



INFECTIOUS SALMONELLA SHIGELLA HEPATITIS A HEPATITIS B SYPHILIS DISEASE CONODUIT

*“The single most important thing that can be done to prevent
infectious diseases is . . . Immunize!”*

– (1) Office of Infectious Disease Epidemiology, 1999


**INFECTIOUS
DISEASE**

INFECTIOUS DISEASE

How are is this parish doing?

HIV/AIDS	☹
STDs	☹
Hepatitis B	☹
Hepatitis A	☹
Salmonella	☺
Shigella	☺
Tuberculosis	☹

DID YOU KNOW?

Annually, 5% of infectious diseases are associated with child care centers.

— Office of Infectious Disease Epidemiology, 1998.

Good hand washing is the single most important thing you can do to prevent the spread of infectious diseases to others.

— Office of Infectious Disease Epidemiology, 1998.

Infectious diseases are generally spread through direct physical contact, shared air, water or food. They are prevented through effective management of environmental sources of infectious disease. These include wastewater, drinking water, food handling, vector control and personal protection such as vaccinations, hygiene and disease management. Infectious diseases are still the leading cause of death worldwide. They are also among the leading causes of illness and death in the U.S. In addition to the human suffering involved, infectious diseases have a high economic cost to individuals, families and communities.

In many instances there has been an increased occurrence of many infectious diseases once thought to be controlled. In addition there has been an emergence of new diseases. Some approaches to disease control in medicine and industry, such as misuse or overuse of antibiotics, have lessened the success of treating infectious diseases. Over use and misuse of antibiotics has resulted in an increase in treatment-resistant bacteria.

Of the infectious diseases which are required to be reported to the state, Louisiana documented 28,937 cases in 1997. Many more cases go unrecognized or unreported.

The Office of Public Health (OPH) collects information about infectious disease cases. Recording diseases and cases in a population over time can show trends in infection rate. These rates show how many cases occur and which populations are most affected. The rates can also indicate who might be at risk for exposure. Data can then be used for the following purposes:

- Health planning
- Research
- Provision of preventive therapy
- Identification of outbreaks
- Policy development
- Ensuring appropriate medical treatment
- Controlling outbreaks

The diseases discussed in this section are:

- HIV/AIDS
- Chlamydia
- Gonorrhea
- Syphilis
- Hepatitis B
- Hepatitis A/Hepatitis C
- Salmonella
- Shigella
- Tuberculosis
- Influenza

All of the diseases listed above are discussed in this chapter, beginning with the ones of highest risk, such as HIV/AIDS and sexually transmitted diseases, and leading into gastrointestinal and respiratory infections. There are examples throughout this chapter of indicators that can be changed through community action. Communities will choose different indicators to focus on and address. In choosing, people may want to consider the extent or cost of a health problem in their area or the potential danger related to that health problem.



BLOODBORNE DISEASES

Bloodborne diseases are passed through blood. People can get diseases through sharing a needle or having unprotected sex. They can also be exposed to disease through contact with blood samples. It is also possible for a pregnant woman to transmit the infections to her baby during childbirth. These diseases include syphilis, hepatitis B, hepatitis C and HIV/AIDS. Complications of these infections can include chronic infections, cirrhosis and liver cancer.

HIV and AIDS

Awareness of a new threat to life began with a few reports of a mysterious deadly disease in New York and San Francisco in 1981. By the end of 1996, the syndrome was a global epidemic of approximately 8.4 million cases in adults and children. What is now called Acquired Immune Deficiency Syndrome (AIDS) is a syndrome because it is a variety of illnesses. These illnesses, or opportunistic infections, surface when a person's immune system is no longer operating effectively. Human Immunodeficiency Virus (HIV), the virus that causes AIDS, can take a mere few months or several years to reduce the immune system functioning to the level where opportunistic infections flourish. **Right now, among persons aged 15-44 in Louisiana, nearly one in every 150 is already infected with HIV.**

A person can become infected with HIV through the exchange of bodily fluids during sex and through needle punctures. In rare circumstances, it can be introduced into a body through blood products. Technological progress in treating HIV has been rapid. It was only in 1983 that a French researcher first identified the virus. Today, there are a variety of treatments. However, they do not remove the virus from the body. They can merely help keep the virus under control and delay the onset of the symptoms that make up AIDS.

Despite the advances in treatment, AIDS is still devastatingly costly. The costs are emotional, social and financial. Approximately 1,200 persons in Louisiana become infected with HIV every year. In 1997 there were 1102 reported cases of AIDS in Louisiana at a rate of 25.5 per 100,000. **Orleans had 431 reported cases at a rate of 88.2 per 100,000** (HIV/AIDS Program, 1998).

Lifetime medical costs of caring for a person with HIV infection are estimated at \$154,402 ([1] Wasserman, 1999). Therefore, each year, new HIV infections result in \$185 million in future medical costs. Most of these are paid by tax dollars. Prevention of HIV infection itself continues to be the most cost effective way to prevent deaths from AIDS ([2] Wasserman, 1999).

