



Bureau of Communicable Disease

Annual Report 2004



THE NEW YORK CITY DEPARTMENT
of HEALTH and MENTAL HYGIENE
Michael R. Bloomberg, Mayor
Thomas R. Frieden, M.D., M.P.H., Commissioner

Our Mission

The primary mission of the Bureau of Communicable Disease is to detect and respond to reports of infectious disease cases and outbreaks and recommend preventive measures to control transmission.

Our Core Activities

- Conduct surveillance for 68 infectious diseases and conditions as mandated by the New York City Health Code.
- Triage reports of new or concerning diseases and disease clusters.
- Conduct case investigations to determine likely sources of infection. Ensure preventive treatment is offered to contacts at risk for secondary infection.
- Detect and investigate infectious disease outbreaks.
- Routinely analyze communicable disease surveillance data.
- Educate and advise the public and medical community on a wide range of communicable disease issues, with a focus on treatment and prevention.
- Plan and oversee the surveillance and epidemiologic response to bioterrorism and other potential communicable disease threats of greater public health concern.
- Direct efforts to improve and coordinate health care emergency preparedness at New York City hospitals and primary care clinics.

Contents

Mission Statement	Inside front cover
Letter from Commissioner Frieden	3
Letter from Assistant Commissioner Layton	4
Foodborne Illness	5
Hepatitis C Viral Infection	8
Influenza	10
Malaria	14

Figures

1 Most Commonly Reported Foodborne Diseases, 2004	5
2 Foodborne Disease Reports, 2000–2004.	5
3 Sex of Patients Newly Reported with Hepatitis C Confirmatory Tests, 2004	8
4 Patients Newly Reported with Hepatitis C Confirmatory Tests, 2004	8
5 Newly Reported Cases of Hepatitis C in NYC by Neighborhood.	9
6 Sentinel Cases of Flu in NYC during the 2004–2005 Flu Season.	10
7 Reported Influenza Outbreaks in NYC Long-term Care Facilities, 2001–2004.	11
8 Influenza Season Emergency Department (ED) Syndromic Surveillance in NYC, 2004–2005	12
9 Emergency Room Visits for Influenza-like Illness by Age, NYC, 2004–2005	13
10 Worldwide Distribution of Malaria	14
11 Transmission Cycle of Malaria	15
12 Travel Destinations of 2004 Malaria Cases . . .	15
13 Malaria Rates in NYC by Neighborhood, 2004	15
14 Type of Parasite Responsible for Malaria in NYC, 2004	16

Boxes

1 Tips for controlling foodborne disease	6
2 More tips for controlling foodborne disease . . .	7

Tables

1 Diseases Reported to NYC DOHMH, 1999–2004, by Number of Cases and Rate.	17-20
---	-------

Appendices

A Diseases and Conditions That Must Be Reported to the New York City Department of Health and Mental Hygiene as of March 1, 2007	21
--	----

Letter from the Commissioner

Dear Fellow New Yorker,

The Bureau of Communicable Disease is responsible for the surveillance and control of more than 65 infectious diseases and conditions. Despite an overall decline in such illnesses, the Bureau receives approximately 30,000 reports of communicable disease each year; of these, between 8,000 and 9,000 are confirmed based on public health surveillance criteria.

In recent years we have seen the emergence of new disease threats and an increase of diseases previously brought under control. Bureau staff is responsible for responding to reports of these suspected cases of disease, such as:

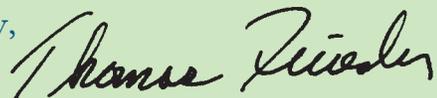
- Severe acute respiratory syndrome
- Travel-related cases of avian H5N1 influenza
- Drug-resistant staphylococcal infections
- Diseases from agents of bioterrorism

The Bureau's response to these new threats is based on the effective surveillance infrastructure in place for more common diseases, including the important role played by medical providers and laboratories in reporting suspected and confirmed infectious diseases. Effectiveness is dependent upon maintaining strong collaborative relationships with medical and laboratory professionals in New York City. In recent years, the Bureau has greatly improved its ability to detect unusual disease trends by enhancing the routine analysis of surveillance data and establishing novel surveillance systems, such as syndromic surveillance.

The Bureau communicates with the health care community through our Health Alert Network (HAN) and with the public through the health department's web site and educational campaigns. The HAN sends alerts and updates on communicable disease issues of public health concern, such as acute outbreaks. Educational materials disseminated to the public focus on strategies to prevent transmission of infectious disease, including safe food-handling, covering respiratory secretions from coughing and sneezing and hand washing.

Some of the Bureau's many successes in controlling infectious diseases in New York City in 2004 are presented here. These successes and experiences in addressing new and emerging infectious diseases have helped to establish public health standards, and have improved the health of New Yorkers.

Sincerely,



Thomas R. Frieden, M.D., M.P.H.
Commissioner

Letter from the Assistant Commissioner

Dear Fellow New Yorker,

The spectrum of mandated reportable diseases and conditions under our jurisdiction is varied and ranges from diseases that have always been of public health concern, such as typhoid fever and meningitis, to emergent public health threats, such as monkeypox and avian influenza. We are also responsible for responding to clusters of unusual illnesses of unknown cause but suspected to be an infectious etiology. The Bureau's rapid response to an unusual cluster of neurologic illness in northern Queens led to the recognition of the West Nile Virus outbreak in 1999, the first time this mosquito-borne virus had been identified in the Western hemisphere.

The Bureau of Communicable Disease is also a national leader in developing and implementing syndromic surveillance systems. These systems enable near real-time monitoring of health conditions by analyzing routinely collected electronic data to detect increases or clusters of symptoms that may signal outbreaks or seasonal illnesses. Our current surveillance systems monitor emergency department visits, ambulance dispatches (911 calls), pharmaceutical sales and work absenteeism. The Bureau is better able to monitor the health of the public as these new systems have enabled us to detect outbreaks weeks earlier than is possible with traditional public health surveillance systems.

For our 2004 annual report we have chosen to focus on the following four areas:

- Foodborne and diarrheal diseases
- Influenza surveillance
- Hepatitis C outbreaks
- Malaria infection

Sincerely,



Marcelle Layton, M.D.
Assistant Commissioner
Bureau of Communicable Disease

Foodborne Illness

The Bureau of Communicable Disease monitors the following reportable foodborne illnesses: campylobacteriosis, *E. coli* O157:H7 infection, hepatitis A viral infection, listeriosis, salmonellosis, shigellosis, typhoid fever, vibriosis, yersiniosis and cyclospora infection.

We receive reports on these diseases from health care providers, hospitals and laboratories. We also receive reports from people who believe they have become ill from consuming contaminated food or beverages at restaurants or other gatherings where food is served. We investigate these reports to determine what caused the illness and to prevent future exposures.

The most common foodborne illnesses reported to the Bureau in 2004 were salmonellosis, campylobacteriosis, shigellosis and hepatitis A (**Figure 1**). We saw a modest increase in campylobacteriosis cases, from 743 reported in 2003 to 817 in 2004 (**Figure 2**). There was a slight decrease in salmonellosis cases reported from 1,329 in 2003 to 1,259 in 2004; such minor fluctuations in disease incidence are typical from year to year.

Figure 1
Most Commonly Reported Foodborne Diseases, 2004

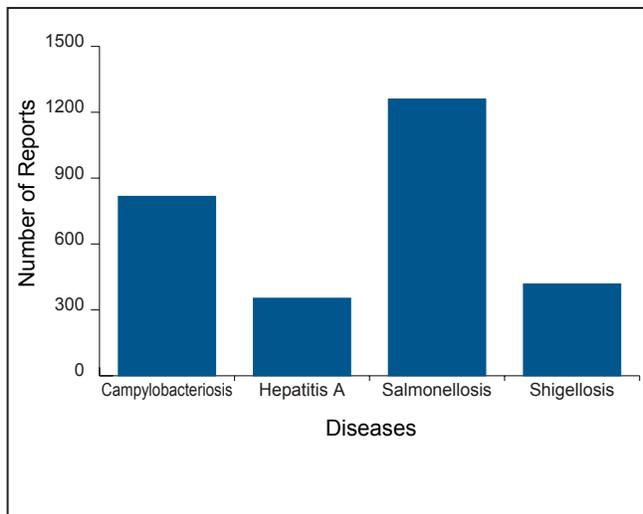
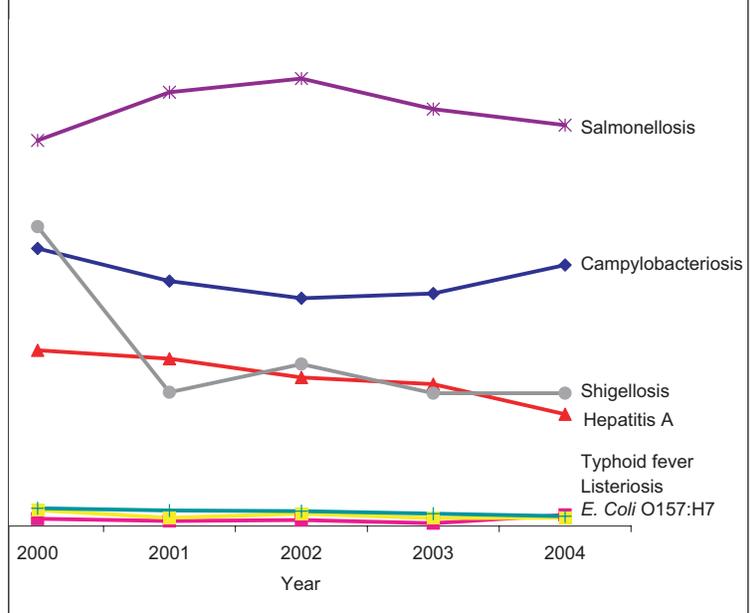


