



Best Practice Initiative

from the Assistant Secretary for Health
U.S. Department of Health and Human Services



Risk-Based Targeted Tuberculosis Screening in Virginia

(Virginia Department of Health, 2003)

Accomplishments

- In January 1999, a new tuberculosis (TB) screening policy that focuses efforts on persons at risk of TB infection or disease was established and implemented in local health departments across the Commonwealth¹.
- Partnerships established with statewide regulatory agencies to refine and revise TB screening requirements related to employment and facility licensure.
- Collaborative partnership developed with student health services at Virginia Commonwealth University (VCU) to evaluate the accuracy of targeted screening in comparison to the traditional, universal approach. Based on data obtained through this collaboration, the American College Health Association issued updated TB screening guidelines, which incorporate the risk-based targeted approach².
- Statewide reduction in the number of unnecessary tuberculin skin tests (TSTs) provided by local health departments.

Background

Screening and treatment for latent tuberculosis infection (LTBI) have been key components of the national strategy for tuberculosis (TB) elimination in the United States for over 35 years. Updated guidelines, issued by the Centers for Disease Control and Prevention and American Thoracic Society in 2000, urge public health programs to direct TB screening activities toward populations most at risk for LTBI and TB, in preference to the traditional, universal screening approach³. Universal screening can lead to an unacceptable number of false positive results and unnecessary treatment. A targeted approach improves the accuracy of screening procedures, addresses those groups who would benefit most from screening and treatment, and is therefore a more effective use of public health resources³⁻⁵. The Virginia Department of Health has advocated screening and treatment of LTBI as a TB control strategy for many years and made these services available to the public in all local health departments. Although 1992 guidelines from the Virginia Division of Tuberculosis Control encouraged localities to provide screening services preferentially to those at risk, this recommendation was not widely implemented. In 1998, approximately 90,000 persons were screened for TB infection by local health departments in Virginia, of whom only an estimated 40% belonged to high-risk groups. The remaining, low-risk individuals were screened primarily due to requirements established by state or local regulation or private employers. From 1999-2002 the Virginia Division of TB Control, led a successful, statewide initiative to establish risk-based targeted tuberculin testing as the official tuberculosis screening policy for all state agencies throughout the Commonwealth of Virginia.

As a result of these efforts, the unnecessary testing of individuals at low risk for TB infection or disease was dramatically reduced.

Objective

To optimize the efficient utilization of public health resources by targeting tuberculin screening activities to persons at increased risk for TB infection or disease.

Core Components

- Local health departments perform a standardized risk assessment on all persons who present for tuberculin testing, regardless of their stated reason.
- Individuals with a demonstrated risk of TB exposure or a risk of progression to active TB disease, if infected, are eligible for health department testing.
- Those without risk factors are ineligible for testing and are advised to seek care privately if tuberculin testing is absolutely required for administrative purposes.
- To assist those clients required by employers to be screened, health departments provide a signed letter stating that the individual has undergone a clinical evaluation for TB disease and that based upon the absence of risk, a tuberculin skin test is not indicated.
- Working with the Office of the Attorney General, the Virginia Department of Social Services, and the Virginia Department of Education, a determination was made that current state statutes and regulations will allow for risk-based assessment *in lieu* of the tuberculin skin test as the primary tool for TB screening, when required.

Results

- Risk-based targeted tuberculin testing has been implemented 34 of the 35 local health districts in the Commonwealth of Virginia.
- Between FY2000 and FY2002, there was a 39.8% (69,569 vs. 41,913 tests) decrease in the number of TSTs administered statewide. Thirty of the thirty-five local districts reported decreases in the number of tests administered.
- As a consequence of this policy change, utilization of state-funded chest radiography services declined by 88%, resulting in an annual cost-savings of nearly \$175,000 compared with FY 1998.
- Over this same time period, the percentage of positive results among those tested increased from 3.4% to 6.1%, suggesting that the targeted testing policy has improved the efficiency of screening by preferentially removing from among the group tested, those who would be TST-negative. This assertion is supported by data, soon to be published, from a project carried out in collaboration with VCU Student Health Services⁶.
- Existing state regulations that establish TB screening requirements for school employees, and social service agencies and facilities, including group homes, detention centers, and adult and child day care centers have been officially reinterpreted to allow risk assessment *in lieu* of tuberculin testing where applicable.
- Modification of existing state regulations to explicitly include risk assessment in the TB screening requirement is ongoing.

Future

Based on these initial successes, this Virginia Department of Health policy initiative will remain in force with plans in place to periodically reevaluate its effectiveness.

Contact Information

For additional information, please contact either:

*Venkatarama R. Koppaka, MD, PhD
Director
VDH Division of TB Control
vcr4@cdc.gov
804-786-6251

Jane L. Moore, RN, MHSA
Nurse Consultant
VDH Division of TB Control
jlmoore@vdh.state.va.us

*Since submission of this summary, Dr. Koppaka has relocated to the Field Services Branch of the Division of TB Elimination, Centers for Disease Control and Prevention, Atlanta, GA. He may be contacted at 404-639-5324 or by email at vcr4@cdc.gov

References

- 1) Screening for Tuberculosis Infection and Disease, Virginia Department of Health, Division of Tuberculosis Control, Policy #99-001. A copy of the Virginia statewide policy and risk assessment form can be found at http://www.vdh.state.va.us/epi/tb/screen_1.html
- 2) American College Health Association. Screening for tuberculosis on college campuses. Available at <http://www.acha.org>. Accessed 14 February 2003.
- 3) Targeted tuberculin testing and treatment of latent tuberculosis infection. Joint Statement of the American Thoracic Society (ATS) and the Centers for Disease Control and Prevention (CDC). *Am J Respir Crit Care Med*. 2000 161(4 Pt 2):S221-47.
- 4) Jasmer RM, Nahid P, Hopewell PC. Clinical practice. Latent tuberculosis infection. *N Engl J Med*. 2002 347:1860-6.
- 5) Chang S, Wheeler LS, Farrell KP. Public health impact of targeted tuberculosis screening in public schools. *Am J Public Health*. 2002 92:1942-5.
- 6) Koppaka, VR, Harvey, E, Mertz, B, Johnson, BA. Risk factors associated with tuberculin skin test positivity among university students and the use of such factors in the development of a targeted screening program. *Clin Infect Dis*. 2003 *in press*.