

# 2005 REPORTABLE DISEASE SUMMARY REPORT



Cabinet for Health and Family Services  
Department for Public Health



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# Background

## **What is this report about?**

The Division of Epidemiology and Health Planning (EHP) in the Kentucky Department for Public Health provides an annual summary of reportable diseases as required by 902 KAR 2:020.

This report highlights the diseases reported for 2005 and provides valuable information to health service providers and the citizens of the Commonwealth. This summary only reports cases that meet the “confirmed” case definitions of the Commonwealth and the Centers for Disease Control and Prevention (CDC).

EHP collects reports from physicians, hospitals, laboratories and local health departments. The case information entered into the state’s Disease Surveillance Module is used for passive surveillance of reportable diseases in the Commonwealth of Kentucky and for a weekly report to CDC. The CDC in turn publishes this information in the Morbidity and Mortality Weekly Report (MMWR).

## **What is a reportable (Notifiable) disease?**

A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. The list of notifiable diseases is revised periodically and a disease might be added to the list as a new pathogen emerges, or a disease might be deleted as its incidence declines. Although disease reporting is mandated by legislation/regulation at the state level, Kentucky reporting to CDC is voluntary.

*For further information see the Background section:*

<http://www.cdc.gov/mmwr//preview/mmwrhtml/mm5254a1.htm>

# Limitations

*It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.*

*Sir Arthur Conan Doyle*

## **What are the limitations of these data?**

Data in the disease reporting system are limited by the availability of complete information. For example, 35 percent of the *Salmonella* cases had “unknown” reported for race. This incomplete information inhibits our ability to accurately report a disease’s impact such as disparities among race, sex, and ethnicity. This shortfall manifests itself in other areas such as lab confirmation, spatial analysis, and underreporting.

Additionally, tardiness with case reporting, inconsistencies with receiving reports, and underreporting to the state obscure the true disease magnitude. Many conditions are likely underreported. To become a “confirmed case” for some diseases, initial lab reporting must be followed up with a confirmatory test. An initial test may be received, but not the follow-up, which makes it impossible to confirm the case.

Due to the high percentage of “unknowns” race is not reported for all diseases. It should be acknowledged that rates in this report are not age adjusted and are crude rates.

Further, the HIV/AIDS data are not finalized. Therefore it may not reflect the true magnitude of the disease in Kentucky for 2005.

## 2005 Highlights

The Department for Public Health has been monitoring and reporting diseases since the 1920's. On average Kentucky has reported 14,066 cases a year based on the past five years. In comparison 14,563 cases were reported in 2005. The majority of these cases were chlamydia (8,351), gonorrhea (2,935) and influenza virus isolates (602).

In 2005, Kentucky had several outbreaks: shigella, salmonella, pertussis and cryptosporidium. Salmonella had a 35 percent increase and cryptosporidium increased 17 percent due to a multi-state outbreak. Finally, pertussis increased 43 percent over the previous year.

