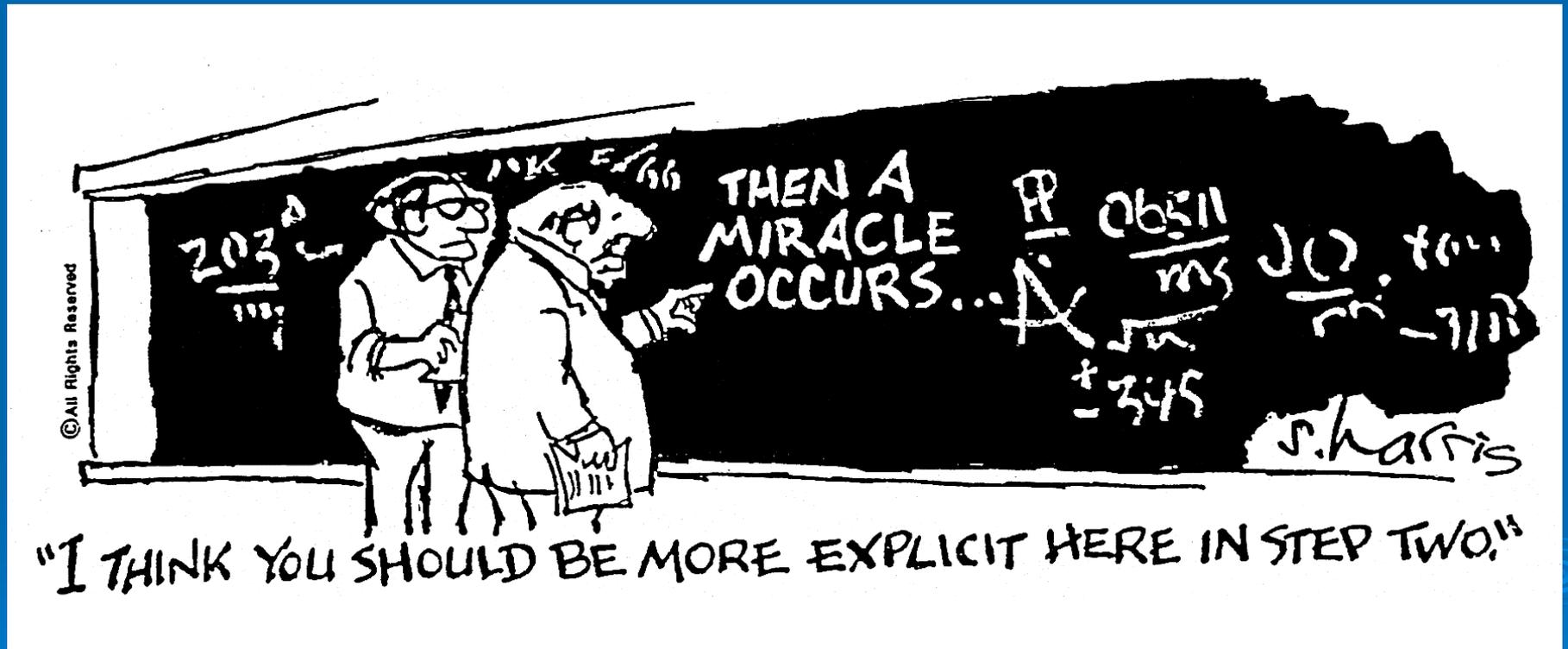


TB Case Management



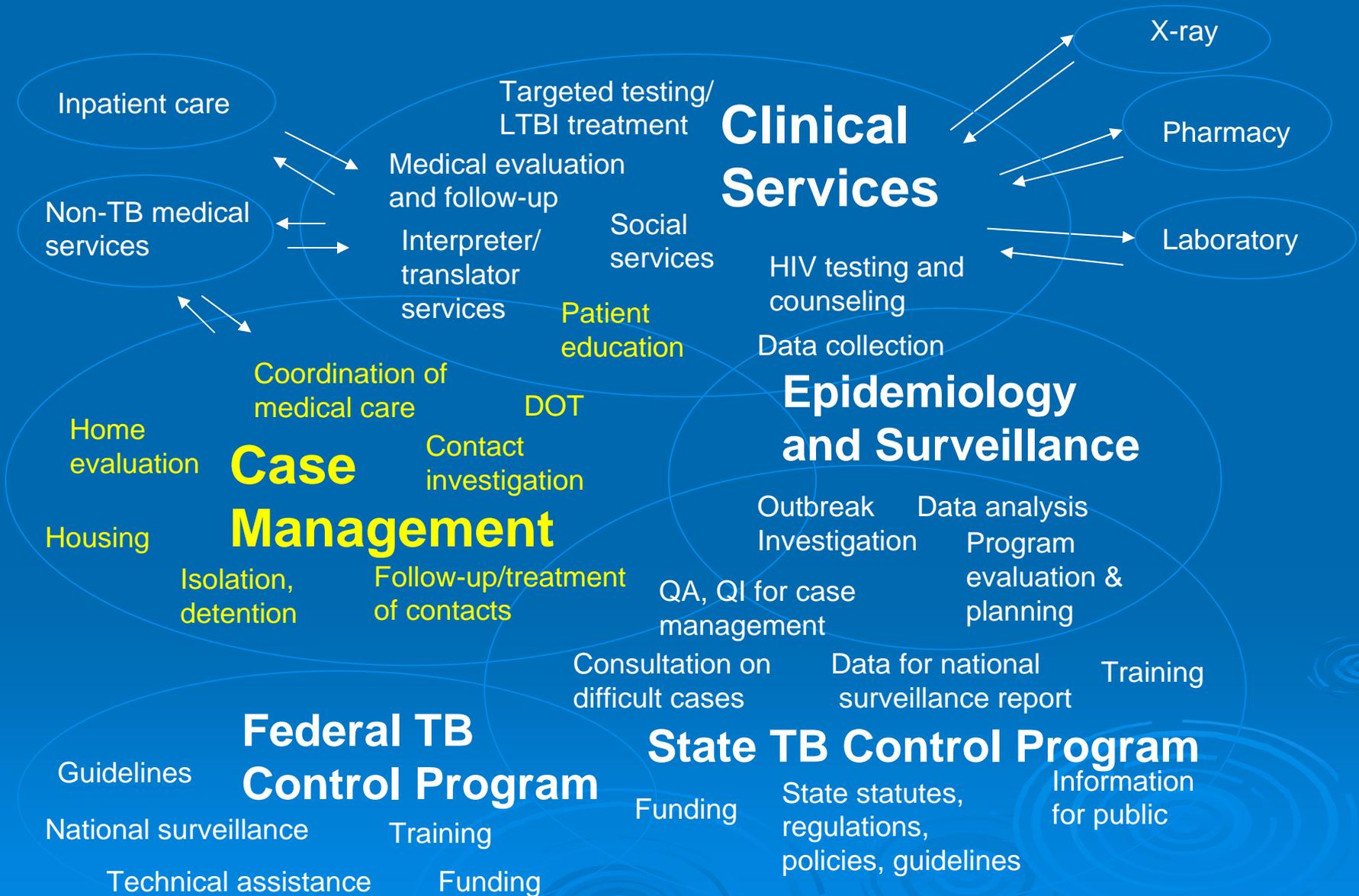
Monitoring and Ongoing Activities

TB Case Management – Defining the Magic

➤ Series of 4 videoconferences

- Initial steps – May 6th
- Monitoring and ongoing activities - Today
- Contact investigation – June 7th
- Additional resources and activities – June 29th

Elements of a Tuberculosis Control Program



Definition

- Primary responsibility for coordination of patient care to ensure that the patient's medical and psychosocial needs are met through appropriate utilization of resources

Responsible to ensure the following objectives are met:

➤ The case

- Completes a course of therapy
- Is educated about TB and its treatment
- Has documented culture conversion
- Has a contact investigation completed, if appropriate

Primary goals of case management

- Render the patient non-infectious by ensuring treatment
 - Prevent TB transmission and development of disease
 - Identify and remove barriers to adherence
 - Identify and address other urgent health needs
- 

