

Number of cohort review events held at the local, district and state level
Number of cases reviewed at each event
Key findings identified
Recommendations provided

4. Staff Education

Description:

Proper staff education and skills are necessary in order to provide quality case management to patients. The main courses that teach the basic TB patient care skills are: 1) *TB Update and Skin Test Certification*, 2) Contact *Investigation/Directly Observed Therapy* and 3) *TB Case Management*. In addition, the major two CDC conferences on TB are held annually in Georgia, providing opportunity for a well trained and competent workforce.

Reason:

Minimum education expectations are already identified for nurses to practice under protocol at the local level. The three courses mentioned above are well developed and available in a training tool kit. These classes can be offered by the District TB Coordinators and certified trainers within a district, and are offered annually in the state. Training data are already being collected by annual grant-in-aid reports and in the state operated training database.

Measure:

Percentage of public health staff that provides TB services who are TST certified.

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Case Reviews

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Case Review Guidelines

Case review is the regular review of the patient's clinical course and treatment by the health care providers involved in the direct care of a patient. It is a fundamental component of case management. Case reviews are real-time, ongoing and provide an opportunity to review individual patient specific care. They allow for immediate analysis of a patient's progress and plans for any needed changes to treatment and management. Managing care in this method enhances the ability to achieve desired outcomes within specified time limits.

Expectations

It is expected that case reviews will be conducted between the TB nurse, the TB Coordinator, the Contract Physician and any other health care provider involved in the direct care of a patient. The state medical consultant will attend one case review in each district per year. The frequency of case reviews depends on the TB burden in your district. A reasonable goal to work toward would be to have formal case reviews with all staff present quarterly and informal case reviews as frequently as necessary for exceptionally difficult or complicated cases. However, start where you are and capture what you are doing as you work towards the goal. Conference calls can be used to facilitate the input of all staff. Each case is to be reviewed at the following intervals:

- At the initiation of treatment
- At the end of the initiation phase/beginning of continuation phase
- Two months into the continuation phase
- At the completion of treatment
- Any time there is an adverse reaction, interruption of treatment or two or more episodes of non-adherence

Have a simple record keeping mechanism such as an Excel spread sheet or a notebook to record date of review, names of participants, number of cases reviewed, recommendations made and key issues identified. Make a progress note in the chart of the case that was reviewed and any recommendations. The state Medical Case Review form may be used along with the contact investigation form.

Review one case at a time and discuss the following:

- Clinical status
  - Co-morbidities
  - Adverse reactions
  - HIV test results
  - Lab results
  - Sputum results
  - Culture conversion
  - Sensitivities

        - Current weight, to include gain or loss in response to therapy
        - Clinical response to treatment
        - Isolation status
        - Chest x-ray or other imagery
        - Treatment interruptions

    - Treatment status
        - Initial start date
        - Initial drug regimen
        - Monthly dose count
        - Number of doses within initial phase
        - Stop date of initial phase
        - Start date of continuation phase
        - Continuation phase drug regimen
        - Monthly dose count
        - Number of doses within continuation phase

    - Timeliness status
        - Are they on track for timely completion of treatment
        - Are time standards met for initial & follow-up interview
        - Are contacts evaluated on time

    - Contact investigation status
        - Identified contacts
        - Completely evaluated
        - Infected contacts start treatment
        - Those who start treatment continue and finish treatment

    - Adherence status
        - DOT adherence
        - Clinic visit adherence
        - Identification of any barriers
        - Planned incentives and interventions
        - Outcomes of interventions

Case Review Process

Local:

The local and district level can formulate a process that works for them. It can be face-to-face, by conference call or a hybrid of both. The TB Coordinator will work with the district contract physician to determine the best process for each individual district.

The TB Coordinator will notify the state office medical records section about their schedule and will invite the state office to observe on a specific date annually.

A record of the case reviews will be kept by the TB Coordinator. The following is the minimum required to be recorded and given to the Georgia TB Program:

- Date of review
- Number of each reviewed
    - Cases
    - Suspects
    - LTBI
    - Contacts
- Key issues and recommendations

State:

The TB program (state office) will attend at least one district level case review per calendar year. Case review attendance is an opportunity for participants to engage in case management discussion. The district and state staff are able to update SENDSS records and state medical documents to mirror the district level medical chart. There is also an opportunity to visit some health department sites and answer questions face-to-face.

The case review team includes the medical consultant, program manager, nurse consultant, social worker and medical records supervisor. The team will visit all metropolitan Atlanta area districts in person and travel to at least one district outside of the metropolitan Atlanta area once per year.

Process (state)

Scheduling
The medical records supervisor will coordinate and schedule case review dates and times with district coordinators and appropriate state office staff. A calendar of case reviews will be created.

Preparation
The medical records supervisor will work together with the TB coordinators to prepare for their individual case reviews. A preliminary list from SENDSS of all active cases/suspects will be emailed to the coordinator about one month before the scheduled case review. The TB coordinator will update SENDSS and the patient chart on an ongoing basis until the day of case review and after the case review as required. A final list of cases will be sent to the districts one week before the case review. The TB coordinator should make the necessary updates in the patient record and SENDSS then fax a completed copy of the case review form sheet. The Georgia TB Program will conduct a chart audit of the patient records at the state office and send a report of the findings to the TB coordinator.

Case Review

The state office will provide a call-in number for case reviews and/or make travel arrangements if/when necessary. Please review the case review agenda for details of what to expect in an actual case review.

Post Case Review

After case review, TB medical records section will prepare the patient information for transcription, then transcribe and prepare the case review notes for the medical consultant's signature. Upon the consultant's signature and approval, medical records staff will distribute electronic copies to the TB coordinator and nurse consultant. The state social worker will transcribe and distribute any patient recommendations separately.

Case Review Reporting

The Georgia TB Program will collect the following data from the quarterly GIA report concerning case reviews: the date reviews were held and the number of patients reviewed. The Georgia TB Program will collect summary information on the key issues identified during case reviews on the annual GIA report.

Grant-in-Aid (GIA) Annex 031 Quarterly Report

- Due October 15th, January 15th, April 15th, and July 15th
- Record every date that a case review was held
- Record the total number of patients reviewed and in parenthesis break it out into the number of each: Cases, Suspects, LTBIs, Contacts

EXAMPLE

Date of Review	# of Patients Reviewed	Key Findings
08/01/2011	10 (2 cases, 1 suspect, 7 LTBI)	• Need to establish a new point of contact at the Behavioral Health center • Continued difficulty with CI in Jail when designated contact is on extended leave
08/08/2011	14 (2 cases, 2 suspects, 4 LTBI, 6 contacts)	• Eliciting sufficient information from cases to locate contacts continues to be difficult for CDS • Need to continue to work with Dr. XXX (PMD) regarding monthly evaluations on LTBI as the standard of care

GIA Annex 031 Annual Report

- Due July 15th

EXAMPLE

Total number of case review events held this year 24 – held every two weeks
Total number of patient reviewed this year 673 (72 cases, 1 suspect, 240 LTBI, 360 contacts)

What were the major key findings that were revealed from the case reviews?
(Attach additional sheet, if needed)

- Interviewing skills of CDS need to be enhanced. Requested state office to provide an advanced contact investigation class with a concentration on interviewing skills
- Documentation of phone calls and field visits of homes when trying to locate patients is poor. Held an in-service with staff to stress that each attempted contact with patient needs to be documented in the chart along with the outcome of that attempt.

List job titles of those who participated in the case reviews this year: TB Nurses, PH nurses, Communicable Disease Specialists, Contract Physician, District Nursing Director, County Nurse Manager, TB Coordinator, X-Ray technician

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Record Audits

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Guidelines for Record Audits

Record audits are examinations of the medical record to verify accuracy of the record and supporting documents. It can reveal if services were provided in accordance with quality program standards, policies, procedures, best practices and nurse protocols. Reviews can assess the completeness of documentation and whether there was adherence to documentation standards. Audits can be used to determine the timeliness of patient activities and the appropriateness of treatment and care plans.

The Office of Nursing has determined the following guidelines for clinical documentation as recorded in the *Quality Assurance/Quality Improvement for Public Health Nursing.*

CLINICAL RECORD DOCUMENTATION STANDARDS

1. Contents of a clinical record must meet all regulatory, accrediting and professional organization standards. Common requirements specific to nursing documentation include, but are not limited to:

    a. The nursing assessment and care provided
    b. Informed consent for any/all procedures
    c. Teaching provided either to the client directly or to his/her family
    d. Response and reaction to teaching

2. Determine and assure that adequate security measures for the entire documentation system, electronic and/or paper are in place.

3. Record the client's name on every page.

4. Record the date and time on all entries.

5. Sign every entry with full name and initials of professional and educational titles (e.g., RN, APRN, and FNP).

6. Entries by students, interns, and residents should indicate title (e.g., SN: Student Nurse) and be countersigned by the licensed professional supervising their training.

7. Make sequential entries, only on approved forms and in approved locations on the client's record.

8. Make all entries permanent. For handwritten entries, use only blue or black non-erasable ink. Do not alter the character of a record with “white-out”, highlights,

scratching or other markings. Any change in character or altered look in any of the documentation should never occur in a client's medical record.

9. Do not attempt to erase, obliterate or "white-out" a handwritten error. If errors are made, write "error" and initial/date the line.

10. Assure that entries are legible, with no blank spaces left on a line or in any area of documentation. Draw a line through blank spaces to the end of a line, or use diagonal lines to mark through an area. (In a lawsuit, an effective case may be made for a sloppy record to suggest sloppy care).

11. Use only standard, approved or accepted list of abbreviations, acronyms, symbols and dose designations as outlined in the current policy on standard abbreviations (See copies of policy and standardized list in the current Public Health Nursing Policies and Practice Guidelines Manual).

12. Write entries specifically and completely, using objective data from one's own observation, assessment and treatment of the client. Avoid language that is ambiguous, vague or speculative.

13. Make all entries promptly and within appropriate time periods, given the client's condition and diagnosis.

14. Late entries or entries made at a day/time other than when care was provided should be clearly indicated.

15. Write objectively and with extreme care when making entries that describe an adverse episode and subsequent interventions.

16. Specify the client's approval when family members or non-healthcare professionals serve as translators or when documenting informed consent (including signed consent forms).

17. Document all counseling and education given to the client. Be specific, including client's reactions and responses.

18. Specify when a client fails to comply with recommended self-care regimen or refuses to accept recommended diagnostics and/or treatment.

19. Record the date, time and content of all telephone communications. If messages are left for a client, document the name/relationship of the person taking the message.

20. Assure that entries of verbal orders are signed by the order-giver within the time frame established by organizational policy.

21. To assure continuity of care for clients, all clinical health information pertaining to an individual client should be stored in one clinical record, which includes clinical data from any single service, encounter, and/or program.

22. Use appropriate Current Procedural Terminology (CPT) codes for maximum reimbursement.

TB specific record audits additionally focus on the following four major areas:

- Reporting and notification
- Legal
- Case Management
- Contact Investigation

Some audits may be comprehensive and cover each area thoroughly or an audit may choose to look at specific components within an area. An audit can consist of looking at a case manager's skill and documentation as well as the program as a whole. It is recommended that the district conduct comprehensive record audits quarterly during the year with additional record audits focused on problem components.

Record Audit Process

Local**:**

The district will audit TB records for active TB cases and for individuals on treatment for LTBI. At a minimum, 10 charts will be reviewed per audit. It is desired that districts should audit the charts of all cases and a percentage of the LTBI patients over the course of the year. The individual districts will determine the capacity and percentage of clients to be audited based on local resources and morbidity.

State Nurses:

The Georgia TB Program nurse will coordinate with the TB coordinator of the district to arrange a time and place to audit the charts with minimal intrusion or disruption of clinic flow.

The nurse will advise the TB coordinator upon arrival of the number of charts for TB cases and the number of charts for LTBIs to be audited.

The nurse will then provide a formula for the random selection of the charts to be audited.

A pre-audit interview with the TB Coordinator will be held. Additional persons may be identified to attend.

The audit will be conducted on-site using a standard tool.

A preliminary summary will be prepared by the nurse based on the audits performed.

A post-audit debriefing will be held with the TB Coordinator and others as designated by the coordinator to review the audit findings. Key issues will be discussed and if needed, a corrective action plan will be made.

The state nurse will follow-up with the TB Coordinator within 30 days for a final summary of findings and to determine any additional follow-up needed.

State Medical Records:

The medical records section will conduct chart audits on the medical chart that is housed at the state office. The purpose of chart audits is to ensure that the state medical chart will mirror the chart at the district level.

Process (state)

1. Pull 30 random charts that are active TB cases
2. Use the “Case Management Timeline,” to verify whether documents were submitted to the state within the recommended timeframe
3. A formula is used to calculate the accuracy of each chart based on:
    a. Number of charts audited
    b. Number of relevant items within a section
    c. Number of documents actually received
    d. Number of documents that should be received based on 100% record accuracy
4. Timeline
    a. Chart audits are purged monthly
    b. Formal audit per district per year during case review

Reporting (State)

The chart audits are reported during the monthly TB coordinator’s conference call. A designated staff person conducts chart audits during the annual state case review with each district.

State TB Epidemiology Section:

The TB epidemiology section audits data stored in the State Electronic Notifiable Disease Surveillance System (SENDSS), and Electronic Disease Notification (EDN). The purpose of these data audits is to monitor data quality (case detection, data accuracy, data completeness and timeliness of reporting) throughout the year.

Process:

1. Case Detection: To enhance identification, reporting and follow-up of TB cases and suspects, the state office and local jurisdictions establish liaisons with appropriate reporting sources, such as hospitals, clinics (e.g., HIV/AIDS clinics), laboratories performing tests for mycobacteria, select physicians (e.g., pulmonologists and infectious disease specialists), correctional facilities, community health centers, pharmacies, and other public and private facilities providing care to populations with or at risk for TB. Completeness of reporting is performed by checking TB cases listed in the state hospital discharge summary reports against the state surveillance database. Cross-registry matching of TB and HIV surveillance databases are performed quarterly.
   Occasionally, when staffing and time permit, active laboratory surveillance for positive acid-fast bacilli (AFB) smears and cultures for *Mycobacterium tuberculosis* is conducted by calling laboratories directly to ensure complete and timely reporting.

2. Data Accuracy: Contradictory data (e.g. Sex at Birth vs. Gender) are sought out in the RVCT variables and corrected.

3. Data Completeness: Initial Case Reports and Follow-Up 1 (Initial Drug Susceptibility Report) RVCT data are checked for missing data at least quarterly. Follow-Up 2 (Case Completion Report) are checked every year for the cohort of cases reported two years prior to the year the data are requested. The EDN Refugee and Immigrant Database is analyzed monthly for unsubmitted TB Follow up Worksheets and missing data. Missing data reports are E-mailed to local jurisdictions with a two-week turn around request, and rechecked. In cases where the physician or hospital is non-responsive to requests for clinical data, our nurse or medical consultant may make a special effort to provide education on the importance of case reporting and data completion. In cases where refugees and immigrants cannot be located, a request is made for a valid address from the CDC Division of Migration and Quarantine office.