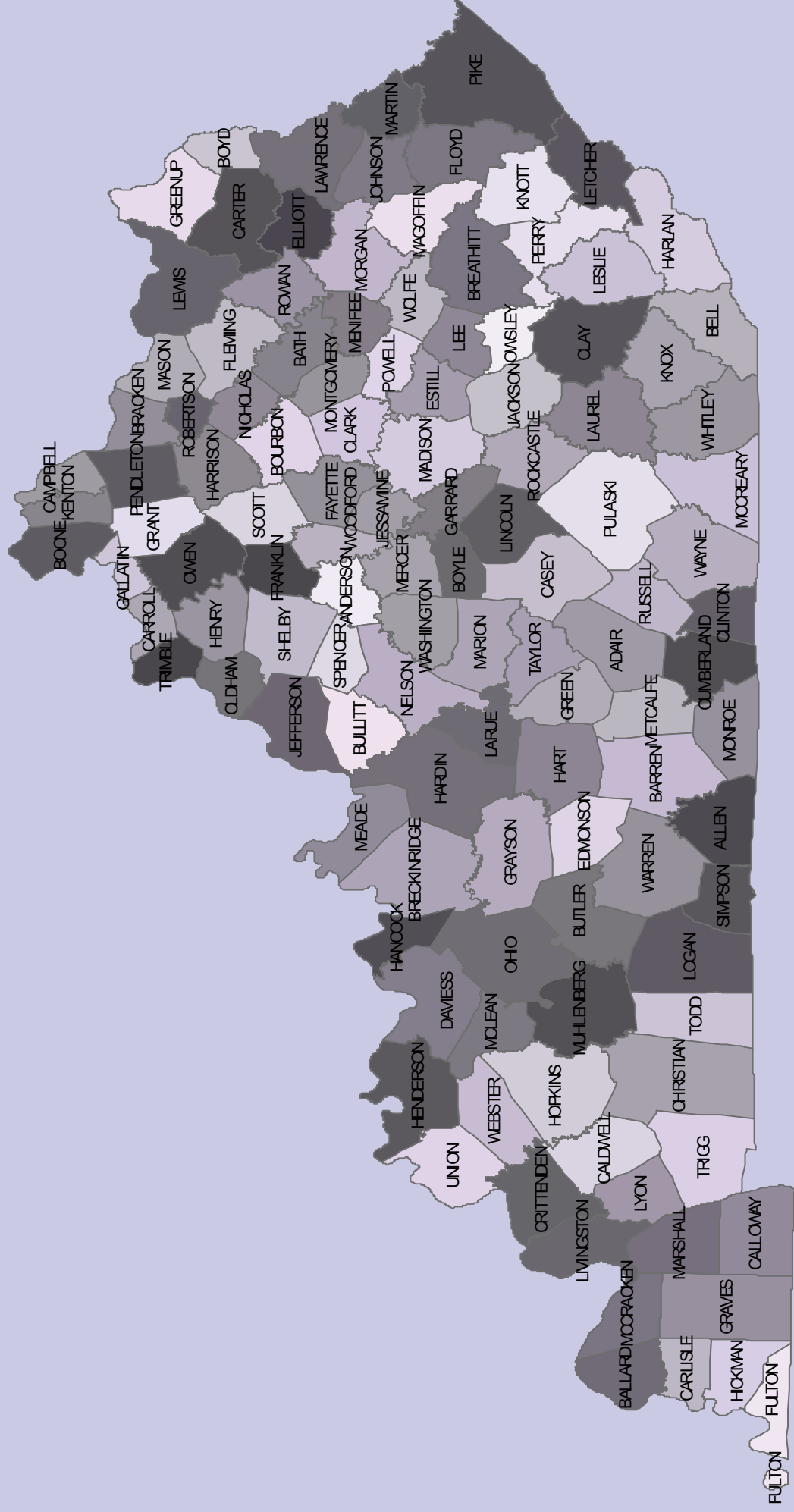
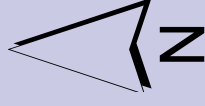
In 2005, Kentucky saw evidence of positive trends as well: AIDS incidence declined by 20 percent, and Neisseria, tuberculosis and syphilis has continued to decline since 2000. Through the Cabinet's efforts we hope to continue these downward trends.

The Cabinet for Health and Family Services will continue to maintain and improve this statewide program that detects, prevents and controls communicable and vectorborne disease in this Commonwealth.

### **For further information:**

For further information contact the Kentucky Department for Public Health, Division of Epidemiology and Health Planning at 502-564-3418 or visit our web address: <http://chfs.ky.gov/dph/epi/reportablediseases.htm>