Most cases of HIV are acquired through sexual contact. Many other cases of HIV infections in Louisiana are transmitted by sharing needles during injection drug use. This poses a threat to the health of drug users and their husbands, wives, children and communities. These cases can be prevented through effective drug treatment or by promoting clean needle use among drug users who can not or will not get treatment

DID YOU KNOW?

Among persons aged 15-44 in Louisiana, nearly one in 150 is already infected with HIV, the virus that causes AIDS.

- HIV/AIDS Program, 1998.

PREVENTION

POINTERS:

Stop high risk behaviors-

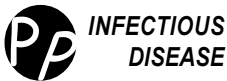
1. *Reduce the number of sexual partners;*
2. *Practice safe sex; and*
3. *Do not share or reuse needles.*

- HIV/AIDS Program, 1998.

DID YOU KNOW?

AZT is regularly prescribed to HIV-positive pregnant women because it can reduce HIV transmission to their infants by 70 to 80%.

- (4) Wasserman, 1999.



INFECTIOUS
DISEASE

DID YOU KNOW?

Hepatitis A:

- About 40% of the U.S. population, if tested, would show some exposure to hepatitis A.

- Centers for Disease Control and Prevention, 1997.

Hepatitis B:

- One percent of the people with hepatitis B will develop chronic hepatitis and 63-93% of those will die.

- (1) The New York Times, 1999.

- Eighty percent of liver cancers in the US are caused by hepatitis B.

- (1) The New York Times, 1999.

- Since the blood supply is screened, often people find out they have hepatitis B when they try to donate blood.

- Office of Infectious Disease Epidemiology, 1998.

Hepatitis C:

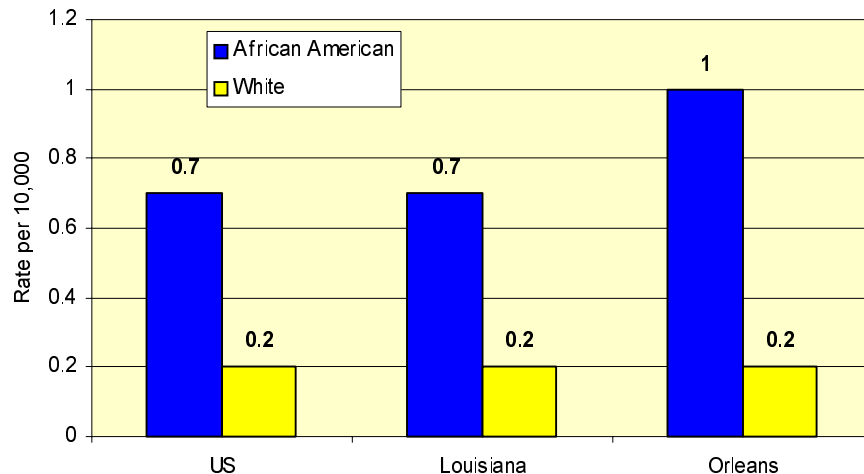
- There are an estimated 3.9 million persons chronically infected with hepatitis C in the US.

- National Institutes of Health, 1999.

- The costs are estimated to be \$600 million (1991 dollars/yr) in medical and work loss.

- Centers for Disease Control and Prevention, 1997.

Figure 1:
Rates of Hepatitis B, United States, Louisiana and Orleans Parish, 1997



Source: Office of Infectious Disease Epidemiology, 1998.

(Sidwell, 1998).

HEPATITIS B

Hepatitis B is an infection of the liver caused by a virus. Symptoms include loss of appetite and stomach discomfort. Nausea, vomiting and jaundice are other symptoms. The illness is more severe in adults. Infants and children, however, are more likely to develop a chronic infection. Hepatitis B is spread by exposure to blood and/or body fluids containing blood and by sexual contact. In addition, it can be passed from a mother to a child in childbirth. Complications of these infections can include chronic infections due to weakened immunity, cirrhosis of the liver, cancer and death.

OPH tracks the number of reported cases of acute hepatitis B (Figure 1). Many factors can influence the number of cases reported. These include the way doctors record and report infections, the number of persons using IV drugs and the number of persons receiving hepatitis B immunizations. The number of hepatitis B carriers, changes in sexual risk behavior and people receiving treatment for infection can also influence the number cases reported.

In 1997, Louisiana had a rate of 4.8 cases of hepatitis B per 100,000 people. The national Healthy People 2000 goal is 4 cases per 100,000 (Office of Infectious Disease Epidemiology, 1998).

HEPATITIS C

Hepatitis C is also an infection of the liver caused by a different virus from the one that causes hepatitis B. While the symptoms are similar to those seen in hepatitis B, many more people are likely to develop long term, serious complications from an



infection with hepatitis C such as cancer or cirrhosis of the liver. It, too, is spread by way of exposure to blood and/or body fluids containing blood. Current information shows that while there is some risk to sexual contacts and infants born to hepatitis C positive mothers, this appears to be much less of a problem with hepatitis C than with hepatitis B.