4. Timeliness: Usually CDC requests final case counts for the previous year by March, along with Initial and Follow-Up 1 RVCT data. Included are Follow-Up 2

data from cases counted two years ago. National targets and performance indicators (NTIPs) are evaluated at least quarterly, and the Georgia Tuberculosis Epidemiology report is published annually.

Record Audit Reporting

The state office will collect the following data via the quarterly GIA report concerning record audits: the date each audit was held, the number of active TB case charts audited, the number of LTBI case charts audited. The districts are to submit copies of their summary sheet to the state office. The state office will collect summary information on the key issues identified during case reviews on the annual GIA report.

Grant-in-Aid (GIA) Annex 031 Quarterly Report

- Due October 15th, January 15th, April 15th, and July 15th
- Record every date that a record audit was held.
- Record the total number of charts for active TB cases and the total number of charts for LTBI cases.
- Summarize the major key findings revealed from each of the chart audits.

EXAMPLE

Date of Chart Audit	# of Charts Reviewed	Key Findings
09/05/10	7 cases / 10 LTBI	Missing documentation on outcome of efforts to locate patient; HIV test results missing; hospital discharge summary missing
10/11/10	5 cases / 10 LTBI	All HIV test results documented; missed DOT appointments with no documentation as to why and outcome of actions taken

GIA Annex 031 Annual Report

- Due July 15th

EXAMPLE

Total number of chart audits held this year __6_____ Total number of charts audited this year_40 active cases / 60 LTBI cases_____

What were the major key findings that were revealed from the chart audits?
(Attach additional sheet, if needed)

HIV tests were documented to have been done but the results were not documented on 3121-R. Missed DOT appointments were documented but not the reason why or what actions were taken and the outcomes. Missing hospital discharge summaries from one particular hospital were missing on three charts.

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Cohort Review

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Cohort Review Guidelines

In 2009, the grant guidance from CDC included a funding requirement to have an evaluation plan in place. One of the evaluation activities must be cohort reviews. At the beginning of 2010, the Georgia TB Program began work on creating a form and process for the Cohort Review. The process was piloted by the Georgia TB Program staff using the state charts and SENDSS during July of 2010. The form was revised and re-piloted in District 1-2 in December. More recommendations to the process as well as the form were considered after the session.

During 2011, the Georgia TB Program began incorporating information about program evaluation activities into trainings, one-on-one conversations, and conference calls. In March 2011, an official Cohort Review Training in conjunction with TB Coordinators meeting was held. Many of the districts expressed a need for helping them convey the information to upper management and the Georgia TB Program assisted on a case by case basis. Piloting the new Cohort Review Model in four of the five metro-Atlanta districts began in May 2011. A preparation session was done with each district approximately a month before their scheduled review to introduce the process and assist with data gathering. During the reviews, more changes were suggested and incorporated into the finished product. These guidelines are a result of the comments and suggestions gleaned from the pilots conducted in 2010 - 2011.

Definition

The cohort review process is a systematic review of the management of patients with TB disease and their contacts. The cohort is a group of TB cases counted over a specific time period. Details regarding the management and patient outcomes are reviewed in a group setting.

TB cases are reviewed in a group setting with staff from the local, district and state office. At the local level, those involved in the care of the patient should be available to present and/or answer questions. The TB Coordinator, state nurse consultant, medical consultant, TB Program Director and epidemiologist will be present as well. Others, such as nursing supervisors, nursing directors and contract physicians may participate as well. The following information presented on each case by the relevant case manager:

- Patient's demographic information
- Patient's status: clinical, lab, radiology
- Drug regimen, adherence, completion
- Results of contact investigation
- Individual outcomes are assessed
  - Was the patient's evaluation timely?
  - Was treatment appropriate?
  - Was treatment successful?

- Were barriers identified and addressed?
- Were contacts completely evaluated?
- Were positive contacts treated for LTBI?

Benefits

- Promotes team building
- Immediate feedback for county and district
- Increased staff accountability for patient outcomes
- Improved TB case management and contact management
- Increased consultation for difficult cases
- Improved documentation in chart and timely updates to SENDSS
- District comparison to others across the state
- Reveals program strengths and weaknesses
- Opportunity to recognize outstanding work performance
- Opportunity to learn from peers and possibly implement changes that address problem areas
- Promote efficiency and cost effectiveness in your program
- Opportunity to use teachable moments to illustrate important lessons in TB control

The outcomes are measured against the state targets and National TB Indicators Project (NTIP). CDC describes the project:

> "The National Tuberculosis Indicators Project (NTIP) is a monitoring system for tracking the progress of U.S. tuberculosis (TB) control programs toward achieving the national TB program objectives. This system will provide TB programs with reports to describe their progress, based on data already reported to the Centers for Disease Control and Prevention (CDC). In addition, these reports will help programs prioritize prevention and control activities, as well as program evaluation efforts.
>
> The national TB program objectives reflect the national priorities for TB control in the United States. In 2006, a team representing TB programs and the Division of Tuberculosis Elimination (DTBE) selected 15 high-priority TB program objective categories." (CDC)

The complete list follows with state and federal targets.

Objective Categories	Objectives and Performance Targets 2015
1. Completion of Treatment	For patients with newly diagnosed TB for whom 12 months or less of treatment is indicated, increase the proportion of patients who complete treatment within 12 months to 93.0%. • **State target 88%**
2. TB Case Rates • **U.S.-born Persons** • **Foreign-born Persons** • **U.S.-born non-Hispanic Blacks** • **Children Younger than 5 Years of Age**	Decrease the TB case rate in U.S.-born persons to less than 0.7 cases per 100,000. Increase the average yearly decline in TB case rate in U.S.-born persons to at least 11.0%. • **State target decrease by 8% per year** Decrease the TB case rate for foreign-born persons to less than 14.0 cases per 100,000. Increase the average yearly decline in TB case rate in foreign-born persons to at least 4.0%. • **State target decrease by 11% per year** Decrease the TB case rate in U.S.-born non-Hispanic blacks to less than 1.3 cases per 100,000. • **State target 4/100,000** Decrease the TB case rate for children younger than 5 years of age to less than 0.4 cases per 100,000. • **State target 1/100,000**
3. Contact Investigation • **Contact Elicitation** • **Evaluation** • **Treatment Initiation** • **Treatment Completion**	Increase the proportion of TB patients with positive acid-fast bacillus (AFB) sputum-smear results who have contacts elicited to 100.0%. • **State target 95%** Increase the proportion of contacts to sputum AFB smear-positive TB patients who are evaluated for infection and disease to 93.0%. • **State target 80%** Increase the proportion of contacts to sputum AFB smear-positive TB patients with newly diagnosed latent TB infection (LTBI) who start treatment to 88.0%. • **State target 80%** For contacts to sputum AFB smear-positive TB patients who start treatment for newly diagnosed LTBI, increase the proportion who complete treatment to 79.0%. • **State target 75%**

Objective Categories	Objectives and Performance Targets 2015
4. Laboratory Reporting • **Turnaround Time**	Increase the proportion of culture-positive or nucleic acid amplification (NAA) test-positive TB cases with a pleural or respiratory site of disease that have the identification of *M. tuberculosis* complex reported by laboratory within N days from the date the initial diagnostic pleural or respiratory specimen was collected to n%.
• **Drug-susceptibility Result**	Increase the proportion of culture-positive TB cases with initial drug-susceptibility results reported to 100.0%. • **State target 98%**
5. Treatment Initiation	Increase the proportion of TB patients with positive AFB sputum-smear results who initiate treatment within 7 days of specimen collection to n%. • **State target 88%**
6. Sputum Culture Conversion	Increase the proportion of TB patients with positive sputum culture results who have documented conversion to sputum culture-negative within 60 days of treatment initiation to 61.5%. • **State target 62%**
7. Data Reporting • **RVCT**	Increase the completeness of each core Report of Verified Case of Tuberculosis (RVCT) data item reported to CDC, as described in the TB Cooperative Agreement announcement, to 99.2%. • **State target 95%**
• **ARPEs**	Increase the completeness of each core Aggregated Reports of Program Evaluation (ARPEs) data items reported to CDC, as described in the TB Cooperative Agreement announcement, to 100.0%. • **State target 100%**
• **EDN**	Increase the completeness of each core Electronic Disease Notification (EDN) system data item reported to CDC, as described in the TB Cooperative Agreements announcement, to n%. • **State target 75%**
8. Recommended Initial Therapy	Increase the proportion of patients who are started on the recommended initial 4-drug regimen when suspected of having TB disease to 93.4%. • **State target 93%**

Objective Categories	Objectives and Performance Targets 2015
9. Universal Genotyping	Increase the proportion of culture-confirmed TB cases with a genotyping result reported to 94.0%. • **State target 85%**
10. Known HIV Status	Increase the proportion of TB cases with positive or negative HIV test result reported to 88.7%. • **State target 95%**
11. Evaluation of Immigrants and Refugees • **Evaluation Initiation** • **Evaluation Completion** • **Treatment Initiation** • **Treatment Completion**	For immigrants and refugees with abnormal chest x-rays read overseas as consistent with TB, increase the proportion who initiate medical evaluation within 30 days of arrival to n%. • **State target 70%** For immigrants and refugees with abnormal chest x-rays read overseas as consistent with TB, increase the proportion who complete medical evaluation within 90 days of arrival to n%. • **State target 75%** For immigrants and refugees with abnormal chest x-rays read overseas as consistent with TB and who are diagnosed with latent TB infection (LTBI) during evaluation in the U.S., increase the proportion who start treatment to n%. • **State target 85%** For immigrants and refugees with abnormal chest x-rays read overseas as consistent with TB, and who are diagnosed with latent TB infection (LTBI) during evaluation in the U.S. and started on treatment, increase the proportion who complete LTBI treatment to n%. • **State target 75%**
12. Sputum-culture Reported	Increase the proportion of TB cases with a pleural or respiratory site of disease in patients ages 12 years or older that have a sputum-culture result reported to 95.7%. • **State target 95%**
13. Program Evaluation • **Evaluation Focal Point**	Increase program evaluation activities by monitoring program progress and tracking evaluation status of cooperative agreement recipients. Increase the percent of cooperative agreement recipients that have an evaluation focal point

Objective Categories	Objectives and Performance Targets 2015
14. Human Resource Development Plan	Increase the percent of cooperative agreement recipients who submit a program-specific human resource development plan (HRD), as outlined in the TB Cooperative Agreement announcement, to 100.0%. Increase the percent of cooperative agreement recipients who submit a yearly update of progress-to-date on HRD activities to 100.0%.
15. Training Focal Point	Increase the percent of cooperative agreement recipients that have a TB training focal point.

Cohort Review Process

1. Schedule
- An annual schedule for the Cohort Review Session is prepared and distributed by the State TB Program
- The cohort parameters will be defined and distributed to the TB Coordinators

2. Case List
- List of patients to be reviewed will be sent out to the district at least two months prior to review

3. Prep
- A spread sheet will be distributed to each district with the cohort identified.
- Save form to hard drive
- The state office will populate all information that is located in SENDSS.
- Missing information will be highlighted in yellow for the case manager to complete. Please update SENDSS with the same information.
- Use SENDSS and the patient's chart, contact investigation form and DOT sheet to complete each patient's form
- Review the entire course of treatment and case management of the patient and answer the specific questions on the form.
- Local and district staff will have one month to complete and return to the state TB Program via email or fax
- State TB Program staff will be available for technical assistance and training prior to completing the form, if needed.

4. Forms
- Due one month prior to review session
- Data will then be analyzed

5. Preliminary Data
- After validation, preliminary data will be composed in a PowerPoint presentation for the review
- The data entered into the spreadsheet will populate a narrative report.

6. Day of Review
- Discuss previous recommendations and action steps from cohort review last year to determine progress.
- Each case manager/nurse will present the narrative report of their cases; questions will follow the presentation of each case (maximum: 5 minute)
- Discussion of the Cohort Review and Process
- Preliminary data PowerPoint will be presented at the Cohort Review
- Each district participant will complete an survey

7. Follow-Up

- Missing data report will be sent to District TB Coordinator
- District TB Coordinator will send final data to the state office for validation
- Data will be finalized for report
- Team members will use information gathered to address staff training needs, solve programmatic problems, and follow up on cases and contact investigations

Cohort Review Reporting

The final data will be compiled into a formal report by the Georgia TB Program staff. The Final report draft will be sent to the TB Program Director for approval. Revisions and suggestions for change will be completed. The final approved document will be sent to the TB Coordinators. The TB Coordinators will share the lessons learned and quality performance with the Clinical Nursing Directors and Health Directors.

Staff Education

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Staff Education Guidelines

A well prepared public health workforce is the foundation of a healthy community. As the numbers of TB cases decrease, it is vital to keep a knowledge base about the disease and treatment within our public health staff. There are many physicians who have never seen a TB case during their practice. Public health will remain the experts in how to manage TB and the associated contact investigations.

District TB Coordinators are expected to become a state certified TB Trainer. Other designated persons can become instructors as well. This consists of the following:

1. Be tuberculin skin test (TST) certified
2. Attend a one day Train-the-Trainer: TB Update & Skin Test Certification (TST) class.
3. After the class, each participant will schedule and provide a TB Update and Skin Test Certification class that is monitored by the Georgia TB Program.

Once this has been accomplished satisfactorily, the participant will become a certified TB Trainer and will be able to teach any TB class offered. TST certification must be maintained by the instructor and the instructor is expected to teach at least one class every year.

The Georgia TB Program will maintain and update annually training tool kits for the TB Update & Skin Test Certification class, the Contact Investigation/Directly Observed Therapy class and the TB Case Management class. These tool kits are available for all certified TB trainers.

TST certification is to be maintained by all public health staff that provides direct clinical services in TB.

<u>Initial Certification Requirements:</u>

1. Attend a standardized “TB Update and Skin Test Certification” course.
2. Demonstrate correct technique of intradermal injection in class.
3. Demonstrate correct technique of induration measurement in class.
4. Administer 10 TST injections under the supervision of a currently certified person.
5. Read and interpret 10 TST reactions under the supervision of a currently certified person.
6. Return completed documentation to the state TB office and a certificate will be issued.

