

## Immunization and Infectious Disease

### Data Analysis

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#### Flu Shot

Pct who had a flu shot in the past 12-months

- those age 65+  
Tompkins—  
Cortland.....70%  
Avg. of CNY.....70%  
NYS.....68%  
HP2010 .....90%

- those age 18+  
Tompkins—  
Cortland.....31%  
Avg. of CNY.....33%

—Source: BRFSS, 2003

An annual influenza vaccination is recommended for the majority of the population, especially those age 65 and over and those for whom chronic conditions put them at increased risk for developing complications from the flu. The Healthy People 2010 (HP2010) target is for 90 percent of individuals age 65+ to be vaccinated annually, and 60 percent of people age 18–64. Although very young children are an increasingly important segment of the high risk group, there is no HP2010 target for those under age 18.

The New York State Department of Health (NYSDOH) tracks flu immunizations through the Behavioral Risk Factor Surveillance System (BRFSS.) The BRFSS is a randomly selected telephone interview that covers a wide variety of lifestyle and behavior factors. In the most recent BRFSS survey, taken in 2003, data for Tompkins County was pooled with data from Cortland County in an effort to increase sample sizes and thereby achieve a more consistent margin of sampling error. In the case of some smaller populations, data from three counties was pooled.

According to the BRFSS polls, flu shot rates for ages 65+ in Tompkins and Cortland Counties are in line with neighboring counties, the average rate across the Central New York (CNY) region, and the state as a whole (*see Figure 99, page 121.*) None of the areas included in Figure 99 have achieved the HP2010 target rate.

Tracking of individuals who have ever received a pneumonia vaccination is also carried out through the BRFSS. *Figure 101, page 122* shows local and regional results for people age 65+. These rates are also relatively uniform across the region, and all about 20 percent or more below the HP2010 target of 90 percent.

Immunization status is an important health indicator because it is closely linked to rates of specific childhood disease — diseases that cause disability or death. The following childhood diseases are preventable with proper immunization:

- diphtheria
- pertussis
- tetanus
- measles mumps rubella
- polio
- Haemophilus influenza type B (Hib)

**Child immunization**

- Rate of complete immunization for children age 24–35 months, Tompkins County.

2000.....	93%
2001.....	93%
2002.....	88%
2003.....	90%
<b>HP2010.....</b>	<b>90%</b>

One of the HP2010 objectives is to “achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children.” In 2003, the Tompkins County Health Department (TCHD) had a 90 percent rate of complete immunization for those children ages 24–35 months who participated in the Department’s program. The HP2010 target is 90 percent. *Table 12, page 123* shows recent child immunization rates for Tompkins County.

**Measles Incidence**

- Tompkins County cases

1991–2000.....	0
2001.....	0
2002.....	0
2003.....	1

The incidence of measles is very low in the region, in Tompkins County, and in New York State. There were no cases in the County from 1991 to 2002 and only 6 cases statewide in 2002. (*See Table 13, page 123.*)

In 2003 Tompkins County had one measles case. That person had an unknown immunization history and no known exposure to another case. Contacts were appropriately immunized and medical providers were alerted. (*See Figure 103, page 123.*)

**Pertussis Incidence**

- Tompkins County cases

1991–2000.....	10
2001.....	0
2002.....	88
2003.....	17

Pertussis remained relatively quiet in Tompkins County throughout the 1990’s, with only 10 cases reported from 1991–2000. In July 2002 an outbreak began and a total of 88 cases were logged by the end of the year. Ongoing transmission of pertussis occurred in early 2003 with a total of 103 cases reported in the 15-month period from July 2002 to September 2003. (*See Figure 105, page 124.*)

Most cases in the 2002–2003 outbreak occurred in adolescents age 10–14 years who had been previously vaccinated. There are several explanations for the increased incidence:

- Waning immunity in adolescents
  - No licensed pertussis containing vaccine for children 7+ years of age
- Increased vigilance of local health care providers in assessing, testing and reporting suspected pertussis cases.

There were few pertussis cases in the CNY region or the state as a whole over the 3-year period 2000–2002 (*see Figure 104, page 124.*) There were no reported pertussis outbreaks in contiguous counties in 2003.

**Tuberculosis Incidence**

- Tompkins County cases

1991–2000.....	40
2001.....	4
2002.....	1

Tuberculosis incidence in Tompkins County has had peaks and valleys over the last decade-plus. From 1991–2003 there were 49 cases, with high points in 1993 and 2000. (*See Figure 109, page 126.*)

In 2004, there were 4 new active TB cases in the County. Three of the four people were foreign-born; none were epidemiologically linked.