Prior to July 1992, tests were not routinely available for identifying hepatitis C infections. As a result there are some people who may have been exposed to this virus through blood transfusions. These individuals may want to check with their physicians to determine if additional blood tests or other actions should be taken. Recent changes in the treatment of chronic infections of hepatitis C have proven much more successful and lasting than previously available treatments (Office of Infectious Disease Epidemiology, 1998).

In 1997, Louisiana had a rate of 6 cases of hepatitis C per 100,000 people.

This is a 24 percent increase from just two years ago and there is still much under-reporting of this disease. While there is no vaccine available at this time, new medications have been approved for treatment. Ways of preventing hepatitis C include abstaining from sex, practicing safe sex, avoiding the use of IV drugs, not sharing needles, minimizing the number of sexual partners and screening individuals who are at-risk.

SEXUALLY TRANSMITTED DISEASES

Sexually transmitted diseases (STDs) have been around for many centuries. Syphilis and gonorrhea are only two of the sexually transmitted diseases in Louisiana which must be reported to OPH when diagnosed. HIV is considered a sexually transmitted virus, with AIDS being the resulting disease.

DID YOU KNOW?

- Worldwide, an estimated 333 million curable STDs occur annually.
- STDs accounted for 87% of all cases among the top ten most frequently reported diseases to CDC.
- Each year an estimated 15 million Americans are infected with a STD, including three million teenagers.
- (4) U.S. Department of Health and Human Services, 1998.

Taking Care, Taking Control: "Peer Education for Immunization"

When the Linwood Middle School Health Center embarked on the hepatitis B Immunization Initiative, the staff was skeptical about its success. How could they convince healthy sixth graders to submit to a series of three "shots," which they were not required to have? The answer was with education and rewards. Guided by the experience of the successful Baton Rouge program, the center offered an appropriate reward during every step of the process. The school-based health center nurse and medical director presented a hepatitis B education program, featuring a Smith Kline-Beecham videotape. Classes who had the highest return rate for the special consent form celebrated with pizza parties. Each "shot" was followed by a small reward—a free hamburger coupon, a doughnut and a student designed "Hep B" t-shirt.

The finale of the program was a special assembly of

students who had completed the immunization series. At this assembly, names were drawn for portable stereos, cameras, basketballs and a girl's and boy's mountain bike. All prizes were donated. The winner of the girl's bike had a special story. The student almost missed her last shot, due to missing school for her father's funeral. Her mother came to pick up the bike with tears in her eyes, telling the staff that just the week before he died, the girl's daddy had promised her a new bike. Fifty-eight percent of Linwood's sixth grade students are now immunized against hepatitis B. Funding for the project came from Schumpert Health System, Smith Kline-Beecham, Vaccines for Children (who provided vaccines for most students), and many community individuals and businesses who donated the rewards.

- For further information: Linwood Middle School-Based Health Center, Denise Washburn, 318-681-4814

taking

**Hepati-
tis
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tion:**

**Linwood
Middle
School
Health
Center**

control



INFECTIOUS DISEASE

DID YOU KNOW?

The impact of AIDS is worldwide:

- An estimated 14 million people have died of AIDS since the beginning of the epidemic.
- Nearly 95% of the people infected with AIDS are in the developing world.
- In some countries in Africa, 20 - 26% of the population is infected with HIV.

- United Nations Press Release, November, 1998

STDs, in addition to causing their own health problems, are red flags for a person's risk of HIV infection. The time from exposure to symptoms is short for most STDs, and very long for HIV. The behaviors that transmit an STD are the same for most cases of HIV. Therefore, STD trends give a hint of where new HIV infections will appear in the future. Some people do not have a reason to suspect they are infected, because they have no symptoms. They may then, unknowingly, continue to transmit the disease(s).

The steps that people can take to prevent the spread of STDs, including most HIV infections, are:

- Promotion of abstinence among youth;
- Promotion of safe sex among sexually active persons;
- Availability of drug treatment for persons with drug problems;
- Availability of clinical services to treat people with STDs; and
- Screening for STDs in clinical and non-clinical settings.

CHLAMYDIA

Chlamydia, a very common sexually transmitted disease, is also the most frequently reported communicable disease in the United States. In the U.S., there are four million new infections each year, over half of which occur in females. The highest rates of infection are reported in females between the ages of 15 and 19 ([1] U.S. Department of Health and Human Services, 1998).

Chlamydia counts are on the increase because testing for chlamydia is more common. There is often no symptom of disease, but it can result in pelvic inflammatory disease (PID), infertility and other reproductive health problems. Unfortunately, since it is often asymptomatic and testing is not always done, the reported case rate is still an underestimate of the actual case rate.

In 1997, Louisiana reported five percent more chlamydia infections than in 1996. In 1997, Louisiana's case rate was 273 per 100,000, which is 40 percent higher than the U.S. rate of 194.5 per 100,000.