Figure 2
Foodborne Disease Reports, 2000–2004



How Foodborne Illness Spreads

When people eat raw or undercooked foods that are contaminated—for example, raw chicken may be contaminated with salmonella and beef with *E. coli*, people become sick; both are bacteria that are killed when meat is cooked properly.

Anyone can be affected by a foodborne illness, but people who are elderly, young, or have a compromised immune system may become sicker and stay sicker longer than other people.

Foodborne bacteria can also contaminate food when:

- Fertilizer or water used to grow produce is in direct contact with feces from infectious animals or humans. Direct contamination of food and water is rare, but it does occasionally occur in developed places such as the United States.
- Someone infected with a foodborne illness does not wash his/her hands properly before preparing or handling food or beverages in the

home or at work.

Foodborne illness can spread person to person when:

- People who are infected work in daycare or child care and do not wash their hands properly.
- Young children who are sick attend school or day care where other children and adults may come in contact with their stool.

The Bureau requires that people whose work involves handling or preparing food and those who work in daycare settings provide they are no longer infected before they return to work. This is an important way to control the spread of infection to others.

Outbreak Investigations

Most foodborne outbreaks are reported to the Bureau by New York City residents who became ill after eating at a restaurant or attending an event where food and beverages were served. Investigating a potential outbreak entails:

- Collecting information about the place or event where the food/beverages were consumed, including what foods/beverages were served.
- Calling those who attended the event to determine how many people became sick, the symptoms of the people infected and which foods and beverages were consumed.
- Collecting stool samples from people who are ill at the time of data collection as well as taking samples from leftover food or beverages. These samples are then tested by the Department's Public Health Laboratory for bacteria.

We also uncover outbreaks by detecting increases in trends or unusual patterns in our surveillance data. In November 2003, during routine analysis of disease reports, we noticed an increase in the number of cases of a rare type of salmonella called *Salmonella* Haardt. By January 2004, there were 31 case reports in New York City, in addition to 10 cases reported

in Westchester County, Long Island and Pennsylvania. Most (72%) of those sick were children less than 5 years of age and many were not old enough to be eating solid food. We interviewed 21 adults and guardians of children who were sick and asked them to list places where they purchased groceries or ate outside of the home. Almost half (47%) reported purchasing chicken at a live poultry market (called a "vivero" in Spanish), where customers purchase poultry that is slaughtered and cleaned while they wait.

From our investigation, we hypothesized that people whose children became ill may have handled raw chicken (purchased at the market) and then handled and/or fed young children without first properly washing their hands. Children may also have touched kitchen counters and cutting boards contaminated with bacteria from the raw chicken before these surfaces were properly cleaned.

Box 1-Tips for Controlling Foodborne Diseases

Keep Your Food Safe from Bacteria

When in Doubt, Throw it Out!



CLEAN

- Wash your hands after visiting live poultry markets, before and after preparing food, and before coming into contact with children.
- Wash counters and cooking tools with hot soapy water before and after preparing food. This includes food thermometers.



SEPARATE

- Keep raw meats away from other foods. Keep raw meat, poultry (chicken, turkey), fish, and their juices away from other foods while food shopping and at home.
- Use separate cutting boards for fresh fruits and vegetables and for raw meat, poultry, and fish.



REFRIGERATE

- Refrigerate right away. Keep raw meat, poultry, and fish refrigerated or frozen. Make sure your refrigerator temperature is between 34°F to 40°F and the freezer is at 0°F.
- Defrost and marinate in the refrigerator. Defrost meat, poultry and fish in the refrigerator, or under cold running water, or in the microwave. NEVER defrost at room temperature. Marinate food items in the refrigerator.



COOK

- Use a food thermometer. Recommended temperature for red meat is 160°F; 180°F for poultry. Check thermometer instructions to make sure you use it properly.
- Check for signs that meat and poultry are cooked all the way through on the inside. Red meat should be brown or gray inside; poultry juices should run clear; fish should flake with a fork.

KEEP HOT FOODS HOT.
REFRIGERATE LEFTOVERS WITHIN 2 HOURS OR THROW THEM OUT.

How long is it safe in the Refrigerator or Freezer?		
Product	Refrigerator (34°F - 40°F)	Freezer (0°F)
Fresh Poultry (Chicken, Turkey)		
Uncooked Chicken or Turkey Pieces	1 to 2 days	9 months
Uncooked Whole Chicken or Turkey	1 to 2 days	1 year
Fresh Beef, Veal, Lamb, Pork		
Uncooked Steaks	3 to 5 days	6 to 12 months
Uncooked Chops	3 to 5 days	4 to 6 months
Uncooked Roasts	3 to 5 days	4 to 12 months

Information adapted from Partnership for Food Safety Education - www.fightbac.org and USDA - www.fsis.usda.gov

The New York City Department of Health and Mental Hygiene • Bureau of Communicable Diseases • February 2005
Michael R. Bloomberg, Mayor • Thomas R. Frieden, M.D., M.P.H. Commissioner

Available from:
www.nyc.gov/html/doh/html/cd/cdmaterials.shtml

In response to this outbreak of salmonellosis, we developed a health education campaign for people who shop at live poultry markets. The materials, which included a fact sheet for customers and a poster for display at markets, were printed in English and Spanish. We emphasized 4 key food safety messages adapted from the Partnership for Food Safety Education Fight BAC! campaign:

- Clean: Wash hands and surfaces.
- Separate: Don't cross-contaminate.
- Refrigerate: Chill promptly and at proper temperatures.
- Cook: Thoroughly at proper temperatures.

Although these materials were developed primarily for customers of live poultry markets, we also provide them to people who are involved in the food industry. The educational materials are available in English and Spanish on our Web site:

www.nyc.gov/html/doh/html/cd/cdmaterials.shtml

Preventing Foodborne Illness

Foodborne illness can be serious and even life-threatening. Consumers and food handlers can easily avoid harmful bacteria by practicing the 4 simple BAC steps each time they prepare food. We will continue to monitor for increases of diseases and outbreaks of food-borne pathogens in the New York City. We will also continue to raise awareness among consumers about how to prepare food safely.

For More Information

The following Web sites provide more information about food safety and food-borne illness:

Partnership for Food Safety Education, Fight BAC! campaign:

www.fightbac.org

Partnership for Food Safety Home Page:

www.foodsafety.gov

U.S. Department of Agriculture Food Safety and Inspection Service:

www.fsis.usda.gov

Box 2-More Tips for Controlling Foodborne Diseases

Keep Your Food Safe from Bacteria

When in Doubt, Throw it Out!

CLEAN

- Wash your hands.
- Wash kitchen counters and cooking tools with hot soapy water.

SEPARATE

- Keep raw meats away from other foods.
- Use separate cutting boards for raw meats and other foods.

COOK

- Use a food thermometer.
- Check for signs that meat and poultry are cooked all the way through on the inside.

CHILL

- Refrigerate raw meat, poultry, and fish right away.
- Defrost and marinate raw meat, poultry, and fish in the refrigerator.

Special thanks to the Partnership for Food Safety Education 3 www.fightbac.org

02.05

Hepatitis C Viral Infection

The Bureau receives reports from doctors and laboratories about people diagnosed with hepatitis C virus infections (HCV). We use these reports to describe the patterns of hepatitis C infection in New York City and to determine groups of New Yorkers who are at greatest risk of becoming infected.

The Bureau estimates that as many as 200,000 to 300,000 New York City residents may be infected, many of whom are not aware of it because they are asymptomatic and have not been tested by their doctors. Men overall and people 45 to 64 years of age were the largest groups reported to have HCV infection in 2004 (**Figures 3 and 4**).