2003 .....4

### Hepatitis Incidence

There was a steady decline in the appearance of Hepatitis A and Hepatitis B in Tompkins County from the mid-1990's to 2003. By contrast, Hepatitis C, with a very low incidence rate throughout the 1990's and into the new decade, shows a dramatic increase in 2003. (See *Figure 106, Figure 107 and Figure 108, beginning on page 125.*)

### Changes in reporting parameters for Hepatitis B and C

- Hepatitis B cases in Tompkins County, 2003
  - Acute .....1
  - Chronic.....4
  - Pregnant.....8

The 2003 increase in Hep. C cases shown in *Figure 108, page 126* occurred due to a NYSDOH request that all positive results for Hepatitis C antibody be reported. New tests became available and NYSDOH changed the confirmed case definition in 2003. Most of the cases in 2003 were subsequently downgraded by NYSDOH to “suspect” or “unknown.”

With respect to Hepatitis B, the data may have included chronic cases of Hep. B under new case definitions of 2003. Now there are 3 categories for Hepatitis B reports: Acute, Chronic and Pregnant. Also, some cases reported as “confirmed” have been downgraded by the NYSDOH to “suspect” or “unknown.”

### Lyme Disease Incidence

- Avg. cases per year, 2000–2002
  - Tompkins.....5.3
  - Cayuga .....2.0
  - Cortland.....0.3
  - Broome .....2.0
  - Tioga .....3.0
  - Columbia .....747.0
  - Dutchess .....1309.0

When viewed by 3-year averages, the presence of Lyme Disease in Tompkins County was relatively steady over the period 1991–2003. A peak in 1994 does not appear to have signaled a trend, and time will tell if a second peak in 2003 has the same fate (*see Figure 111, page 127.*)

Although Tompkins County had the highest rate of Lyme Disease of the eleven Central New York (CNY) counties (*see Figure 110, page 127,*) the disease is off the radar locally when compared to counties close to the historic center of the problem. Two New York counties on the east shore of the Hudson River, Columbia and Dutchess, had a combined average rate of 592 cases per 100,000 for 2000–2002.

### Rabies Exposure

The number of incidences of rabies exposure swung widely through most of the 1990's in Tompkins County, but has showed a steady increase over the present decade. (*See Figure 112, page 128.*)

## Community Outreach

### Flu immunization clinics

TCHD conducts annual flu immunization clinics in community settings targeting people 50 years of age and older and those with chronic disease whose health would be compromised by complications from the flu. In 2003, the Department provided 50% more immunizations to Tompkins County residents (3,513) than it did in 2002. This increase was due in large part to the marketing and education campaign

directed to the target population. Residents 50 years of age and over were urged to get a flu shot at the clinics or their physician's office.

Due to the national vaccine shortage in 2004, the New York State Health Department required all local health departments and health care providers to limit vaccine to nursing homes and assisted care facilities, homebound residents and people over 65 years of age and other high risk groups. In 2004, TCHD provided 2,331 influenza immunizations.

**CNY Immunization Registry**

TCHD has been an active participant in the central New York Immunization Registry since its inception in 1995. The Registry's goal is to provide easy access to immunization records for parents, providers, and schools across the region. To date, both pediatric practices, five of nine family medicine practices, two of six school districts, and Head Start participate in the registry.

Parents are encouraged to have their children vaccinated at their physician's office. Physicians may obtain vaccine at no cost through the Vaccine for Children's (VFC) program for their uninsured or underinsured patients who are 19 years of age and younger. Approximately 26 provider offices and 6 health care facilities, including TCHD participate in VFC program.

**Tick identification**

To eliminate the possibility of Lyme Disease, TCHD provides tick identification services. Ticks are sent to an NYSDOH lab for identification.

**Rabies services**

Calls to TCHD concerning rabid wild animals and pets are handled by the Department's Environmental Health (EH) division. EH also conducts a series of pet rabies vaccination clinics twice a year. The Community Health Services (CHS) division provides post-exposure rabies immunization to community residents.