NOTE:

- The Skills Validation Worksheet should be completed and returned to the Nurse Educator at the TB State Office within six (6) months of completion of the "TB Update and Skin Test Certification" workshop.
- If the Skills Validation process is not completed within the six (6) months but is completed within12 months of the "TB Update and Skin Test Certification" workshop date, the participant must watch the most recent CDC TST Video prior to completing the Skills Validation process.
- If the Skills Validation process is not accomplished within 12 months of the "TB Update and Skin Test Certification" workshop completion date, the participant must retake the "TB Update and Skin Test Certification" workshop.
- If an individual moves to Georgia with valid TST certification from another state, reciprocity will be given for the certification and the Georgia timelines will apply re: renewal of certification.
- ***Initial certification is valid for 2 years <u>from the date of the initial class</u>***

<u>Recertification Requirements:</u>

1. View current version of the CDC "Mantoux Tuberculin Skin Test" video.
2. Review current version of "Georgia TB Reference Guide".
3. Administer 5 TST injections under the supervision of a currently certified person.
4. Read and interpret 5 TST reactions under the supervision of a currently certified person.
5. Attach copy of last certificate to renewal skills validation form.
6. Return completed documentation to the state TB office and a certificate will be issued.

NOTE:

- Recertification is valid for 2 years increments from date of initial class
- Course must be repeated if re-certification lapses more than one month after the re-certification date.

Contact Investigation/DOT courses, TB Case Management courses, in-services, TB Protocols, TB forms, documentation standards and TB updates will be provided to the local staff in their district by the TB coordinator or designated trainer.

TB education will be provided to outside agencies and partners as needed and requested. TB Update & Skin Test (TST) Certification courses, and other classes and education for the public health staff, correctional facilities and private sector within the district will be provided by the TB Coordinators.

All educational activities will be documented and tracked using standard registration forms, evaluations, pre-post tests and evaluation summaries.

Staff Education Process

Local:

For TB Update and Skin Test Certification classes:

- The instructor will notify the state office of the location, date, time and the availability of outside participant slots.
- This is a standardized course which means it should be taught the same way regardless of instructor or location. The method is learned during the Train-the-Trainer course.
- All state materials will be used. Registration forms can be altered to contain local contact information and headings, but the content cannot be modified.
- Skills Validation forms and renewal forms will be completed with date of initial class, location and instructor and given to the participants. After satisfactory completion of the practicum, the instructor will sign each participant's skill validation form.
- Participants will be given an attendance paper at the end of the class but will not become certified until the completed Skills Validation form is received in the state office. At that time, they will be put into the state database and a TST certificate will be issued. All certifications and re-certifications are based off the initial class date.
- Within a week after the class, the instructor will forward to the state office all the registration forms, the evaluation summary and the rosters.
- This should be the first TB class completed and should be taken prior to the nurse practicing under protocol. All Communicable Disease Specialists and other TB staff should complete this class prior to seeing clients independently.
- There should be certified trainers in each district to facilitate prompt training of new employees. These classes should be opened to the community partners within the area of the class to promote collaboration and build communication with the partnerships.

Contact Investigation/Directly Observed Therapy (DOT)/ Case Management classes

- The TB Update & Skin Test Certification class should be a prerequisite to taking this class.
- These classes can be modified to meet the needs and educational gaps identified by the TB Coordinator or designated instructor.
- If possible, please notify the state office of the location, date, time and of any available participant slots for public health staff from other districts.
- The tool kit contains handouts, slides, pre/post test, case studies and exercises that can be used.
- A pre/post test should be given and each participant must complete an evaluation.
- Within a week after the class, the instructor will forward to the state office all the registration forms, the evaluation summary and the rosters.

- Every person who performs DOT must have training prior to assuming the responsibility for DOT.
- All DOT training must be documented. Individual records are to be maintained at the county and district level. The extent of training will be determined by the scope of duties of the DOT worker. The 12 Points of Patient Education will be the outline of minimal training to be accomplished. Additional information can be found in the TB Policy and Procedure manual.

TB Case Management

- The TB Update & Skin Test Certification class and Contact Investigation DOT class should be prerequisites to taking this class.
- These classes can be modified to meet the needs and educational gaps identified by the TB Coordinator or designated instructor.
- There are on-line resources and self-study available at http://www.umdnj.edu/globaltb/products/tbcasemgmtmodules.htm or http://www.heartlandntbc.org/products/case_studies_tb_ncm_training_tools.pdf or http://www.currytbcenter.ucsf.edu/products/product_details.cfm?productID=ONL-14
- If possible, please notify the state office of the location, date, time and of any available participant slots for public health staff from other districts for face-to-face classes.
- The tool kit contains handouts, slides, pre/post test, case studies and exercises that can be used.
- A pre/post test should be given and each participant must complete an evaluation.
- Within a week after the class, the instructor will forward to the state office all the registration forms, the evaluation summary and the rosters.

All other educational sessions, classes and updates will be categorized on the quarterly District Training Activities form.

State:

- State sponsored courses and conferences will be posted on the TB web site under “Education and Training Opportunities” located at http://www.health.state.ga.us/programs/tb/training.asp.
- Download registration forms to a computer hard drive. Complete the registration electronically and email to the address provided or print the registration form, complete by hand and fax to the number provided.
- ‘Save the date’ and registration forms will be sent out to all the TB Coordinators when courses, workshops and conferences are scheduled.
- Districts can apply to the state to attend courses at the National Tuberculosis Controller’s Association (NTCA), Tuberculosis Education & Training Network

(TB-ETN), Tuberculosis Program Evaluation Network (TB PEN) and Southeast National Tuberculosis Center (SNTC).

Staff Education Reporting

On the quarterly report and annual report for GIA, there are sections to be completed concerning the district training activities. This information may be requested at other times as well. TB Coordinators are encouraged to keep a running log of all training activities in their district.

GIA Quarterly Report

(8) District Training Activities

EXAMPLE

Name of Education/ Training Activity		Total # of Classes	Total # of Participants		HCW * PH	HCW* Private	Non HCW*
Basic TB Training							
TB Update & TST Certification		2	20		14	6	
Contact Investigation							
DOT		1	1				1
Contact Investigation/DOT		1	12		12		
Infection Control		1	7			7	
Case Management							
Protocols		1	5		5		
Forms/Documentation							
Policies/Procedures							
Health Fairs		1	350				350
Mass Screenings		2	50			8	42
Other (list):							

*HCW--Health Care Worker

Additional Comments:

GIA Annex 031 Annual Report

- Due July 15th

EXAMPLE

Public Health staff that provide direct clinical services to TB patients:

(1) Number of staff in the district _55_____
(2) Number of staff that are currently TST certified __49_____
(3) Number of staff that have completed CI/DOT training ____10_____
(4) Number of staff that attended National TB Controllers conference this year ___2_____
(5) Number of staff that attended TB ETN/PEN conference this year _____1_____
(6) Number of staff that attended AG Holley Intensive TB Course this year _____0_____

List state certified instructors in your district:

Jane Doe, RN, Tom Smith, PH Educator at district office

Donna Jones, RN, TB Coordinator at district office

Susan Smith, RN, Public Health Nurse at Rowan County Health Department

Sarah Song, RN, educator at ABC Local Hospital

Indicate the number of state standardized classes that were taught by the district this year:

TB Update & Skin Test Certification class ____4_____
Contact Investigation/DOT class ___2_____
TB Case Management class ___1_____

Glossary

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Glossary

Adverse reaction	Any unexpected or dangerous reaction to a drug. An unwanted effect caused by the administration of a drug. The onset of the adverse reaction may be sudden or develop over time.
Benchmarks	A comparison value used to assess progress on a certain measure. It is often the starting point, or baseline.
Case management	A collaborative process that assesses, plans, implements, coordinates, monitors and evaluates the options, resources and services required to meet the patient's health needs. The coordination of healthcare over an entire episode of illness or disease.
Case review	A local and district function when two or more healthcare providers exchange information on a patient which results in a recommendation. Ideally, this would be the contract physician, the TB Coordinator and the case managers/nurses for the patients all discussing the patients in a group. A recommendation could be to continue the present course of treatment or to change the current course of management. This would not include a clinical appointment with physician and a nurse present with the patient. It would include the nurse reviewing the charts with the doctor either before or after seeing the patient. The idea is to have the opportunity to ask questions, clarify directions and for education.
Cohort	A group of people defined by specific parameters such as reporting date, smear status, demographics or location
Cohort Review	An event when each case manager presents a report on each patient defined as part of a specific group of patients. The patients have completed treatment or are close to completing treatment. The purpose of a cohort review is to evaluate the outcomes. It is an opportunity for peers to learn from each other how to improve outcomes.
Converter	A person with a known negative TST reading who changes to a positive TST reading within a two-year period

Episode of Non-Adherence	The following each represents one episode: 1. Patient on five day per week DOT and misses three DOT appointments in a two-week period. 2. Patient on twice weekly DOT and misses two DOT appointments in a two-week period. 3. Patient misses a clinic appointment 4. Patient breaks isolation while still infectious 5. Failure to disclose adequate information to identify contacts
Event	Each occurrence of an activity such as a case review or record audit. For example, the event of a record audit took place five times. At each event, there were 10 records audited.
Key issue or finding	Programmatic or clinical issues that are identified while reviewing cases. These would indicate a possible pattern or a needed change in process. An example would be a delay in getting CXR readings from one particular provider or a pattern of missed DOT appointments occurring with a particular provider rather than a particular patient.
National TB Indicators Project (NTIP)	The National Tuberculosis Indicators Project (NTIP) is a monitoring system for tracking the progress of U.S. tuberculosis (TB) control programs toward achieving the national TB program objectives. This system provides TB programs with reports to describe their progress, based on data already reported to the Centers for Disease Control and Prevention (CDC). In addition, these reports help programs prioritize prevention and control activities, as well as program evaluation efforts.
Number of cases reviewed	The actual number of clients that were discussed with the team during one event; the same clients may discussed at numerous events and would be counted at each event.
Patient	Refers to a TB client being evaluated for TB or treated for TB (Suspect, Case, LTBI, and Contact).

Protocol	The nurse protocol legislation authorizes registered nurses who are agents or employees of a county board of health or the Georgia Department of Public Health and who are adequately prepared, to perform certain delegated medical acts under the authority of a nurse protocol. The protocol provides guidelines and standards for public health nursing practice.
Public health staff that provide TB services	Employees of public health that provide any activity related to TB patients regardless of whether they are in a TB clinic or not; examples would include a public health nurse in immunizations who performs skin tests or administers a clinical symptom screen for a patient who needs work clearance; an outreach worker who conducts contact investigations
Recommendation	After exchanging information concerning a patient, any decision made on the treatment course of that patient or in the management connected with that patient.
Record audit	The use of a standard tool to measure the appropriate and timeliness of documentation in the patient's chart or in a surveillance or patient management electronic system; the process of evaluating the documentation of a patient chart using defined criteria.
SENDSS	State Electronic Notifiable Disease Surveillance System for Georgia
State case review	When the state medical consultant observes and participates in a local /district case review.
Summary of key issues	Summary of any patterns picked up that need to be addressed programmatically. These could be inadequate documentation in the chart or delays by a particular hospital in reporting cases and suspects.

Summary of recommendations	Look at all the recommendations and condense into two to three sentences that describe the major or majority of the recommendations. Example would be that a particular district is finding a high number of recommendations for a CT scan in their patients or a high referral rate for substance abuse treatment.
Treatment Interruption	Any break in treatment that results in a two week period without the patient ingesting medications
TST certified	A person who has completed the process to become certified to administer, read and interpret tuberculin skin tests; the process includes attending a standard TB Update and Skin Test Certification class followed by clinical supervision to properly administer and read a standard number of tuberculin skin tests followed by submitting the completed skills validation form to the state TB office within a designated timeframe.

References

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Division of Tuberculosis Elimination. National Center for HIV, STD, and TB Prevention. Centers for Disease Control and Prevention. ***A Guide to Developing a TB Program Evaluation Plan.***

Guide and Scaled Goal Matrix Tools: Uniform Clinical Performance Measures for TB Nurse Case Managers *2006*. NTNC/NTCA Informatics Committee: Kathy Kolaski, Karen Buford, Connie Martin, Carolyn Martin, Ann Poole, Jo-Ann Arnold, Kim Field, Lorena Jeske, Janice Boutotte, Lynelle Phillips, Gayle Schack, Jane Moore, D.J. McCabe, Lillian Priog, Karen Galanowsky, Maureen Wilce, Judy Gibson

McCurtis, Kiesha. January 9-10, 2012. **Capacity Building Workshop**. Held at Georgia Department of Public Health, Two Peachtree St., 7th Floor, Atlanta, Georgia.

Powers, Anne. Nov. 15, 2005. Webinar. ***Introduction to Program Evaluation.***

Tuberculosis Evaluation Work Group. Division of Tuberculosis Elimination. National Center for HIV, STD, and TB Prevention. Centers for Disease Control and Prevention. Department of Health and Human Services, Winter 2006. ***TB Program Evaluation Handbook: Introduction to Program Evaluation.***

For a comprehensive listing of resources, please visit CDC's web site at http://www.cdc.gov/tb/programs/Evaluation/default.htm

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APPENDIX A: Program Evaluation Tools

Example of a past evaluation

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Example of a past evaluation

Georgia Tuberculosis Program
Evaluation of Services to Hispanics in Gwinnett County

Evaluation Goal
This evaluation goal is to assess the resources, activities and processes currently underway in the Lawrenceville district to meet the needs of the growing Latino population. This assessment and evaluation will identify program areas of existing successes; staff utilization and where areas of expansion are needed. The evaluation will focus on assessing the capacity of the health district to address the increasing numbers of Hispanics with TB; the existing use of current resources to aid in outreach to the at-risk Latino population in the Lawrenceville Health District.

Evaluation Team
The team consists of state office TB program management team, which includes the TB program medical consultant, epidemiologist, nurse consultants, and program manager. In addition, three members from the Lawrenceville health district are participating; the TB coordinator, bi-lingual outreach worker as well as the infectious disease coordinator. A representative from the population (former patient or family member of a patient) will be sought to serve on the evaluation team.

1. Engage the stakeholders

Stakeholder Assessment
The stakeholders represent organizations and persons involved in or affected by TB case increase in the Latino population. Stakeholder members for this evaluation may include: the local health department bilingual staff most connected and involved with Latino clients (providers, outreach staff, RN/TB coordinators, etc), state program staff (TB Controller, epidemiologist, etc), community support/advocacy groups (Latin American Association, faith-based groups, schools, homeless shelters, and others), former clients and contacts, other health efforts targeting Latinos (HIV, smoking/lung disease, etc), CDC TB consultant and evaluation specialists.