Chronic infection with HCV is very common. People may have chronic HCV but not be diagnosed, so it is impossible to know precisely how many people are infected in New York City.

The map on the next page (**Figure 5**) shows that the East Harlem, Hunt's Point-Mott Haven and Central Harlem-Morningside Heights neighborhoods have the highest number of new hepatitis C reports in New York City.

Tracking Transmission of Hepatitis C

The hepatitis C virus is spread through contact with infected blood. Before 1992, HCV was often transmitted through blood transfusions, but since then blood banks have been screening donated blood for HCV and now discard blood that could infect recipients.

Currently, transmission usually occurs as a result of:

- Sharing needles, syringes or other items used to inject illicit recreational drugs, such as cookers, cotton, or rinse water. In the United States, illicit injection drug use is the most common source of HCV infection.
- Getting tattoos or piercings at establishments that do not properly sterilize equipment.
- Getting stuck by a needle that is contaminated with HCV.
- Coming into contact with small amounts of blood from an infected sex partner's cuts, scrapes, genital ulcers or sores. HCV is not easily transmitted from an infected person to a steady sexual partner through sexual contact and it is not spread by casual contact, such as

Figure 3
Sex of Patients Newly Reported with Hepatitis C Confirmatory Tests, 2004

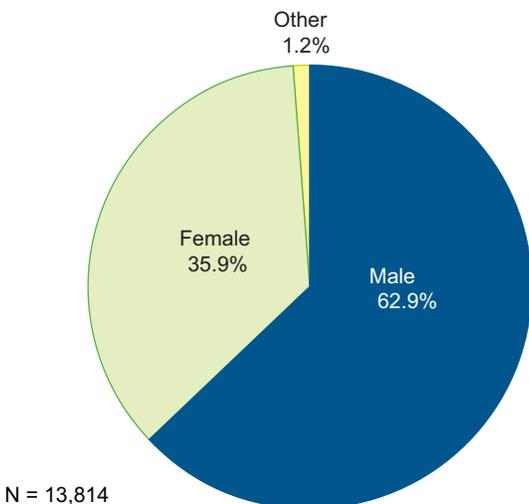


Figure 4
Patients Newly Reported with Hepatitis C Confirmatory Tests, 2004

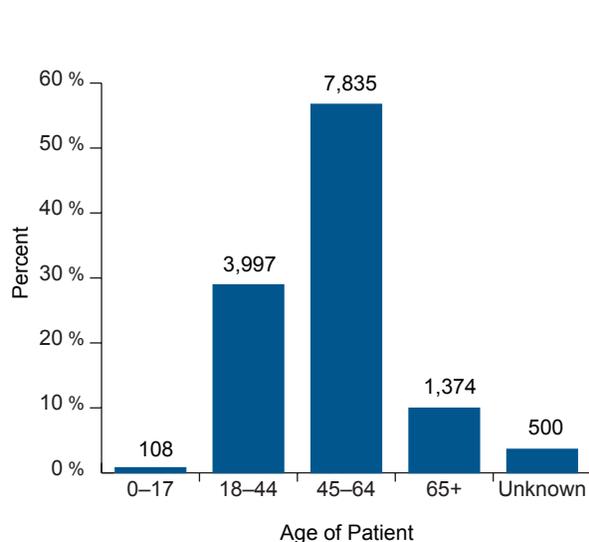
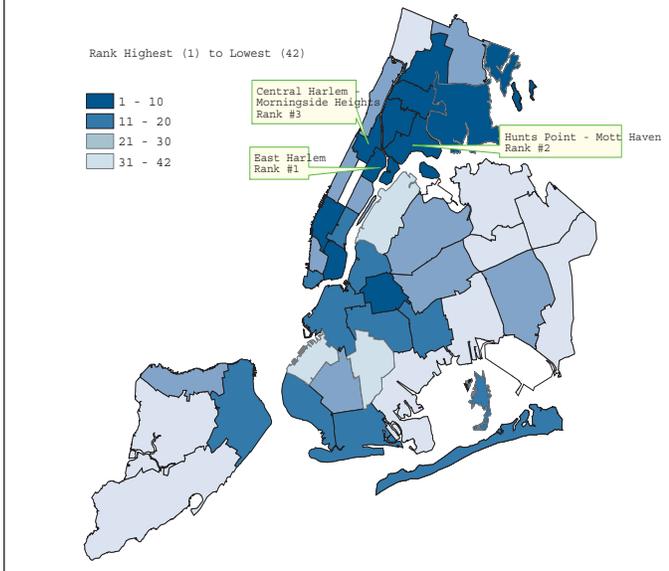


Figure 5
Newly Reported Cases of Hepatitis C in NYC by Neighborhood



kissing, sharing food or coughing.

The Bureau maintains a registry of HCV reports in order to monitor trends.

Preventing the Spread of Hepatitis C

People injecting recreational drugs can reduce their chances of getting HCV by quitting injecting drugs—those who need help quitting can get information about drug and alcohol treatment programs by calling:
 1-800-LIFENET (English) or 1-800-AYUDESE (Spanish).

HCV transmission can be prevented by avoiding sharing needles and instead using sterile needles and injection equipment each time recreational (or medicinal) drugs are used. Used needles can be exchanged, free of charge, for clean, sterile needles at needle and syringe exchange program sites

throughout the city. For more information visit:

harmreduction.org/resources/usnep/newyork/hours.html

People do not usually have symptoms when they are first infected with hepatitis C. But over time, 5% to 20% develop cirrhosis (scarring of the liver) and 1% to 5% may die of liver disease.

Treating Hepatitis C

There is no vaccine to prevent hepatitis C, but advancements in treatment are yielding better results. Treating HCV infection, however, is expensive, lengthy (6–12 months), can cause serious side effects and is not uniformly effective.

In 2002, the Bureau of Communicable Disease conducted a small telephone survey to identify the unmet needs of New Yorkers who had positive hepatitis C tests. Respondents reported needing:

- Basic information about the hepatitis C virus.
- Information about how to avoid transmitting the virus to others.
- Information about how to minimize further liver damage.
- Vaccination against hepatitis A and B.

In response to these findings, in early 2004 the Bureau instituted a system of mailing information packets to New Yorkers who were reported with hepatitis C and have distributed more than 5,000 such packets each year. For additional information and resources, please visit our web site:

www.nyc.gov/html/doh/html/cd/cdhepc-fs5.shtml

Influenza

The Bureau of Communicable Disease monitors the occurrence of seasonal human influenza (flu), a treatable and vaccine-preventable disease that most often causes fever (over 100°F), muscle aches, cough and/or sore throat. In very young, the elderly and patients with underlying medical conditions, influenza can cause serious illness leading to medical complications and death.

Influenza season usually starts in November and ends by May. In a typical U.S. flu season, about 50 million people get sick with the flu, more than 200,000 are hospitalized and approximately 36,000 die from complications; we estimate that among these, 2,500 are New Yorkers.

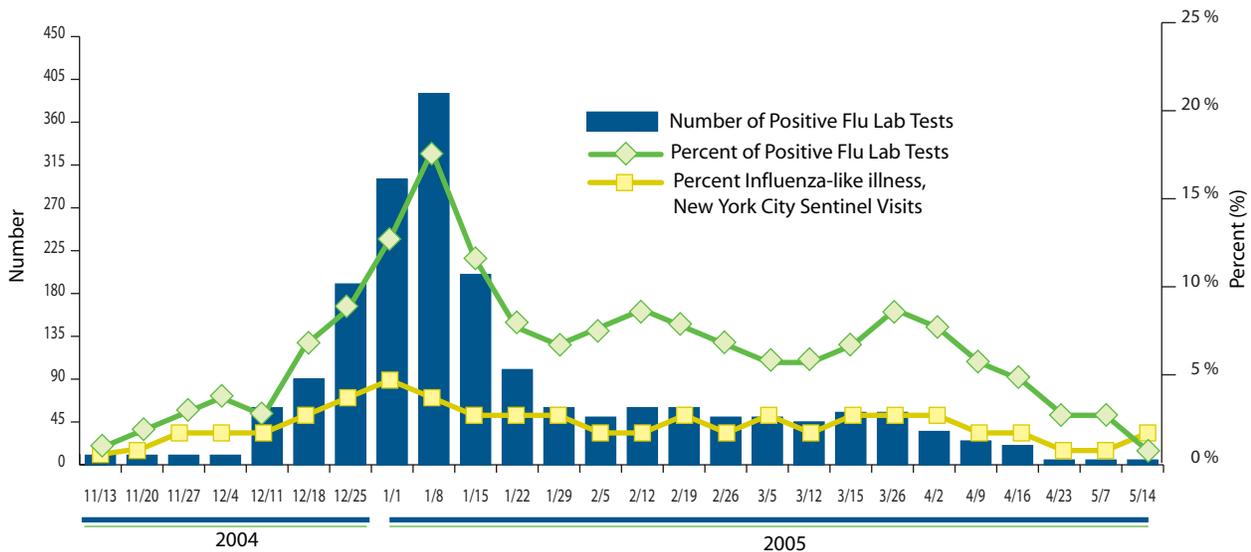
Currently, the Bureau monitors influenza activity in New York City using four methods:

1. Sentinel Surveillance for Influenza

During the influenza season, the Bureau monitors the impact of flu by having selected (sentinel) health care providers and facilities keep track of the number of people they encounter who have an influenza-like illness. Sentinels provide information about regional variation in influenza-like illness among different age groups. Providers and facilities additionally obtain clinical specimens from a sample of patients. These specimens are tested at the New York State Department of Health’s Wadsworth Laboratory to determine which strains of influenza are circulating in New York City each year. In 2004, over 40 different clinics and out-patient services reported the number of visits for influenza-like illness at their facility each week.

