TB Case Management

Adriene Rister, TB Control Coordinator
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Objectives

- Define case management and the goals of TB case management
- Review how to apply the nursing process to TB case management
- Discuss strategies to improve adherence
- Apply learning objectives to a TB case example
Case Management

Systematic process by which a nurse assesses clients’ needs, plans for and coordinates services, refers to other appropriate providers, and monitors and evaluates progress to ensure that clients’ multiple service needs are met in a cost-effective manner

ME PHN Case Management Procedure, 2010
Goal of TB Case Management

To have patients complete an appropriate and effective course of anti-tuberculosis treatment in the shortest time possible, without interruption in therapy, using the least restrictive measures indicated

MA TB Case Management Protocol, 2001
Activities of Case Management

- Assessment
- Planning
- Intervention
- Evaluation
Assessments

- Medical
- Adherence
- Education
Assessment: Medical

- **Patient medical history**
  - Known TB exposures, co-morbidities, immunosuppression, HIV/AIDS, substance abuse, mental illness, non-TB related medications etc.

- **Physical Assessment**
  - Vital signs, baseline weight
    - CareFacts Documentation Tool: ME Adult Physical Assessment
Assessment: Medical (cont)

**Determine extent of TB illness/infectiousness**

- TB symptoms, date of onset
  - CareFacts Documentation Tool: TB Index of Suspicion
- TST/IGRA results
  - CareFacts Documentation Tool: TB Case/Suspect Report
- HIV Status
  - OraSure
  - CareFacts Documentation Tool: TB Case/Suspect Report
- Nutritional Status
  - CareFacts Documentation Tool: ME Nutritional Screening Tool
Assessment: Medical (cont)

Determine extent of TB illness/infectiousness

- Radiographic Results
  - CXR, CT Scan

- Bacteriology
  - Smear
  - NAAT
  - Culture
  - Susceptibilities
Assessment: Medical (cont)

- **Medication Monitoring**
  - **Isoniazid**
    - Clinical Hepatitis
    - Peripheral neurotoxicity
  - **Rifampin**
    - Bodily fluids red/orange in color, no harm
    - Hepatotoxicity
  - **Pyrazinamide**
    - Nongouty polyarthralgia
    - Hepatotoxicity
    - GI symptoms
  - **Ethambutol**
    - Retrobulbar neuritis

- **CareFacts Documentation Tools:**
  - ME Vision Assessment
  - TB Index of Suspicion
Assessment: Adherence

- Psycho-Social Information
  - Challenges associated with mental health, substance abuse
  - Support systems
    - Medically, personally
  - Home environment
    - Housed vs. homeless, if housed what type of environment
  - Cultural and language needs
  - Economic status
    - Occupation, source of income
Assessment: Epidemiology

- Report of Verified Case of TB (RVCT)
  - Patient demographics
  - CareFacts Documentation Tool: TB Case/Suspect IC Report

- Case Interview: Contact Investigation
  - Care Facts Documentation Tools:
    - Case/Suspect Chart: Contact Tracing Form
    - Population Based Chart: Epidemiology-TB
Assessment:
Patient Knowledge Regarding TB

- Patient Knowledge about:
  - Transmission
  - Pathogenesis
  - Symptoms
  - Treatment

- Factors that influence patient understanding
  - Personal and cultural beliefs
  - Ability to comprehend written, verbal information
Ongoing Assessment

- Medical, epidemiological, and educational Assessments:
  - Baseline
  - Per visit
  - Monthly
  - PRN, when problems/challenges identified
Ongoing Assessment

- Monitor clinical status
  - Vital signs
  - Symptoms
  - Weight
  - Radiographic results
Ongoing Assessment

- **Monitor clinical status**
- **Bacteriology**
  - Collect sputa monthly until 2 consecutive negative cultures
  - 3 Sputa collected 8 hrs apart, at least one early AM sputa
- **Smear Conversion**
  - Infectiousness
  - Measure treatment effectiveness
- **Culture Conversion**
  - Measure treatment effectiveness
  - If no conversion within 2 months, treatment extended
Ongoing Assessment

- **Medication: Review treatment regimen**
  - Ensure patient on appropriate treatment
  - CDC recommended drug regimen
  - Pill Count
  - Dose and frequency

- **Tolerance of Medication**
  - If on Ethambutol, visual acuity baseline, monthly until discontinued
  - If medication discontinued due to side effects, notify PHN Supervisor and TB Control Coordinator

