

Confirmed and "Suspected" Cases of Tuberculosis in Kentucky: A Four-Year Trend

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Background

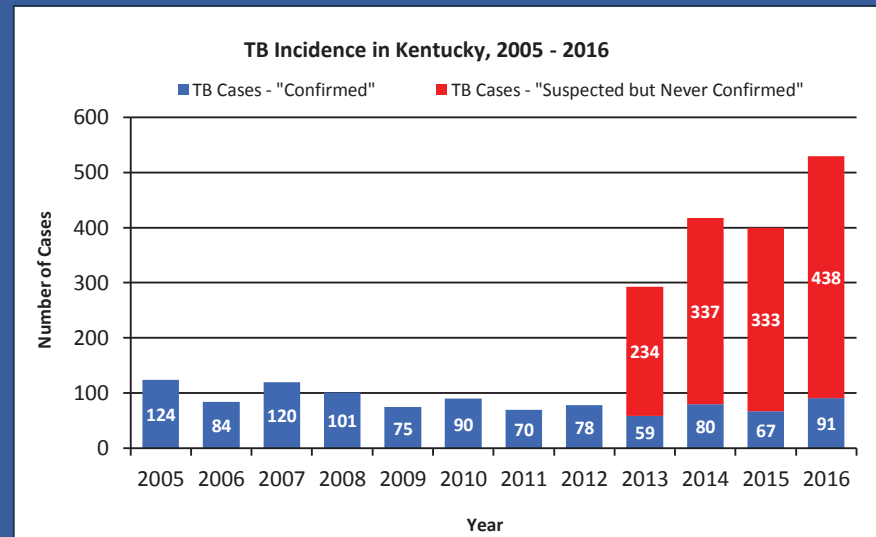
Tuberculosis (TB) is primarily an airborne infectious disease transmitted from person to person by microscopic particles containing *Mycobacterium tuberculosis* (MTB) bacteria that are generated when an infected person coughs, sneezes, speaks, laughs or sings. The World Health Organization (WHO) estimated that nearly 10.4 million people were infected with TB in 2015, and 1.8 million died from the disease, making it one of the top ten causes of death worldwide¹. In the United States, 9,287 new TB cases were reported in 2016². The Kentucky Department for Public Health (KDPH) has annually reported all confirmed TB cases to the Center for Disease Control and Prevention (CDC). All TB cases are considered "suspected" until laboratory or provider confirmation is received to classify a confirmed case as laboratory confirmed or clinically confirmed. Since 2013, the Kentucky Tuberculosis (TB) Prevention and Control Program (KTP) has conducted enhanced TB surveillance to track both confirmed and "suspected but never confirmed"⁴ cases (i.e., "suspected" TB cases). Until classified as not be a confirmed TB case, each "suspected" TB case required about 60 days of similar medical and public health services for evaluation, diagnosis, medications, directly observed therapy for treatment, monitoring, and investigations as a confirmed TB case.

Suspect TB Case Definition⁴

A person for whom there is high index of suspicion for active TB (e.g., a known contact to an active TB case or to a person with signs or symptoms consistent with TB) who is currently under evaluation for TB disease.

Methods

Data were collected and electronically reported to the CDC via the TB National Electronic Disease Surveillance System (TB-NEDSS) by all 120 Kentucky (KY) local health departments (LHDs). A 49-variable Report of Verified Case of Tuberculosis (RVCT)⁴ form was used for reporting cases that met the Council of State and Territorial Epidemiologists case definition for confirmed cases⁵. Demographic, behavioral, medical and clinical information were reported for all confirmed TB cases in KY per the objectives set forth by the TB Elimination and Laboratory Cooperative Agreement with CDC. "Suspected" TB cases, as defined by CDC⁴, were reported to KTP by phone, fax or mail using the required KY reportable disease form, or electronically through TB-NEDSS. However, only a portion of the RVCT variables were initially required to be collected or reported until the reported case was classified as a "confirmed" TB case.



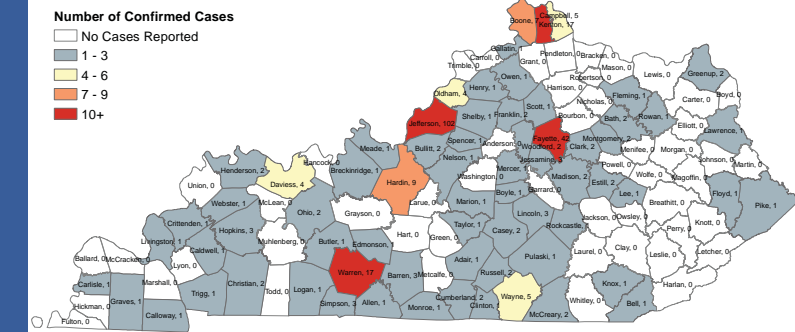
Results

In 2013, KY reported an all-time low of 59 confirmed TB cases. However, the reported number of "suspected" TB cases (234) was about four times greater than the 59 confirmed TB cases. Since 2013, confirmed TB case reports have been increasing, marking the first sustained upward trend in 21st Century cases. From 2013 through 2016, Kentucky had 297 confirmed TB cases occurring in over half (58%) of the counties in the state. However, LHDs investigated 1,342 "suspected" TB cases during this same 4-year period. These reported "suspected" TB case numbers were 4.5 times the reported confirmed TB case numbers. Appalachian counties had 6.4 times more "suspected" cases than confirmed cases, while non-Appalachian counties reported 4.2 times more "suspected" TB cases than confirmed TB cases. The statewide total burden for all reported TB cases (i.e., confirmed cases plus "suspected" cases) was 5.5 times greater than the reported confirmed TB case numbers.

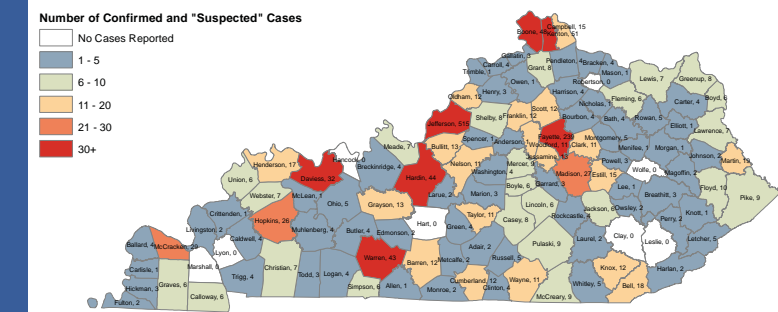
Conclusions

Public health officials, government, and the public need to be aware of the much larger burden of "suspected" TB cases in Kentucky that use healthcare and public health resources compared to reported confirmed TB cases. Government funding for TB prevention and control programs, and the public's perception of the burden of TB, is usually based on the much smaller reported number of confirmed TB cases. Federal standardization of "suspected" TB case reporting is needed for national recognition of medical and public health resources expended for the increased TB caseloads caused by "suspected" TB cases.

Total Confirmed Tuberculosis Cases in Kentucky, 2013 - 2016



Total Confirmed and "Suspected" Tuberculosis Cases in Kentucky, 2013 - 2016



References

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Acknowledgements

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