Figures and Tables

Figure 99 — Had a flu shot, age 65+, regional comparison

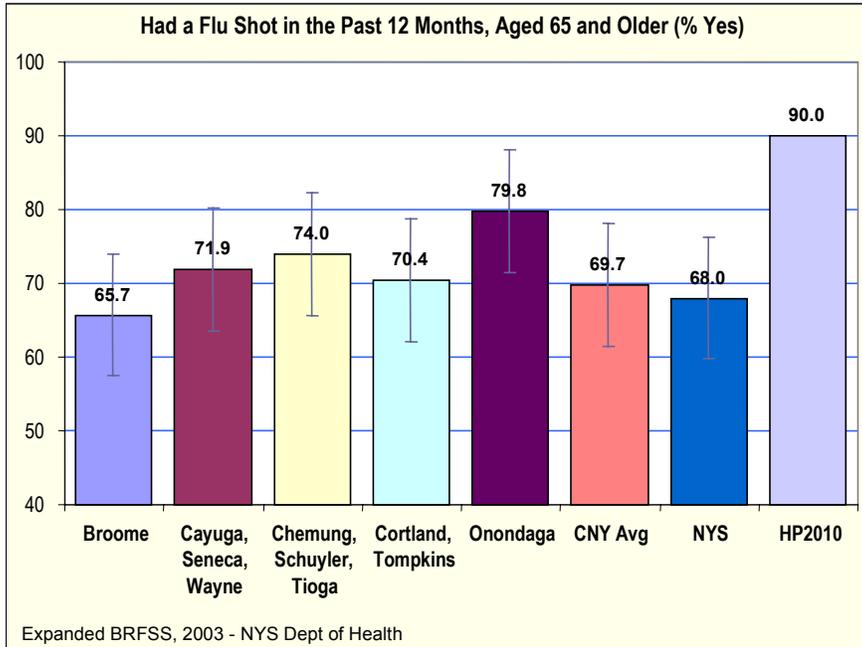


Figure 100 — Had a flu shot, age 18+, regional comparison

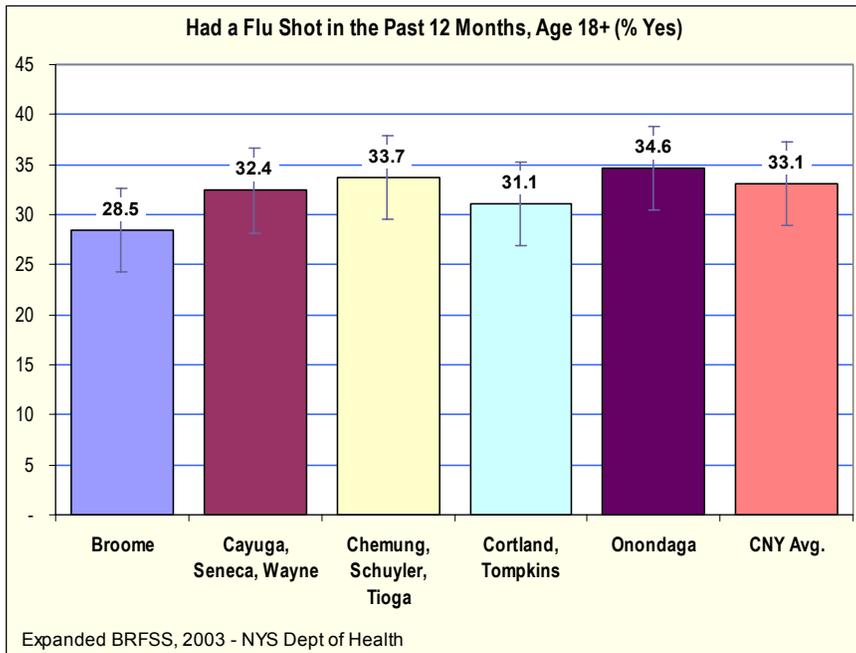


Figure 101 — Had a pneumonia shot, age 65+, regional comparison

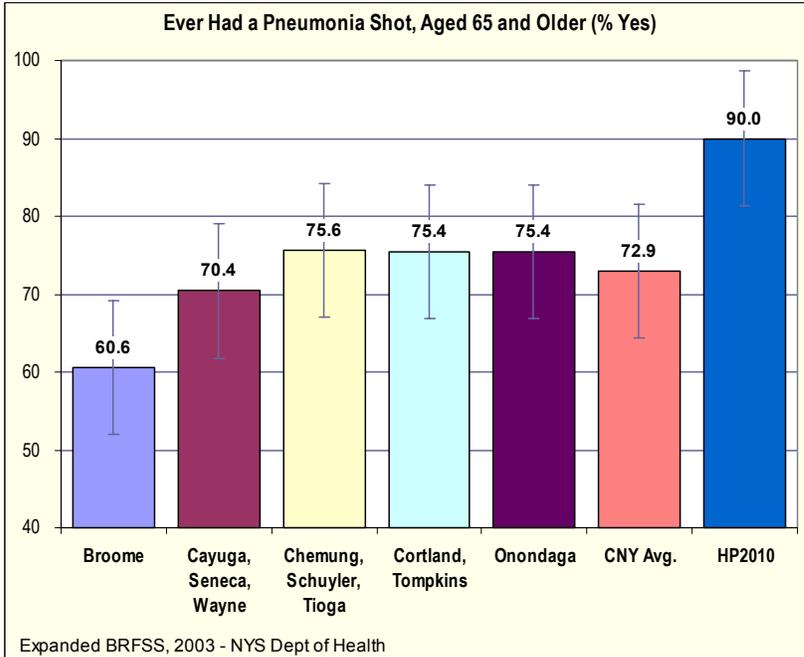


Figure 102 — Had a pneumonia shot, age 18+, regional comparison

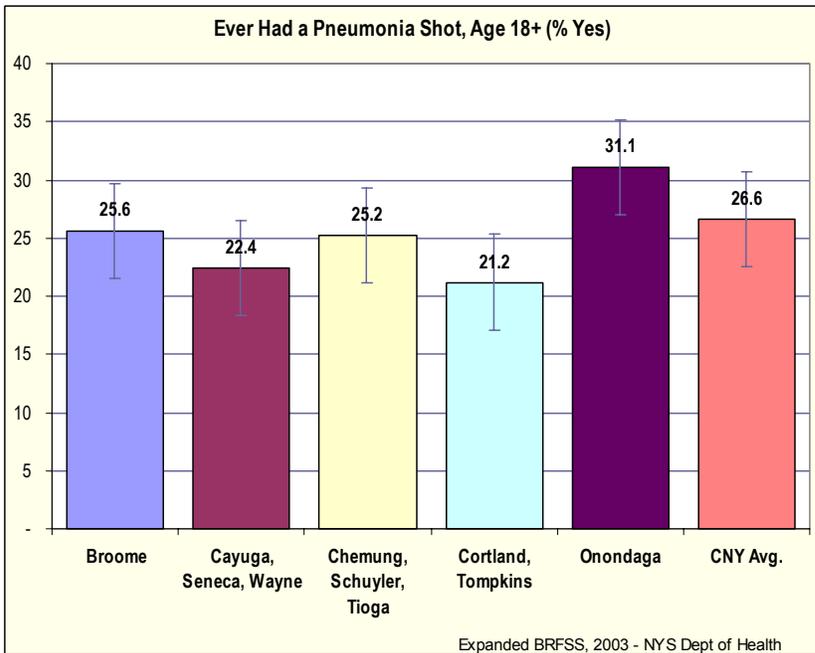


Table 12 — Complete immunizations, age 24–35 months, Tompkins County

Rate of complete immunization for children age 24–35 months				
Tompkins County				
2000	2001	2002	2003	HP2010
93%	93%	88%	90%	90%
Source: TCHD Annual Reports				

Table 13 — Measles cases, regional comparison

REGION/COUNTY	MEASLES CASES				POPULATION 2001	RATE /100K
	2000	2001	2002	TOTAL		
TOMPKINS	0	0	0	0	97,998	0
CNY TOTAL*	8	0	0	8	1,427,114	0.19
ROS TOTAL	10	4	1	15	11,022,323	0.05
NYS TOTAL	23	11	6	40	19,084,350	0.07

\*CNY cases were in 2000: 4 cases in Onondaga + 4 cases in Oswego Co's.