- Identify any medication changes and potential impact
Ongoing Assessment

- Review RVCT data needs
- Review Contact Investigation status
- Identify continued educational needs
Ongoing Assessment: Adherence

- Adherence assessment performed daily
- Proactive in identifying reasons for non-adherence
- Identify interventions to improve adherence
- If client is non-compliant for more than 2 doses, notify PHN Supervisor and TB Control Coordinator
Obstacles to Adherence

- Unpalatable medication
- Stigma associated with TB
- Lack of support system/family dynamics
- Denial of illness
- Competing health needs
- Mental Health/Substance Abuse issues
- Competing Socioeconomic needs
- Language and cultural barriers
Planning

- Develop patient care plan
  - Maine PHN use Omaha system
  - Focus on immediate, intermediate, and final goals/outcomes
- Develop plan related to performing activities/interventions within recommended timeline
- Update and revise care plan as necessary
Interventions: Adherence

**DOT: Directly Observed Therapy**

- National guidelines strongly recommend
- Standard of care for TB treatment
  - Maine provides DOT for all TB cases pulmonary & extra-pulmonary
- Trained healthcare worker watches prescribed medication is swallowed
Why do we do DOT?

- Cannot predict who will be compliant
- Studies show:
  - 86-90% of patients with DOT complete therapy
  - 61% who self administer, complete therapy
- Ensures treatment completed least amount of time

MN DOH, DOT for Treatment of Tuberculosis, factsheet, 2006
Why do we do DOT?

- Assists in preventing the spread of TB to others
- Contributes to decreased drug resistance
- Assists in preventing treatment failure & relapse

MN DOH, DOT for Treatment of Tuberculosis, factsheet, 2006
Administering DOT

- Watch medication is swallowed
- Assess for side effects
  - Report adverse side effects to provider
  - Report medication changes to PHN supervisor and TB Control Coordinator
- Documentation
  - Visit documentation, medication administration
  - Signed DOT agreement
- Provide patient education
Patient acceptance of DOT

- Prescriber buy-in
- PHN buy-in
- DOT started immediately, not punitive
- Patient Rapport
Building Patient Rapport

- **Perceptive observation**
  - Think about what makes him/her tick
  - Insights/picking up details can be invaluable in contact investigation

- **Trust**
  - Follow through
  - Be reliable
  - Have compassion
Intervention: Ensuring Adherence

- **Incentives**
  - something that incites or tends to incite an action
  - Ex. Weekly gift cards for compliance

- **Enablers**
  - to make possible or easy
  - Ex. Payment of rent, providing transportation to appointments.
Interventions: Patient Education

- Confidentiality
- TB pathogenesis
- TB transmission
- Isolation
- Respiratory protection
- Medication

- HIV testing
- DOT
- Contact Investigations
- Consequences of non-adherence
  - Medical
  - Legal
Interventions: Facilitate TB Care

- Assist patient in scheduling and attending needed appointments
  - Providers
  - Diagnostics
- Assist patient to submit medical bills to TBC
Interventions: Referrals

- Refer patient to other providers as needed
  - Substance abuse treatment
  - Mental Health evaluation/Treatment
  - Social service agency
Interventions: Legal Action

- Goal of TB case management:
  - ensure TB treatment completed, shortest time
  - Least restrictive

- When interventions have failed, legal action pursued
Legal Action

Building a case:

- DOT agreement signed
- Documentation that patient understands the purpose of DOT, and the consequences of non-adherence
- Documentation patient education provided regarding medical and public health consequence of not adhering to medication regimen
Legal Action

- Building a case (cont.)
  - Documentation that education provided in native language
  - Documentation of the incentives and enablers provided
  - Letter from TB Control, sent certified
  - Opportunity for behavior modification
  - Obtaining court order for involuntary confinement

- DOCUMENT, DOCUMENT, DOCUMENT
Intervention: Contact Investigation

- Contact identification
- Contact Screening, evaluation
  - Baseline screening, post-exposure screening
- Initiate Treatment
- Completion of Treatment for Contacts
Evaluation

- Review Care Plan objectives
  - Ongoing within your own practice
  - With supervisor
  - During monthly Case Review Meetings
  - Cohort Review: TB Consultants Meeting
- Revise Care Plan interventions/activities as necessary to meet care plan objectives
Case Presentation

See TB Control’s PHN Referral form filled out with case example
What are your short term objectives for this patient?

What are some of the activities you will perform to meet these objectives?
What are your intermediate objectives for this patient?

