Introduction to the TB Cohort Review Process

November 4, 2010

Provided by Global Tuberculosis Institute

Objectives

Upon completion of this seminar, participants will be able to:

• Describe the elements of the cohort review process in order to lead a case management team in preparation, presentation, and follow-up

• Apply CDC guidance regarding the TB cohort review process so that appropriate programmatic implementation will occur

• Compare the cohort review experiences of TB control programs in New York City, Missouri, and Oregon to identify aspects of those models which could be applied in your own program area

• Discuss how to apply principles of continual quality improvement (CQI), as facilitated by the cohort review process, to the management of clinical services and contact investigations so that the spread of TB to the greater community may be prevented
Faculty (1)

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Faculty (2)

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Disease Investigation Unit Chief
Bureau of Communicable Disease Control & Prevention
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Heidi Behm, RN, MPH
TB Controller
State of Oregon Department of Human Services
Principles and Processes of Cohort Reviews

Bill L. Bower, MPH

Background Resources

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

“Cohort reviews aren’t fancy. They are not expensive. In fact, at heart, they are incredibly simple...You’ve got a list of patients, you’ve got the people with first-hand knowledge of each patient, and you’ve got someone supervising and reviewing their work. That is what cohort review is... it doesn’t take a lot of money, doesn’t take high tech, just takes knowledge of the patients and systematic tracking of how each one is doing...”

Thomas Frieden, MD, MPH, New York City Commissioner of Health

Understanding the TB Cohort Review Process: Instruction Guide. CDC; 2006

What is Cohort Review (1)

• Cohort review is a systematic review of patients with tuberculosis (TB) disease and their contacts

• A “cohort” is a group of TB cases identified over a specific period of time, usually 3 months

• The cases are reviewed approximately 6 - 9 months after they are reported, so that many of the patients have completed or are nearing the end of treatment
What is Cohort Review (2)

TB cases are reviewed in a group setting with 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

What is Cohort Review (3)

- Group outcomes are also assessed
- Indicators track progress toward national, state, and local program objectives
- Everyone leaves the meeting knowing the results
- Meeting can be in-person or by teleconference
Participants and Roles

TB Program Manager
  Medical Reviewer
  Supervisor
  Case Manager
    Outreach Staff
    DOT Staff
    Community Providers

Data Analyst

Roles of staff are detailed in the CDC Instruction Guide

Essential Elements

Cohort Review Process

Preparation  Presentation  Follow up
Cohort Review Process

**Preparation**
1. Shared objectives
2. Case management
3. TB registry
4. Preparation of cases for presentation

**Presentation**

**Follow up**

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**Standard presentation**

Standardized Cohort Presentation Forms are used to:

- Enable concise presentations
- Require only the most important information
- Collect the same information
- See TB PEN Tools Committee wiki site for examples
  
  http://tbpen.pbworks.com/
Essential Elements

Cohort Review Process

Preparation

Presentation
1. Detailed case review
2. Immediate analysis of outcomes

Follow up

Presentation

Typical location is an office, conference room, or auditorium for face-to-face meeting

Telephone or web-based conference calls also effective

Review 20-50 cases at one sitting

Review and feedback

Analysis of outcomes (immediate is better)
Spreadsheet

Understanding the TB Cohort Review Process: Instruction Guide. CDC; 2006

Immediate Analysis of Outcomes

• Patient is cured
  – Measurable result is completion of treatment
  – Other outcomes

• Contact investigation
  – Measurable results are # and % of contacts identified, tested, evaluated, started, and completed treatment for LTBI
Essential Elements

Cohort Review Process

- Preparation
- Presentation
- Follow up

1. Timely follow up of identified problems

Follow-up Tasks

- **Supervisors, nurses, and case managers** will follow up on case management suggestions made during the cohort review and ensure that patients and contacts still on treatment finish treatment. Because cohort reviews are held several months before the end of the treatment year (from the time a case is reported to 365 days later), suggestions provided at a cohort review can allow case managers to improve completion rates.

- The **TB program manager** will address programmatic concerns and consider modifying staff training to address staff learning needs.

- The **data analyst or epidemiologist** will update the registry and prepare a summary report.

- The **medical reviewer** will address clinical and programmatic problems that were noted and provide medical consultation.

“Over time, the TB control program improves its outcomes through a continual cycle of implementing, evaluating, and refining procedures and processes.”

Understanding the TB Cohort Review Process: Instruction Guide. CDC; 2006
Flow of Information

TB Registry → Cohort Forms → Cohort Spreadsheet → Analyze Indicators, e.g.
- Completion of Tx
- Death rate, default rate
- Contacts identified, evaluated, started, completed, etc.
- Reasons stopped Tx

• Immediate feedback
• Later feedback
• Reports
• Follow-up on issues

Compare to national and local objectives

Cohort Review Benefits

- Increasing staff accountability for patient outcomes
- Improving TB case management and the identification of contacts
- Motivating staff
- Revealing program strengths and weaknesses
- Indicating staff training and education needs
2010 Cohort Review Guidance

Dawn Tuckey, MPH
Program Consultant
RTMCC Project Officer
CDC, DTBE, FSEB

CDC Cooperative Agreement (1)

“To improve TB case management and program accountability and feedback, the grantees should hold quarterly cohort reviews at the state or local levels or both. Cohort reviews are integral to TB control and provide a systematic review of the management of cases and contact investigations.