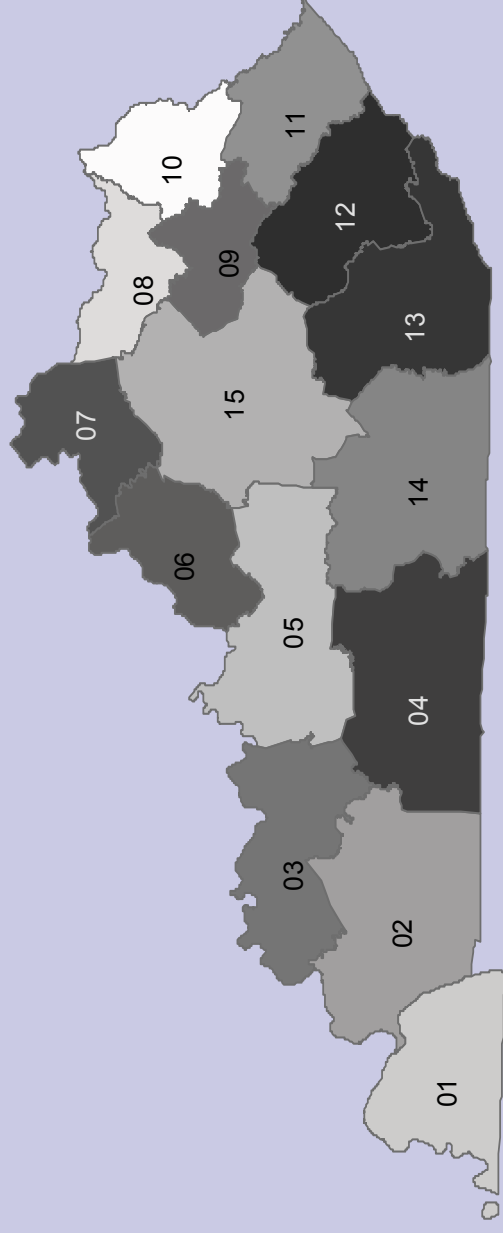
# Kentucky by County



# Kentucky by Area Development District (ADD)

## Legend

- 1 Purchase
- 2 Pennyrite
- 3 Green River
- 4 Barren River
- 5 Lincoln Trail
- 6 KIPDA
- 7 Northern KY
- 8 Buffalo Trace
- 9 Gateway
- 10 FIVCO
- 11 Big Sandy
- 12 KY River
- 13 Cumberland Valley
- 14 Lake Cumberland
- 15 Bluegrass



## Counties within an ADD

**Purchase** - Ballard, Calloway, Carlisle, Fulton, Graves, Hickman, McCracken, Marshall

**Pennyrite** - Caldwell, Christian, Crittenden, Hopkins, Livingston, Lyon, Muhlenberg, Todd, Trigg

**Green River** - Daviess, Hancock, Henderson, McLean, Ohio, Union, Webster

**Barren River** - Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, Warren

**Lincoln Trail** - Breckinridge, Grayson, Hardin, Larue, Marion, Meade, Nelson, Washington

**KIPDA** - Bullitt, Henry, Jefferson, Oldham, Shelby, Spencer, Trimble

**Northern KY** - Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, Pendleton

**Buffalo Trace** - Bracken, Fleming, Lewis, Mason, Robertson

**Gateway** - Bath, Menifee, Montgomery, Morgan, Rowan

**FIVCO** - Boyd, Carter, Elliott, Greenup, Lawrence

**Big Sandy** - Floyd, Johnson, Magoffin, Martin, Pike

**KY River** - Breathitt, Knott, Lee, Leslie, Letcher, Owsley, Perry, Wolfe

**Cumberland Valley** - Bell, Clay, Harlan, Jackson, Knox, Laurel, Rockcastle, Whitley

**Lake Cumberland** - Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Taylor, Wayne

**Bluegrass** - Anderson, Bourbon, Boyle, Clark, Estill, Fayette, Franklin, Garrard, Harrison, Jessamine, Lincoln, Madison, Mercer, Nicholas, Powell, Scott, Woodford