The numbers reported are compiled and summarized weekly and at the end of each season. **Figure 6**

Figure 6
Sentinel Cases of Flu in NYC during the 2004-2005 Flu Season



shows the number of people who were reported with influenza-like illness for the entire 2004-2005 season. These numbers do not represent the precise number of New Yorkers who had influenza, but allow us to monitor changes in influenza-like illness activity over time. The largest peaks occurred during the weeks of December 25th and New Year's Eve. The figure also shows that the number and percentage of specimens from late December to mid-January declined. Data is shared with the Centers for Disease Control and Prevention so they can report on national trends in influenza activity, including which areas of the country are most affected.

Information gathered about influenza trends is used by federal experts to determine characteristics of each influenza season and by local experts to pass along this information to local medical providers. The Bureau of Communicable Disease and Immunizations advise city clinicians about:

- When to start considering influenza as a reason for their patients' illnesses.
- Which medications (if any) should be used to treat people with influenza.
- Who should receive preventative medication and which medications should be used during localized outbreaks in high-risk settings (such as nursing homes).
- Which persons at risk should be vaccinated before the peak period of influenza activity.

The Bureau of Communicable Disease and Immunization provide information to New York City residents about who should get a flu shot, where and when flu shots are available. The Bureau reminds the public on how they can avoid getting and spreading the flu (and many other infections) by covering their coughs and washing their hands during flu season and all year long.

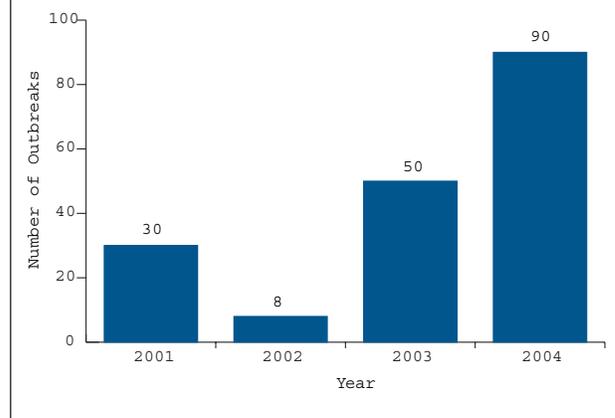
2. Respiratory Outbreak Investigations

The Bureau investigates respiratory outbreaks in long-term care facilities such as nursing homes. Under New York State law, a facility must report every episode of laboratory confirmed influenza and clusters of two or more suspected influenza-like illnesses. When such a report is received, we contact the facility to confirm that influenza is the cause of

illness and to help implement outbreak control and prevention measures, including:

- Separating sick and healthy residents.
- Treating ill residents with antiviral medications to reduce the infectious period.
- Providing preventive medication to healthy residents.

Figure 7
Reported Influenza Outbreaks in New York City Long-term Care Facilities, 2001–2004



During the 2004-2005 season, we investigated 90 influenza outbreaks in long-term care facilities, which represented a considerable increase over the previous three seasons (**Figure 7**). Among the 90 influenza outbreaks reported in nursing homes, almost half (40) were reported between December 25, 2004 and January 15, 2005.

3. Laboratory Surveillance

Laboratory reports are yet another method of monitoring influenza activity. Each week during the influenza season, Bureau staff call approximately 40 laboratories that perform testing for influenza to determine how many respiratory samples from sick patients were positive for influenza. Specific information requested includes:

- The number of specimens tested.
- The number of positive tests for influenza.
- The number positive by rapid influenza testing.
- The number confirmed by viral culture.

Reports of other circulating respiratory viruses are similarly obtained. This information helps guide clinicians when evaluating patients with influenza-like illness and the Bureau when investigating respiratory outbreaks in congregate settings.

4. Syndromic Surveillance

Beginning in 2001, the Bureau implemented an electronic surveillance system which has shown utility for monitoring influenza. The system monitors illness among persons who visit emergency departments (EDs) in New York City, including those with influenza-like symptoms. Patient visit data from the preceding 24 hours is transmitted daily and provide early indications of community-wide influenza activity. The data are based on patients' reporting of symptoms rather than positive laboratory tests or physician diagnoses, this system is known as "syndromic surveillance."

In New York City, 48 emergency departments submit data, including age, sex, zip code and reason (chief complaint) for each ED visit. These data are electronically categorized into syndromes. Patient names and addresses are not included. The number and geographic distribution of the visits for each syndrome are compared with previous data to determine whether an investigation is warranted.

During the 2004-2005 influenza season, the number of influenza-like illness visits began to increase in November 2004. As shown in **Figure 8**, the increase began first among children younger than 5 years of age and peaked earliest among school-age children ages 5 to 17 years in December 2004. The number of visits by adults ages 18 to 64 years and 65 years and older increased later and peaked in January 2005.

As shown in **Figure 9**, in the 2004-2005 influenza season, more young children (younger than 5 years of age) visited New York City emergency departments for influenza-like symptoms than school-age children or adults. There were 120 fever and respiratory syndrome visits to New York City emergency departments for every 1,000 children younger than 2 years of age and 58 for every 1,000 children from 2 to 4 years of age in the 2004-2005 season.

Although elderly New Yorkers typically make up the majority of those who are hospitalized or die from influenza, this group did not visit the emergency room as often for influenza compared to children. There were only 17 influenza visits for every 1,000 persons older than 65 years of age in the 2004-2005 season.

Figure 8
Influenza Season Emergency Department Syndromic Surveillance in NYC, 2004-2005

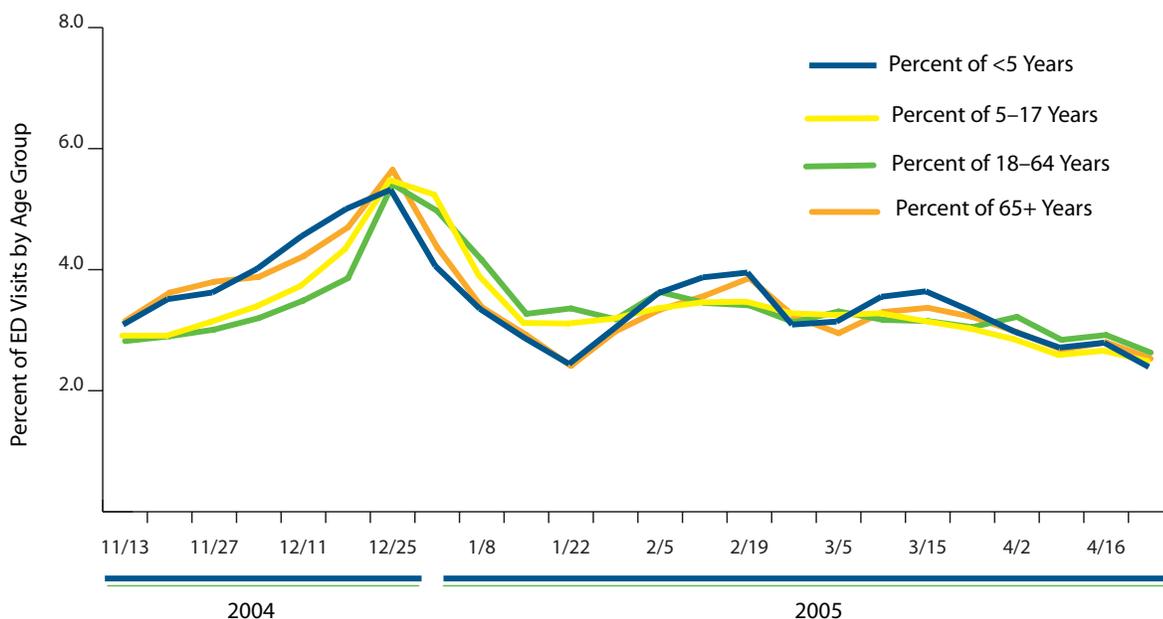
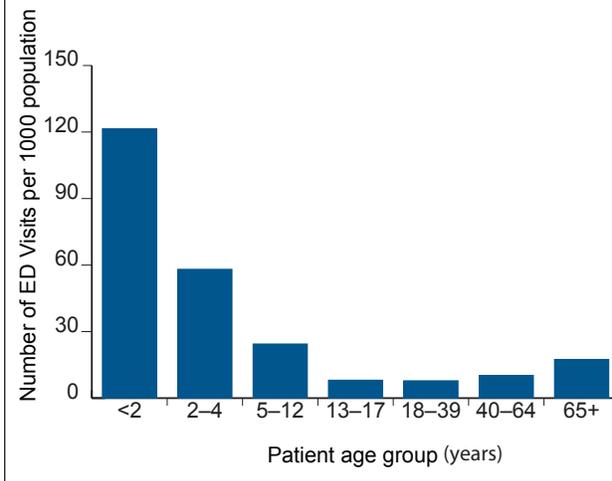