Instructions on cohort reviews, definitions, roles of staff, timelines, core elements, and guidance on tailoring the process to your program are published in the CDC document, Understanding the TB Cohort Review Process: Instruction Guide”
CDC Cooperative Agreement (2)

• Grantees should report the progress on conducting cohort reviews, including the number of cases discussed, key issues identified during these cohort reviews, and recommendations provided.

• Additionally, progress on implementing these recommendations should be included in progress reports and used to develop evaluation activities.

CDC’s Expectations for 2010 (1)

• All programs should conduct at least one cohort review in 2010 using the one of the following approaches:
  – Face-to-face
  – Teleconference
  – Hybrid approach
CDC’s Expectations for 2010 (2)

• Cohort Review Reporting requirements
  – Date cohort reviews occurred
  – Number of cases in each cohort review
  – Type of cohort review model used
  – Frequency of cohort reviews (semi-annual or quarterly)
  – Indication whether cohort reviews include patients with TB disease and/or LTBI
  – Key issues discussed
  – Recommendations provided
  – Progress on implementing these recommendations

Frequency of Cohort Review

• Programs with 0-50 reported cases per year reported annually should conduct two cohort reviews during the reporting period
• Programs with over 50 cases should conduct four cohort per reporting period
• Programs with ≤ 15 cases, are encouraged to focus on cohort review of patients with LTBI and completion of LTBI treatment
Regional Cohort Reviews

Programs may conduct regional cohort reviews

An agreement should be developed among partners for the process, location, cohort review models, and each program’s roles and responsibilities

Additional Resources and Training Opportunities

- DTBE is updating cohort review materials to include the guidance, “Understanding the TB Cohort Review Process: Instructional Guide”
- RTMCCs will develop standardized cohort review trainings
- In collaboration with your TB program consultant, establish a system that works for your program
THANK YOU

Historical Perspective of Cohort Reviews in New York City: Key components, benefits, and challenges

Chrispin Kambili, MD
Director, Bureau of Tuberculosis Control
New York City Department of Health and Mental Hygiene
Tuberculosis Cases and Rates

Tuberculosis Cases and Rates

Treatment Completion Rates
New York City, 1989 - 1991

Treatment Completion Rates
New York City, 1989 - 1991

*data based on the NYC Bureau of TB Control Annual Reports
What happens to the TB patients you identify?

Accountability

“Every patient you start on treatment, you are responsible for their outcome.”

“I see how many patients you diagnosed last year. How many of them did you cure?”

Karel Styblo during a visit to New York City, 1993
Cohort Review Process

- TB Program Director reviews *every* counted case
- Case managers present cases – supervisors, managers, clinicians also contribute
- Last month we had 4 cohort review sessions (one for each region) each lasting 3 to 4 hours depending on number of cases
- Quarterly cases ranged from 26 (Bronx) to 62 (Queens)

Cohort Review Process (cont’d)

- Assures consistency with global principles of TB control
- Sets the standard for accountability for case management and follow-up of patients and their contacts
- Immediate linkage of benchmarks to local and national objectives
Historical Treatment Completion Rates
New York City, 1989 - 2005

Evolution of Cohort Reviews in New York City

• Early reviews focused on TB treatment completion
• Later focus expanded to evaluation and treatment of contacts for LTBI
• More recently, we have expanded focus to HIV testing, including HIV testing of contacts
• This year we aligned our cohort indicators with CDC’s NTIP indicators to emphasize best practices
Conclusion: Benefits of the Cohort Review

- The cohort review is the NYC TB Bureau’s principal method of program monitoring and evaluation
  - Ensures accountability
  - Improves the quality of data
  - Provides a forum to discuss difficult questions
  - Staff are publicly praised for achievements
  - Also a forum for highlighting the TB program’s strategic goals and objectives

Cohort Review Process

Limitations

- May be too late to make interventions
- Can be time consuming, thus limiting depth of certain discussions
Conclusion: Applications of the Cohort Review

- Customizable to context
- Can be applied in both high TB incidence and low TB incidence areas
- Can be applied to other diseases beyond TB
  - Used for HIV/AIDS patients in Malawi* and in NYC


Missouri’s approach to the Cohort Review

Harvey L. Marx, Jr.  Traci Hadley, RN BSN
Bureau Chief / CDCP, TB Controller  Public Health Consultant Nurse
Reasons for Implementation

• CDC Cooperative Agreement
• Increase learning
• Improve case management at the state and local levels
• Tool to conduct program evaluation
• Improve documentation in clinic records and improve patient outcomes

Missouri’s Approach

• The “cohort” is a group of TB cases identified over a 3 month period

• The cases are reviewed approximately 6 months after they are reported, many of the patients are nearing the completion of treatment

• TB cases are reviewed in a group setting with the cohort information presented on each case by the LPHA case manager or DHSS Nurse Consultant via video conference
Missouri’s Approach