# SUMMARY

| <b>Disease</b>   | <b>2003 Case Count/<i>Crude</i><br/>Rate Per 100,000</b> | <b>2004 Case Count/<i>Crude</i><br/>Rate Per 100,000</b> | <b>2005 Case Count/<i>Crude</i><br/>Rate Per 100,000</b> |
|--|--|--|--|
| AIDS   | 204/ <b>5.00</b>   | 210/ <b>5.07</b>   | <b>168/4.03</b>  |
| Botulism, Infant   | 0  | 1/ <b>0.02</b>   | <b>1/0.02</b>  |
| Brucellosis  | 0  | 2/ <b>.05</b>  | <b>0</b>   |
| Campylobacteriosis   | 253/ <b>6.20</b>   | 273/ <b>6.60</b>   | <b>288/6.90</b>  |
| Chlamydia  | 7959/ <b>198.90</b>                                      | 6470/ <b>157.10</b>                                      | <b>8351/200.10</b>                                       |
| Cryptosporidiosis <sup>(1)</sup>                                     | 27/ <b>0.65</b>  | 47/ <b>1.10</b>  | <b>149/3.57</b>  |
| Encephalitis, California   | 3/ <b>0.07</b>   | 1/ <b>0.02</b>   | <b>0</b>   |
| Encephalitis, West Nile  | 11/ <b>0.27</b>  | 1/ <b>0.02</b>   | <b>5/0.12</b>  |
| Escherichia coli Non-O157:H7   | 2/ <b>0.05</b>   | 1/ <b>0.02</b>   | <b>7/0.17</b>  |
| Escherichia coli O157:H7   | 29/ <b>0.70</b>  | 31/ <b>0.75</b>  | <b>48/1.15</b>   |
| Escherichia coli shigatoxin  | 6/ <b>0.20</b>   | 10/ <b>0.24</b>  | <b>21/0.50</b>   |
| Ehrlichiosis <sup>(2)</sup>  | 5/ <b>0.10</b>   | 2/ <b>0.05</b>   | <b>5/0.12</b>  |
| Gonorrhea  | 3565/ <b>86.60</b>                                       | 2758/ <b>66.59</b>                                       | <b>2935/70.33</b>  |
| <i>Haemophilus influenzae</i>  | 12/ <b>0.30</b>  | 16/ <b>0.39</b>  | <b>14/0.34</b>   |
| Hansen   | 0  | 0  | <b>1/0.02</b>  |
| Hepatitis A  | 36/ <b>0.87</b>  | 31/ <b>0.75</b>  | <b>24/0.56</b>   |
| Hepatitis B  | 95/ <b>2.30</b>  | 85/ <b>2.10</b>  | <b>67/1.61</b>   |
| Hepatitis B , perinatal <sup>(3)</sup>                               | 47   | 47   | <b>0</b>   |
| Hepatitis C <sup>(4)</sup>   | 26/ <b>0.60</b>  | 27/ <b>0.65</b>  | <b>16/0.38</b>   |
| Histoplasmosis   | 39/ <b>1.00</b>  | 47/ <b>1.13</b>  | <b>50/1.17</b>   |
| Influenza Isolates   | 565/ <b>13.80</b>  | 621/ <b>14.90</b>  | <b>602/14.20</b>   |
| Legionellosis  | 46/ <b>1.10</b>  | 44/ <b>1.10</b>  | <b>33/0.79</b>   |
| Listeriosis  | 9/ <b>0.20</b>   | 4/ <b>.10</b>  | <b>5/0.12</b>  |
| Lyme Disease   | 17/ <b>0.40</b>  | 15/ <b>0.40</b>  | <b>5/0.12</b>  |
| Malaria  | 11/ <b>0.27</b>  | 5/ <b>0.10</b>   | <b>10/0.24</b>   |
| <i>Neisseria meningitidis</i>  | 23/ <b>0.56</b>  | 18/ <b>0.40</b>  | <b>20/0.48</b>   |
| Pertussis <sup>(5)</sup>   | 53/ <b>1.30</b>  | 98/ <b>2.40</b>  | <b>155/3.76</b>  |
| Q Fever  | 9/ <b>0.20</b>   | 6/ <b>0.20</b>   | <b>2/0.02</b>  |
| Rabies(Animal) <sup>(6)</sup>  | 39/ <b>32</b>  | 23/ <b>19</b>  | <b>17/0.41</b>   |
| RMSF <sup>(7)</sup>  | 3/ <b>0.07</b>   | 3/ <b>0.07</b>   | <b>3/0.07</b>  |
| Rubella  | 0  | 0  | <b>1/0.02</b>  |
| Salmonellosis  | 404/ <b>9.81</b>   | 361/ <b>8.72</b>   | <b>488/11.69</b>   |
| Shigellosis <sup>(8)</sup>   | 136/ <b>3.30</b>   | 75/ <b>1.80</b>  | <b>335/8.00</b>  |
| Streptococcal Disease, Invasive Group A                              | 52/ <b>3.30</b>  | 62/ <b>1.50</b>  | <b>35/0.84</b>   |
| <i>Streptococcus pneumoniae</i> ,<br>Drug-Resistant Invasive Disease | 31/ <b>0.75</b>  | 32/ <b>0.77</b>  | <b>32/0.77</b>   |
| Syphilis   | 160/ <b>3.89</b>   | 151/ <b>3.65</b>   | <b>129/3.1</b>   |



|                                |                  |                  |                  |
|--------------------------------|------------------|------------------|------------------|
| Tetanus                        | 0                | 2/ <b>0.05</b>   | 1/ <b>0.02</b>   |
| Toxic Shock Syndrome           | 6/ <b>0.2</b>    | 11/ <b>0.27</b>  | 4/ <b>0.10</b>   |
| Toxoplasmosis                  | 0                | 1/ <b>0.02</b>   | 1/ <b>0.02</b>   |
| Tuberculosis                   | 138/ <b>3.35</b> | 127/ <b>3.11</b> | 124/ <b>2.97</b> |
| Tularemia                      | 2/ <b>0.05</b>   | 5/ <b>0.1</b>    | 3/ <b>0.07</b>   |
| Typhoid Fever                  | 1/ <b>0.02</b>   | 3/ <b>0.07</b>   | 2/ <b>0.05</b>   |
| <i>Vibrio vulnificus</i>       | 0                | 1/ <b>0.02</b>   | 0                |
| <i>Vibrio parahaemolyticus</i> | 1/ <b>0.02</b>   | 2/ <b>0.05</b>   | 0                |
| West Nile Fever, Human         | 3/ <b>0.07</b>   | 6/ <b>0.2</b>    | 0                |

<sup>1</sup> Elevated case count due to outbreak.