Figure 9
Emergency Room Visits for Influenza-like Illness
by Age, New York City, 2004–2005



Who Should Get a Flu Shot?

The New York City Department of Health and Mental Hygiene strongly recommends that the following groups who have an increased risk of complications receive a flu vaccination:

- People age 50 and older.
- Children 6 to 23 months of age.
- Residents of nursing homes and other long-term-care facilities.
- Pregnant women.
- Persons age 6 months and older with chronic health problems, such as diabetes; lung disease, including asthma; heart disease; kidney disease; sickle cell anemia; immune system problems (including people with HIV/AIDS and those being treated for cancer or taking high-dose steroids); conditions that can cause breathing

problems (such as cognitive dysfunction, spinal cord injuries, seizure disorders and other neuromuscular disorders); children ages 6 months to 18 years on long-term aspirin therapy.

- Caregivers and household members of all people listed above, especially those in contact with infants younger than 6 months (babies this age can get the flu, but are too young for a flu shot).
- Health care workers.

Stopping the Spread of Influenza and Other Respiratory Infections

People at risk should get a flu shot every year as soon as the vaccine is available. A flu shot cannot give a person the flu and each year a new flu shot is produced to protect against the year's dominant flu strains. Additionally, to reduce respiratory infections year-round, people should:

- Stay home when they have fever or are coughing
- Cover coughs and sneezes
- Wash hands often with soap and water, or an alcohol-based solution

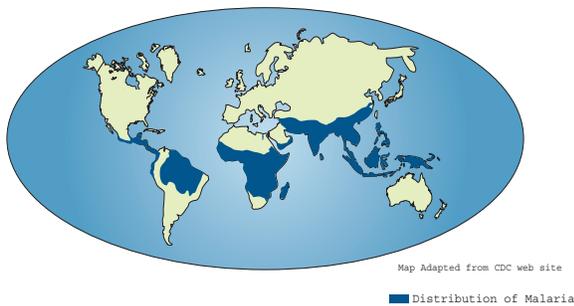
See the Department's influenza web page for additional information:

www.nyc.gov/health/flu

Malaria

The Bureau of Communicable Disease investigates and monitors cases of malaria, an infectious disease caused by the parasite *Plasmodium*. Malaria is spread to humans by the bite of *Anopheles* mosquitoes carrying *Plasmodium* parasites. Worldwide there are about 300 million malaria infections and over 1 million deaths caused by malaria each year. Malaria infections occur in very specific geographic areas of the world (**Figure 10**).

Figure 10
Worldwide Distribution of Malaria



People with malaria infection usually have chills, fever, sweats and headache. Serious infection can result in jaundice (yellowing of the skin and eyes), bleeding, shock, kidney or liver failure, delirium, coma and death. People who live in malarial areas may be protected somewhat from serious illness because they have been exposed to the parasite repeatedly, but this protection (also known as immunity) weakens over time after an individual moves away from a malarious area. For more information about malaria symptoms and treatment, visit:

nyc.gov/html/doh/html/cd/cdmal.shtml.

As shown in **Figure 11**, once transmitted, malaria affects the liver and red blood cells. When a mosquito bites an infected person, it picks up the parasite, which it can then transmit to other people.

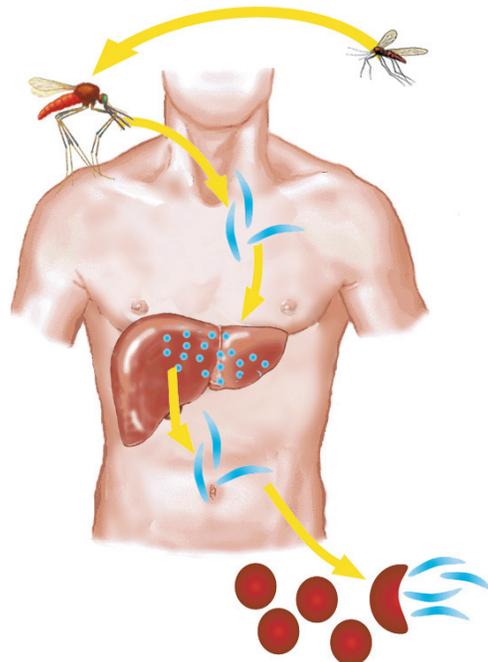
In the 1940s, U.S. public health officials put considerable effort into trying to rid the country of malaria. Today, almost all U.S. cases are related to travel, but there are occasional outbreaks in this country due to locally infected mosquitoes. Except for one small outbreak in 1993 when 3 persons contracted malaria in Queens, malaria has not been transmitted by a mosquito bite in New York City for more than 50 years.

Malaria Infections in New York City

Even though malaria is no longer transmitted by mosquitoes in New York City, we receive many reports of malaria infections every year. In fact, from 1998 to 2003, the city had more malaria cases than any other jurisdiction in the country. In 2004, 15% of malaria cases diagnosed in the United States were diagnosed in New York City.

Of all NYC residents, 38% were born outside the United States, many of whom return frequently to

Figure 11
Transmission Cycle of Malaria

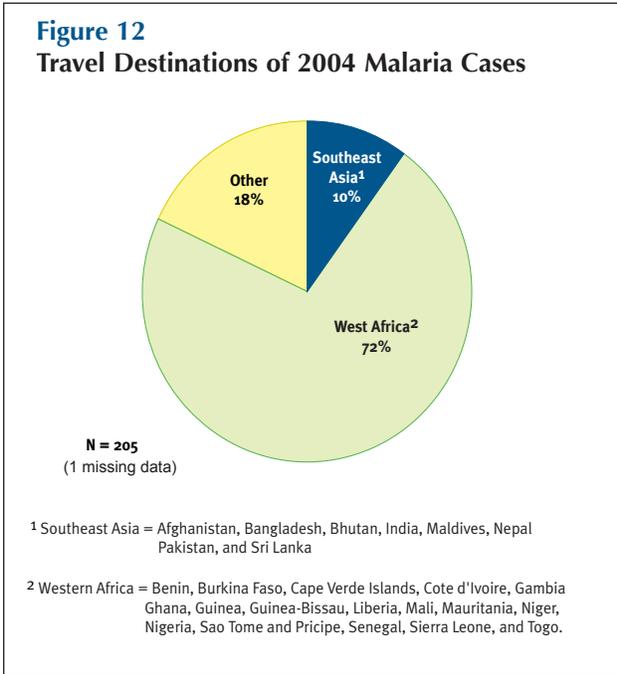


visit their native countries. In 2004 there were 206 cases of malaria in New York City residents and all had traveled overseas before they became sick. Most (58%) had visited friends and family during this visit. Only 24% had taken medication to prevent malaria infection. The following statistics are from the reported malaria cases in NYC in 2004:

- The average age among the 206 malaria cases in 2004 was 33 years and ranged from 2 months to 70 years.
- About half (52%) of those with malaria were between the ages of 18 and 45.
- The majority (67%) were male.
- Approximately one quarter (28%) had recently moved to NYC and were believed to have been infected before arrival.
- Most cases (72%) traveled to West Africa with Nigeria (33%) and Ghana (14%) being the most frequently reported countries of travel.