GONORRHEA

Since 1990, the U.S. gonorrhea rate has decreased by 56 percent. In 1997, Louisiana reported 15 percent more infections than in 1996. This increase came after a long decline in the 1990s. The 1997 rate is the lowest ever reported ([2] U.S. Department of Health and Human Services, 1998).

Louisiana's case rate in 1997 was 255 per 100,000 compared to 122.7 per 100,000 in the U.S. There were 10,761 cases in Louisiana in 1997. **In Orleans there were 2,710 cases at a rate of 545 per 100,000** ([2] Office of Infectious Disease Epidemiology, 1998). African American males and females had higher rates (832 and 615 per 100,000 respectively) than white males (17 per 100,000) and white females (36 per 100,000). Case rates were highest among young males and females, ages 15 to



24 (Office of Infectious Disease Epidemiology, 1998).

Gonorrhea is a serious threat to women. If untreated, it can result in PID and other related complications to pregnancy and birth. Approximately one million women experience an acute episode of PID every year in the U.S. ([3] U.S. Department of Health and Human Services, 1998).

PRIMARY AND SECONDARY SYPHILIS

Syphilis is curable if it is caught in its early stages. Left untreated, it can result in damage to the brain or other organs. Studies show that efforts to reduce syphilis also reduce the transmission of HIV. One of the methods used in some parts of the U.S. is partner notification. Finding the partners of infected people and treating them can reduce the danger that they too will catch or spread the disease.

The rates of primary and secondary syphilis have decreased in the U.S. since 1990. In 1997, the U.S. rate was 3.2 per 100,000, which was better than the national Healthy People 2000 goal of four per 100,000 ([5] U.S. Department of Health and Human Services, 1998).

In 1997, Louisiana reported 32 percent fewer cases of primary and secondary syphilis than were reported in 1996. Louisiana's case rate in 1997 was nine per 100,000 compared to the U.S. rate of 3.2 per 100,000. There were 363 cases reported in Louisiana in 1997. **Orleans reported 131 cases at a rate of 26 per 100,000.** Sixty-eight percent of the Louisiana cases occurred in persons between the ages of 15 and 34 (Office of Infectious Disease Epidemiology, 1998).

GASTROINTESTINAL AND FOODBORNE DISEASE

Foodborne diseases are diarrheal illnesses caused by eating contaminated food. Food items may be contaminated with chemicals, bacteria or viruses. Parasites or toxins associated with seafood can also contaminate food.

PREPARE FOOD CORRECTLY

Thorough cooking and cleaning of food items can prevent transmission of disease. Simple steps, including hand washing and not preparing foods when sick with a diarrheal illness will help. Keeping food preparation and eating areas clean and cooking/storing food at correct temperatures will also prevent illnesses.

Outbreaks of foodborne disease can occur within a few hours to a few weeks of exposure. Single cases of foodborne diseases are difficult to identify. Foodborne diseases may be one of the most common causes of acute illness. Many cases and outbreaks, however, are unrecognized and go unreported.

A total of 1,901 food-related complaints were investigated from 33 parishes in Louisiana in 1997. Seven food-related outbreaks were investigated involving 485 sick people. Cases vary by age (Figure 2), with the very young being among the most vulnerable. Some of the diseases that can be spread by food are campylobacteriosis, cholera, E. coli infection, salmonellosis, shigellosis and typhoid fever. Of particular concern are salmonella and shigella.

PREVENTION

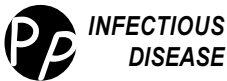
POINTERS:

Obtain all appropriate immunizations. If you don't know where to go, call your local city or parish public health unit for information. (Listed in the "Resources" section of this publication).

DID YOU KNOW?

1,901 food-related complaints were reported in 1997.

- Office of Infectious Disease Epidemiology, 1998



**INFECTIOUS
DISEASE**

PREVENTION POINTERS

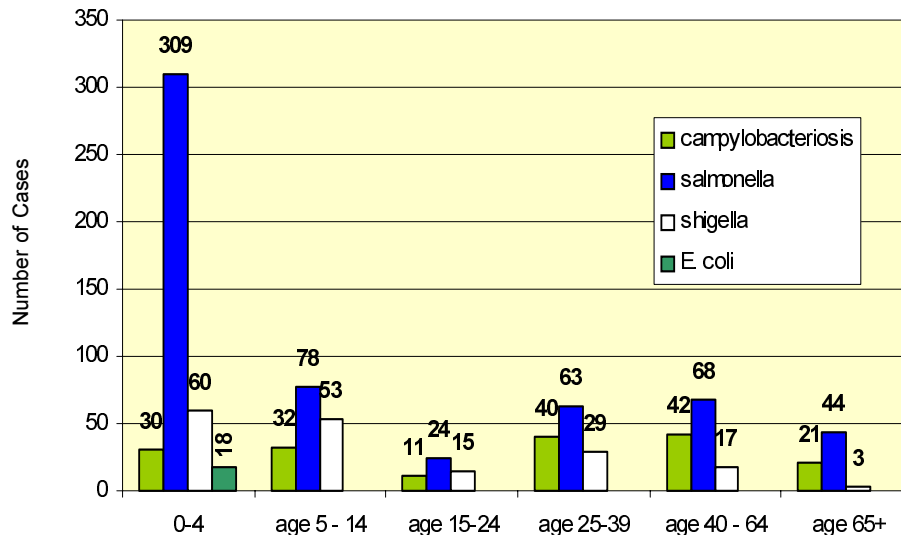
Keep your kitchen clean. The place in your kitchen that has the most bacteria is the handle of your refrigerator.