2. Describe the program

Need
In recent years, Georgia has seen a rapid increase of foreign-born Latinos among its population. In Georgia, Tuberculosis (TB) among the foreign-born has increased from 5% (40 cases) in 1993 to 34% in 2004. Latinos comprises the second largest number of TB cases, after African-Americans. In 1995, 4% of reported TB cases were Latino and 64% were African American. In 2004, TB among Latinos increased to 17% while 58% of TB cases were African-American. The number and proportion of TB cases in the Latino population are increasing, whereas the trend among African-Americans is decreasing. Public health services, including TB programs, are working to

accommodate the special needs of the Latino population, namely with regard to language and trust issues. These special needs often necessitate culturally sensitive approaches by general public health programs. Areas particularly impacted by high influx of Latinos (Cobb County, Georgia and Lawrenceville, Georgia) need to evaluate their TB programs to assess how they are accommodating the special needs of this population and where programs may develop to better serve them

This evaluation will access and make recommendations to address the problem of increasing TB incidence among the Latino immigrant population in the Lawrenceville district. The problem is speculated to be due to limited outreach activity scope, limited bilingual staff, lack of information on community perceptions of disease and treatment, and limited collaboration with Latino advocacy/support groups and general health awareness efforts. Consequently, the community has experienced negative media reports regarding TB in schools as well as anti-immigrant reactions. In 2004, the Lawrenceville program reported 32% of all their cases were Latino immigrants. This number is predicted to increase without a targeted intervention and/or program adjustments to the problem. In general, 84% of TB cases are completing therapy; but that number is predicted to decline as fewer TB cases follow up after the first month of treatment. Given the limited program resources (2 bilingual outreach workers and 1 bilingual in-clinic staff) and the increasing trend of TB cases in the community, this evaluation will assess the strengths and weaknesses of this program's ability to address TB in the Latino population.

Context

The Lawrenceville district serves as the TB point-of-service for Gwinnett, Rockdale, and Newton counties. Most of the TB clients are from Gwinnett County. The program has two day-clinics, one in Norcross and one in Lawrenceville; no after-hours services are currently available. The clinics provide Direct Observed Therapy (DOT), contact follow up and prescriptions. The program contracts with a medical and radiology consultation off-site. Contractors are available for Rockdale and Newton counties as well. Currently the program consists of one nurse who serves as the TB coordinator, a few LPNs, and two bilingual outreach workers. The outreach workers focus primarily on DOT for all clients, not just Latinos. The program is largely funded by state money, though federal dollars help fund one pharmacist at the local health department. Collaboration with other health agencies, advocacy groups, or social services is unclear or undocumented. The influx of this immigrant population has faced political challenges and is further complicated by the undocumented status of some individuals.

Target Population

The Latino population of Georgia, specifically in the greater Atlanta area, consists mainly of immigrating persons from Mexico and Guatemala. Most have come to the US for work in the construction, agriculture/landscaping, or hospitality industries. Many work and/or live in congregate settings. Some are undocumented immigrants, and work and live here under false identification. For this reason, some are afraid of entering any

formalized system, including healthcare. How Latinos perceive TB, TB treatment, and illness in general is unclear. The limited capacity of providers and staff to speak Spanish and the variations and dialects of Spanish spoken, presents an additional challenge to providing and accessing care. Bicultural staff members are also rare.

Objectives

Goal: To assess and evaluate the program's resources, activities and outputs to reduce TB in the Latino population.

1. Increase Latino outreach services by adding two bilingual outreach staff by December 2006.
2. Establish and develop collaborations and coordinated efforts with Latino advocacy groups and social services by June 30, 2006.
3. Develop a community intervention to increase TB awareness in the Hispanic population in Gwinnett County.
4. Develop a logic model for the community intervention

Stage of the Program

We are in the formulation phase for this intervention

Resources/Input

State TB nurse educators, District TB clinic staff, and provision of training, education, and community outreach; collaborate with community-based organizations serving the Latino population

Activities

Interviews with existing TB staff, administrators, Hispanic service providers and Latino clients served by the Gwinnett County Health Department.

Outputs

TB education and training will be provided to community-based organizations and health care providers to increase awareness of signs and symptoms of TB and visibility of the county health department as a resource.

Outcomes

Some outcomes from the intervention include but are not limited to: attract and retain bi-lingual staff; increase patient trust towards the health department; patients adhere to the treatment regimen; patients complete therapy; patients will seek TB care and other health department's services early.

3. Focus the evaluation design

Stakeholder Needs: information to develop interventions to increase completion of treatment for TB and LTBI and improve timeliness of care-seeking behaviors for Latino persons with TB

Evaluation Questions

1. What is the extent of TB outreach services currently provided to the Latino community?

2. What and how are current resources allocated to program activities?
3. Are the TB services currently provided to the Latino community sufficient?
4. Have community partners been engaged to collaborate with us to prevent TB in the Latino population?
5. Are we producing the outcomes we expect (COT within 12 months)?
6. What are the barriers to COT for TB cases and LTBI?
7. When and why do patients stop treatment?
8. What interventions are currently in place?

Evaluation Design

This evaluation will be primarily a descriptive evaluation assessing current program activities and identifying client/community needs.

Resource Considerations

Resources for this evaluation are limited. Available staff at the district level is currently stretched and recently lost a LPN that was responsible for DOT and follow-up. All evaluation members have limited hours to devote to the evaluation. However, three of the team are located at the district offices in the target area and hopefully will be able to incorporate this effort in their routine activities.

We currently collect data on foreign-born and specifically number of Hispanics and the country of origins. We collect data which when analyzed, give an indication of the timeliness of the person seeking health care for TB.

Evaluation Standards

Replicable, applicable, timely, easily implemented.

4. Gather credible evidence

Indicators

- Number of Latino outreach services provided by the county health department by Dec 31, 2006
- Number and frequency /type /quality of collaboration and coordinated efforts with Latino advocacy groups and social services by Dec 31, 2006
- Number of patients completing therapy by 2008 (increase by 10%)
- Number of patients accessing care early (defined as non-cavitary on x-ray) by 2008 (increase by 5%)
- Number of interventions to increase TB awareness devised/supported by community cohorts
- Number of Spanish-speaking/bicultural staff
- Amount of current resources allocated to Latino program activities
- Number of community partners engaged to prevent TB in the Latino population
- Number/type of barriers to COT for TB cases and LTBI
- Timeframe and reasons why patients stop treatment

Data Collection
Focus groups, bilingual surveys of clients and staff, and program inventory.

5. Justify conclusions

Justifying Conclusions: Analysis and Interpretation
Data analysis will be conducted using both qualitative and quantitative methods.
Ensuring Use and Sharing Lessons Learned: Report and Dissemination

6. Ensure use and share lessons learned

Dissemination
Findings will be disseminated to policy makers at the district and county levels. Finding will be used to form partnerships with community-based organization that serve the Hispanic population in Gwinnett County.

Use:
Lawrenceville Health district officials will use as a tool to educate county officials as well as advocate for additional county resources to meet the growing needs of the Hispanic population.

Lessons Learned from 2009 Evaluation of Services to Hispanics in Gwinnett County

This evaluation was conducted to assess the knowledge, attitude, and perceptions of the Hispanic population about TB and access to health services.

- Ten interviews with health care providers serving the local Hispanic community
- Seven patient interviews
- Two focus groups among Latinos in the Mexican Embassy waiting room

These interviews revealed:

- Gaps in knowledge about TB transmission
- Preference for Spanish-speaking private providers for primary health care
- Instances of delayed diagnosis of TB by private providers
- Inadequate interpreter services at CHDs
- Satisfaction with the health care provided by CHD TB clinic staff
- Perception that Hispanics would receive poor customer service during intake at CHDs.
- Fear of deportation

- Barriers to seeking care: cost (and a lack of health insurance), transportation, language
- Delays in seeking care: Hispanics only go to the doctor when “they were sick and unable to go to work”
- Fear of being shunned and negative reaction of family and friends
- Lack of interaction between the county health department and the community
- Health care providers were not aware of the services provided by CHDs and they felt that CHDs should work closely with Hispanic-serving clinics to improve the health of Hispanics in Gwinnett County

The opportunities to increase TB knowledge and care in the Hispanic community include:

- Understanding health information seeking behavior:
    - Hispanics typically seek health information from the WIC program, pediatricians, and doctors at Hispanic clinics.
    - TB programs should provide TB information at shopping malls, restaurants, and places where Hispanics frequently shop.
    - Initiate a TB awareness campaign. Schools, radio, television were cited as venues to promote TB awareness.
    - Hispanics prefer to learn more about TB in focus group discussions, one-on-one discussions, videos, and pamphlets.
- Collaborate with “Hispanic clinic” health care providers. Hispanics trust the doctors at Hispanic clinics. They felt treatment was good and visits were cost-efficient. Maintain current partnerships and foster new ones.
- Find more ways to be visible in the community. Hispanics would go to county health department clinics if there is a bilingual interpreter and/or bilingual peer counselors. They felt services at the health department were very good.

APPENDIX B: Case Review Tools

Annex 031 TB Case Management GIA Quarterly Report
Annex 031 TB Case Management GIA Annual Report
Medical Case Review Form
Sample Case Review Documentation Form
Contact Investigation Summary Sheet
Sample Diagnostic & Therapeutic Record
Bacteriology Flow Sheet
Sample Case Review Agenda

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FY12 – Annex 031 Quarterly Report

District _____County _____ Reporting period_____

Reported by_____
Date_____

(1) Indicate the number of clients seeking any type of TB screening in your health department (including those that only needed a clearance letter).

	# Client encounters	**# TSTs/QFTs administered - including contact investigations**	**# TSTs/QFTs read Positive**	**# TSTs/QFTs read Negative**	**# Chest X-rays performed**
Total					

(2) Indicate the number of clients on LTBI treatment for this quarter:

	# of new patients started on LTBI treatment
	---indicate # that were under the age of 15
	---indicate # that were under age 15 placed on DOPT
	---indicate # that were under age 5
	---indicate # that were under age 5 placed on DOPT
	# of LTBI patients with HIV test performed
	# of patients still on LTBI treatment
	# of patients that completed LTBI treatment
	---indicate # that were under age 15 who completed LTBI treatment
	# of patients that were documented as "lost to follow-up." Attach a statement indicating reasons why and efforts made to locate.

(3) Indicate the number of clients in Ryan White Clinics:

	# of clients administered a TST/QFT
	---indicate # that were read as positive (5 mm or higher)
	---indicate # that were read as negative
	# of positive TSTs/QFTs that were started on LTBI treatment
	---indicate # that were placed on DOPT
	# of patients still on LTBI treatment
	# clients that completed LTBI treatment
	# of clients that were documented as "lost to follow-up." Attach a statement indicating reasons why and efforts made to locate.

(4) Financial Report:

GIA Allocations Received	Amount
Beginning allocation	$
Additional allocations this quarter	+ $
Total allocations to date	= $

	BALANCE
Total GIA allocations received	$
Amount spent 1st quarter	- $
Amount spent 2nd quarter	- $
Amount spent 3rd quarter	- $
Amount spent 4th quarter	- $
Balance remaining	= $

# of people	Costs paid out of GIA Allocations	Amount
	Salaries & Fringe	$
	Contracts (attach itemized list with name & amount – send copies of any new contracts to the state TB Program Office)	$
	Laboratory costs	$
	Chest X-ray costs	$
	Other direct patient costs (specify)	$
	Equipment (itemize)	$
	Incentives & Enablers (keep log on site for review)	$
	Other (itemize)	$
	Other (itemize)	$
	Other (itemize)	$
	Other (itemize)	$
	Other (itemize)	$
	TOTAL SPENT this quarter	$

Positions funded by TB (Attach additional sheet, if needed)

Position #	Position title	Paid with GIA or funds	Name of person	Salary & Fringe	# of months vacant this quarter	Reason for vacancy

(5) **High-risk targeted TB screening (e.g., jails, nursing homes, shelters, etc.) conducted this quarter.**

Name of facility	Location (City/Town)	Type of Facility	MOU/MOA with facility (Y or N)	Conducted by facility (F) or Health Dept. (HD)
	# of clients administered a TST/QFT			
	---indicate # that were read as positive			
	---indicate # that were read as negative			
	# of positive TST/QFT clients evaluated referred for follow-up			
	# of suspects/cases identified			
	# of positive TSTs/QFTs that were stated on LTBI treatment			
	# of LTBI clients with HIV test performed			
	# clients that completed LTBI treatment			
	# of clients that were documented as "lost to follow-up"			
Name of facility	**Location (City/Town)**	**Type of Facility**	**MOU/MOA with facility (Y or N)**	**Conducted by facility (F) or Health Dept. (HD)**
	# of clients administered a TST/QFT			
	---indicate # that were read as positive			
	---indicate # that were read as negative			
	# of positive TST/QFT clients evaluated referred for follow-up			
	# of suspects/cases identified			
	# of positive TSTs/QFTs that were stated on LTBI treatment			
	# of LTBI clients with HIV test performed			
	# clients that completed LTBI treatment			
	# of clients that were documented as "lost to follow-up"			
Name of facility	**Location (City/Town)**	**Type of Facility**	**MOU/MOA with facility (Y or N)**	**Conducted by facility (F) or Health Dept. (HD)**
	# of clients administered a TST/QFT			
	---indicate # that were read as positive			
	---indicate # that were read as negative			
	# of positive TST/QFT clients evaluated referred for follow-up			
	# of suspects/cases identified			
	# of positive TSTs/QFTs that were stated on LTBI treatment			
	# of LTBI clients with HIV test performed			
	# clients that completed LTBI treatment			
	# of clients that were documented as "lost to follow-up"			

(6) Local/District Case Review Dates

Date of Review	# of Cases Reviewed	Key Findings

(7) Local/District Chart Audit Dates

Date of Chart Audit	# of Charts Reviewed	Key Findings

(8) District Training Activities

Name of Education/ Training Activity		Total # of Classes	Total # of Participants		HCW * PH	HCW* Private	Non HCW*
Basic TB Training							
TB Update & TST Certification							
Contact Investigation							
DOT							
Contact Investigation/DOT							
Infection Control							
Case Management							
Protocols							
Forms/Documentation							
Policies/Procedures							
Health Fairs							
Mass Screenings							
Other (list):							

*HCW--Health Care Worker

Additional Comments:

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GIA Annex Tuberculosis: 031 Annual Report
Due date: Each July 15th

District _____ County _____ Reporting Period_____
Reported by_____
Date_____

Public Health staff that provide direct clinical services to TB patients:

1. Number of staff in the district _____
2. Number of staff that are currently TST certified _____
3. Number of staff that have completed CI/DOT training _____
4. Number of staff that attended National TB Controllers conference this year _____
5. Number of staff that attended TB ETN/PEN conference this year _____
6. Number of staff that attended SNTC TB Clinical Comprehensive Course this year _____

List state certified instructors in your district:

Indicate the number of state standardized classes that were taught by the district this year:

TB Update & Skin Test Certification class _____
Contact Investigation/DOT class _____
TB Case Management class _____

Total number of chart audits held this year _____ Total number of charts audited this year_____

What were the major key findings that were revealed from the chart audits? (Attach additional sheet, if needed)

Total number of case reviews held this year _____ Total number of cases reviewed this year_____

What were the major key findings that were revealed from the case reviews? (Attach addition sheet, if needed)

List job titles of those who participated in the case reviews this year:

List job titles of those who participated in the cohort reviews this year:

List ALL Contracts and/or Memorandums of Understanding/Agreements for TB-related services, including, but not limited to contract physicians, x-rays, PPD solution, etc.