TB Case Management - Monitoring

- Beyond the initial steps – what happens from month 2 to 6, 9, 12, 15, 18 or 24 to:
 - Render the patient non-infectious by ensuring treatment
 - Prevent TB transmission
 - Identify and remove barriers to adherence
 - Identify and address other urgent health needs

Elements of CM Process: Ongoing Assessment Activities

- Monitor the clinical response to treatment
- Determine HIV status and the risk factors for HIV disease
 - Refer patient for treatment, if indicated
- Review the treatment regimen
- Identify positive and negative motivational factors influencing adherence
- Determine the unmet educational needs of the patient
- Review the status of the contact investigation

Monitoring & Ongoing Activities

- Continued assurance of adherence
- Adverse reactions and toxicity
- Medication changes
- Clinical/bacteriologic improvement
- Patients without positive cultures
- Susceptibility reports
- Complex case management issues

Monitoring & Ongoing Activities

- Treatment updates
- Change in TB provider
- Continuity of case during relocation
- Continued education
- Psychosocial issues
- Continuation/completion of contact follow-up

Your guides to case management

➤ The Tuberculosis Service Plan

<http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Programs/Tuberculosis/Forms/documents/SPMast.doc>

Virginia Department of Health
Tuberculosis Service Plan

Name _____ Web/Voice# _____

DOB _____ ICD9 # _____

Goal: Reduce morbidity and transmission with the community.
Objective: Identified case/suspect will complete recommended treatment plan and follow-up within standard timeframes.

DATE	IDENTIFIED NEEDS/PROB.	PLAN	DATE COMPLETED	PHN SIGNATURE
	Medical diagnosis affecting health status Active tuberculosis disease	<ol style="list-style-type: none"> 1. Assess medical history and risk factors for acquiring TB infection or for progression to active disease. Complete medical and social history. Assess for symptoms compatible with active TB. 2. Evaluate status of diagnostic evaluation. Obtain copies of all pertinent test results and medical records from physicians, hospitals, labs, etc. (TST results, CXR reports, HIV test results, bacteriology reports, treatment information, etc.) 3. In collaboration with medical provider and/or health director, arrange for completion of diagnostic examinations, if needed. 4. If patient hospitalized or incarcerated, ensure completion and approval of TB Treatment/Discharge Plan (2005A-TB-004) prior to release. Assure discharge appropriate for patient and plans in place for continuity of care. Assure that placement is appropriate and no high-risk individuals present in environment. LHD may request 2005A-TB-004 for any TB case/suspect at the health director's discretion. 5. Assess current treatment plan for conformity to ATSCDC/ISDA recommendations. Take immediate action, within local district guidelines, to determine reason for deviation to treatment regimen and resolve issue. Involve health director, if needed. 6. Re-calculate all medication dosages. Review entire medication profile for potential drug-drug, drug-herbal and drug-food interactions. Assess for known drug allergies. 7. Arrange for medical management if no medical home. 8. Perform or arrange for Directly Observed Therapy 		

Your guides to case management

➤ The VDH TB Case Management Nursing Directive



NURSING DIRECTIVES/GUIDELINES

SUBJECT/TITLE: Tuberculosis Case Management

SECTION: Standards of Care

SUMMARY: Oversight for the management of care for tuberculosis (TB) cases, suspects, contacts and those with latent TB infection (LTBI) in the community setting is the responsibility of the local health district nurse case manager in collaboration with health directors, nurse managers, clinicians, outreach workers and others. Clients may be managed in the private sector, by public health departments, or jointly. In all cases the health department is ultimately responsible for ensuring that adequate, appropriate diagnostic and treatment services are available, and for monitoring the results of therapy.