Wash your cutting board with warm water and soap after cutting any raw food - including raw vegetables.

Don't let hot foods "cool" at room temperature. Put hot foods in the refrigerator immediately after cooking for storage.

— Office of Infectious Disease Epidemiology, 1998.

Figure 2
Reported Cases of Foodborne Diseases by Age
Louisiana, 1997



Source: Office of Infectious Disease Epidemiology, 1998.

In Louisiana, 42 percent of cases of campylobacteriosis, E. Coli., salmonella and shigella infections were reported in children aged 0 - 4, and another 17 percent were reported in those 5 - 14 years of age (Office of Infectious Disease Epidemiology, 1998).

HEPATITIS A

Hepatitis A is an infection of the liver caused by a virus. It is spread person-to-person from hands contaminated with the feces of an infected person or through contaminated food and water. Symptoms include fever, fatigue, weight loss, nausea, stomach

Taking Care, Taking Control: "Wedding Outbreak"

Disease preven-

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Proper

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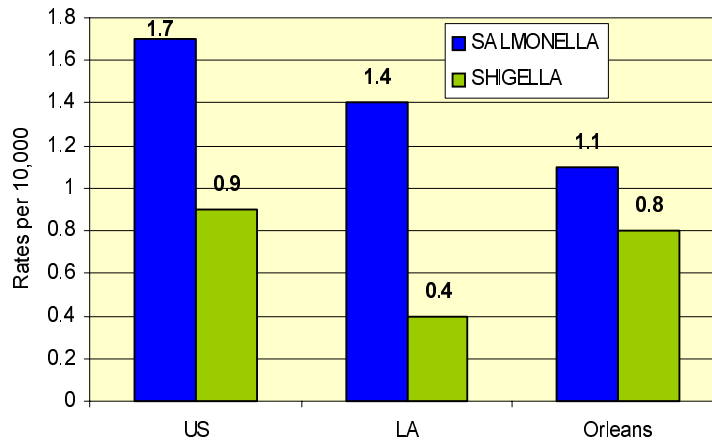
Imagine you are invited to a wedding with 200 guests and two days later you find yourself in a hospital bed right next to the bride and numerous other guests. This is exactly what happened in August 1998, when more than half of all guests attending a wedding became ill with diarrhea and vomiting. The traditional Louisiana foods served at the wedding were prepared by relatives of the bride and included more than five gallons of rice dressing.

After the sudden outbreak, public health workers investigated the scene. As it turned out, the tasty rice dressing was heavily contaminated with salmonella bacteria. Contamination had actually occurred at the

production plant where the precooked rice dressing mix was made. A deteriorated and contaminated pump in the production line created a perfect opportunity for salmonella to infect the food. Preparation of the dressing itself was not at high enough temperatures to kill the bacteria. Storing the food in the Louisiana heat, in an open air reception hall certainly helped to make the outbreak happen. Fortunately, everybody recovered fully. The plant immediately repaired the pump and implemented regular testing of products before distributing them to stores.

- Kohl, K. 1998. Louisiana Morbidity Report. v9(6) Nov/Dec p.1
- To report a suspected food borne outbreak, call the Office of Infectious Disease Epidemiology at 1-800-256-2748 or 504-568-5006 (fax)

Figure 3:
**Rates of Salmonellosis and Shigellosis, United States,
Louisiana and Orleans Parish, 1997**



Source: Office of Infectious Disease Epidemiology, 1998.

discomfort and jaundice. Those who are most at risk are children enrolled in childcare centers and household contacts of persons with hepatitis A. People who travel to parts of the world that have a lot of hepatitis A cases, and those who use drugs and/or engage in homosexual activity, are also at greater risk.

Reporting of hepatitis A is affected by the lack of obvious symptoms in young children, lack of reporting by individuals or health care professionals, and the number of persons receiving hepatitis A immunizations.

Community members can help prevent hepatitis A in their communities. They can do this by encouraging hepatitis A immunizations for food handlers, international travelers and child care center employees and children.

A total of 6 cases of hepatitis A per 100,000 people were reported in 1997, higher than the national benchmark of 1 per 100,000.

SALMONELLA

Salmonellosis is an illness caused by the salmonella bacteria that is spread through food from infected animals. Food can also be contaminated by the feces of an infected animal or person. Symptoms of salmonellosis include cramping, nausea, diarrhea and vomiting. Salmonellosis can be prevented by using proper food handling procedures.