Contractor	Services	Amount	Start/End dates	Copy attached

Financial Report:

List all funds received for TB services

Source (e.g., GIA, county board of health, special grants, etc.)	**Recurring or one-time funding**	**Is this for a specific purpose? If so, list.**	**Amount**

Total funds for TB Services $_____

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Medical Case Review

_____ Date of Birth _____ age ___ race ___ sex ___ HIV ____ ☐ US born ☐ Foreign-born

☐ Contact to known case? _____ ☐ If case is < 18, source identified _____

Physician or Health Department _____

Occupation _____ Last date worked _____ Return to work date _____

DIAGNOSTIC INFORMATION

Diagnosed at ☐ Hospital ☐ Physician's Office ☐ Health Dept.
Status at Diagnosis: ☐Alive ☐Dead (date) _____

Major site of disease:

Additional site:

Skin Test
Date _____
Results _____
Reason _____

Fluid specimens	Date(s) Collected	Smear Result: Pos / Neg / Pend / Not done	Culture: Pos / Neg / Pend / Not done
Initial Sputum	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Bronchial Wash	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Gastric Aspirate	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Pleural Fluid	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
CSF	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Urine	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Other _____	_____	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐

Biopsy specimens for histopathology & culture

	Date Collected	AFB	Necrotizing granuloma	Culture
Lymph node	_____	_____	_____	_____
Pleura	_____	_____	_____	_____
Bone	_____	_____	_____	_____
Other	_____	_____	_____	_____

Not performed ☐

Not applicable ☐

DRUG SUSCEPTIBILITY RESULTS: ☐ No resistance ☐ INH resistance ☐ RIF resistance ☐ Other _____
SPUTUM CULTURE CONVERSION: Date _____ Occured within 2 months of treatment? ☐ Yes ☐ No
BACTERIOLOGY SUMMARY: Smear: Last Positive _____ 1st Negative _____ Culture: Last Positive _____ 1st Negative _____

INITIAL

Date _____
Remarks:

CHEST RADIOGRAPHY

Interpretation
☐ Normal ☐ Not done ☐ Unknown
☐ Abnormal → ☐ Cavitary
☐ Non-cavitary → ☐ Consistent with TB
☐ Inconsistent with TB
☐ Pleural Effusion

FOLLOW-UP

Date _____
Status
☐ Stable
☐ Worsening
☐ Improving
☐ Unknown

CO-MORBID MEDICAL

HIV Test Offered ☐ Yes ☐ No
Refused Testing ☐ Yes ☐ No
Test done, results unknown ☐

☐Status Negative
☐Status Positive → CD4 _____
On Antiretrovirals ☐ Yes ☐ No
If Yes, List:

PCP Prophylaxis ☐ Yes ☐ No

☐ Diabetes Mellitus ☐ Cancer (site) _____
☐ Silicosis ☐ Chronic Liver disease
☐ End Stage Renal Disease ☐ Hepatitis B ☐ Hepatitis C
☐ Tumor necrosis factor alpha (TNF) antagonists
☐ Other _____
Recent hospitalization, specify details:

Medical Complications:

Initial weight _____
Current weight _____

ALLERGIES:

INITIAL DRUG REGIMEN

Date RX Started: _____ ☐Daily ☐Twice Weekly ☐Other _____ ☐ DOT ☐Non-DOT
☐ Isoniazid _____ ☐ Rifampin _____ ☐ Pyrazinamide _____ ☐ Ethambutol _____
☐ Other _____ ☐ Other _____ ☐ Other _____

CURRENT DRUG REGIMEN

Date RX Started: _____ ☐Daily ☐Twice Weekly ☐Other _____ ☐ DOT ☐Non-DOT
☐ Isoniazid _____ ☐ Rifampin _____ ☐ Pyrazinamide _____ ☐ Ethambutol _____
☐ Other _____ ☐ Other _____ ☐ Other _____
Months on Therapy _____ # Doses to Date _____ Est. length of treatment _____ Anticipated completion date _____

Describe clinical improvement _____

RISK FACTORS

Within last 12 months:

- ☐ Homeless
- ☐ IV Drug Use
- ☐ Non-IV Drug Use
- ☐ Excessive Alcohol
- ☐ Unknown

At time of Diagnosis:

- ☐ Previous LTBI history ☐ Did not complete therapy ☐ Completed therapy (date) _____
- ☐ Resident of correctional facility, if yes: ☐ Federal Prison ☐ State Prison ☐ Local Jail ☐ Juvenile Correction Facility
- ☐ Other Correctional Facility _____
- ☐ Unknown
- ☐ Resident of long term care facility, if yes: ☐ Nursing home ☐ Hospital based facility ☐ Alcohol or drug treatment facility
- ☐ Mental health facility ☐ Other _____

BARRIERS TO ADHERENCE

- ☐ Homelessness
- ☐ Inadequate housing
- ☐ Inadequate nutrition
- ☐ Inadequate income
- ☐ Inadequate transportation
- ☐ Inadequate healthcare/insurance
- ☐ Unemployment
- ☐ Domestic violence/abuse
- ☐ Low literacy
- ☐ Language barrier
- ☐ Alcohol use
- ☐ Drug use

Specify _____

- ☐ Depression
- ☐ Suicidal/homicidal thoughts
- ☐ Paranoia / Defiant / Erratic behavior
- ☐ Uncooperative
- ☐ Erratic behavior
- ☐ Does not follow isolation
- ☐ Misses Clinical appointments
- ☐ Misses DOT appointments
- ☐ Reluctant to identify contacts

TREATMENT ISSUES

Treatment interruptions? ☐ Yes ☐ No Date stopped _____

Medical/adverse reactions ☐ Yes ☐ No
Specify _____

Liver Enzymes elevated ☐ Yes ☐ No Specify _____

Patient nonadherence ☐ Yes ☐ No
Specify _____

Provider reasons ☐ Yes ☐ No
Specify _____

Date re-started _____

REFERRALS & ADHERENCE STRATEGIES (specify):

ADDITIONAL COMMENTS:

Date Report Completed _____ SIGNATURE _____

RECOMMENDATIONS:

Date Review Completed _____ SIGNATURE _____

Sample Case Review Documentation Form Date:_____

Participants: ☐ TB coordinator ☐ Contract Physician ☐ TB Nurse ☐ CDS ☐ Other

Patient Codes: Case = C Suspect = S LTBI = L Contact = T

Medication Codes: Isoniazid (INH); Rifampin (RIF); Ethambutol (EMB); Pyrazinamide (PZA); Rifapentine (RPT)

Initial	Code	Clinical Status	Medication	Start / Stop dates	Adherence	CI	Recommendations

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Chart # _____ Patient's Name _____ Date of Birth _____ Page _____ of _____

CONTACT INVESTIGATION SUMMARY

	Total contacts screened	Total number of previous positive TSTs	Initial TST Results		Chest x-ray		Number of contacts with medical risks	Number contacts started on window Period treatment	F/U TST Results		Number of contacts who started LTBI treatment	Number of contacts who stopped LTBI treatment? Why?	Number of contacts who completed treatment	Number of secondary active TB cases found	Number of contacts lost to follow-up or refused to complete evaluation
			+ P	- N	Abnormal	Normal			+ P	- N					
Household															
School / Work															
Social															
Congregate setting (E.G. jail; church)															
Additional persons screened															

Additional contact investigation information:

Date Summary Completed _____ Signature _____

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Diagnostic & Therapeutic Record

Medication Start Date_____

PPD		Chest X-ray	
Date	**Result**	**Date**	**Result**

Mycobacteriology

Specimen #	Type	Smear		Culture		MTD
		Date	Result	Date	Result	

Drug Sensitivity		
Drug	**Date**	**Result**
Isoniazid		
Rifampin		
Ethambutol		
Pyrazinamide		
Streptomycin		

Liver Function Tests

Date	AST	ALT

HIV Status

Date	Ora-Quik	Serum

Comments:

M&M #:_____

PATIENT ID AREA

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Bacteriology Flow Sheet

Patient Name_____Patient ID Number _____
Date of Birth_____

Specimen Number	Specimen Type	Specimen					
		Smear		Culture		MTD	Drug Sensitivity
		Collection Date	Result	Report Date	Result		

GA DPH TB Unit Form 3143 (Rev. 12/2011)

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CASE REVIEW AGENDA

DISTRICT

January 12, 20XX @ 10:00 am

Conference Call: (XXX) XXX-XXXX

Access Code: XXXXXXX#

Brief Introductions……State Office Staff

District Introductions……District TB Coordinator

Case Review Begins……District staff

- During the case review the designated staff person [nurse manager or person handling the case] will read from the review format sheets as everyone else follows along.
- Dr. Ray will ask questions as needed and converse with district office staff during the review.

Closing Comments……..……State Medical Consultant

- Following the case review, the designated state office staff will type a formal copy of the notes for the record including the noted recommendations and mail to the district office TB coordinator.

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APPENDIX C: Record Audit Tools

Record Review for TB Disease
Record Review for LTBI
Case Management Time Line
Medical Records Case Management Time Line
Goal Matrix

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Record Review for TB Disease

Date:_____ District: _____ County: _____ Reviewer:_____

Criteria	Met	Not Met	N/A	Comments
Reporting and Notification				
Notification date documented				
Initial Report (form 3140 or 3141) and/or discharge summary from hospital				
Monthly Follow up Reports from PMD (form 3142) if co-managed				
Interjurisdictional TB Notification (NTCA 3-2002)				
TB Classification within 90 days				
Initial RVCT form completed in SENDSS within 30 days				
Follow Up Report-1 form completed in SENDSS within 2 months of initial RVCT				
Follow Up Report-2 completed in SENDSS when case is closed				
Legal				
Signed Consent (form 3609)				
Signed Treatment Plan (form 3144)				
Signed DOT agreement (form DPH06/060W)				
Signed Release of Information (form 5459)				
Documentation of Patient receiving Medication Information Sheet (DPH04/328HW)				
Case Management				
TB Services (form 3121R)				
Physical Assessment in chart (hospital, physician or HD)				
Initial chest x-ray report in chart				
Follow up Chest x-ray reports in chart				
HIV status and post test counseling documented				
Baseline labs: AST, ALT, bilirubin, alkaline phosphatase, CBC with platelet count, serum uric acid and creatnine, and if indicated Hepatitis B and C profile and a pregnancy test.				
Other labs ordered per history and protocol				
Baseline visual acuity testing and red/green color discrimination for clients on Ethambutol				
Appropriate client education documented utilizing "Tuberculosis Education Record" and the "12 Points of TB Patient Education" located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp				
3 Consecutive diagnostic sputum specimens collected				
3 Consecutive negative sputum smears date documented				
Monthly sputum specimen obtained				
2 month sputum status documented				
Initial TB Drug Susceptibility test results				
Started on appropriate medications with at least 4 Drugs				
Medication start date documented				
Appropriate number of doses within required time frame				
DOT form complete and current (form 3130)				
Appropriate action documented for side effects, adverse reactions and other identified problems				
Complete & current TB Flow Sheet (form 3135)				
Monthly labs: AST, ALT, bilirubin, alkaline phosphatase & CBC with platelets				
Monthly visual acuity and red/green color discrimination, if on Ethambutol				
Adherence assessed and documented with appropriate action documented for non-compliance				
Documented referrals and follow up as indicated				
Medication stop date documented				
Medical Case Review form				

Criteria	Met	Not Met	N/A	Comments
Contact Investigation				
Initial Interview date with index case within 1-3 days of notification				
Interviewer signed contact investigation form				
Home visit date within 2 weeks of initial interview date				
Interviewer signed contact investigation form				
Index patient's infectious period is documented on 3126				
Date of Initial assessment (interview) with contact documented				
Priority of contact is documented				
Contact environment is documented				
Date of last exposure is documented				
Relationship to case is documented				
Date of Initial TST/IGRA on contact documented				
Results of Initial TST/IGRA is documented in mm				
Chest X-ray for + reactors & medical risk contacts				
High priority & medium priority contacts evaluated with TST/IGRA and chest x-ray (as indicated) within 7 - 10 working days				
Low priority contacts evaluated with TST/IGRA within 30 calendar days				
Follow up negative TST/IGRA contacts with 2nd TST in 8-10 weeks				
LTBI treatment recommendations documented (recommended or reason not offered)				
LTBI treatment start date documented				
If LTBI treatment not started, refusal of care signed				
Documentation of report of positive TST/IGRA, CXR results & treatment given to client & documented				
Date LTBI treatment stopped				
Code for why LTBI treatment stopped documented				
Code for why no contacts were identified documented				
Code for why evaluation was not completed				
Contact Investigation Sheet complete (form 3126)				
Contacts entered into SENDSS within 30 days				
Documented review by TB Coordinator via signature or progress note				

OBSERVATIONS

RECOMMENDATIONS

Record Review for LTBI

Date:_____ District: _____ County: _____ Reviewer:_____

Criteria	Met	Not Met	N/A	Comments
Reporting and Notification				
Notification date documented				
Interjurisdictional TB Notification (NTCA 3-2002)				
Legal				
Signed Consent/Treatment Plan (form 3609.LTBI)				
Signed Refusal of Treatment (form 3575)				
Signed Release of Information (form 5459)				
Documentation of Patient receiving Medication Information Sheet (DPH04/328HW)				
Case Management				
TB Services (form 3121R)				
Physical Assessment in chart (hospital, physician or HD)				
Initial TST/IGRA date and results				
Follow up TST/IGRA in 8 – 10 weeks date and results, if indicated				
Initial chest x-ray report in chart				
Follow up Chest x-ray reports in chart				
HIV status and post test counseling documented				
Baseline labs: AST, ALT, and if indicated, Hepatitis B and C profile and a pregnancy test.				
Other labs ordered per history and protocol				
Appropriate client education documented utilizing "Tuberculosis Education Record" and the "12 Points of TB Patient Education" located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp				
Started on appropriate medication				
Medication start date documented				
Appropriate number of doses within time frame				
DOT form complete and current (form 3130)				
Appropriate action documented for side effects, adverse reactions and other identified problems				
TB Flow Sheet (form 3135)				
Monthly labs: AST, ALT				
Adherence assessed and documented with appropriate action documented for non-compliance				
Documented referrals and follow up as indicated				
Medication stop date documented				

