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**Cohort Review and Program Evaluation Updates**

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TB and Newcomer Health Program  
TB Nurse Training, November 14, 2013



*Protecting You and Your Environment*

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**Cohort Review Results**  
2011 TB Cases

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**Cohort Review of 2011 Cases**

- Conducted in 2012-2013
- Included all 221 reported TB cases
- 10 cohort review sessions
  - 4 regional by polycom
  - 2 individual district reviews by polycom
  - 3 on-site individual district reviews
  - 1 on-site joint review
- The performance overall was excellent!!



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### Virginia Performance – 2011 Cases

NTIP Indicator	Virginia Achievement in Cohort Review	Virginia Performance Target for 2011 TB Cases	2015 NTIP Performance Target
Sputa collection for respiratory site of disease	97.1%	89.0% *	95.7%**
Sputa conversion	78.0%	45.0% *	61.5%**
Drug susceptibility results present	98.9%	94.0% *	100%
Recommended initial therapy	96.8%	91.7% *	93.4%**
Completion of treatment in <366 days	91.1%	87.0% *	93.0%
Known HIV result	91.0%	77.1% *	88.7%**
Contacts elicited	100%	93.0% *	100%**
Contacts completely evaluated	75.1%	92.4%	93.0%

\*VA target met; \*\*2015 national target met

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### “Contacts completely evaluated” means:

- All contacts have been seen by the PHN for TST or IGRA
- All contacts have completed 1<sup>st</sup> and 2<sup>nd</sup> round testing
- All contacts have completed the first round of testing and if negative, then are tested again 10 weeks after contact is broken, with sputa done for those with abnormal x-rays or symptoms
- All contacts have a skin test and chest x-ray

Category	Percentage
1	25%
2	25%
3	25%
4	25%

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### + Drug Sensitivities

- Only a few lacked drug sensitivities
- Can occur in labs out-of-state, with no isolate sent to DCLS
- Contact labs early to request isolate be sent
- Lack of sensitivities impacts treatment and genotyping

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**+  
Completion of Treatment in ≤366 days**

- Excluded from this group:
  - Meningeal TB or ≤age 14 yrs. with disseminated TB
  - Rifamycin resistant cases
  - Dead at diagnosis or who died during treatment
  - Left country before completion
- Often due to alternate regimens for drug intolerance
  - Re-challenge on standard regimen if possible
  - Contact the TB program if an alternate regimen is considered
- Impact of older medical providers – share guidelines

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**+  
Cohort Review Updates**

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**+  
Cohort Indicators Added for  
Review of 2012 Cases**

- Contacts started on treatment for LTBI
- Contacts that complete treatment for LTBI.
- Does not include:
  - Person identified as TB case through CI
  - Persons with a prior + test for infection that choose to take LTBI Tx
  - Person put on “window” therapy until 2<sup>nd</sup> round testing is negative and treatment stopped

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Targets for Cohort Indicators in 2012**

- **Contacts started on LTBI treatment**
  - Virginia Target for 2012 – 70%
  - National 2015 Target – 88%
- **Contacts that complete treatment for LTBI**
  - Virginia Target for 2012 – 70%
  - National 2015 Target – 79%

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Other Cohort Information Changes**

- **Smear conversion – one week is needed between last + M.tb culture and 1<sup>st</sup> negative culture (with no positive M.tb cultures thereafter)**
- **HIV**
  - Complete within 8 weeks of starting TB Rx
  - Within prior 12 mo. is also acceptable
  - HIV + clients only need most recent HIV labs or progress note indicating HIV Dx
- **Clinical case requires 18 wks. therapy**

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**+  
District Program  
Evaluation**

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**+ Local Program Evaluation Visits**

- Meeting with TB Program Staff
- Discussion of Core Elements of TB Control Program at District Level
- Record Review
- Feedback and Recommendations

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**+ Core Elements of TB Program (1)**

- Diagnostic services available for TB Suspects and their Contacts – at no cost per *Code of Virginia* § 32.1-50
  - TST/IGRAs
  - Chest x-ray
  - Sputa collection
  - HIV testing
  - Lab services: smear, culture, DSTs, and other labs for monitoring of treatment

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**+ Core Elements of TB Program (2)**

- Managing Persons as TB Suspects or Cases
  - Development of a treatment plan, including
    - Assignment of a case manager
    - Assuring medical evaluation
    - TB treatment- drugs
    - Monitoring for response and toxicity
    - Adherence plan - DOT
    - TB Education
    - Social services – needs identified and referrals
    - Follow-up Plan
- Contact Investigation
- Referral system for other medical problems

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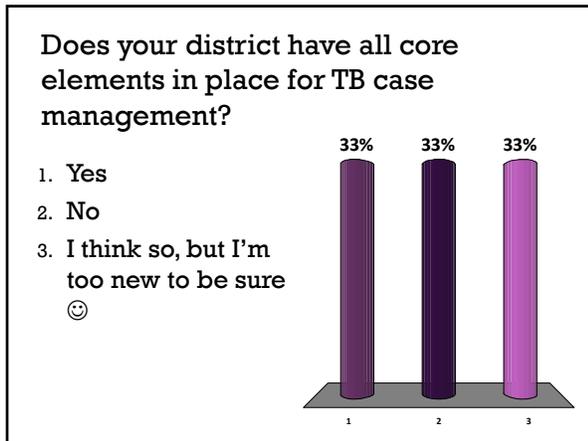
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+ Annual Program Evaluation Project  
Sputum Conversion Revisited

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- + Objectives of the Study
- Determine portion that failed to convert due to extensive disease
  - Determine portion that failed to convert where sputa was not collected between day 55 and 60
  - Evaluate factors that impacted sputa collection
  - Identify strategies to improve sputa collection between day 55 and 60
  - Provide a baseline of sputa conversion at the start of the early serum drug level testing for diabetics