There are estimated to be about five million cases of salmonellosis in the U.S. annually. **In Louisiana, there were 14 cases per 100,000 people in 1997 (Figure 3), compared to 17 in the U.S.** However, not all cases are reported or diagnosed (Office of Infectious Disease Epidemiology, 1998).

PREVENTION POINTERS:

Keep your house clean with standard disinfectants (not products labeled "antibacterial" – they only encourage resistant bacteria).

A study researching salmonella infections in children found the bacterium on counter tops, refrigerator shelves, cutting boards and even in household dust.

- Schutze, et al. 1999.

PREVENTION POINTERS:

1. Cook your food thoroughly.
2. Always wash your hands before cooking and after handling raw meats.
3. Eat cooked food immediately.
4. Store cooked food in the refrigerator or freezer.
5. Always reheat meat before eating leftovers.
6. The proper way to thaw frozen meat is to leave it in the refrigerator.

- Center for Science in the Public Interest, 1998.



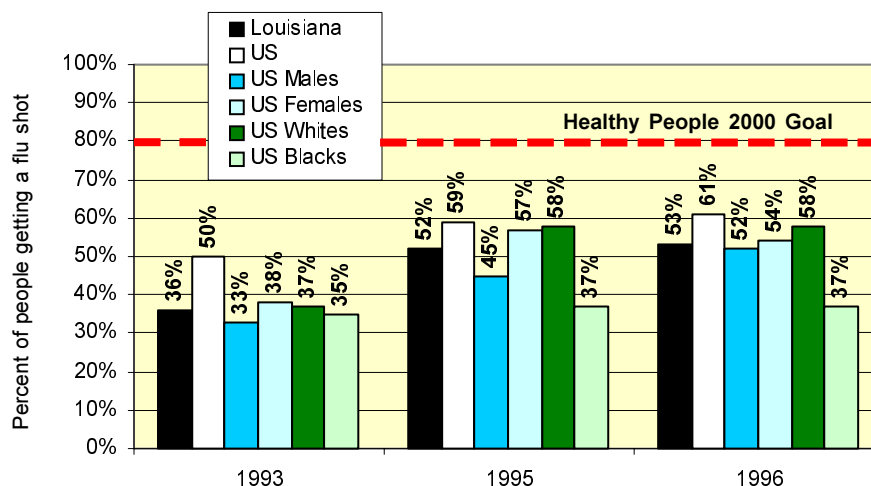
INFECTIOUS
DISEASE

DID YOU KNOW?

Campylobacteriosis and salmonellosis are the most frequently reported foodborne illnesses in the U.S.

- (7) U.S. Department of Health and Human Services, 1998.

Figure 4:
People over Age 65 Receiving Flu Shots,
Louisiana and United States, 1992 - 1996



Source: Chronic Disease Control, 1997.

PRACTICE PERSONAL HYGIENE

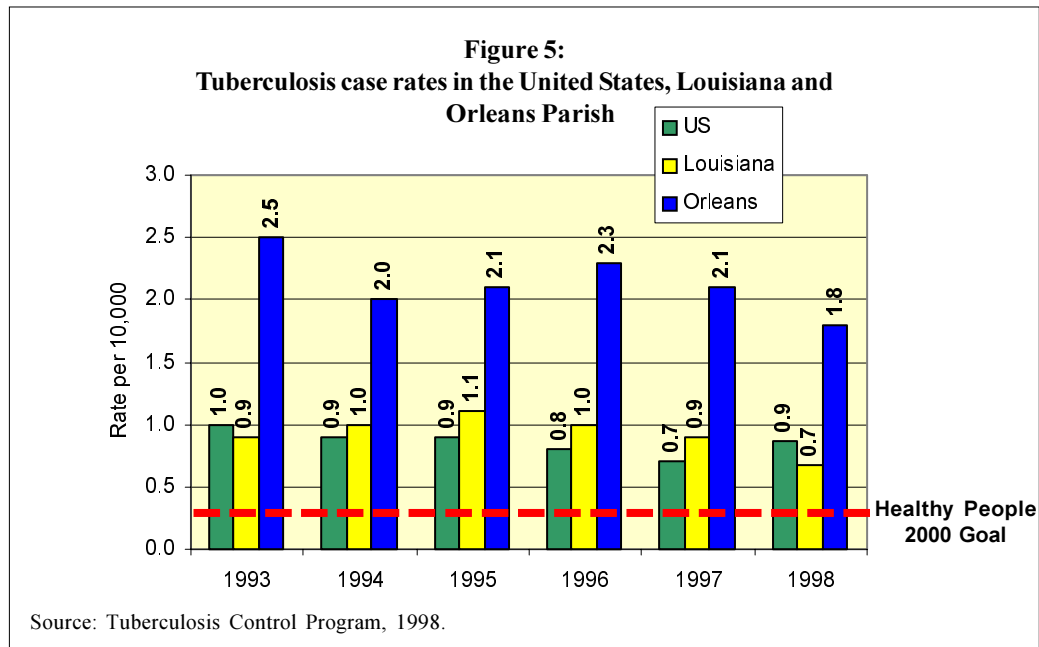
Regular hand washing before preparing or eating food, after using the bathroom and whenever hands get dirty is the most effective way to protect people from infectious diseases. People should keep unwashed hands away from their eyes, nose and mouth. If family members are sick, everyone should take extra precautions in hygiene.