OBSERVATIONS

RECOMMENDATIONS

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Case management Time Line

Month 1

Reporting and Notification	Date HD	Date State	Comments
Date Georgia TB Program Notified			
Notification date of Health Department documented			
Initial Report (form 3140 or 3141) and/or discharge summary from hospital			
Initial RVCT form completed in SENDSS within 30 days			
Interjurisdictional TB Notification (NTCA 3-2002)			
Legal	**Date HD**	**Date State**	**Comments**
Signed Consent (form 3609)			
Signed Treatment Plan (form 3144)			
Signed DOT agreement (form DPH06/060W)			
Signed Release of Information (form 5459)			
Documentation of Patient receiving Medication Information Sheet (DPH04/328HW)			
Case Management	**Date HD**	**Date State**	**Comments**
TB Services (form 3121R) Initial completion			
Physical Assessment in chart (hospital, physician or HD)			
Initial chest x-ray report in chart			
HIV status and post test counseling documented			
Baseline labs: AST, ALT, bilirubin, alkaline phosphatase, CBC with platelet count, serum uric acid and creatnine, and if indicated Hepatitis B and C profile and a pregnancy test.			
Other labs ordered per history and protocol			
Baseline visual acuity testing and red/green color discrimination for clients on Ethambutol			
Appropriate client education documented utilizing "Tuberculosis Education Record" and the "12 Points of TB Patient Education" located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp			
3 Consecutive diagnostic sputum specimens collected			
3 Consecutive negative sputum smears date documented			
Started on appropriate medications with at least 4 Drugs			
Medication start date documented			
Medical Case Review form started			

Month 3

Reporting and Notification	Date HD	Date State	Comments
TB Classification within 90 days			
Follow Up Report 1 completed in SENDSS within 2 months of initial RVCT form			
Monthly Follow up Reports from PMD (form 3142) if co-managed			
Case Management	**Date HD**	**Date State**	**Comments**
2 month sputum status documented			
Initial TB Drug Susceptibility test results			
Monthly Flow Sheet Completed			
Initiation Phase Completed and Medications changed for Continuation Phase			
Appropriate client education documented utilizing "Tuberculosis Education Record" and the "12 Points of TB Patient Education" located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp			
Medical Case Review form started			
TB Services (form 3121R) Updated			

Monthly / On-Going

Case Management	Date HD	Date State	Comments
Follow up Chest x-ray reports in chart			
Monthly sputum specimen obtained			
Sputum conversion documented			
Follow up TB Drug Susceptibility test results, if needed			
Appropriate number of doses within required time frame			

Case Management	Date HD	Date State	Comments
DOT form complete and current (form 3130)			
Appropriate action documented for side effects, adverse reactions and other identified problems			
Complete & current TB Flow Sheet (form 3135)			
Monthly labs: AST, ALT, bilirubin, alkaline phosphatase & CBC with platelets			
Monthly visual acuity and red/green color discrimination, if on Ethambutol			
Adherence assessed and documented with appropriate action taken documented			
Documented referrals and follow up as indicated			
Medication stop date documented			
Appropriate client education documented utilizing "Tuberculosis Education Record" and the "12 Points of TB Patient Education" located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp			
Medical Case Review form started			
TB Services (form 3121R) Updated			

Close-out

Reporting and Notification	Date HD	Date State	Comments
Follow Up Report - 2 completed in SENDSS when case is closed			
Appropriate number of doses of each recommended medication verified			
Appropriate completion of treatment within 12 months			
Cohort form completed			
All information regarding case is entered into SENDSS			

Contact Investigation

Contact Investigation	Date HD	Date State	Comments
Initial Interview date with index case within 1-3 days of notification			
Interviewer signed contact investigation form			
Home visit date within 2 weeks of initial interview date			
Interviewer signed contact investigation form			
Index patient's infectious period is documented on 3126			
Date of Initial assessment (interview) with contact documented			
Priority of contact is documented			
Contact environment is documented			
Date of last exposure is documented			
Relationship to case is documented			
Date of Initial TST on contact documented			
Results of Initial TST is documented in mm			
Chest X-ray for + reactors & medical risk contacts			
High priority & medium priority contacts evaluated with TST and chest x-ray (as indicated) within 7 - 10 working days			
Low priority contacts evaluated with TST within 30 calendar days			
Follow up negative TST contacts with 2nd TST in 8-10 weeks			
LTBI treatment recommendations documented (recommended or reason not offered)			
LTBI treatment start date documented			
If LTBI treatment not started, refusal of care signed			
Documentation of report of positive TST, CXR results & treatment given to client & documented			
Date LTBI treatment stopped			
Code for why LTBI treatment stopped documented			
Code for why no contacts were identified documented			
Code for why evaluation was not completed			
Contact Investigation Sheet complete (form 3126)			
Contacts entered into SENDSS within 30 days			
Documented review by TB Coordinator via signature or progress note			

Case Management Timeline-A Tracking Form for TB Medical Records

Month 1					
Reporting and Notification	**Dte HD**	**Dte State**	**Req Dte**	**Rec Dte**	**Comments**
Date Georgia TB Program Notified					
Notification date of Health Department documented					
Initial Report (form 3140 or 3141) and/or discharge summary from hospital					
Initial RVCT form completed in SENDSS within 30 days					
Interjurisdictional TB Notification (NTCA 3-2002)					
Legal	**Dte HD**	**Dte State**	**Req Dte**	**Rec Dte**	**Comments**
Signed Consent (form 3609)					
Signed Treatment Plan (form 3144)					
Signed DOT agreement (form DPH06/060W)					
Signed Release of Information (form 5459)					
Documentation of Patient receiving Medication Information Sheet (DPH04/328HW)					
Case Management	**Dte HD**	**Dte State**	**Req Dte**	**Rec Dte**	**Comments**
TB Services (form 3121R) Initial completion					
Physical Assessment in chart (hospital, physician or HD)					
Initial chest x-ray report in chart					
HIV status and post test counseling documented					
Baseline labs: AST, ALT, bilirubin, alkaline phosphatase, CBC with platelet count, serum uric acid and creatnine, and if indicated Hepatitis B and C profile and a pregnancy test.					
Other labs ordered per history and protocol					
Baseline visual acuity testing and red/green color discrimination for clients on Ethambutol					
Appropriate client education documented utilizing “Tuberculosis Education Record” and the “12 Points of TB Patient Education” located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp					
3 Consecutive diagnostic sputum specimens collected					
3 Consecutive negative sputum smears date documented					
Started on appropriate medications with at least 4 Drugs					

Medication start date documented					
Medical Case Review form started					

Month 3

Reporting and Notification	Dte HD	Dte State	Req Dte	Rec Dte	Comments
TB classification within 90 days					
Follow Up Report- 1 completed in SENDSS within 2 months of initial RVCT form					
Monthly Follow-up reports from PMD (form 3142) if co-managed.					
Case Management	**Dte HD**	**Dte State**	**Req Dte**	**Rec Dte**	**Comments**
2 month sputum status documented					
Initial TB drug susceptibility test results					
Monthly flow sheet completed					
Initiation phase completed and medications changed for continuation phase.					
Appropriate client education documented utilizing "Tuberculosis Education Record" and the "12 Points of TB Patient Education" located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp					
Medical Case Review form started					
TB services (form 3121 R) updated					
Monthly/On-going					
Reporting and Notification	**Dte HD**	**Dte State**	**Req Dte**	**Rec Dte**	**Comments**
Follow up Chest x-ray reports in chart					
Monthly sputum specimen obtained					
Sputum conversion documented					
Follow up TB Drug Susceptibility test results, if needed					
Appropriate number of doses within required time frame					
DOT form complete and current (form 3130)					
Appropriate action documented for side effects, adverse reactions and other identified problems					
Complete & current TB Flow Sheet (form 3135)					
Monthly labs: AST, ALT, bilirubin, alkaline phosphatase & CBC with platelets					
Monthly visual acuity and red/green color discrimination, if on Ethambutol					
Adherence assessed and documented with appropriate action taken documented					
Documented referrals and follow up as indicated					
Medication stop date documented					

Appropriate client education documented utilizing "Tuberculosis Education Record" and the "12 Points of TB Patient Education" located on the TB web site at http://www.health.state.ga.us/programs/tb/phclinicforms.asp					
Medical Case Review form started					
TB Services (form 3121R) Updated					
Close-out					
Reporting and Notification	**Dte HD**	**Dte State**	**Req Dte**	**Rec Dte**	**Comments**
Follow Up Report - 2 completed in SENDSS when case is closed					
Appropriate number of doses of each recommended medication verified					
Appropriate completion of treatment within 12 months					
Cohort form completed					
All information regarding case is entered into SENDSS					
NOTES:					
Missing Contact Investigation Form Items					

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Scaled Goal Matrix Tool: Uniform Clinical Performance Measures for TB Nurse Case Managers 2006

Case management is the collaborative approach to providing and coordinating health care services for a patient. The case manager in a local TB program is assigned responsibility for ensuring that each patient is educated about TB and its treatment and receives a full course of treatment, and that priority contacts are examined. Public health nurses traditionally play a prominent role in case management. The specific actions and interventions of TB nurse case managers (NCMs) were set forth in 2002; however, performance measures are needed to facilitate the monitoring and evaluation of these interventions.

Using standardized definitions of nursing functions, an expert panel described activities NCMs typically perform for each intervention. The expert panel, consisting of 10 TB nurse consultants and performance measurement experts, developed tools, a performance guide, and a scaled goal matrix for linking interventions to performance measures. Then TB nurses field tested the tools by reviewing local health jurisdiction records (10 records per state) and marking documented activities on the scaled Goals Matrix.

Tools were found to be clear, valid, and useful. Findings correlate with TB NCM experience. Many programs were found to have fragmented and incomplete data sources. Some programs had no assigned case manager, handling patient care instead with multiple care providers.

The clinical performance measures provide valid descriptions of established NCM practice, and practice levels can be scaled based on performance goals. Use of the tools can facilitate training, technical assistance, quality improvement, and performance measurement. Better documentation of NCM activities will help determine the extent to which quality of practice affects patient outcomes.

The NCMs, clinical supervisors, program managers, and state/regional nurse consultants use the tools in different ways. The NCMs self-evaluate by comparing their performance against the standard performance level while the supervisors witness and mentor that performance. The program managers and state/regional nurse consultants assess how the program has been described, implemented, and evaluated compared with the goals.

The tools provide a system for organizing program data in order to assess how well the case manager carries out the program's steps in meeting the patient's needs. Data may be obtained from records and solicited in interviews with the NCM and program manager. Care should be taken to review the appropriate records and forms.

Expected performance is described in policies, position descriptions, skill training documents, care/service plans, clinical pathways, and procedures. Actual performance may be documented in program records including the clinical medical record, outreach record, contact investigation record, and the registry record. Specifically, actual performance may be found on various forms including Report of Verified Case of TB (RVCT), Report of Contacts, Admission, Assessment, Bacteriology Laboratory, Patient Problem List, Health Insurance Portability & Accountability Act of 1996 (HIPAA), contracts, treatment plans, care plans, patient education plans, nurses' notes, progress/clinic notes, social work notes, and request for housing assistance.

The Goal Matrix tool can be used to measure clinical performance for a single case. The first step is to select goals appropriate to the case. Then, scale all selected goals.

Fifteen Standardized Goals

1. Risk identification 2. Health screening 3. Culture brokerage 4. Sustenance support 5. Emotional support 6. Teaching of disease process, treatment regimen 7. Patient's rights protection 8. Mutual goal setting	9. Patient contracting 10. Medication management 11. Discharge planning 12. Health policy monitoring 13. Infection control 14. Protection from disease 15. Surveillance: data and decision making

Goal Matrix Tool: Core Goals by Patient Need

Need/Goals	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Disease/suspect	x	x	x			x	x	x	x	x	x	x			x
TLTBI	x	x	x			x	x	x	x	x					x
Infectious TB	x	x	x			x	x	x	x	x	x	x	x	x	x
Homelessness				x											
Emotional need					x										
Move/provider change											x				

To obtain a total score for a single case, sum the core and additional goals, and divide by the total number of selected goals. This single case score can be used to gauge how well the NCM carries out the program's steps in meeting the patient's TB needs.

The Goal Matrix tool can also be used to assess program performance. To obtain a program score for each standard activity, create a cross tabulation table. Assess where the program identifies expected measures and how the NCM performs and documents these expectations. List standard goal measures on the left horizontal rows. Label "expected," "documented," and "performed without documentation" above vertical columns to the right. Mark the convergent box each time standard goal measures are found in program expectations, are documented, or are performed without documentation. This correlation table can be used to identify opportunities for improving the program's standards, guidelines, and forms for aggregating the data.

Tools Limitations:
The tools describe management activities in dealing directly with individual patients receiving medical care from many sources. They should not be used where the role of the health department is limited to indirect epidemiologic surveillance and monitoring treatment decisions and outcomes rather than dealing with individual patients. They are not recommended for patients with long-term confinement in congregate settings (prison, jail, nursing home, hospital) where case management activities are entirely provided by a private provider or for those who die before referral to the health department. Tools can be modified for children, elderly, and disabled, who have caregivers or legal guardians. These tools are flexible, imprecise measures that require judgment in interpreting the findings.

Suggested citation:
Guide and Scaled Goal Matrix Tools: Uniform Clinical Performance Measures for TB Nurse Case Managers 2006. NTNC/NTCA Informatics Committee: Kathy Kolaski, Karen Buford, Connie Martin, Carolyn Martin, Ann Poole, Jo-Ann Arnold, Kim Field, Lorena Jeske, Janice Boutotte, Lynelle Phillips, Gayle Schack, Jane Moore, D.J. McCabe, Lillian Priog, Karen Galanowsky, Maureen Wilce, Judy Gibson

Scaled Goal Matrix: Uniform Clinical Performance Measures for TB Nurse Case Managers

Instructions for scoring: When ALL Standard performance measures are met, determine if Good and Outstanding measures are also met. If ALL Standard performance measures are met, without additional Good or Outstanding level measures, scale as Standard performance. When ALL Standard performance measures are met plus at least 1 Good level activity, but not ALL Good and Outstanding level measures, scale as +1. When ALL Standard performance measures plus ALL Good and Outstanding level measures are met, scale as +2.

When NOT ALL Standard performance measures are met, determine how many measures have been met for the scale. When at least 1 Standard performance activity is met, scale as -1. When NO Standard performance measures are met, scale as -2. When assessment finding for a goal is "no need identified," circle "NA."