Figure 103 — Measles cases, rate per 100,000 population, 13-year trend

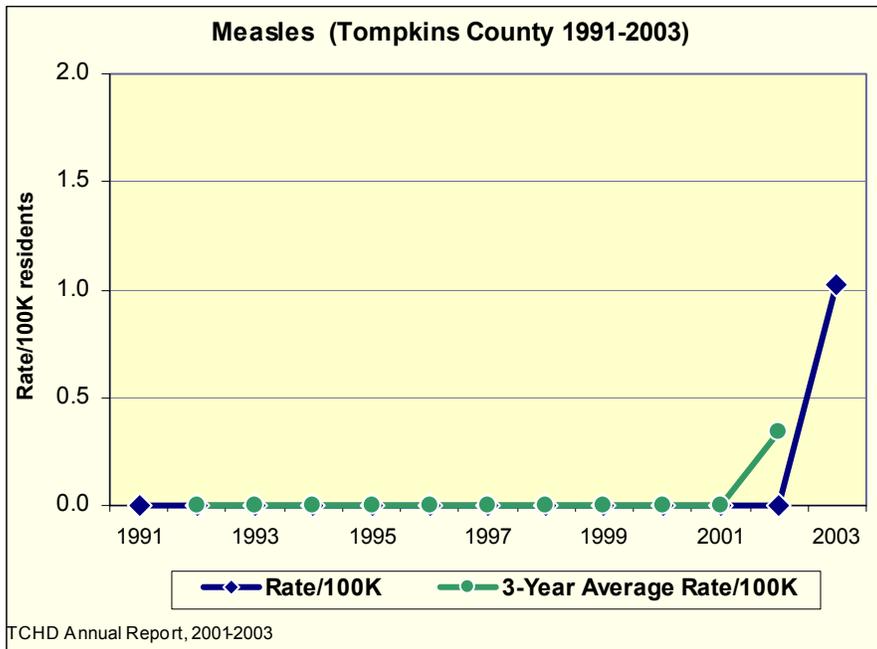


Figure 104 — Pertussis cases, regional comparison

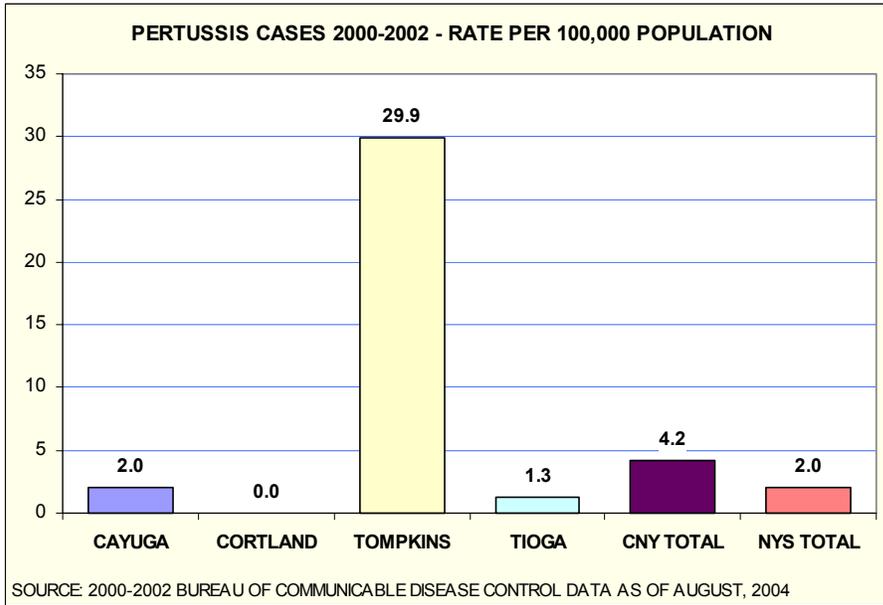


Figure 105 — Pertussis cases, rate per 100,000 population, 13-year trend