SHIGELLA

Shigellosis is an illness caused by the shigella bacteria, which are spread mainly by direct person-to-person contact. Infection can occur after the ingestion of only a few of the bacteria. The number of cases reported each year is affected by how well physicians report cases and whether people feel sick enough to go to a doctor. Daycare attendance, employment and/or personal hygiene practices can also affect cases reported. Communities may want to investigate the impact infection has locally on school absenteeism and the number of cases seen in emergency rooms. The Louisiana goal is to have less than 1.3 cases per 10,000; while the 1996 national goal is one per 10,000. **In 1997, Louisiana reported four cases per 100,000, see Figure 3.**

Campylobacteriosis

Campylobacteriosis is an illness caused by a bacteria that results in symptoms of diarrhea, stomach cramps, tiredness, fever, nausea and vomiting. People can catch this disease by eating or drinking contaminated food or water (or unpasteurized milk). The bacteria is most often found in cattle and poultry. Thorough cooking of all food items, drinking only pasteurized milk, using good personal hygiene and proper food handling practices will reduce the chances of someone getting sick.



Many cases are mild and are not reported to OPH, so it is difficult to know the real number of cases. **There were 181 cases (four cases per 100,000) reported in Louisiana in 1997, an increase of 14 percent from 1996.**

RESPIRATORY DISEASES

Respiratory diseases are among the leading types of infectious diseases. They are caused by a large number of viruses, including the common cold. They are also caused by some types of bacteria. The potential for illness and death from these diseases is especially high in children. Even for adults, acute respiratory diseases are a major health problem worldwide. This is because they, like diarrheal diseases, pose a threat to livelihood and productivity.

COVER YOUR MOUTH WHEN YOU COUGH

Some infections are spread in the air when coughing. Sneezing and runny noses also spread disease. People should use tissues and dispose of them in an appropriate manner, making sure to wash their hands afterwards. People with a persistent cough should be tested by a physician for tuberculosis or other chronic respiratory infections.

Even though most respiratory diseases are not diagnosed, they still account for the largest number of deaths of any infectious disease. Many of these diseases, however, could be prevented through immunization. For example, **less than 24 percent of elderly persons over 65 years of age have received influenza vaccine (Figure 4), but 80 percent of all influenza deaths could be prevented with a flu shot.**

Diphtheria, *Haemophilus influenza* infection, *legionellosis*, measles, mumps, *Neisseria meningitis* infection, rubella, *Streptococcus pneumoniae*, tuberculosis and varicella are all respiratory diseases that are monitored at state and local levels.

TUBERCULOSIS (TB)

Tuberculosis is a disease caused when the bacteria *Mycobacterium tuberculosis* infects the lungs. Many people who are infected with these bacteria do not become ill.



INFECTIOUS
DISEASE

PREVENTION POINTERS:

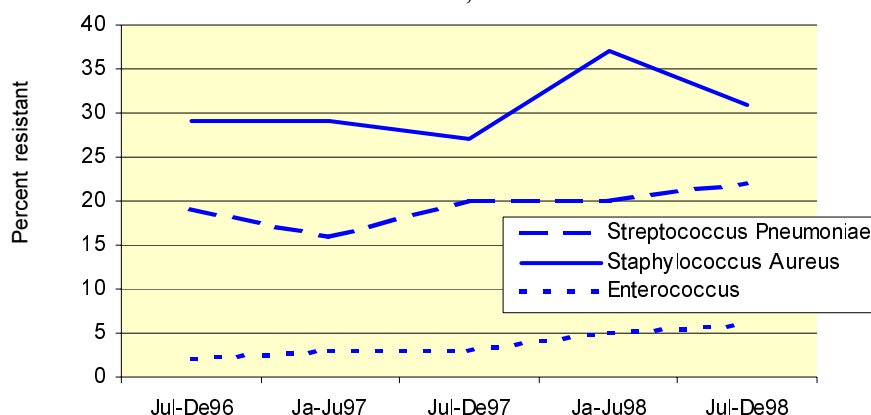
Use antibiotics **ONLY** when absolutely necessary (with your doctor's prescription) and only for bacterial infections. Take the full course of antibiotics, don't stop as soon as you feel better – finish the treatment.

DID YOU KNOW?

More than half of physicians that were surveyed in American Academy of Pediatrics study of 900 pediatricians believed that parental pressure contributed to most antibiotic use. Seventy-eight percent of the pediatricians felt that parental education would be the "single most important program for reducing inappropriate antibiotic use."