• Every LPHA is invited to attend
• Majority of cohort information available through Missouri’s TB Registry - WebSurv
• Individual outcomes are assessed
• Group outcomes are assessed

Missouri’s Approach

• Track progress toward national, state, and local program objectives
• Case presentations are consistent
TB Registry

- The WebSurv application is a .NET database containing:
  - General patient information
  - Medical and treatment history
  - Contact info
- Cohort form can be printed from WebSurv
- Used to generate line listing (2 mos. before review)

Timeline

Example of a Cohort Review Schedule

<table>
<thead>
<tr>
<th>Quarter Case Identified</th>
<th>Quarter Case Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; (Jan-Mar)</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; (Jul-Sep)</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; (Apr-Jun)</td>
<td>4&lt;sup&gt;th&lt;/sup&gt; (Oct-Dec)</td>
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</tr>
</tbody>
</table>
Example of State Objectives

• Persons with TB disease will be interviewed within 3 business days of case notification

• Contact investigations will be completed within 21 days

• All TB disease cases will be offered the opportunity to be screened for HIV

Case Management

• Every TB disease case in Missouri has an assigned case manager

• Staff follow written protocols for case management and contact investigation

• DHSS provides routine consultation on case management / assist with extended contact investigations
Cohort Review

• Program Staff (TB Controller, TB Program Manager, or TB Nurse Consultant) ask questions of case managers:

• Patient treatment
  – Begin four drug regimen
  – Regimen is appropriate
    ▪ DOT; HIV Status; negative labs
    ▪ Successful completion of treatment (Tx)

Cohort Review

• Contact investigation
  – Measurable results are # of contacts identified, appropriate for testing, evaluated, started and completed treatment for TB disease or LTBI
Cohort Review

- Obtain missing data or update incorrect data
- Provide analysis of data for:
  - DOT coverage
  - Timeliness of investigation
  - State and national TB objectives are met

Contacts

Of those who had treatment discontinued, how many:

- Refused to continue treatment
- Adverse reaction to treatment
- Lost to follow-up
- Moved
- Died
Samples of issues during the cohort

- Documentation of culture conversion
- HIV status
- Contact investigation follow-up

Missouri Cohort Review

- Most important meeting of TB program
- Low tech, can be done by hand
- Closely linked to CDC & Missouri objectives
- Group process
- Every one leaves meeting knowing results (or soon afterwards)
- Teaching opportunity
- Learning opportunity
Oregon TB Control
Cohort Review

Heidi Behm, RN, MPH
TB Controller
HIV/STD/TB Program
Oregon, Department of Human Services

TB in Oregon

- Low incidence, large geographical area
- Metro area (2.5 million), frontier areas (1,300 in county)
- 2010 89 cases, 72% foreign born
- Oregon TB Control staff - 3 total
- **Challenges**-staffing, expertise in TB, cultural competency, DOT esp. rural areas
Cohort Review Start Up

- **1/2007** - Multnomah County “End of Treatment” (EOT) review. Innovators!
- **7/2007** - Metro area EOT review (face to face, 3 counties)
- **1/2008** - Oregon TB Control cohort review with non metro counties (phone)
- **4/2009** - combined cohort review (yahoo!)
- **6/2010** - program element “requiring” cohort review participation

Conclusion…

- Establishing cohort review takes time!
Cohort Review Process
Preparing for the Review

- Quarterly
- Review cases counted 6-9 months prior
- TB Epi pre-fills form with case and contact information before review and emails to TB Nurse Case Manager (TBNCM). Lots of work but worth it!
- TB Epi works with TBNCM to ensure data is complete before review. No surprises during review
- TB Epi emails all counties completed form so they can follow along

Cohort Review Participation

- TBNCM “required” to present. Someone else can fill in. Sometimes joint presentation if patient transferred
- State TB controller, TB Epi, metro area TB RN supervisors and a TB physician always attend.
- All Health Officers and TBNCMs invited to attend and may call in any time
- Other attendees: medical residents, MPH interns, TBNCM from Washington State
- Questions from any participant are encouraged
Day of the Review

- Review is 3 hours
- TB Epi presents aggregate data on cases and their contacts for quarter under review. Comments on how data looks in comparison to program objectives
- Metro TBNCMs attend in person. Other areas via teleconference
- Everyone has sheets with case details and follows along

Initial Barriers

- Fear of presenting
- Not enough time
- Combining reviews
- Sound quality
The Oregon Way

- Casual atmosphere (food!)
- Individuality allowed! Some add pictures (pills wrapped in cotton candy) or chest x-rays

The Oregon Way continued

- Pre-filled form saves time and ensures preparation
- Minimized routine clinical data on form
- Added subjective questions to create discussion:
  - What incentives and enablers were used?
  - What unique case management strategies or community resources utilized?
  - Anything you’d do differently?
Proof of Success

- People call in when they don’t have to!
- HIV testing has improved
- DOT is better managed
- We learn from each other and gain additional resources

Still trying to Improve

- Still too long? What is essential?
- Sound quality issues
- Confidentiality for rural patients
- Need to develop a process for follow-up after the review
Thanks!

Questions and Discussion
Thank you for your participation!!