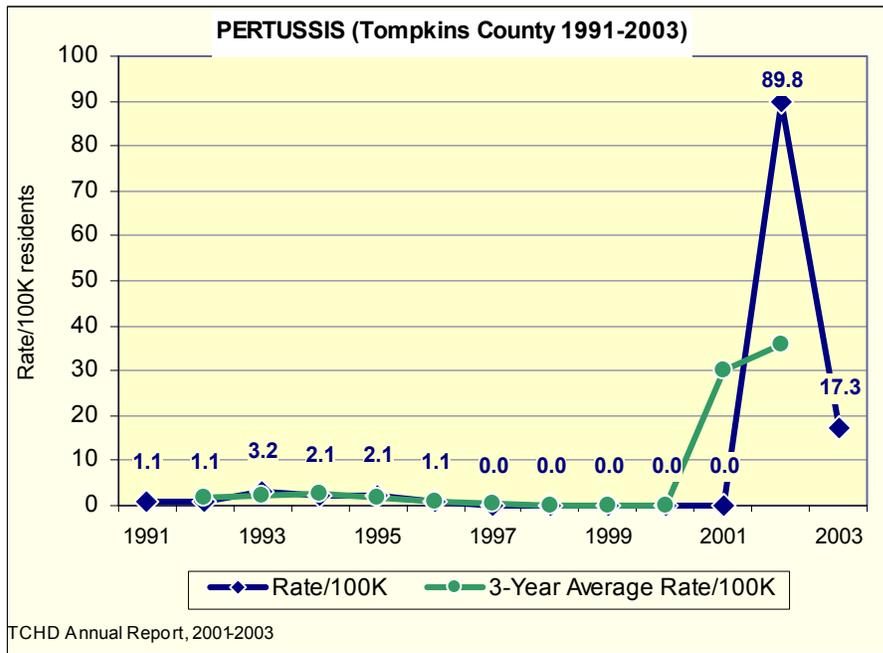


Figure 106 — Hepatitis A cases, rate per 100,000 population, 13-year trend

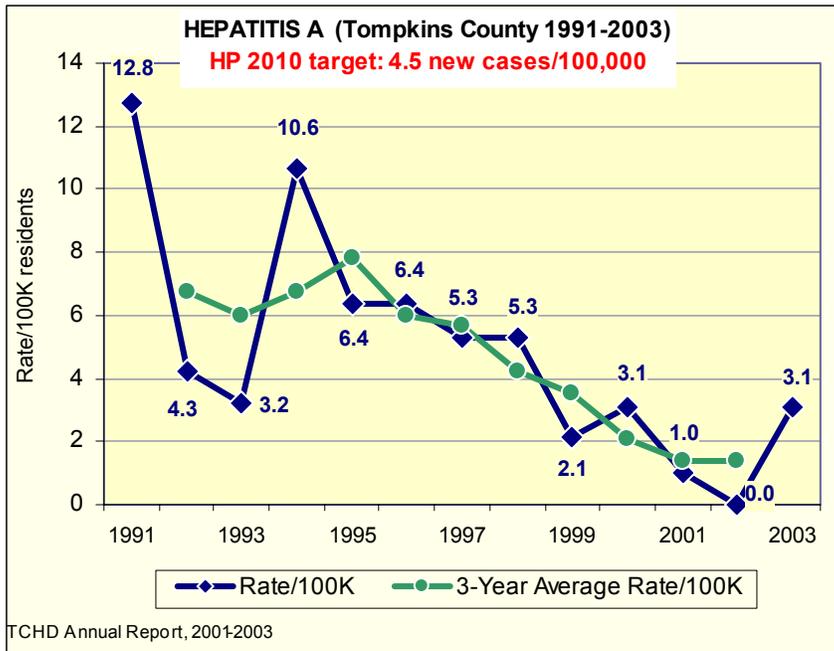


Figure 107 — Hepatitis B cases, rate per 100,000 population, 13-year trend

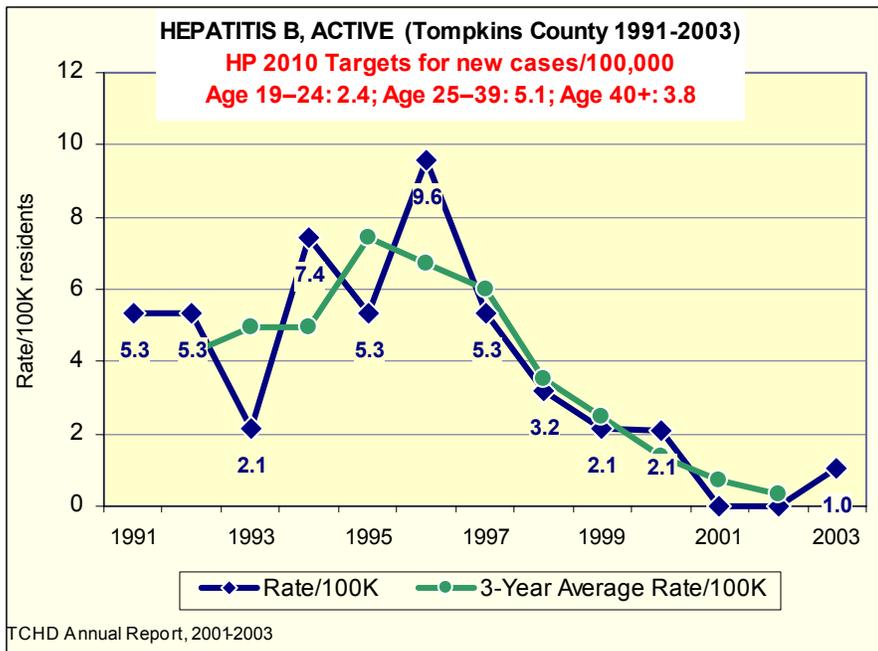