What activities will you perform to meet these objectives?
<table>
<thead>
<tr>
<th>Preparation for Initial Home Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review PHN Policy and Procedures: Case Management</td>
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<tr>
<td>Review PHN Policy and Procedures: Documentation</td>
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<tr>
<td>Review TB Control Referral for TB case/suspect</td>
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<tr>
<td>Determine short term objectives for first visit</td>
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<tr>
<td>Review TB medications</td>
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<tr>
<td><strong>Gather Supplies</strong></td>
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<tr>
<td>• To administer TST</td>
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<tr>
<td>• Sputum collection kit, sputum collection instructions</td>
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<tr>
<td>• Patient educational materials</td>
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<tr>
<td>• DOT agreement</td>
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<tr>
<td>• Masks</td>
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<tr>
<td>• Emergency medication pack</td>
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<tr>
<td>Evaluate need for personal protection equipment: Pulmonary infectious patient</td>
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<tr>
<td>Determine language interpretation needs</td>
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<tr>
<td>Contact patient and schedule initial visit</td>
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<tr>
<td>Obtain medication from pharmacy</td>
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# Initial Home Visit

Should be made as soon as possible, within 1-3 days

<table>
<thead>
<tr>
<th>Assessments</th>
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<tbody>
<tr>
<td>- Determine patient/family educational needs</td>
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<tr>
<td>- Determine past medical history and current medications</td>
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<tr>
<td>- Determine extent of TB illness/infectiousness</td>
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<tr>
<td>- Vital signs, weight, nutritional status</td>
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<tr>
<td>- Visual acuity and red-green perception for those patients on EMB</td>
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<tr>
<td>- Adherence: psycho-social indicators</td>
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**Provide patient education:**

- Role of PHN and the health department
- Confidentiality
- TB transmission, pathogenesis, treatment
- TB Contact Investigations
- Medication toxicity and adverse side effects
- DOT
- Isolation requirements, consequences of non-adherence

<table>
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<th>Interventions</th>
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<tbody>
<tr>
<td>- Patient signs DOT agreement</td>
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<tr>
<td>- Provide DOT, emergency pack</td>
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<tr>
<td>- TST</td>
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<tr>
<td>- Sputum collection</td>
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<tr>
<td>- Initiate Contact Interview using Contact Tracing Form from Carefacts</td>
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### Care Plan first 1-2 weeks

#### Continued Patient and Family Education

#### Assessment
- Medication tolerance
- Clinical response to treatment
- Adherence to DOT and medical appointments
- Obtain data needs relative to the RVCT
- TB Educational needs

#### Interventions
- DOT
- HIV screening
- Coordinate strategies to improve adherence
  - Obtain incentives/enablers through TBC
- Contact Investigation: re-interview the patient after 2 weeks
- Contact testing and evaluation
## Ongoing Visits

### Patient Education

#### Assessments
- Clinical response to treatment
- Medication tolerance
  - Visual acuity & red-green perception monthly, PRN until Ethambutol discontinued
- Adherence with DOT & appointments
- TB educational needs

### Interventions
- DOT
- Bacteriology Response
  - Conversion: Collect sputum monthly until culture negative
  - Susceptibilities
- Manage medication changes
- Referrals to appropriate resources
- Management of contact investigation
- Facilitate TB Care
Conclusion

- **TB Case Management Goals**
  - Ensure patients complete appropriate treatment in the shortest amount of time, least restrictive
  - Prevent TB Transmission and disease

- **Activities of Case Management**
  - Assess, Plan, Implement and Evaluate

- And…Document, Document, Document!
Resources

Maine’s TB Control Program Website
http://www.maine.gov/dhhs/boh/ddc/epi/tuberculosis/

CDC TB Website
http://www.cdc.gov/tb/

NJ Medical School Global Tuberculosis Institute
http://www.umdnj.edu/globaltb/home.htm

Tuberculosis Case Management for Nurses: Self-Study Modules
http://www.umdnj.edu/globaltb/products/tbcasemgmmtmodules.htm

New England TB Consortium
http://newenglandtb.pbworks.com/

Treatment of Tuberculosis
http://www.cdc.gov/mmwr/PDF/rr/rr5211.pdf

Guidelines for the Investigation of Contacts of Persons with Infectious TB

Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection
http://www.cdc.gov/mmwr/PDF/rr/rr4906.pdf

MN DOH Directly Observed Therapy (DOT) for the Treatment of Tuberculosis