- Palmer et al. 1997.

**Figure 6:
Emerging Pathogens,
Louisiana, 1996* - 1998**



*1996 is the beginning of surveillance of these diseases

Source: Office of Infectious Disease Epidemiology, 1998.

They have a positive tuberculosis skin test but are not counted as tuberculosis cases and may only need preventive treatment. For other people, the infection causes illness. These people are considered to have tuberculosis disease and are counted as cases in state statistics. They can spread the infection to others and need at least six months of treatment with two or more medicines to be cured. This extensive treatment can be hard for people to complete without help (Gasner, 1999; George, 1998).

The State Sanitary Code mandates the reporting of TB. The number of cases reported may be affected by migration of TB cases and the time lines of reporting. The Louisiana goal is to be at or below eight cases per 100,000 by the year 2000. The national rate, at 6.8 per 100,000 in 1998. The Healthy People 2000 goal is to be at or below 3.4 cases per 100,000. A total of 406 cases were reported in Louisiana in 1998 for a rate of 8.7 per 100,000 (Figure 5). **Eighty-six of those cases were from Orleans Parish for a rate of 17.9 per 100,000** (Tuberculosis Control Program, 1999).

EMERGING PATHOGENS

Emerging and drug-resistant infections are diseases that have become more common over the past two decades. They threaten to increase in the near future. Some of these diseases have become resistant to many of the medications normally used for treatment purposes. These diseases are important, evolving, complex public health problems. For example, *Streptococcus pneumoniae* is the most frequent cause of commonly acquired pneumonia and middle ear infections. In 1997, *Staphylococcus aureus* infections were resistant to medication in 27 percent of patients (Figure 6).

Unfortunately, the overuse of antibiotics and antibacterial products in medicine, industry and around the home have actually contributed to the development of these new diseases. On a day-to-day basis, it is best to limit the use of these products and use



antibiotics only when absolutely necessary. Patients should take all the medication they are prescribed, even if they feel better before the medicine is gone.

FUTURE TRENDS

It is likely that there will be an increase in the number of food-related infections, including diarrheal diseases. Imports of food into the U.S. has contributed to this increase. Infectious organisms will continue to adapt and become resistant to the current supply of antibiotics. However, these issues can be lessened by consumers becoming informed and improving personal hygiene and food handling practices. Progress can also be made by improved food handling and storage for food products produced inside and outside the U.S.

Prevention of diseases that are transmitted through high-risk behaviors, such as sexual contact or IV drug use, is going to become more and more important. Prevention efforts have been complicated by controversy in the past. However, the ability to provide appropriate and timely prevention messages to individuals is increasing. This is an area where community support and response are very necessary. Many messages need to be supported and shared by communities to be effective. As communities learn about these diseases and spread the word about prevention, the future of the fight against infectious diseases will brighten.

Finally, infectious disease rates may change according to funding for their prevention. For example, after a decrease in tuberculosis program funding, there was a rise in TB rates in Louisiana. Similar developments may happen with other infectious diseases. It is important to provide the funds necessary to produce programs that address infectious diseases.

DID YOU KNOW?

Twenty-seven percent of infections in Louisiana during 1997, due to staphylococcus were resistant to routine antibiotics.

- Office of Infectious Epidemiology, 1998

The Food and Drug Administration is concerned about the development of widespread resistance to antibiotics. In the U.S. six of the 17 classes of antibiotics given to animals for increase in their growth are also used to treat sick people. The European Union does not allow antibiotics that are used to treat people to be used in animals to promote growth.

- The Times Picayune, 1999 and (2)
The New York Times, 1999.

THE COMMUNITY CAN . . .

The community can attempt to look at local data. In some instances, data from OPH can be narrowed down to a smaller area. Communities may also want to use their own assessment techniques and stories to look at the situation of their residents and prioritize action. Although some of these behaviors occur at an individual level, such as encouraging good food preparation, communities can choose to educate one another about them at appropriate meetings.

❶ Reduce high risk behaviors

- Discuss abstinence and the risks of STDs with youth.
- Promote safe sex for sexually active persons.
- Provide clinical services to treat and screen for bacterial STDs.



INFECTIOUS
DISEASE

- Promote testing for STDs at gynecological exams.
- Share information about the way in which an STD can increase the risk of HIV infection upon exposure.
- Support drug treatment programs in combination with efforts to prevent HIV transmission among persons not in drug treatment.
- Work with community organizations to train outreach workers in all aspects of community life.

② Improve hygiene

- Encourage consistent hygiene. Wash hands before eating or preparing food, after using the bathroom and after getting them dirty.

③ Prepare food correctly

- Design community education meetings to share proper food preparation techniques. Include tips in newsletters or other forms of communication.

④ Prevent illness

- Encourage immunizations and keep up to date on all recommended immunizations.
- Educate the community on the need for regular, preventive health checkups
- Do not use or take antibiotics unless absolutely necessary!

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Thank you.