Figure 108 — Hepatitis C cases, rate per 100,000 population, 13-year trend

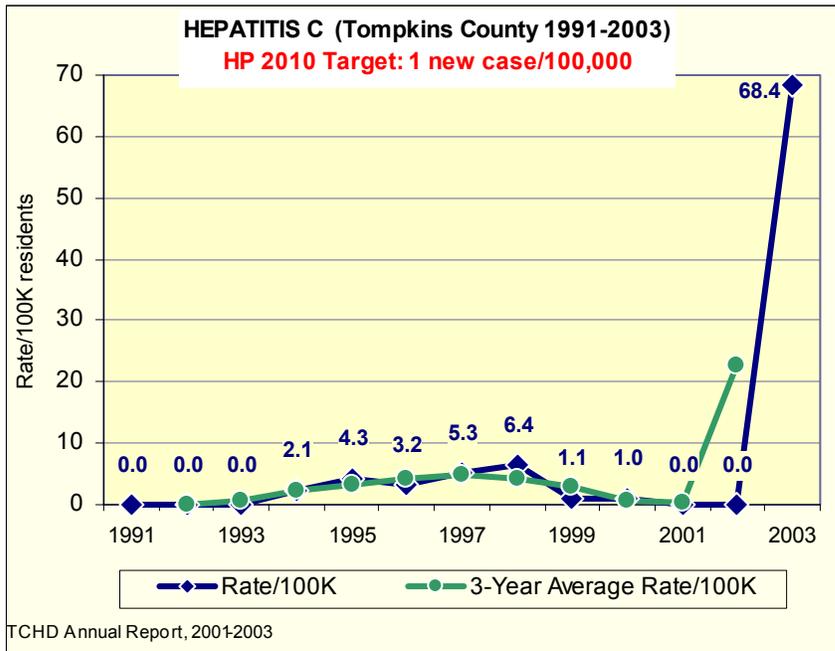


Figure 109 — Tuberculosis cases, rate per 100,000 population, 13-year trend

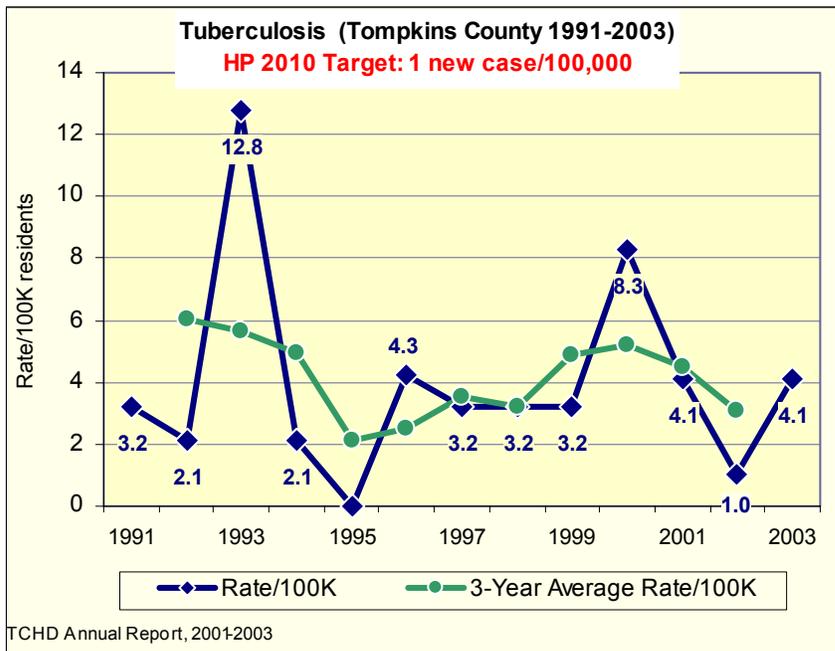