BRIEF BACKGROUND Case management is the preferred strategy for coordinating TB client care to ensure that the client's medical and psychosocial needs are met through appropriate utilization of resources. The nurse case manager is responsible and accountable to ensure that the client completes a course of therapy; is educated about TB and its treatment; has documented culture conversion; and completes a contact investigation if appropriate. The primary goals of

Continued Assurance of Adherence



Continued assurance of adherence

➤ Obstacles to Adherence

- Unpalatable medication
- Stigma associated with TB
- Family dynamics
- Lack of support system
- Denial of illness by child and family
- Parental attitude toward child's treatment
- Previous history of non-adherence
- Language barriers impeding understanding
- Cultural beliefs about interpretation of tuberculin skin tests when there is a history of BCG vaccine

Continued assurance of adherence

➤ Strategies

- Directly Observed Therapy – Standard of care
 - Negotiate DOT, times and if self – monitoring plan
- Counseling and education
- Incentives and enablers
 - Bribery can work !
 - Tailor to individual – transportation, phone cards, fishing license, birthday cake, fabric, grocery gift cards
 - Virginia incentives
 - Homeless Incentive program
 - Drug co-pays & second line drugs
 - Southwest TB Foundation
- Referrals to other agencies and organizations

Continued assurance of adherence

➤ Legal strategies

- Increasing severity
- Be proactive by use of DOT agreement and Isolation Instructions, building the case
- Letters from case manager, health director
- Virginia
 - More formal health director orders
 - Emergency detention – Commissioner only
 - Court ordered isolation – involvement of AG
- Documentation critical !

Continued assurance of adherence

- DOT is standard of care
 - The VDH Treatment plan requires physician to accept responsibility for assuring completion and provide written certification to LHD
- Strategies for those not on DOT
 - Pill counts
 - Incentives and enablers
 - Fixed-combination drugs recommended
 - Home visit to confirm supplies
 - Pharmacy checks for refills

Continued assurance of adherence

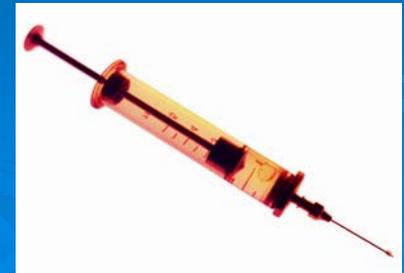
- Resolving Adherence Problems
- Requires individualized strategies
- Some solutions:
 - Mixing the medication with a food the patient likes
See AcidFast Blast article:
<http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Programs/Tuberculosis/blast/January2005.htm#Tips>
 - Rearranging the time medication is administered
 - Shifting personnel to align with personality preference
 - Providing quality, ongoing and appropriate education
 - Adherence Strategies at Various Ages, Table, 3, page 9 in Self Study Module 4, Tuberculosis Case Management for Nurses, NJ Medical School National TB Center

Adverse Reactions and Toxicity



Adverse reactions and toxicity

- Monitoring during DOT visits
 - Document assessment
- Monthly clinical assessment by nurse case manager
 - Document in chart
 - Monthly Assessment form
 - Monthly vision and hearing assessment required for selected drugs
 - Vision – “E” for eyes – ethambutol and ethionamide
 - Hearing – think needles – needed for injectibles!
 - Document in chart
 - Periodic lab work may be needed
 - Follow district protocol



Medication Changes



Medication changes

➤ Reasons for changes

- Standard treatment regimen adjustment
 - Ethambutol can be stopped once susceptibility to INH and RIF proven
 - PZA – must complete required doses for regimen before stopped
 - Both require physician order
- Side effects and/or toxicity
- Resistance
- Absorption problems
- Stupidity

➤ Document in progress note



Medication changes

- Assure appropriate dose count, not just time passage before any standard regimen changes
 - Correct number of PZA doses critical for short course regimen
- Review all changes immediately (within 24 hrs) for appropriateness of drug selection and dosage
- Initiate actions to facilitate appropriate changes within 24 hours
- Initiate action to correct inappropriate changes within 24 hours

Clinical/Bacteriologic Improvement



Clinical/bacteriologic improvement

➤ Two important events

- Smear conversion – surrogate for infectiousness
- Culture conversion – test of cure
 - Extremely important to collect specimen at 2 month post initiation of treatment
 - Cases who remain culture positive on 2 month specimen must be reviewed for potential extension of treatment