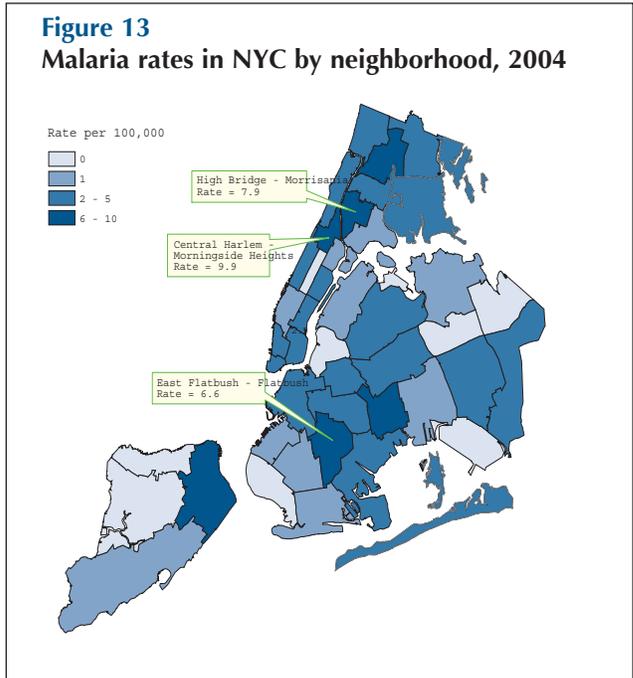
For more information on the relationship of travel destinations and malaria, see **Figure 12**.

From 1999 to 2004, the total number of people infected with malaria did not change very much, ranging from 206 to 252 cases per year. **Figure 13**



shows malaria rates by neighborhood in 2004. Rates were highest in areas in central Brooklyn, Harlem and the Bronx. The map also shows high rates in Staten Island, but this is likely a result of the lower population density in that borough.

There are several species of the Plasmodium parasite. Most (74%) of the infections reported in New York City in 2004 were caused by *Plasmodium falciparum*, which can cause more severe, even fatal illness, especially in those infected for the first time (**Figure 14**).

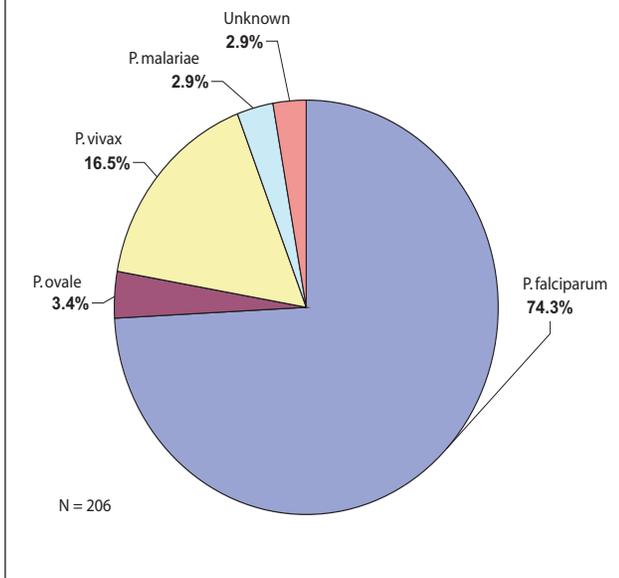


None of the NYC residents with malaria in 2004 died of the disease, but the majority (69%) were ill enough to require hospitalization. Children younger than 5 years old, pregnant women and people with compromised immune systems (including those without a spleen) are at increased risk for severe infection. Of the children who had malaria in 2004, 4 of the 12 experienced complications such as anemia (low red blood cell count) and infection of the brain and spinal cord. Of the 8 pregnant women with malaria infection in 2004, 1 had a miscarriage.

Taking Steps to Prevent Infection

Anyone who travels to a region with malaria can get infected. However, many recent immigrants to the United States from a malarious region do not know

Figure 14
Type of Plasmodium Species for Malaria Cases in NYC, 2004



that they may have lost their immunity (protection) against malarial infection. People who mistakenly think they are immune may not take the steps necessary to protect themselves from infection when they visit their home country. Children, pregnant women and anyone with a compromised immune system should be especially diligent about avoiding infection.

Whether an individual comes from a malarious area or not, all travelers to areas where malaria occurs should prevent infection by:

Avoiding mosquito bites

- Wear pants and long sleeve shirts (extra protection can be provided by treating the clothes with the insect repellent permethrin).
- Avoid the outdoors during the evening when Anopheles mosquitoes like to bite.
- Apply insect repellents that contain DEET or

picaridin, as per the manufacturer's instructions.

- Use permethrin-treated bed nets and clothing.

Using preventative (prophylactic) medicines to avoid or reduce the chances of getting malaria if bitten or infected

See a doctor at least one month before planned travel. Before travel, note that:

- Malaria medications require a prescription from a doctor and must be taken before, during and after travel to an affected area.
- Young children and people with certain medical conditions should see a doctor who specializes in travel medicine to be sure they are protected from malaria.
- Malaria prophylaxis is not recommended for people with certain medical conditions.

Avoiding mosquito bites and taking medication (as described above) offer the best chance of avoiding malaria infection and returning from travels malaria-free. Travelers who do develop chills, fevers, sweats and headaches within a year of returning from an overseas trip should see their doctor and tell him/her where and when they traveled.

More information on malaria is available at the Centers for Disease Control web site at:

www.cdc.gov/malaria

Table 1: Diseases Reported to NYC Health Department, 1999-2004, Number of Cases and Rate

REPORTABLE DISEASES AND CONDITIONS – NUMBER OF CASES (RATE PER 100,000 POPULATION)

Disease	1999	2000	2001	2002	2003	2004
Amebiasis	861 (10.8)	641 (8.0)	554 (6.9)	602 (7.5)	550 (6.9)	461 (5.8)
Anaplasmosis¹ (Human granulocytic anaplasmosis)	NA	NA	9 (0.1)	18 (0.2)	8 (0.1)	30 (0.4)
Anthrax²	0 (*)	0 (*)	5 (0.1)	0 (*)	0 (*)	0 (*)
Babesiosis¹	11 (0.1)	10 (0.1)	17 (0.2)	18 (0.2)	22 (0.3)	17 (0.2)
Botulism	1 (*)	1 (*)	4 (0.1)	4 (*)	2 (*)	0 (*)
Brucellosis	0 (*)	0 (*)	1 (*)	2 (*)	3 (*)	3 (*)
Campylobacteriosis	744 (9.4)	870 (10.9)	724 (9.0)	719 (9.0)	734 (9.2)	823 (10.3)
Cholera	0 (*)	0 (*)	1 (*)	0 (*)	0 (*)	0 (*)
Cryptosporidiosis	261 (3.3)	172 (2.2)	123 (1.5)	148 (1.8)	126 (1.6)	138 (1.7)
Cyclosporiasis	18 (0.2)	16 (0.2)	20 (0.3)	36 (0.5)	9 (0.1)	10 (0.1)
Creutzfeld-Jacob Disease³	NA	NA	4 (*)	0 (*)	2 (*)	1 (*)
Definite			3 (*)	4 (*)	3 (*)	4 (*)
Probable/Possible	NA	NA	(*)	(*)	(*)	(*)
Ehrlichiosis¹	1 (*)	1 (*)	5 (0.1)	2 (*)	3 (*)	18 (0.2)
Encephalitis⁴	143 (1.8)	178 (2.2)	172 (2.2)	213 (2.7)	152 (1.9)	186 (2.3)
<i>Escherichia coli</i> O157:H7	18 (0.2)	23 (0.3)	16 (0.2)	19 (0.2)	9 NA	35 (0.4)
Giardiasis	1,895 (23.9)	1,770 (22.1)	1,525 (19.0)	1,423 (17.8)	1,214 (15.2)	1,088 (13.6)
<i>Haemophilus influenzae</i>⁵	56 (0.7)	65 (0.8)	59 (0.7)	71 (0.9)	69 (0.9)	85 (1.1)
Hemolytic uremic syndrome⁶	7 (0.1)	3 (*)	2 (*)	3 (*)	0 (*)	7 (0.1)
Hepatitis A⁷	412 (5.2)	550 (6.9)	454 (5.7)	469 (5.9)	448 (5.6)	354 (4.4)
Hepatitis B⁷	305 (3.8)	571 (7.1)	666 (8.3)	721 (9.0)	211 (2.6)	163 (2.0)
Kawasaki syndrome	6 (0.1)	4 (0.1)	2 (*)	35 (0.4)	30 (0.4)	26 (0.3)
Legionellosis⁸	42 (0.5)	47 (0.6)	43 (0.5)	67 (0.8)	72 (0.9)	73 (0.9)
Leprosy (Hansen's disease)	10 (0.1)	7 (0.1)	15 (0.2)	12 (0.1)	8 (0.1)	10 (0.1)
Leptospirosis	0 (*)	1 (*)	1 (*)	1 (*)	0 (*)	0 (*)
Listeriosis	49 (0.6)	50 (0.6)	26 (0.3)	39 (0.5)	25 (0.3)	26 (0.3)

(*) Rate less than 0.1. NA – Not available

Table 1: Diseases Reported to NYC Health Department, 1999-2004, Number of Cases and Rate (cont.)