<sup>2</sup> Combined HME and unspecific.

<sup>3</sup> Number of infants born whose mother was Hepatitis B Antigen positive

<sup>4</sup> Interpretation of the present case definition (staff changes), and change in case definition.

<sup>5</sup> Elevated case count due to outbreak

<sup>6</sup> Method of Calculation: Annual number of confirmed cases of rabies in animals/total number of

<sup>7</sup> Rocky Mountain Spotted Fever

<sup>8</sup> Elevated case count due to outbreak

Source: Kentucky State Data Center (<http://ksdc.louisville.edu/kpr/popest/nst-est2005-01.xls>) for rates; population estimates

#### **NO CASES REPORTED (2002 through 2004)**

Anthrax

Chancroid

Cholera

Diphtheria

Granuloma inguinale

Hantavirus Pulmonary Syndrome

*Lymphogranuloma venereum*

Measles

Mumps

Plague

Poliomyelitis

Psittacosis

Rabies, human

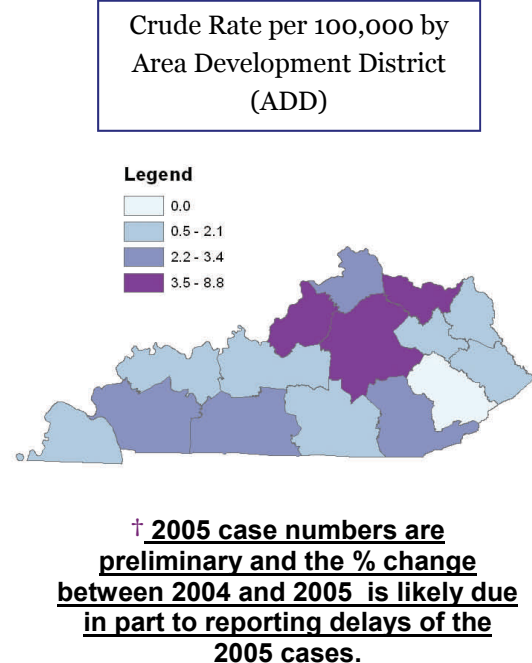
Yellow Fever

# AIDS

|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 168 <sup>†</sup>   |
| <b>Kentucky rate</b> *      | 4.0 per 100,000  |
| <b>U.S. rate</b> **         | 15.2 per 100,000   |
| <b>Age of case-patients</b> | Mean - 40 years<br>Median - 40 years<br>Range - 19 to 67 years |
| <b>Rate by sex</b>          | Female - 1.6 per 100,000<br>Male - 6.5 per 100,000             |
| <b>Rate by race</b>         | White - 2.5 per 100,000<br>Black - 17.1 per 100,000            |
| <b>Rate by ethnicity</b>    | Hispanic - 14.7 per 100,000                                    |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



## Background

The Centers for Disease Control and Prevention define Human Immunodeficiency Virus (HIV) as the virus that causes Acquired Immunodeficiency Syndrome (AIDS). This virus may be passed from one person to another when infected blood, semen, or vaginal secretions come in contact with an uninfected person's broken skin or mucous membranes. In addition, infected pregnant women can pass HIV to their babies during pregnancy or delivery, as well as through breast-feeding. People with HIV have what is called HIV infection. Some of these people will develop AIDS as a result of their HIV infection.

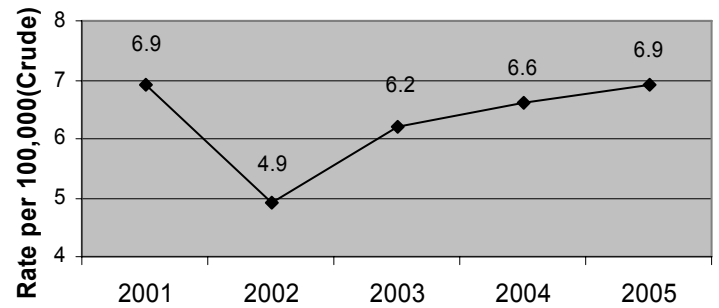
**Source:** Kentucky Department for Public Health (KDPH) and Centers for Disease Control and Prevention (CDC). *HIV/AIDS Surveillance*. Frankfort, Kentucky: Cabinet for Health and Family Services, Kentucky Department for Public Health, 2004.