Clinical/bacteriologic improvement

Purpose	Frequency	# of specimens
Initial monitoring for smear conversion	Q 2 weeks starting at week 2	1 – observed by HCW
Imminent conversion	Every few days to weekly	3 samples on different days – at least 1 observed
Culture conversion	Monthly	3 samples on different days – at least 1 observed
After culture conversion	Only if clinically indicated	3 samples on different days – at least 1 observed

Clinical/bacteriologic improvement

➤ Practical considerations

- Weekly for smear conversion
 - As soon as 1st negative, immediately collected 2 more
 - If AFB+ specimen before 3 negative specimens collected, start count from number 1 until 3 consecutive negative specimens are obtained
- Monthly for culture conversion
 - Always **collect 3 specimens** on different days
 - If positive culture before 2 negative cultures obtain, start count from number 1 until 3 consecutive negative specimens are obtained
- Consecutive = collected on different days – do not have to be “days in a row”
- Once culture negative
 - Virginia - no need to continue collection unless drug resistant TB, symptomatic or other medical need

Clinical/bacteriologic improvement

- If there is NO improvement
 - Notify treating physician and local health officer
 - Notify state TB program
 - Appropriate steps should be take to determine why
 - Drug resistance
 - Repeat susceptibilities
 - Request assistance for PCR based susceptibilities
 - Malabsorption
 - Serum level testing
- Maintaining appropriate isolation is critical

Infectiousness



Infectiousness

See page 9...



MMWR™

Morbidity and Mortality Weekly Report

Recommendations and Reports

November 4, 2005 / Vol. 54 / No. RR-12

Controlling Tuberculosis in the United States

Recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America



DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

Vol. 54, No. 12

November 4, 2005

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In this special issue, the authors discuss the impact of the programmatic level on clinical trials. Recommendations (11,12).

Impact of Tuberculosis on the Immune System

The impact of tuberculosis on the immune system is complex. TB can lead to a state of immunosuppression, which is characterized by a reduced ability to mount an effective immune response against the bacteria. This immunosuppression is thought to be a result of the bacteria's ability to evade the host's immune system. The authors discuss the impact of TB on the immune system and the implications for clinical trials.

BCG: Evidence of Immunity against Tuberculosis in the United States?

The authors discuss the impact of BCG on the immune system and the implications for clinical trials. BCG is a live attenuated vaccine that is used to prevent TB. The authors discuss the impact of BCG on the immune system and the implications for clinical trials.

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These data are from a secondary surveillance system that monitors TB cases in the United States. The authors discuss the impact of BCG on the immune system and the implications for clinical trials.

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Infectiousness

- “Patients with drug-susceptible pulmonary and other forms of infectious TB rapidly become noninfectious after institution of effective multiple-drug chemotherapy. “
- “*M. tuberculosis* in sputum of persons with cavitory, sputum AFB smear-positive pulmonary TB at the time of diagnosis...decreased >90% ... during the first 2 days of treatment.... and >99% ...by day 14–21.....”

Determining Non-infectiousness

- Patient has negligible likelihood of multi-drug resistant TB
- Patient has received standard multi-drug anti-TB therapy for 2–3 weeks (5-7 days if smear negative)
- Patient has demonstrated complete adherence to treatment (DOT)
- Patient has demonstrated evidence of clinical improvement (decreased cough, improving smears)
- All close contacts of patients have been identified, evaluated, advised, and, if indicated, started on treatment for latent TB infection

When stricter criteria are needed

- Patients in a congregate setting (e.g., a homeless shelter or detention facility) should have three consecutive AFB-negative smear results of sputum specimens collected >8 hours apart before being considered noninfectious

Patients without Positive Cultures



Patients without positive cultures

- Monitor for receipt of culture reports
- If patient not on treatment
 - Review for signs & symptoms
 - May need to repeat CXR and TST
 - Evaluation for determination of continued follow-up
- If patient on treatment
 - CXR **must** be repeated to determine if improved on treatment
 - Repeat TST if prior test negative
 - Evaluation for determination if meets definition of clinical case and need for continued treatment
 - If not active disease – RIF/PZA regimen for LTBI buried in 4 drug trial – assure completes adequate LTBI regimen before meds discontinued

