

## A Publication of the Genesee County Health Department

### Tuberculosis

**T**uberculosis (TB) is a mycobacterial disease that affects millions of people and is a major cause of death and disability in many parts of the world. The infectious agents associated with tuberculosis are the *Mycobacterium tuberculosis* complex. This complex includes *M. tuberculosis*, *M. africanum* and *M. bovis*. The symptoms of TB may include a productive cough (duration  $\geq$  3 weeks) and chest pain. Systemic symptoms of TB include fever, chills, night sweats, appetite loss, weight loss, and fatigue. TB should be considered in persons who have these symptoms. Approximately 90-95% of those initially infected enter a latent phase from which there is lifelong risk of reactivation. TB infection in a person who does not have TB disease is referred to as latent TB infection (LTBI). In approximately 5% of normal hosts and 50% of people with advanced HIV infection, the initial infection may progress to pulmonary TB or to other extrapulmonary involvement.

**M**. *tuberculosis* is carried in airborne particles, or droplet nuclei, that can be generated when persons with TB cough, sneeze or speak. Infection occurs when a susceptible person inhales droplet nuclei containing *M. tuberculosis*. The prevalence of TB is not uniformly distributed across all segments of the U.S. population. Some groups or persons have a higher risk for TB either because they are more likely than other persons in the general population to have been exposed to and infected with *M. tuberculosis* or because their infection is more likely to progress to active TB after they have been infected. Prevalence of TB is higher among contacts of persons who have

active TB, foreign-born persons from areas of the world that have a high TB prevalence, such as Asia, Africa, the Caribbean, and Latin America, medically underserved populations, homeless persons, current or former correctional facility inmates, alcoholics, IV drug users and the elderly. HIV infection is the strongest known risk factor for development of TB disease in persons with LTBI.

**A**lthough TB is primarily a problem of developing countries, it is becoming an emerging infectious disease and a major public health threat worldwide. In 1989, the Centers for Disease Control and Prevention (CDC) announced the goal of eliminating TB from the U.S. by the year 2010. The number of TB cases reported in the U.S. has steadily declined since 1993. In 1998, the rate of TB in the U.S. was 6.8 per 100,000. Resistance to anti-TB drugs among reported cases of TB cases remains a serious public health concern.

#### TB in Michigan and Genesee County

Number of cases	'95	'96	'97	'98	'99	'00
Genesee	9	10	10	15	23	11
MI	390	443	374	385	349	N/A

N/A: Data not available  
Data by calendar year

*The purpose of this quarterly newsletter is to inform the community and health care providers in Genesee County about disease trends in the county. We welcome any comments or questions. Contact: Priya Nair, MPH, MSc, Epidemiologist, at (810) 768-7971, or email [Pnair@co.genesee.mi.us](mailto:Pnair@co.genesee.mi.us).*

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The number of TB cases in Genesee County increased from 9 cases in 1995 to 23 in 1999. There are 11 new cases of TB so far this fiscal year. From January 1, 1999 to August 1, 2001, there were 39 new cases of TB in Genesee County. Twenty (51%) of those cases were female and 19 (49%) male. Of the 39 reported TB cases, 31 (79.5%) were Flint residents. The cases range in age from 1 to 87 years, with a mean age of 47.7 years. Twenty-five (64%) cases were African-American, 9 (23%) were White and 5 (12.8%) Asian. Two-thirds of the cases had pulmonary TB; susceptibility testing showed that 3 were resistant to Isoniazid. HIV status could not be determined for all cases, but none of the cases that were tested were positive for HIV, none were homeless and all denied IV drug abuse in the 12 months prior to diagnosis. Three cases (7.7%) reported abuse of non-injecting drugs and 8 (20.5%) reported using excess alcohol in the past 12 months prior to diagnosis. There were 7 (17.9%) cases that were foreign-born. The cases included 4 children who were close household contacts of a confirmed TB case. Twenty-one (53.8%) of the cases were unemployed and 6 (15.4%) were health care workers. Three (7.7%) of the 39 cases died as a result of TB.

The Genesee County Health Department (GCHD) operates a TB clinic three times a month at the McCree South location. The TB clinic provides medication, lab work and referrals for X-rays to confirmed cases of TB and clients with positive PPD tests. This service is provided free of charge and is available to individuals over the age of 18. Medicaid and Health Plus are billed, as needed, for office visits and lab work. The GCHD TB clinic provides services to an average of 30 clients per month. In addition to these services, public health nurses provide DOT (Directly Observed Therapy) to TB cases and their contacts to ensure patient compliance with treatment. For most patients, the medical regimen from the CDC's Core Curriculum on Tuberculosis is followed for treatment. Detection of acid-fast bacilli (AFB) in stained smears examined microscopically may provide the first clue of TB. A positive sputum smear justifies initiation of antituberculosis therapy. All acid-fast positives should be reported immediately to the GCHD for follow-up. The incidence of TB can be controlled by the prompt identification and treatment of persons with infectious TB. To report an active case of TB, please call the GCHD TB clinic at 257-1017.

## Selected Reportable Communicable Diseases in Genesee County

Disease	Week ending 7/20/01	Reported cases to date FY* 2000-01	Same week reported cases to date FY 1999-00	Total reported cases FY 1999-00
Chicken Pox	0	299	423	443
Pertussis	0	7	4	7
Flu-like illness	0	36,107	39,878	42,750
TB-New cases	0	11	7	9
Chlamydia	61	1550	1669	1822
Gonorrhea	41	1213	1562	1748
Hepatitis B-Acute	1	33	49	65
Campylobacter	1	15	16	21
Giardiasis	1	21	28	38
Hepatitis A	0	16	14	17
Salmonellosis	0	19	23	28
Shigellosis	0	26	26	32
Meningitis-Viral	4	46	26	44
Meningitis-Bacterial	0	14	15	17

\*FY – Fiscal Year, October 1-September 30

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