# Campylobacteriosis

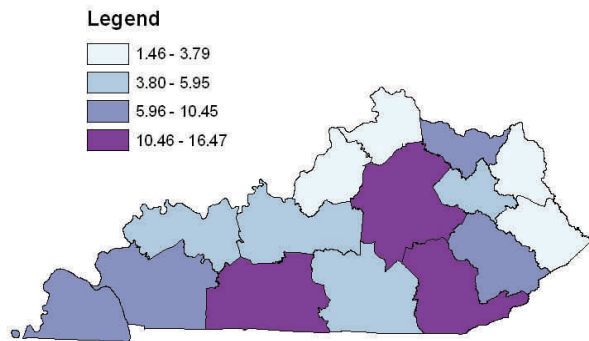
|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 288   |
| <b>Kentucky rate</b>        | 6.9 per 100,000*  |
| <b>U.S. rate</b>            | 12.7 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 31 years<br>Median - 32 years<br>Range - 1 to 95 years |
| <b>Rate by sex</b>          | Female - 6.6 per 100,000<br>Male - 7.2 per 100,000            |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5514a2.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: Kentucky Disease Surveillance Module

## Background

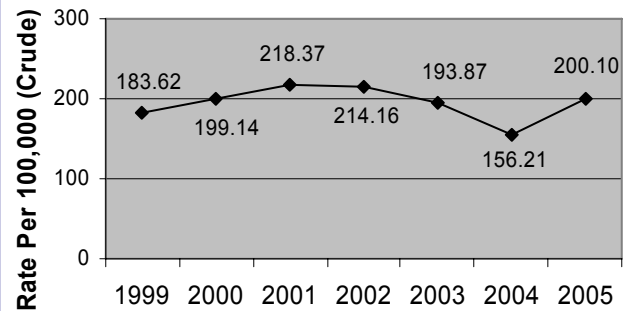
Campylobacteriosis is an acute bacterial enteric illness of varying severity caused by *Campylobacter jejuni* and less commonly *Campylobacter coli*. Diarrhea, abdominal pain, malaise, fever, nausea, and vomiting characterize the illness. The duration may be up to 10 days, but typically lasts from 2-5 days. The mode of transmission is by ingestion of organisms from inadequately cooked chicken or pork, contaminated food or water, raw milk, or from contact with infected pets (kittens and puppies), farm animals or infected infants.

# Chlamydia

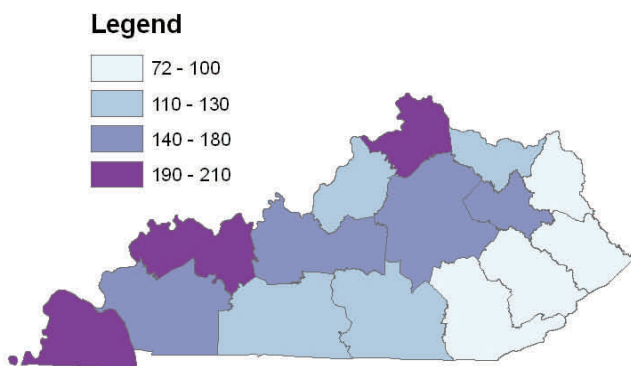
|                        |  |
|------------------------|--|
| <b>Number of cases</b> | 8351   |
| <b>Kentucky rate</b>   | 200.1 per 100,000*                                     |
| <b>U.S. rate</b>       | 319.6 per 100,000**                                    |
| <b>Rate by sex</b>     | Female - 286.0 per 100,000<br>Male - 112.3 per 100,000 |
| <b>Rate by race</b>    | White - 99.3 per 100,000<br>Black - 797.4 per 100,000  |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\* <http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: Sexually Transmitted Disease Management Information System (STD\*MIS)

## Background

Chlamydial infection is a sexually transmitted disease (STD) caused by obligate intracellular bacteria, *Chlamydia trachomatis*. The disease is characterized by urethritis in males and mucopurulent cervicitis in females, however, asymptomatic infections are common. Possible complications in males include epididymitis that can lead to sterility. In females, a complication is salpingitis with risk of infertility or ectopic pregnancy. Eye and lung infections in newborns are the consequences of genital infections in their mothers, that are transmitted during birth. Endocervical chlamydial infection has been associated with increased risk of HIV infection.