CORE - Goal 1: Risk Identification Prioritization of Risk Reduction Strategies		
Check applicable performance level or mark NA if not applicable		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. At baseline, identifies potential TB-related risk factors (e.g., high risk of HIV exposure, HIV-related conditions, exposure to TB) 2. Assesses persons with TB-related risk for symptoms compatible with active TB disease (unexplained productive cough ≥ 2 weeks); immediately arranges for evaluation of symptomatic individuals 3. Every 4 weeks during treatment, assesses for change in health care risks (e.g., ability to engage in treatment, trust drug efficacy, trust provider, follow treatment schedule) 4. Implements risk reduction steps
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Plans risk reduction activities with patient 2. Assesses for new risk factors; appropriately modifies care plan once during treatment period
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: Assesses for new risk factors; appropriately modifies care plan more than once during treatment period
CORE - Goal 2: Health Screening Detecting TB-Related Health Risks by History, Exam, Tests		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard	Standard: Does ALL of following:

	Performance (0)	1. Schedules health screening appointments and follows up delinquencies to control missed appointments 2. Assesses for pulmonary symptoms. When found, obtains order for ≥ 2-3 sputum specimens for microscopic, culture, histopathological exams 3. Assesses for HIV infection and for likelihood of drug resistance 4. Uses quality assurance procedures to control errors: e.g., TST and sputum collection procedures 5. Promptly reviews incoming test reports for abnormal findings and for standard turn-around times 6. Obtains medical review for TB-related history and symptoms identified and for abnormal screening test findings the same day as received 7. Identifies or rules out TB 8. Reports to public health department
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Performs multiple steps in TB screening tests and medical evaluation in ≤ 2 weeks
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: 1. Verifies test reports are received by standard turn-around time; when reports missing, calls vendors 2. Reviews all test reports for consistency with state and local time/quality standards; when inconsistency found, alerts local health director or program manager
CORE - Goal 3: Culture Brokerage Planning Strategies to Bridge Patient's Culture and Health Care System		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Assess need for interpretive service; as needed, seeks professional (neutral) medical interpreter service (does NOT use family members) 2. Assesses patient's TB knowledge, attitudes, and beliefs concerning drug efficacy and severity of TB disease 3. Facilitates intercultural communication (e.g., bilingual written materials/media, accurate non-verbal communication)
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Assesses for potential conflicts in approach to TB treatment and naming of exposed persons; identifies nature of differences 2. Assesses suitability of enlisting family and significant other(s) in supporting cultural needs
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: Assesses for means to bridge the gap between the patient and provider's approach to TB treatment and control
Goal 4: Sustenance Support Helping to Locate Food, Clothing, Shelter		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures

	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Assesses for homeless or doubled-up housing status 2. Assesses for adequacy of food supplies in home 3. Gives patient housing and/or subsidy program access information (e.g., agency name, phone number, address)
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Assesses for transportation needs; if needed, arranges transportation to emergency housing shelter program and/or agency providing other assistance 2. Verifies that patient has contacted referral source for services within 2 weeks of referral
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: 1. Assesses for literacy/other limitations; if needed, completes and submits required housing and/or subsidy forms for the patient 2. Verifies patient has been evaluated for services within 1 week of referral 3. Monitors for appropriate change in patient's needs following social support
Goal 5: Emotional Support Providing Reassurance, Acceptance, and Encouragement		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Assesses for stress behaviors that may interfere with TB treatment, i.e., attack and/or withdrawal behavior 2. Assesses for unconscious behaviors that may interfere with treatment (e.g., denial). 3. Assesses for refusing TB treatment (word or actions)
	Good Performance (+1)	Does standard plus ≥ 1 of following: Assesses for the potential impact of psychiatric and substance abuse issues on TB treatment
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: 1. Explores how patient endures stressful events; addresses in plan 2. Assesses for emotional barriers to treatment; if needed, refers for substance abuse or mental health counseling 3. Assesses for engagement in treatment; when unable to engage owing to substance abuse or psychiatric problems, refers to treatment program
CORE - Goal 6: Teaching: Information on TB Disease Process and Treatment		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Develops educational plan of clear, accurate, standardized information with time line for completion of steps 2. Uses language understood by patient (conversation, sign, written) 3. Covers all topics in the teaching plan 4. Assesses for patient and family understanding of messages
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Assesses for patient's understanding about TB; when distortions and

		misconceptions found, corrects them 2. Repeats key message(s) throughout treatment period using various methods (video, verbal, written)
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: 1. Tailors education to individual needs (culturally appropriate messages) 2. Provides "linguistically appropriate" written materials for reading level (e.g., pictures, stories, metaphor)
CORE - Goal 7: Patient's Rights Protection: Protecting health care information rights of a patient, especially a minor, incapacitated, or incompetent patient unable to make decisions. Community's Rights Protection: Reduce *M. tuberculosis* transmission, protect exposed, and do not breach individual privacy		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Assesses for BOTH protection of individual health information rights and protection of community health 2. Maintains privacy and confidentiality of health information consistent with applicable federal laws and state codes 3. Assesses for environment conducive to private conversations between patient, family, and nurse; moves to most appropriate site/conditions 4. Protects nature of, and reason for, field visit (e.g., does not use marked car, wear ID badge, or carry items marked "TB program") 5. Assesses for TB transmission concerns; if contact investigation needed, refuses to confirm contact's suspicions about source of possible TB exposure 6. Assesses need for patient to authorize (written contract) disclosure of confidential information on a need-to-know basis
	Good Performance (+1)	Does standard plus ≥ 1 of following: Negotiates with patient about boundaries for release of confidential information
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: Discusses, with other workers, standards for protecting health care information while using medical interpreters, using photographs when names are unknown, and conducting contact investigation
CORE - Goal 8: Mutual Goal Setting: Identify and Prioritize Care Goals and Develop a Plan for Achieving Goals		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Assesses for presence of DOT indicators; when found, selects treatment supporter for DOT 2. Assesses for potential treatment barriers; selects, with patient's input, mutually acceptable enablers to overcome barriers; addresses patient-centered approach in written plan 3. Reviews plan with patient and implements plan

		4. Uses standard time frames for lab testing, x-rays, clinic visits, and DOT or drug supply
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Occasionally reviews adherence barriers with patient 2. Reviews plan, enablers and/or incentives at least once
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: At each visit, reviews adherence barriers with patient
CORE - Goal 9: Patient Contracting Negotiating Mutual Agreement that Reinforces Specific Behaviors		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Outlines, verbally and in writing, patient and provider responsibilities so that each understands important details about how patient's TB will be managed: legal parameters, method of treatment administration, methods of airborne infection control, methods of communication (e.g., phone numbers) 2. Reinforces agreement on field visits, telephone calls, clinic visits 3. Outlines procedures to follow for medical assistance after hours and on weekends, holidays, etc. 4. Conveys acceptance, reassurance, concern, understanding, respect, and kindness 5. Negotiates incentives to reward successful accomplishment of treatment milestones 6. Presents written behavioral contracts for adherence with TB treatment and infection control measures in patient's primary written language for patient and provider signatures and final copy to patient
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Firmly negotiates feasible care options together 2. Establishes mutual trust with patient by avoiding power struggles
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: Obtains patient's explicit intention about taking TB medication
CORE - Goal 10: : Medication Supervision/Management: Facilitating Safe and Effective use of Prescription and Over-the-Counter Drugs		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Assesses for known allergies and drug-drug interactions; if needed, obtains medical review immediately 2. Uses acceptable regimen: Assesses prescribed treatment for standard TB regimen with correct drug dosages; ensures correct order and supplies 3. Assesses for nonstandard regimen and for nonstandard changes in TB treatment; notifies physician & documents corrective response within 2 business days of notification 4. Records medication given, bacteriologic response, and adverse reactions 5. Assesses for adherence: determines compliance and verifies number of TB treatment doses taken per week or month

		6. At least monthly, assesses for adverse treatment events; notifies physician & documents corrective response same day as symptoms identified and test result received 7. At least monthly, acquires & uses assessment data and test results to monitor, evaluate, and document response to therapy (positive, negative, or absent responses) 8. Ensures that patient receives appointment reminders 2 business days before clinic appointment for medical supervision 9. Acts to return patient to service within 2 business days of missed appointment (e.g., DOT and clinic)
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Determines if provider is responsive to prescribing the standard TB treatment regimen; when provider is unresponsive to adjusting nonstandard treatment, immediately notifies expert TB physician by protocol 2. Assesses for nonstandard regimen and for nonstandard changes in TB treatment; notifies physician & documents corrective response within 1 business day of notification 3. Assesses for abnormal findings; if needed, monitors 2-3 times/month
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: 1. Assesses for nonstandard regimen and for nonstandard changes in TB treatment; notifies physician & documents corrective response same day as notification 2. Assesses for abnormal findings; if needed, monitors ≥ 4 times/month
Goal 11: Discharge Planning Preparation for Moving a Patient who Needs Additional Treatment from one Provider Team to Another Within or Outside the Current Health Care Agency's Jurisdiction*		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Each visit, verifies address and phone numbers (work, cell, home) where patient can be reached 2. Asks for name(s) and contact information of persons/places who will always know how to reach the patient (emergency contact information); identify hangouts 3. Obtains history of moves/travel during past 12 months and anticipated moves/travel during the next 12 months including stays in jails, nursing homes 4. At each visit, assesses for potential move before end of treatment and new location information 5. Ensures that standard referral information is immediately sent to receiving registry of patient's new residence AND to new provider(s)
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Assesses likelihood patient will seek care in new location 2. Assesses need to stay in touch by phone until new provider visit has been made 3. Assesses need to follow up with registry and new provider by phone and/or mail 4. Assesses need to check jail admission logs for patient's name if lost to

		follow-up
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: 1. Assesses need for transition medication during relocation to new provider 2. Assesses need for follow up with registry/new provider when it is time for the first drug dose/supply after the move
CORE - Goal 12: Health Policy Monitoring: Surveillance for Influence of Regulations, Rules, and Standards that Affect Nursing Systems, Performances, and Quality Patient Care		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Discusses how case manager assists the patient with adherence to treatment (mutual goal setting, contracting, teaching, medication supervision, move planning, confidentiality of personal health information) 2. Discusses when case manager will recommend more restrictive measures in a timely stepwise fashion (court-ordered DOT, court-ordered confinement) 3. Addresses poor adherence: Implements steps of escalating authority for individual with active TB disease who fails to follow TB treatment recommendations based on state TB control laws 4. Records monitoring activities
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Appropriately applies regulations, rules, and standards related to dispensing, administering, and observing regulated drugs and administering TST 2. Tailors regulations, rules, and standards related to administering TST, collecting sputum for micobacteriology, and conducting phlebotomy procedures to best meet patient needs
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: Consults with other providers about carrying out regulations, rules, and standards related to TB treatment activities
Goal 13: Infection Control Minimizing Acquisition and Transmission of Infectious Agents		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: Ensures that persons with coughing symptoms are rapidly identified in TB clinic. For those coughing, 1. Offers masks 2. Promptly separates to airborne infection isolation (AII) room 3. Assesses, obtains medical orders, and starts TB screening procedures as recommended 4. Wears particulate respirator when in AII room
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Provides materials to persons who are coughing for adhering to respiratory hygiene/cough etiquette 2. Assess how patient experiences TB isolation restrictions

	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: Tailors patient's teaching to their isolation experience
Goal 14: Protection from Disease Prevention and Early Detection of Infection or Disease in Patient at-Risk		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Assesses for index patient with confirmed/suspected pulmonary, laryngeal, or pleural TB, AFB sputum smear or culture positive, or cavitary disease - high priority for contact investigation (CI); when found, immediately starts CI 2. Ensures that CI resources are first provided for high priority contacts (< 5 yrs old and HIV+) 3. Assesses index patient for HIV infection 4. Conducts first interview of index patient for contacts ≤ 1 business day of reporting for high priority and ≤ 3 business days for medium priority 5. Re-interviews the index patient in their home/setting for homeless ≤ 2 weeks after the first interview for additional contact names and places 6. Continually observes index patient's environment for indications of additional contacts 7. Immediately refers contacts who live outside jurisdiction to appropriate health department for follow up 8. Assesses each contact for medical risk factors; if needed, expedites medical evaluation 9. Completes initial interview, testing, and evaluation of highest risk contacts 10-12 business days after identification, of high and medium risk contacts 17-24 business days after identification 10. For additional contact names, visit potential sites where unknown persons may have been exposed
	Good Performance (+1)	Does standard plus ≥ 1 of following: 1. Uses system to track evaluation and treatment of all contacts 2. Prepares a summary report of contacts 3. Assesses for clustering of cases; if found, alerts program manager
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: Ask s index patient who will inform contacts of their need for medical evaluation; follows patient's preference when possible
CORE - Goal 15: Surveillance Coordinating Acquisition, Interpretation, and Synthesis of Patient Data for Clinical Decision-Making		
✓/NA	Goal Attainment Level	Definition
	Unacceptable Performance (-2)	Substandard: Does NONE of Standard measures
	Inadequate Performance (-1)	Substandard: Does ≥ 1 but not all Standard measures
	Expected or Standard Performance (0)	Standard: Does ALL of following: 1. Collects appropriate specimens and assessment reports within 2 business days of pre-scheduled follow up dates on standard time frame (pathway) tool 2. Ensures that patient's assessment data and reports are systematically collected, reported, and reviewed for abnormalities 3. Acquires assessment data and test result(s) for clinical decisions within 5

		business days of pre-scheduled follow up dates 4. Verifies quality of patient's assessment data and reports 5. With each abnormal assessment and test result, promptly notifies physician for medical review
	Good Performance (+1)	Does standard plus ≥ 1 of following: Acquires assessment data and test result(s) for clinical decisions within 3 business days of pre-scheduled follow up dates
	Outstanding Performance (+2)	Does ALL Standard, Good, and Outstanding measures: 1. Acquires assessment data and test result(s) for clinical decisions in <1 day of pre-scheduled follow up dates 2. Observes for and alerts program manager about new drug resistance findings

NTNC/NTCA Standardized Terminology Committee and test sites: Kathy Kolaski, Karen Buford, Connie Martin, Carolyn Martin, Ann Poole, Jo-Ann Arnold, Kim Field, Lorena Jeske, Janice Boutotte, Lynelle Phillips, Gayle Schack, Jane Moore, D.J. McCabe, Lillian Priog, Karen Galanowsky, Maureen Wilce, Judy Gibson.

Disclaimer: This document has not been tested for predictive validity and should not be used for disciplinary evaluation.

APPENDIX D: Cohort Review Resources

Sample Cohort Review Form
Cohort Review Resources
RVCT Variables
Dear Colleague Letter from Kenneth Castro, MD

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2012 Cohort Review Form

Patient Clinical Information

The TB State Office will complete this information from SENDSS. It will show up gray if completed. If the information is not available in SENDSS, there will be a yellow space for you to complete AND you will need to update SENDSS with the same information.

*Move your cursor to the right hand side of the cell and a drop down box will appear. Select from the available choices.