Disease	1999	2000	2001	2002	2003	2004
Lyme disease ⁹	168 (2.1)	214 (2.7)	228 (2.8)	280 (3.5)	224 (2.8)	357 (4.5)
Malaria	237 (3.0)	229 (2.9)	251 (3.1)	233 (2.9)	207 (2.6)	206 (2.6)
Meningitis ⁴ (Aseptic/viral)	303 (3.8)	412 (5.1)	507 (6.3)	541 (6.8)	507 (6.3)	712 (8.9)
Meningococca ¹⁰	59 (0.6)	46 (0.2)	42 (0.1)	38 (0.4)	44 (0.4)	31 NA
Other bacterial meningitides	155 (2.0)	171 (2.1)	91 (1.1)	127 (1.6)	68 (0.8)	109 (1.4)
Psittacosis	1 (*)	0 (*)	0 (*)	0 (*)	0 (*)	1 (*)
Rabies in animals ¹¹	10	18	38	28	6	14
Rickettsialpox	1 (*)	2 (*)	15 (0.2)	23 (0.3)	12 (0.1)	16 (0.2)
Rocky Mountain spotted fever ¹	0 (*)	3 (*)	1 (*)	10 (0.1)	14 (0.2)	23 (0.3)
Salmonellosis, nontyphoidal ¹²	1,508 (19.0)	1,212 (15.1)	1,355 (16.9)	1412 (17.6)	1316 (16.4)	1265 (15.8)
Scarlet fever	310 (3.9)	350 (4.4)	481 (6.0)	882 (11.0)	996 (12.4)	599 (7.5)
Shigellosis	366 (4.6)	942 (11.8)	417 (5.2)	511 (6.4)	419 (5.2)	420 (5.2)
<i>Streptococcus</i> group A, invasive	116 (1.5)	136 (1.7)	168 (2.1)	156 (1.9)	150 (1.9)	126 (1.6)
<i>Streptococcus</i> group B, invasive ¹³	NA	NA	23 (0.2)	27 (0.2)	25 (0.2)	27 (0.2)
<i>Streptococcus pneumoniae</i> , invasive ¹⁴	NA	NA	1,017 (12.7)	1219 (15.2)	981 (12.2)	1083 (13.5)
<i>Streptococcus pneumoniae</i> , penicillin- resistant, invasive ¹⁴ (% resistant of total blood isolates)	290 (23.0% of 1,261)	383 (25.8% of 1,482)	283 (29.5% of 958)	319 (26.2%)	250 (25.5%)	293 (27.1%)
Toxic shock syndrome	2 (*)	3 (*)	4 (0.1)	1 (*)	1 (*)	1 (*)
Trichinosis	0 (*)	0 (*)	1 (*)	0 (*)	0 (*)	0 (*)
Tularemia	0 (*)	0 (*)	0 (*)	1 (*)	0 (*)	0 (*)
Typhoid fever	49 (0.6)	56 (0.7)	49 (0.6)	45 (0.6)	39 (0.5)	31 (0.4)
<i>Vibrio species</i> , non cholera	NA	3 (*)	4 (0.1)	5 (0.1)	7 (0.1)	0 (*)
Visceral larva migrans	0 (*)	0 (*)	0 (*)	0 (*)	0 (*)	0 (*)
Yersiniosis	21 (0.3)	23 (0.8)	14 (0.3)	16 (0.2)	16 (0.2)	8 (0.1)
West Nile neuroinvasive disease ¹⁵	45 (0.6)	14 (0.2)	7 (0.1)	28 (0.4)	31 (0.4)	2 (*)
West Nile Fever ¹⁵	2 (*)	0 (*)	2 (*)	1 (*)	1 (*)	3 (*)

(*) Rate less than 0.1. NA – Not available

Table 1 Footnotes

Rates are per 100,000 population unless otherwise noted and are based on population counts from the U.S. Census Bureau. Intercensal population data from 1997 through 1999 are interpolated, using an exponential formula. Rates from 2000 through 2004 were calculated using 2000 population counts. The population of NYC in 1990 was 7,322,564 and in 2000, was 8,008,278. Variations in data between this report and previous reports (including other publications of the NYC Department of Health and Mental Hygiene) may be due to several factors, including reporting delays, census data availability, corrections and data-processing refinements (e.g., the removal of duplicate reports).

Recent additions of reportable diseases to the New York City health code reflect an increasing public health concern about emerging infectious diseases and include the following:

January 19, 1999 - Exposure to rabies.

August 9, 1999 -Vibrio species, non-cholera (including *parahaemolyticus* and *vulnificus*) .

August 30, 2000 - Group B streptococcal invasive disease and *Streptococcus pneumoniae* invasive disease (both drug-resistant and drug-sensitive – see footnotes 13 & 14).

July 28, 2001 - Acute arboviral infections, (including dengue), transmissible spongiform encephalopathies (see footnote 3), Q fever, smallpox.

November 20, 2001- Glanders, melioidosis, staphylococcal enterotoxin B and viral hemorrhagic fever.

1. Anaplasmosis and Ehrlichiosis: Anaplasmosis (Human Granulocytic Anaplasmosis or HGA) was previously known as Human Granulocytic Ehrlichiosis but was renamed based on reclassification of the etiologic agent, *Anaplasma phagocytophilum*. Ehrlichiosis now refers only to Human Monocytic Ehrlichiosis (HME) and is caused by *Ehrlichia chafeensis*. Prior to 2001, all cases were reported under the heading Ehrlichiosis. Since 2001 reporting of these two diseases occurs separately under their respective names.

Anaplasmosis, Babesiosis, Ehrlichiosis, Rickettsialpox, Rocky Mountain Spotted Fever (RMSF): In 2001, the DOHMH began reporting probable (in addition to confirmed) cases of Anaplasmosis, Babesiosis, Ehrlichiosis, Rickettsialpox and RMSF. The rise in reports beginning in that year is largely attributable to this change in surveillance method. The probable case definition for each of these diseases varies slightly, but usually requires clinically compatible symptoms plus at least one positive serologic test.

2. In Fall 2001, 2 probable cases of anthrax (both cutaneous) were identified in addition to the 5 confirmed cases (4 cutaneous, 1 inhalational) that appear in the table. In addition to these 7 cases among NYC residents, one other case of probable cutaneous anthrax was identified in a person who was exposed in NYC, but resides elsewhere. The case definitions for anthrax are described in the CDC's Morbidity and Mortality Weekly Report (MMWR) of October 19, 2001, 50(41);889-893.

3. The World Health Organization classifies Creutzfeldt-Jakob disease as "definite" when the condition is diagnosed by standard neuropathological techniques and/or immunodiagnostic testing of brain tissue. "Probable" and "possible" cases are diagnosed by progressive dementia with other clinical features and other non-invasive diagnostic procedures.

4. Increased case-reporting of encephalitis and viral meningitis from 1999 through 2004 is a result of enhanced surveillance for West Nile viral disease and active case management of suspected cases during the adult mosquito season (June–September).

5. From 1974 to 1981, *Haemophilus influenzae* was reported as part of the category "other bacterial meningitides." Invasive disease due to *Haemophilus influenzae* comprises several clinical syndromes, including meningitis, bacteremia, epiglottitis, and pneumonia.

6. Active surveillance for hemolytic uremic syndrome among pediatric nephrologists was conducted from 1998 through 2004, which may explain the increase in reported cases beginning in 1999.