Figure 110 — Lyme disease cases, regional comparison

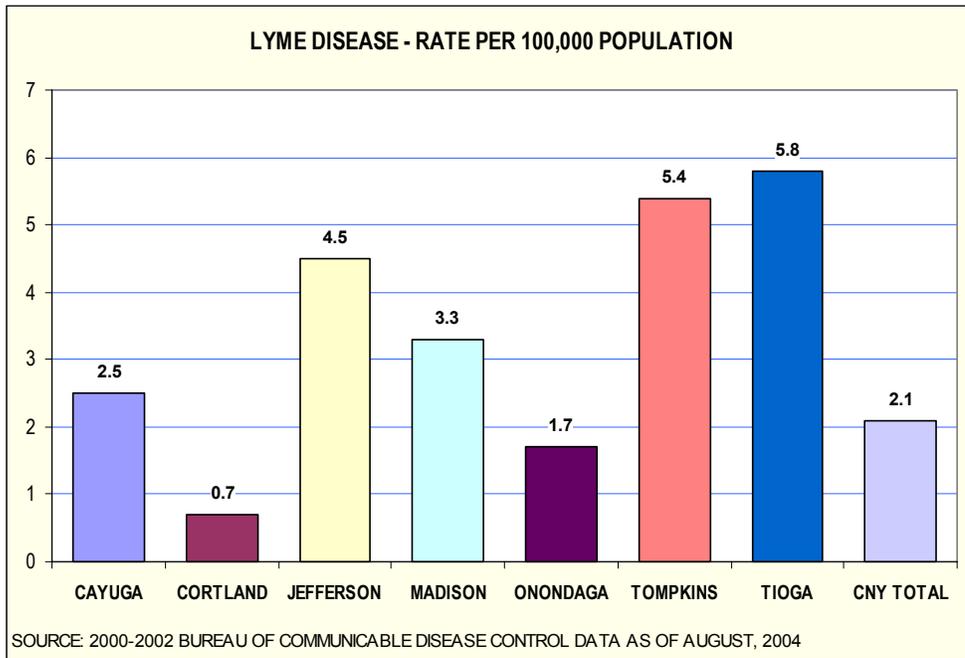


Figure 111 — Lyme disease cases, rate per 100,000 population, 13-year trend

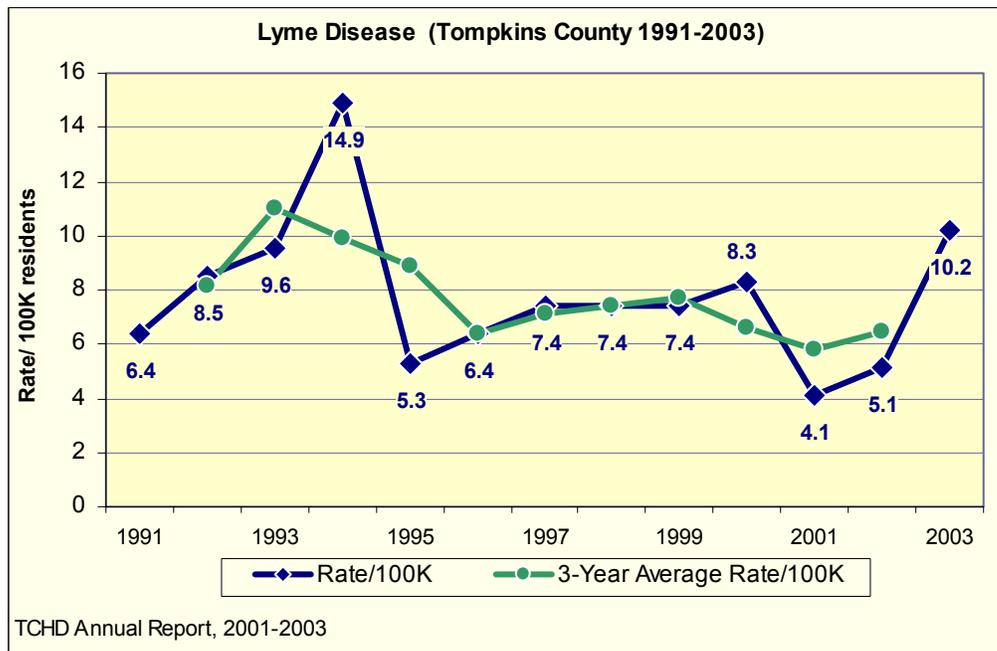


Figure 112 — Rabies exposure, rate per 100,000 population, 13-year trend