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**Cases Evaluated - 2011**

- 118 cases with positive sputa cultures
- Conversion documented in 77.1%
- 27 / 22.9% lacking sputum conversion documentation
- One excluded – left country

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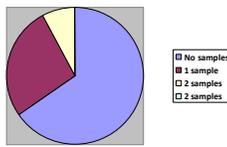
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**Results – Sputa Collected day 55-60 after treatment start**

- 17 (65.4 %) with no sample
- 7 (26.9%) with one sample
- 2 (7.7%) with two samples; neither documented conversion
- None had three samples



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**+**  
**The 13 with no positive cultures after day 60 -**

- 3 with 1 or 2 sputa collected between day 55-60
  - 2 would have required collection ON day 60 to find conversion
- 3 (11.5%) can be attributed to PH failure to follow and urge collection after transfer to other jurisdictions
- 3 (11.5%) attributed to client refusal which should have prompted more formal action using TB Control statues

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**+** The 11 with positive cultures after day 60 -

- Collection between day 55-60
  - 6 with no collection
  - 4 with 1 sample
  - 1 with 2 samples
- Of these cases
  - 1 was MDR
  - 1 required dose adjustment/low drug levels
  - 1 with no ID of organisms after first culture
  - 4 with presumed delay due to extensive disease

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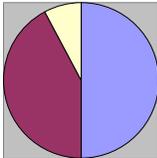
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**+** And Finally -

- 2 (7.7%) with clinical reasons for not collecting sputa
  - 1 close to death
  - 1 with significant weakness and unable to provide sample



■ Sputa Negative with First Collection After Day 60/Potential for Conversion Improvement, 50%, n=13
■ Persistent Positive after 60 Days/Proxy for Extensive Disease, 42.3%, n=11
□ Clinical Reasons for Not Collecting, 7.7%, n=2

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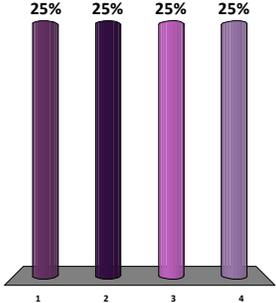
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The conclusion from this study is that failure to document sputa conversion was mainly due to:

1. Drug resistance
2. Cases being too sick to convert by day 60
3. Sputa were not collected in a timely manner
4. Clients refused



1	25%
2	25%
3	25%
4	25%

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**+ Interventions that may improve performance-**

- Staff trainings
  - Encourage scheduling of sputa collection day 55-60 AT treatment start
  - Intervention for clients in facilities or that move out-of-state is a TB nurse case management responsibility
- Active intervention for clients who refuse according to VA TB Control statutes
- Include sputa conversion in the TB nurse case management clinical pathway

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**+ Weaknesses of the study -**

- Evaluated only those that failed to convert
- No information collected on unsuccessful attempts to collect sputa

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**+ Annual Program  
Evaluation Project - 2013  
Sputa Conversion Revisited x 2!**

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**+ Objectives of this Study – for all with initial positive M.tb sputum cultures**

- Determine portion that failed to convert due to extensive disease
- Determine portion that failed to convert where sputa was not collected between day 55 and 60
- Evaluate factors that impacted sputa collection
- Identify the diabetic clients that had early SDL testing and determine this group's sputum conversion rate
- Identify strategies to improve sputa collection between day 55 and 60

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**+ What is needed from you -**

- Faxed copies of all bacteriology flow sheets for 2012 cases to the TB program
- Write on the bottom of the flow sheet
  - Dates of unsuccessful attempts to collect, if documented in the progress notes
  - Date of first TB drug start
- Keep the records available for phone call interview, to include:
  - Diabetic status
  - If SDL were done and drug dose adjusted
  - Barriers to sputa collection

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**+ Things that have changed -**

- Sputa conversion must be 1 week after last positive M.tb culture
- Sputa collection recommendations
  - After smear conversion, collect 3 samples a month spread out through the month, not clustered close together
  - 2 sputa collected between day 55-60

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### + Sample Collection -

- Sputa should be induced if a client cannot produce a sample
- Early morning samples are more likely to be successful
- At least one sample a month health care worker observed



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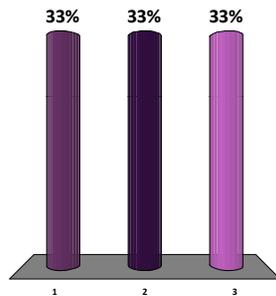
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### Does your program have a nebulizer for sputa induction?

1. Yes
2. No
3. I think so, but I'm too new to be sure 😊



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### + Concluding thoughts -

- Cohort Review and Program Evaluation projects provide feedback to improve performance
- Performance improves when evaluation is included in the program
- Districts can set local goals and develop local strategies for improvement
- Be on the look-out for district program evaluation visits

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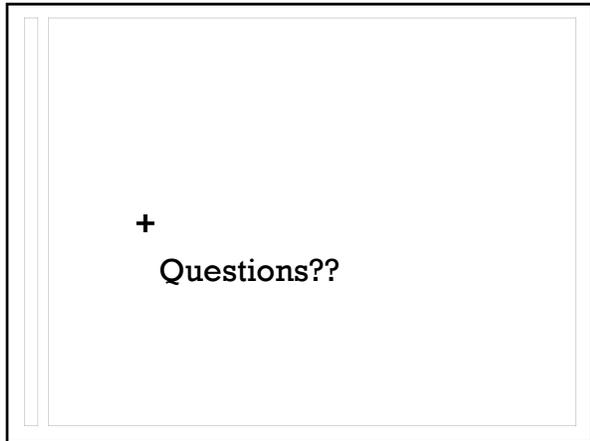
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