CD Summary

June 25, 1996
Vol. 45, No. 13

Telephone 731-4023
Emergencies 731-4030
Fax 731-4798
cd.summary@state.or.gov

CENTER FOR DISEASE PREVENTION & EPIDEMIOLOGY • OREGON HEALTH DIVISION

TUBERCULOSIS UPDATE

WORLDWIDE, TUBERCULOUS is the leading infectious cause of death among adults. Each year, nearly 8 million new infections occur, with 2.5-3 million deaths. At present TB kills more adults 25–54 years old than AIDS, malaria and other tropical diseases combined.[1]

The incidence of TB has declined steadily in the United States since the early 1900s, first with i–mprovements in living conditions, and then with the advent of antituberculous drugs in the early 1950s. However, in the early 1980s, this decline leveled off. After increases during 1989-1992, TB incidence in the U.S. appears to have resumed its slow downward trend, reaching an all-time low of 8.7 per 100,000 population in 1995.[2] The incidence of TB in Oregon has historically been lower than that in the U.S. as a whole, and has averaged 5 cases per 100,000 over the last 5 years (see figure). Remember that incidence data reflect newly *diagnosed* cases. In most cases, *infection* with *Mycobacterium tuberculosis* occurs years or even decades before disease becomes manifest.

DEMOGRAPHICS

1995

In 1995, 156 cases of TB were reported in Oregon. Seventy percent were reported in Multnomah, Washington, Marion and Lane counties, which together comprise 50% of the state's population. Ten counties reported no new cases in 1995.

The age distribution of Oregon cases is bimodal, with peaks in young adults and in those over 64 (see figure). Sixty percent were male, and 12% were homeless.

While cases among Oregonians born in the U.S. have been declining, case counts among foreign-born Oregon residents have been on the rise. Half of the 1995 cases were born outside the U.S. Of these, 45% were from Asia, 35% from Latin America, and 9% were from Eastern Europe or the former Soviet Union. Nationwide, the percentage of TB cases accounted for by foreign-born persons has increased steadily over the past decade, from 22% in 1986 to 36% in 1995.[2]

1996

During the first five months of 1996, 77 cases of TB were reported in Oregon, twice as many as the 36 reported during the same time period last year. It is too early to say whether or not this trend will persist; however, it is cause for concern. Sixty-five percent of these cases reside in Multnomah or Marion counties, which together comprise only 28% of the state's population. Seventeen percent of this year's cases are homeless and 49% were born outside the U.S.

The demographics of 1996 cases from Marion and Multnomah counties differ significantly. In Multnomah County, a majority of cases (53%) are Asian, and two are Hispanic. In contrast, only one of the 10 Marion County cases is Asian, and five are Hispanic. None of these cases are known to be epidemiologically related; molecular subtyping of selected isolates is being used to probe for cryptic connections.

DRUG RESISTANCE

In 1995, 12 (9.7%) of 124 Oregon isolates tested showed some degree of drug resistance; 6% were resistant to isoniazid (INH). Since 1987, INH resistance of isolates tested has fluctuated between 4% and 10%. The recommendation that four drugs (generally INH, rifampin, pyrazinamide, and either ethambutol or streptomycin) be used for the initial treatment of all cases in areas where the INH resistance exceeds 4%[3,4] therefore applies to Oregon. Nationally, 7.6% of isolates are resistant to INH. Only one 1995 Oregon isolate was multidrug-resistant (MDR, defined as resistance to INH and rifampin, with or without resistance to other drugs), compared with 1.4% nationwide.

TREATING TB

Drug resistance, which can develop when TB is inadequately treated, is bad news for both the patient and their

CD Summary (ISSN 1058-7888) published biweekly, free of charge, by the Oregon Health Division, a part of the Dept. of Human Resources.
800 NE Oregon St., Portland, Oregon 97232
Second Class Postage paid at Portland, Oregon.
Postmaster—send address changes to:
CD Summary, 800 NE Oregon St., Suite 730, Portland, OR 97232.