Patient RVCT No.		**2011-GA-201100000**	*Free text*
Case Manager		John Doe	*Free text*
Gender		Female	* [* Choose from drop down box]
Age		48	*Free text*
Country of Birth		USA	*
Under Care of		Health Department (HD)	*
HIV Status		Positive	*
Diabetes			*
Date Sputum Collected		9/30/2011	*Free text*
Sputum Culture Result		Positive	*
Date Conversion to Negative:		10/11/2011	*Free text*
NAA Result		Positive	*
PCR Type		PCR00019	*Free text*
Drug Sensitivities		Pan-Susceptible	* *[* ** Resistant to: *drop down]
Chest X-Ray		Abnormal, cavity	*
Chest CT-Scan		Not Done	*
Treatment Start Date		10/1/2011	*Free text*
Treatment Protocol		RIPE	*
Barriers		Were Identified	*
Incentives/ Enablers		Were Used	*
Treatment Outcome		Did Not Complete Therapy	* [***Secondary answer needed Below]
Leave Blank			***
Leave Blank			***
Reason Treatment Not Completed		Died	***
Contacts		Were Identified	*

Case Management Questions

Type your answers into the yellow boxes. State what the barrier was, how it affected the case and how you addressed it. Was it successful? Describe as many barriers as needed to tell the story of your patient.

What clinical barriers were encountered and how were they managed? (If you need more room, please attach a separate piece of paper) EXAMPLES: adverse drug reaction; resistance; slow response to treatment; extensive disease; co-morbidities;
What social barriers were encountered and how were these addressed? EXAMPLES: homelessness, mental health, language, culture/beliefs; missed DOT appointments; missed clinic appointments; transportation; substance abuse; stigma;
What systems could have been better optimized to have made care for this patient better? EXAMPLES: delayed diagnosis from private provider; difficulty in communicating with the provider; unable to obtain records and information; no public transportation; burdensome to use language line; communication difficulties between jurisdictions;

Is there anything else you would like to tell us about this case?

EXAMPLES:
Please share things that worked to assist this patient as well as problems that occurred.

Contact Investigation

Complete the summary of your contact investigation.

	No. Of Contacts Identified	No. Completely Evaluated	No. Active TB Disease	No. LTBI	No. LTBI Treatment Started	No. LTBI Treatment Continues	No. LTBI Treatment Completed
Home	1	1	0	0	0	0	0
Work	0						
School	0						
Community	0						
Mass Screening	0						
Other	0						
Total	1	1	0	0	0	0	0

Contact Investigation Questions
After you have completed the contact investigation summary, then please answer the questions below.

The state TB Office will complete the second question about genotyping associations.

Contact Investigation Details:

EXAMPLES: sites of investigation, interview techniques that worked, barriers to identification of contacts and solutions, media attention, worksite/school challenges and how they were addressed, strategies used to completely evaluate contacts, discuss those who started treatment and those who did not

How many other cases were this patient's genotype associated with in Georgia?

Mostly found in patients 45-64 years old, affecting men/women about equally, mostly US born, and black. Over the past two years (2/2/2009-2/2/2012), GA has received 7 known cases of 161 across 28 other states. For all of 2010 and 2011, there was 1 case in Fulton and 4 in DeKalb. Fulton cases include 20100XXXX, 20100XXXX, 20100XXXX, and 20100XXXX. The DeKalb case was 20100XXXX.

Was the patient's source case located and treated?

EXAMPLES: Yes or No, how the source case was identified, was the current case a part of the source case's initial contact investigation

Is there anything else about the contact investigation you would like to tell us?

EXAMPLES:

Please share things that worked to assist this patient as well as problems that occurred.

Cohort Presentation

When you complete all your answers on the Excel worksheet, they will populate into a narrative. On the day of your cohort review, you will present your case by reading this narrative to the group.

EXAMPLE:

Case 2011-GA-201109233 is a 48 year old female, born in USA, who was under the care of the Health Department. Her HIV status is 'Positive' and she has 'no diabetes'. Sputum was first collected on Sep-30-2011 and was smear 'Positive' and culture 'Positive'. The culture converted in 11 days. NAA was 'Positive'. The genotype was 'PCR00019.' Drug sensitivities were 'Primary Resistance'. Chest X-ray was 'Abnormal, cavitary'. A chest CT was 'Not Done'.

Treatment was started on Oct-01-2011 with RIPE and case is 'Still on Therapy'. There was a total of 1 contact(s) identified. Of these, 1 was identified in the home, and 0 were identified at work. At school, 0 contacts were found. In the community, 0 contacts were found. A mass screening was (conducted/ not conducted), identifying 0 contact(s). Among the total of 1 contact(s) identified, all were completely evaluated.

The remaining contact(s) were not completed because…

A total of 0 stopped treatment.

This patient had late stage HIV disease/AIDS which impaired her response to treatment. She was not on any medications for her HIV during treatment for her TB, nor was she on any proceeding diagnosis for TB.

The patient had difficulty understanding her situation. A social worker was brought in who did an excellent job conveying the medical language in a way she could understand.

Had this patient been identified as HIV-positive and successfully treated, she probably would have had a better outcome. Alternatively, had this patient received a TST by the provider who diagnosed her HIV, she probably would have had a better outcome.

This patient presented to the health department with symptoms consistent with active TB disease.

One contact was identified, her 63 year old boyfriend with a history of a positive TST. Chest X-ray was normal. No treatment initiated.

This genotype is mostly found in patients 45-64 years old, affecting men/women about equally, mostly US born, and black. Over the past two years (2/2/2009-2/2/2012), GA has received 7 known cases of 161 across 28 other states. For all of 2010 and 2011,

there was 1 case in Fulton and 4 in DeKalb. Fulton cases include 201006247, 201006613, 201007245, and 201006534. The DeKalb case was 201006234.

The source case was not identified.

A mass screening was not conducted.

Cohort Review Resources

Understanding the TB Cohort Review Process: Instruction Guide
http://www.cdc.gov/tb/education/cohort.htm

Understanding the TB Cohort Review Process: DVD
http://www.cdc.gov/tb/education/cohort.htm

The Evolution of Cohort Review in an Urban Setting – Experiences from Chicago, Illinois
http://www.cdc.gov/tb/publications/newsletters/notes/TBN_2_11/tbpen_update.htm

Adoption of the Cohort Review in Miami
http://www.cdc.gov/tb/publications/newsletters/notes/TBN_2_10/highlights.htm#3

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RVCT Variables

New	Revised
1 – Date Reported	**R**
2 – Date Submitted	**R**
3 – Case Numbers	**R**
4 – Reporting Address for Case Counting	**NC**
5 – Count Status	**N**
6 – Date Counted	**R**
7 – Previous Diagnosis of TB Disease	**NC**
8 – Date of Birth	**NC**
9 – Sex at Birth	**NC**
10 – Ethnicity	**NC**
11 – Race	**NC**
12 – Country of Birth	**R**
13 – Month-Year Arrived in U.S.	**NC**
14 – Pediatric TB Patients (<15 years old)	**N**
15 – Status at TB Diagnosis	**R**
16 – Site of TB Disease	**R**
17 – Sputum Smear	**R**
18 – Sputum Culture	**R**
19 – Smear/Pathology/Cytology of Tissue and Other Body Fluids	**R**
20 – Culture of Tissue and Other Body Fluids	**R**
21 – Nucleic Acid Amplification Test Result	**N**
22A – Initial Chest Radiograph	**R**
22B – Initial Chest CT Scan or Other Chest Imaging Study	**N**
23 – Tuberculin (Mantoux) Skin Test at Diagnosis	**R**
24 – Interferon Gamma Release Assay for *Mycobacterium Tuberculosis* at Diagnosis	**N**
25 – Primary Reason Evaluated for TB Disease	**N**
26 – HIV Status at Time of Diagnosis	**R**
27 – Homeless Within Past Year	**NC**
28 – Resident of Correctional Facility at Time of Diagnosis	**R**
29 – Resident of Long-Term Care Facility at Time of Diagnosis	**NC**
30 – Primary Occupation Within Past Year	**R**
31 – Injecting Drug Use Within Past Year	**NC**
32 – Non-Injecting Drug Use Within Past Year	**NC**
33 – Excess Alcohol Use Within Past Year	**NC**
34 – Additional TB Risk Factors	**N**

35 – Immigration Status at First Entry to the U.S.	**N**
36 – Date Therapy Started	**NC**
37 – Initial Drug Regimen	**R**
38 – Genotyping Accession Number	**N**
39 – Initial Drug Susceptibility Testing	**R**
40 – Initial Drug Susceptibility Results	**R**
41 – Sputum Culture Conversion Documented	**R**
42 – Moved	**N**
43 – Date Therapy Stopped	**NC**
44 – Reason Therapy Stopped or Never Started	**R**
45 – Reason Therapy Extended > 12 Months	**N**
46 – Type of Outpatient Health Care Provider	**R**
47 – Directly Observed Therapy (DOT)	**R**
48 – Final Drug Susceptibility Testing	**R**
49 – Final Drug Susceptibility Results	**R**

Letter from Director of CDC's Division of Tuberculosis Elimination

DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service
Centers for Disease Control
and Prevention (CDC)
Atlanta, GA 30333

Dear Colleague:

The 2000 Institute of Medicine report *Ending Neglect: The Elimination of Tuberculosis in the United States* concluded that tuberculosis (TB) elimination is feasible, but will require "aggressive and decisive action beyond what is now in effect." The report recommended adopting an aggressive strategy in order to maintain control and ensure the most efficient application of resources. To this end, TB control programs must develop new standards by which to monitor and evaluate program performance.

One such evaluation method is cohort review, a systematic review of patients with TB disease and their contacts. This method, used in countries around the world and in several programs in the United States, examines a group or "cohort" of patients from a specific period of time in terms of individual patient outcomes and overall program performance.

The cohort review process has proven to be a very useful tool for ensuring accountability, educating staff about protocols and goals, and improving case management and prevention. Case managers and other staff know that their day-to-day efforts will be reflected in the cohort review several months later and that they are accountable for the services they provide. They are responsible for ensuring that patients who are started on treatment finish treatment. As a result, patients are less likely to "fall between the cracks" and receive inadequate care. Since 1993, when the cohort reviews began in New York City, the treatment completion rate there has increased from less than 50% to 93%.

You may already conduct administrative reviews of TB cases and contacts. The cohort review method builds upon many current practices, but adds a quantitative difference to program review and examination of treatment outcomes. It is a management process that will motivate staff, reveal program strengths and weaknesses, indicate staff training and professional education needs, increase staff accountability for completion of treatment for both TB disease and latent TB infection (LTBI), and improve TB case management and the identification of contacts.

Admittedly, adopting the cohort review methodology is a challenging undertaking. As with any change in management approach, there will be bumps in the road, and the positive results may not be immediately evident. Successful implementation requires an ongoing commitment to adopting this management approach, tailoring it to fit local needs, training and motivating staff, and following up on noted problems.

To assist you in learning and applying the cohort review method, a team from the Centers for Disease Control and Prevention and the Charles P. Felton National Tuberculosis Center at Harlem Hospital has developed the attached instruction guide. We believe it provides an excellent starting point for program areas in implementing the cohort review methodology.

I wish you success in adapting this methodology in your program area. Improved program evaluation data will allow you to efficiently apply your program resources and maintain TB control—the first steps toward eliminating tuberculosis.

Sincerely,

Kenneth G. Castro, M.D.
Assistant Surgeon General
Director
Division of Tuberculosis Elimination
National Center for HIV, STD, and TB Prevention

APPENDIX E: Staff Education Tools

Staff Education Guidelines
Staff Education Resources

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Category
DOT Worker (Level of training based on level of responsibility)
• CDC Self-Study Modules or CDC TB 101 for Healthcare Workers webinar
• Documented DOT class
• Demonstration of Skills Checklist
• Supervised field visits
Outreach Worker/Disease Investigation Specialist/Communicable Disease Specialist
All of the above in DOT Worker **PLUS**
• TB Update & Skin Test Certification
• Contact Investigation class (prerequisite: TB Update & Skin Test (TST) Certification)
Public Health Nurse
• CDC TB 101 for Healthcare Workers webinar
• CDC Core Curriculum
• TB Update & Skin Test Certification (Recertify every 2 years)
TB Nurse
All of the above in Public Health Nurse **PLUS**
• Contact Investigation (CI) & DOT class (prerequisite: TB Update & Skin Test (TST) Certification)
• TB Case Management class (prerequisites: TB Update & TST Certification & CI/DOT)
• NTCA, NTNC. *Tuberculosis Nursing: A Comprehensive Guide to Patient Care, Second Edition.2011.* Each district health office and each county health department was sent a copy in 2012. Additional copies may be purchased by contacting the National TB Controllers Association at http://tbcontrollers.org/.
• TB Interviewing for Contact Investigations: A Practical Resource for the Healthcare Worker located at http://www.umdnj.edu/globaltb/products/tbinterviewing.htm
• Drug-Resistant Tuberculosis: A Survival Guide for Clinicians, 2nd edition. Can be ordered from http://www.currytbcenter.ucsf.edu/products/product_details.cfm?productID=WPT-11
Attend one of the following every 3-5 years • Attend an infectious disease course related to HIV, STD, Refugee, Hepatitis, and/or TB as determined by county need. • Statewide or district TB Training **OR** • National TB Conference **OR** • SNTC Sponsored Regional Training
TB Coordinator
All of the above in TB Nurse **PLUS**
• TB Coordinators meetings
• TB Coordinators conference calls
• TB Coordinator Orientation
Attend one of the following annually • Statewide TB Training/PCSI Joint Training **OR** • National TB Conference **OR** • SNTC Sponsored Regional Training **OR** • Intensive TB course such as AG Holley Clinical Intensive or National Jewish Medical Center

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Staff Education Resources

Department of Public Health, TB Program Web pages
(http://www.health.state.ga.us/programs/tb/index.asp)

- Education & Training Opportunities
  (http://www.health.state.ga.us/programs/tb/training.asp)

- Educational Resources for Clinicians and Healthcare Providers
  (http://www.health.state.ga.us/programs/tb/clinician.asp)

- Related Links (http://www.health.state.ga.us/programs/tb/links.asp) Links to all the Regional Training and Medical Consultation Centers which have educational products that can be ordered and/or online presentations.

CDC's TB 101 For Healthcare Workers
(http://www.cdc.gov/tb/webcourses/tb101/default.htm)

Archived webinars on CD-ROM from Southeast TB Center
(http://sntc.medicine.ufl.edu/Products.aspx)
2008 – 2009 Archived webinars
2010 Archived webinars

Additional self-study materials available from the National TB Centers /
Regional Training and Medical Consultation Centers:

- Heartland http://www.heartlandntbc.org/products.asp
- New Jersey http://www.umdnj.edu/globaltb/productlist.htm
- Frances J. Curry http://www.currytbcenter.ucsf.edu/products/a-z_list.cfm
- Southeastern http://sntc.medicine.ufl.edu/Products.aspx