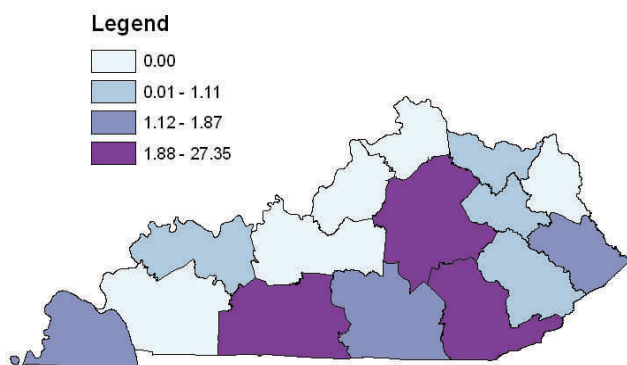
# Cryptosporidiosis

|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 149  |
| <b>Kentucky rate</b>        | 3.6 per 100,000*   |
| <b>U.S. rate</b>            | 1.2 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 12 years<br>Median - 5 years<br>Range - 1 to 89 years |
| <b>Rate by sex</b>          | Female - 3.1 per 100,000<br>Male - 4.0 per 100,000           |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

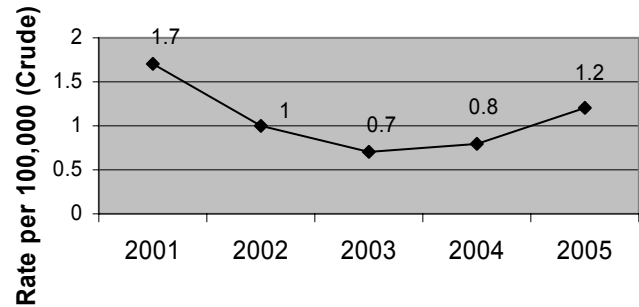
## Background

Cryptosporidiosis is an illness caused by the coccidian protozoa *Cryptosporidium parvum* characterized by diarrhea, abdominal cramps, anorexia, low-grade fever, nausea and vomiting. Infected persons may be asymptomatic. The disease can be prolonged and life-threatening in severely immunocompromised persons. Transmission is fecal-oral and includes person to person, animal to person, waterborne and foodborne routes. *Cryptosporidia* parasites occur worldwide affecting humans, cattle, poultry, reptiles and many other vertebrate species.

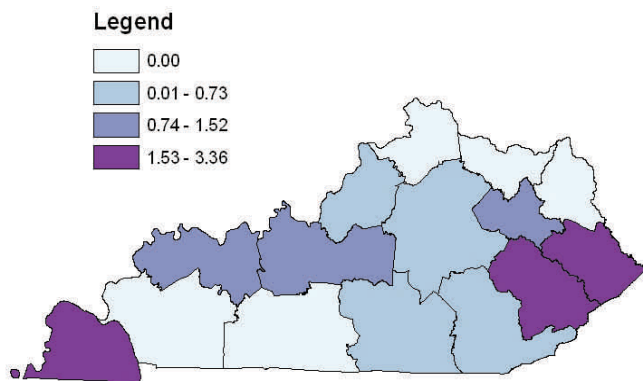
# *Escherichia coli* O157:H7

|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 48  |
| <b>Kentucky rate</b>        | 1.2 per 100,000*  |
| <b>U.S. rate</b>            | 0.9 per 100,000**   |
| <b>Age of case-patients</b> | Mean - 20 years<br>Median - 12 years<br>Range - 1 to 81 years |
| <b>Rate by sex</b>          | Female - 0.9 per 100,000<br>Male - 1.4 per 100,000            |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>



Crude Rate per 100,000 by Area Development District (ADD)



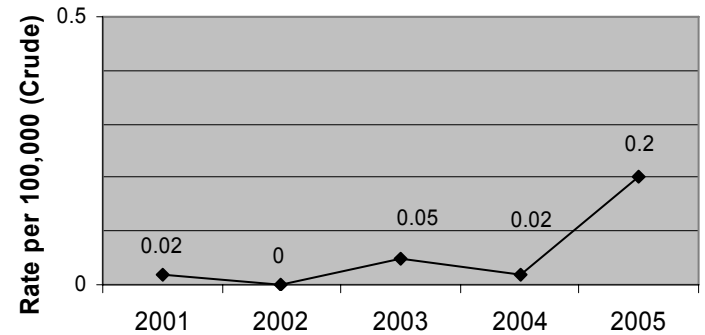
Source: KY Disease Surveillance Module

## Background

*Escherichia coli* O157:H7, an enterohemorrhagic strain of *E.coli* (EHEC), is the agent for an illness of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP) are serious complications. Approximately 2-7 percent of patients with EHEC diarrhea progress to HUS, with children under 5 years of age being at greatest risk. Transmission is mainly by ingestion of contaminated food, e.g. inadequately cooked beef, raw milk or other foods contaminated with animal feces. Direct transmission occurs person to person in families, child care centers and custodial institutions. Further, waterborne transmission occurs.