SECOND CLASS
POSTAGE
PAID
Portland, Oregon

contacts. Inadequate treatment can occur if too few medications and/or less than recommended doses of medication are prescribed, or if the patient doesn't take the prescribed medication as directed. Getting patients to swallow lots of pills for 6-12 months can be frustrating. Fortunately, in Oregon, local public health workers, standing by the phones to receive reports of tuberculosis,* are willing to shoulder the burden of treatment and follow-up. Despite logistic and other hurdles, 95% of Oregon's 1994 cases completed a recommended medication regimen—up from 85% in 1993.

To ensure patient compliance, CDC and the American Thoracic Society recommend that directly observed therapy (DOT) be considered for all patients.[3,4] DOT reduces the development of drug resistance and insures that clients become non-infectious in the shortest possible time. Long-term DOT programs have reported success in reducing the incidence of TB in many areas of the U.S.[5] DOT programs in Nicaragua, Chile, Cuba and Peru have led to declining case rates and improving cure rates.[6] Several DOT schedules are available, including daily, twice weekly, and thrice weekly regimens. Although more labor-intensive, DOT has been shown to be a real public health bargain over the long term. In 1995, 53% of Oregon's TB cases received DOT.

*** In Multnomah County, TB can be reported by phone 24 hours a day by calling the Multnomah County 24-Hour TB Reporting Line: 306-5547.**

WHERE DO WE GO FROM HERE?

As the first figure demonstrates, no appreciable decline in the incidence of tuberculosis has been seen in Oregon since the late 1980s. To determine how cases could be prevented, local health departments and OHD undertook a study of TB cases during 1991-1992. We found that 59% of cases had missed at least one opportunity for prevention.[7] Forty-three percent of cases had had indications for TB skin testing but had not been tested. These indications included having medical risk factors, including alcoholism, cancer, injecting drug use, HIV infection, and diabetes (83%); exposure to persons with tuberculosis (44%); birth in a county with a high prevalence of TB (29%); and residence in an institution (24%).

Physicians should make use of opportunities to skin test such patients and follow up positives with chest X-rays. Laboratory confirmation of active disease can take weeks — and during these weeks, other people can be exposed. Don't wait for culture results; report suspect cases to the patient's local health department. Remember, LHD nurses will complete contact investigations for all cases and can assist physicians with treatment plans. For cases of TB who cannot afford them, **TB medications are provided free of charge** through local health departments.

Interested readers can obtain a more detailed summary of Oregon TB data and activities for 1995 by contacting OHD's TB program: phone 503/731-4024; fax 503/731-4798.

REFERENCES

1. Dolin PJ, Raviglione MC, Kochi A. Global tuberculosis incidence and mortality during 1990-2000. Bull WHO. 1994; 72:213-220.
2. Centers for Disease Control and Prevention. Tuberculosis morbidity - United States, 1995. MMWR. 1996; 45:365-370.
3. Centers for Disease Control and Prevention. Initial therapy for tuberculosis in the era of multidrug resistance: Recommendations of the Advisory Council for the Elimination of Tuberculosis. MMWR. 1993; 42(RR-7):1-8.
4. American Thoracic Society. Treatment of tuberculosis and tuberculosis infection in adults and children. Am J Respir Crit Care Med. 1994; 149:1359-1374.
5. Frieden TR, Fujiwara PI, Washko RM, Hamburg MA. Tuberculosis in New York City - turning the tide. N Engl J Med. 1995; 333:229-233.
6. Pan American Health Organization. *Facts and figures: tuberculosis in Latin America and the Caribbean.* Washington: http://www.paho.org/english/DPI/rlmar22b.htm. March 1996.
7. McAnulty JM, Fleming DW, Hawley MA, Baron RC. Missed opportunities for tuberculosis prevention. Arch Intern Med. 1995; 155:713-716.

MEASLES OUTBREAK OVER?

During the recent outbreak of measles, six cases were identified in Oregon: one in Multnomah County and five in Marion County. The last known Oregon measles case had onset of rash on May 20. This means that two incubation periods have since elapsed, and we are cautiously optimistic that the outbreak may have ended.

Labs now no longer need to call local health departments when measles IgM titers are ordered. Physicians still need to report all suspected cases, however.

Kudos to the infection control nurses and other health care workers whose diligence at maintaining high vaccination rates and limiting exposure to cases have led to the passing of this scourge.