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## A Network of Labs in Wisconsin that Perform Mycobacteriology Testing: The Wisconsin Mycobacteriology Laboratory Network (WMLN)

In 1998, Wisconsin health care and laboratory professionals from both the public and private sectors formed a task group to assess the status of Tuberculosis (TB) laboratory testing in Wisconsin and to provide recommendations for improvements. A major recommendation of the task group was the development of a state-wide TB laboratory network whose main objective would be to assure consistent, high quality testing in all Wisconsin laboratories that perform TB testing. WSLH took the leadership role in establishing this network and has designated a coordinator to facilitate and direct the network. The Wisconsin Mycobacteriology Laboratory Network (WMLN) is comprised of WSLH and all 30 other laboratories in Wisconsin (1 city public health and 29 private) that perform some level of TB testing.

The organization of the WMLN has provided the means for ongoing assessment of TB laboratory practices and capacity in Wisconsin and for the evaluation and implementation of testing algorithms on a state-wide basis. Five laboratories in the network (excluding WSLH) identify AFB-positive cultures using DNA probes, biochemical reactions and/or 16S rDNA sequencing. Laboratories send *M. tuberculosis* complex (MTBC)-positive cultures to WSLH for drug susceptibility testing, genotyping, and deposition into the state TB repository. All other laboratories in the state network process specimens and perform AFB smear and culture. Positive cultures are sent to WSLH or other reference laboratory for identification and susceptibility testing. WSLH provides fee-exempt rapid molecular testing for detection of MTBC directly from patient specimens and an expedited, state-wide courier service.

The network is used as a conduit for transfer of information concerning mycobacteriology testing and result reporting from national authorities, the Wisconsin State TB Program, and Local Public Health Departments to Wisconsin TB laboratories. An annual full-day state-wide meeting of the network is held in the fall each year. Each year, > 90% of the laboratories in the network send personnel to attend the annual conference. Through the network conference, teleconferences, and other correspondence, laboratories are able to discuss and address relevant issues including laboratory safety practices, recommended testing methods, isolation and identification, turn-around-times, reporting processes, proficiency testing, use of nucleic acid amplification testing, interferon Gamma release assays, gene sequencing for identification, and TB genotyping for identification of transmission links.

The WMLN is also a forum for providing laboratory-based surveillance. Network participants who perform in-house identification report mycobacterial isolates on a monthly basis to the WSLH. Patient identification information for MTBC isolates is also reported and compared to Wisconsin State TB Program data to verify culture-confirmed cases. The WMLN coordinator combines state-wide mycobacterial isolation information to produce surveillance reports. Through the network, the WMLN coordinator monitors the incidence of mycobacteria isolation, MTBC isolation, and TB drug resistance, compiles statistics, and shares this information with all participant laboratories, the Wisconsin State TB Program and Local Public Health Departments.

The WMLN has provided the means for developing and maintaining the state TB isolate repository. The WMLN coordinator assures that all MTBC strains from culture-positive TB cases in Wisconsin are sent to WSLH. All Wisconsin TB case strains from January 2000 through the present, as well as some earlier strains, have been genotyped and are held in the TB isolate repository at WSLH. Results from universal TB-genotyping have enabled the Wisconsin State TB Program to identify on-going transmission links and previously unidentified clusters.