Susceptibility reports



Susceptibility reports

- During initial phase – assure susceptibility testing in process or sample isolate sent to state lab
- Monitor for receipt of results
- Advise treating physician immediately of any resistance
- If pansensitive
 - ethambutol can be discontinued
 - PZA **MUST** be continued until full number of doses for initial phase of regimen completed
- Drug regimen adjusted within 24 hours

Complex Case Management Issues



Complex case management issues

➤ Poor adherence

- DOT failure
- Slow sputum conversion/delayed clinical improvement
- Poor acceptance of TB diagnosis
- Clinical deterioration
- Appointment failure
- Documentation of interventions/counseling and response – build the case

Complex case management issues

- Other medical issues requiring close case management
 - Dialysis
 - Drug-drug interactions
 - Adverse reactions to TB treatment
 - Substance abuse
 - HIV infection
 - Diabetes
 - Known Hepatitis B/C patients

Treatment Updates



Treatment updates

- Initiate treatment reviews and updates for patients whose care is outside of health department setting - every 2 months
- Evaluate for differences between update and district TB program record
- Updates may be required more frequently in complex/high risk patients
- Updates needed to assure and intervene for completion of treatment

Treatment updates

- DOT eliminates need for some updates and improves monitoring of privately managed patients
- Minimum update information
 - Provider name
 - Patient name, DOB and current address
 - Date of last appointment, date of next appt.
 - Current treatment regimen and stop dates/medication changes
 - Bacteriology reports including susceptibilities
 - Current radiology reports
 - Current treatment plan
 - Issues, compliance, barriers, etc.

Change in TB Provider



Change in TB provider

- If patient reports new provider
 - Verify change with old and new provider
 - Document findings in chart
 - Obtain new treatment plan from new provider
 - Does not have to be specific form – any written plan okay
 - Assess for appropriateness of plan
 - If inappropriate, initiate corrective action according to local district policies within 1 day

Continuity of case during relocation

- Assurance of continuity of care – responsibility of case manager
- Minimum requirements– Completion of appropriate Interjurisdictional Referral form
 - Interstate
 - International
 - FAX to 804-371-0248
- Expanded recommended actions- Direct contact with receiving jurisdiction/case manager to facilitate transition

Continuity of case during relocation

- Also required – follow-up to determine final completion/case disposition
 - Counted cases
 - Referred contacts from investigation
 - Reports on received cases
 - Out of state cases only
 - All reports through appropriate state office

Continued Education



Continued education

➤ Patient education

- Disease/healing process – review natural course of disease
- Treatment plan and importance of completion
- Medication changes
- Required monitoring and follow-up, monthly sputa collection, meaning of test results
- Length of treatment – BE CAREFUL!
- Handling side effects, change in symptoms

➤ Family may have educational needs

Psychosocial Issues



Psychosocial issues

- Assess for potential problems/needs that may have direct impact on TB care
 - Substance abuse – referral to recovery program
 - Homelessness
 - HIV status – testing and referral if needed
 - Pregnancy – referral and coordination of care
 - Language barriers/cultural beliefs – interpreters, education

Continuation/Completion of Contact Follow-up



Continuation/completion of contact follow-up

- If investigation needed, continue to identify and evaluate high priority contacts
- Retest contacts at appropriate time
 - 10 weeks after contact broken
 - Timeframes for those who remain smear positive and contact not broken
- Decision to expand investigation
- In-depth session on contact investigations

Documentation



Ongoing Documentation

- General and TB history
 - Update with new diagnoses/information
 - Regularly assess for additional medications – check for interactions
- Contact investigation
 - Complete as new contacts identified and evaluated
 - Complete treatment information for all contacts!!!
- DOT
 - Running tally for dose counting
 - Start at “1” again when begin continuation phase
 - Do complete dose count **PRIOR TO STOPPING MEDS!**

Ongoing Documentation

➤ Bacteriology

- Document smear and culture conversion
- Monitor for susceptibility results – repeat if needed

➤ Monthly assessment

- Monthly clinical assessment by case manager required!
- Clinic visit may replace a monthly assessment, but document!

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