Table 1 Footnotes (continued)

7. Surveillance case definitions for viral hepatitis A (HAV) and viral hepatitis B (HBV) have evolved as improvements have occurred in laboratory-based diagnostic testing. These case definition changes should be kept in mind when interpreting changes in case counts and rates over time. For data in this report HAV was defined as IgM antibody-positive to HAV (IgM anti-HAV). From 1997 to August 2003, HBV was defined as IgM HBc-positive. Since August 2003, the CDC/CSTE case definition has been used (IgM anti-HBc-positive (or HBsAg-positive, if IgM anti-HBc not done); discrete onset of symptoms; and either elevated serum aminotransferase levels or jaundice). Hepatitis C is not listed in this table as both NYC and national data have been unreliable due to the lack of resources necessary to determine whether a laboratory report represents acute, chronic, or resolved infection; repeated testing of a person previously reported; or a false-positive test result.
8. Prior to 1991, suspected cases of legionellosis (those with a single immunofluorescent antibody titer of 1:256) were included in surveillance data. Beginning in 1991, only confirmed cases of legionellosis were included in surveillance data. Confirmed cases include: those with positive culture from respiratory secretions, lung tissue, or sterile sites; a ≥ 4 -fold rise in immunofluorescent antibody titers to 128 or higher against *Legionella pneumophila* serogroup 1; positive direct fluorescent antibody (DFA) testing of respiratory secretions or tissue; or the presence of *L. pneumophila* serogroup 1 antigen in urine.
9. Lyme: A two-test approach using enzyme immunoassay/antibody followed by Western blot is recommended by CDC for Lyme disease testing.
10. Meningococcal disease includes meningitis, meningococcemia, or *Neisseria meningitidis* isolated from other sterile sites.
11. On March 11, 1992, a raccoon found on a Staten Island street corner tested positive for rabies. Before this, rabies had not been found in any NYC animal, other than bats, since 3 dogs were reported to have rabies in 1954. The discovery of this rabid raccoon marked the arrival of the mid-Atlantic raccoon rabies epizootic in NYC, prompting the NYC DOH to declare all 5 NYC boroughs enzootic for rabies. There has not been a case of human rabies acquired in NYC since 1944.
12. After 1994, all cases of nontyphoidal salmonellosis are counted together.
13. Invasive Streptococcus group B (*S. agalactiae*) is an illness that affects newborns whose mothers are asymptotically colonized. Numbers and rates (per 1000 live births) reflect only early onset disease (age < 7 days) for which there is preventive treatment.
14. Each month, microbiology laboratories in acute-care facilities report the number of patients who had *Streptococcus pneumoniae* isolated from a sterile site (e.g., blood, cerebrospinal fluid, synovial, peritoneal, pleural, or thoracic fluid). Both susceptible and drug-resistant infections are reportable.
15. West Nile neuroinvasive disease (WNND) includes West Nile encephalitis, West Nile aseptic meningitis, and acute flaccid paralysis. West Nile Fever is defined as laboratory evidence of acute WN virus infection associated with mild to moderate illness but no evidence of central nervous system involvement.

Appendix A: Diseases and Conditions That Must Be Reported to the New York City Department of Health and Mental Hygiene as of March 1, 2007

During business hours call 1-866-NYC-DOH1 / 1-866-692-3641
After business hours call the Poison Control Center (212) POI-SONS / (212) 764-7667

While prompt reporting of all diseases and conditions is important, immediate reporting by telephone of diseases marked with a green arrow (➤) can be especially critical in limiting additional morbidity.

HIV/AIDS

Tel: (212) 442-3388

- Newly diagnosed HIV infection (positive Western blot HIV antibody test)
- HIV-related illness (<500 CD4+ lymphocytes/ml or a detectable viral load)
- Acquired immunodeficiency syndrome (AIDS)
- Contact information and request for pick up of completed New York State Department of Health Provider Report Form.

Sexually Transmitted Diseases

Tel: (212) 788-4423

Fax: (212) 788-4431

- Chancroid
- Chlamydia
- Gonorrhea
- Granuloma inguinale (Donovanosis)
- Neonatal herpes
- Lymphogranuloma venereum
- Syphilis, including congenital syphilis

Tuberculosis

Tel: (212) 788-4163

Fax: (212) 788-4179

- Positive AFB smears
- Positive M. TB cultures
- Pathology findings consistent with TB
- Start of TB treatment with 2 or more anti-TB drugs
- Positive Mantoux tuberculin skin tests in children younger than 5 years

Vaccine-Preventable Diseases and adverse events related to immunizations

Tel: (212) 676-2284

Fax: (212) 676-2300

- Diphtheria
- Measles
- Mumps¹
- Pertussis¹
- Poliomyelitis
- Rubella, including congenital rubella syndrome¹
- Tetanus
- Vaccinia disease

Other Reportable Diseases and Conditions

Tel. (212) 788-9830

Fax: (212) 788-4268

- Amebiasis^{1,2}
- Anthrax
- Arboviral infections, acute
- Babesiosis
- Botulism
- Brucellosis
- Campylobacteriosis^{1,2}
- Cholera

- Creutzfeldt-Jakob disease
- Cryptosporidiosis^{1,2}
- Cyclosporiasis^{1,2}
- Ehrlichiosis
- Encephalitis³
- Escherichia coli O157:H7^{1,2}
- Escherichia coli (other) Shiga Toxin Producing
- Giardiasis^{1,2}
- Glanders
- Haemophilus influenzae (invasive disease)¹
- Hantavirus disease
- Hemolytic uremic syndrome
- Hepatitis A^{1,2}
- Hepatitis B. Hepatitis B cases in pregnant women must be reported by faxing the IMM5 form to (718) 520-6246. For questions, call (718) 520-8245
- Hepatitis C
- Hepatitis D
- Hepatitis E
- Hepatitis other/unspecified
- Influenza (novel viral strain with pandemic potential (e.g., H5))
- Influenza death in a child <18 years of age
- Kawasaki syndrome
- Legionellosis
- Leprosy (Hansen's disease)
- Leptospirosis
- Listeriosis
- Lyme disease
- Malaria
- Melioidosis

Meningitis

- Aseptic/viral,³
 - Meningococcal,¹
 - Haemophilus influenzae,¹
 - and other bacterial meningitides
- Meningococccemia
- Monkeypox
- Plague
- Psittacosis
- Q fever
- Rabies and exposure to rabies
- Rickettsialpox
- Rocky Mountain spotted fever
- Salmonellosis^{1,2}
- Scarlet fever
- Severe Acute Respiratory Syndrome (SARS)
- Smallpox
- Shigellosis^{1,2}
- Staphylococcus aureus with reduced susceptibility to Vancomycin (VISA)
- Staphylococcal enterotoxin B
- Streptococcal infections, groups A and B (invasive disease)
- Streptococcus pneumoniae* (invasive disease, both sensitive and resistant strains)
- Toxic shock syndrome
- Trachoma
- Transmissible spongiform encephalopathies
- Trichinosis
- Tularemia
- Typhoid fever^{1,2}
- Vibrio species, non-cholera (including parahaemolyticus and vulnificus)
- Viral hemorrhagic fever
- Visceral larva migrans
- West Nile Virus³

- Yellow fever
- Yersiniosis^{1,2}

Immunizations

Immunizations administered to children aged 7 years and younger must be reported to the Department. For information on how to report, please consult the website of the City Immunization Registry at nyc.gov/health/cir or call (212) 676-2323.

Injuries

- Animal Bites, Tel: (212) 676-2483; Fax: (212) 676-2111. Animal bites must be reported immediately by telephone; the Report Animal Bite Card 31-BAA must be sent to the Department within 24 hours.
- Exposure to rabies
- Falls Fax: (212) 442-2629. From windows of multiple dwellings by children aged 16 and younger

Poisonings

Tel: (212) POI-SONS / (212) 764-7667 / (800) 222-1222.

Poisonings by drugs or other toxic agents (including pesticides) Fax: (212) 447-8223

- Lead Poisoning⁵, Children Aged 17 and Younger Fax: (212) 676-6326; Adults Fax: (212) 788-4299

Other Heavy Metals (Mercury, Arsenic, Cadmium), Fax: (212) 788-4299

Food Poisoning^{1,2} (In a group of 3 or more persons) Fax: (212) 442-3378

Vital Event Certificates. All births, deaths and spontaneous and induced terminations of pregnancy must be reported to

the Department using appropriate New York City certificates. To obtain these certificates call (212) 788-4520.

FootNotes

¹ Report immediately by telephone a suspected case in a day care, health care, correctional, or homeless facility.

² Report immediately by telephone a suspected case in a food handler.

³ July 1 through October 31, providers should consider West Nile virus infection in the differential diagnosis for all patients with aseptic meningitis, encephalitis, acute flaccid paralysis and/or symptoms compatible with WN fever. WN virus should also be considered in the differential diagnosis for patients with unexplained movement disorders, such as tremor, myoclonus or Parkinsonian symptoms.

⁴ Any nosocomial outbreak or increased incidence of hospital-associated infection must be reported to both the NYC DOHMH by calling (212) 788-9830 and the NYS DOH by calling (518) 473-4439 [See Health Code Section 11.03, 10 NYCRR Part 2 and 10 NYCRR Section 405.11(c)].

⁵ Blood lead levels of 10 mcg/dL or greater should be reported immediately.

Outbreaks

Section 11.03(b) of the New York City Health Code requires the immediate reporting by telephone of a suspected outbreak among 3 or more persons of any disease or condition (whether it is listed here or not) and of any unusual manifestation of disease in an individual.