# *Escherichia coli* Non-O157:H7

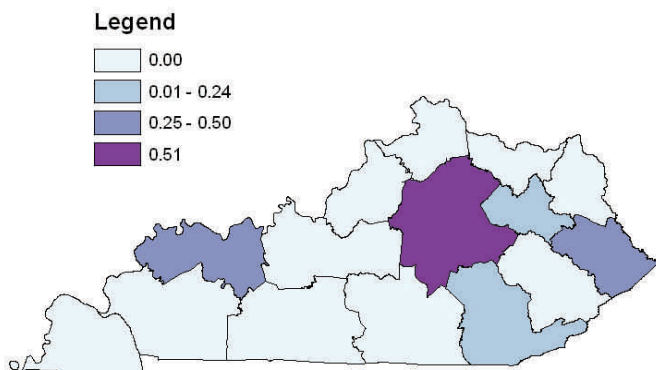
|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 7  |
| <b>Kentucky rate</b>        | 0.2 per 100,000*   |
| <b>U.S. rate</b>            | 0.1 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 21 years<br>Median - 2 years<br>Range - 1 to 77 years |
| <b>Rate by sex</b>          | Female - 0.1 per 100,000<br>Male - 0.2 per 100,000           |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



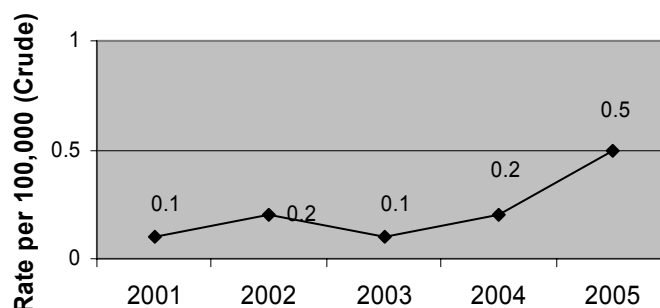
Source: KY Disease Surveillance Module

## Background

This is a category of the serotypes of EHEC that do not belong to the O157:H7 sub grouping. This grouping accounts for about 10% of the EHEC cases nationally. The symptoms can vary from acute diarrhea to vomiting. This sub grouping contains serotypes O26, O111, O103, O45, and O121. Additionally, this group may enterotoxigenic (ETEC), enteroinvasive (EIEC), enteropathogenic (EPEC), enteroaggregative (EAggEC) and diffuse-adherence (DAEC).

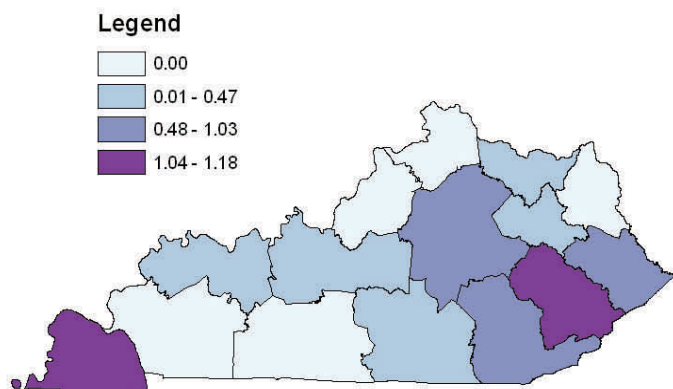
# *Escherichia coli* shigatoxin positive

|                      |   |
|----------------------|---|
| Number of cases      | 21  |
| Kentucky rate        | 0.5 per 100,000*  |
| U.S. rate            | N/A   |
| Age of case-patients | Mean - 30 years<br>Median - 27 years<br>Range - 1 to 81 years |
| Rate by sex          | Female - 0.5 per 100,000<br>Male - 0.5 per 100,000            |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

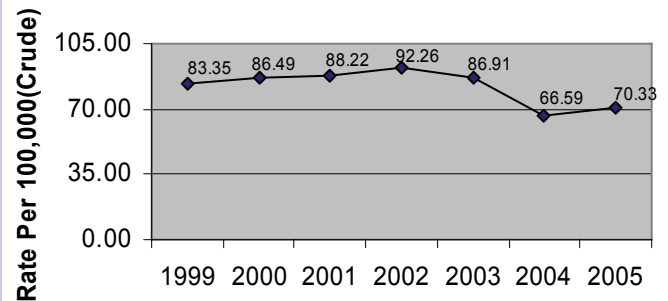
## Background

This is a Enterohemorrhagic *Escherichia coli* (EHEC) which has been further identified by the toxic it produces, shigatoxin 1 or 2. The main route of transmission is through indigestion of contaminated food from ruminant feces but person-to-person transmission and water borne transmission are alternative routes.



# Gonorrhea

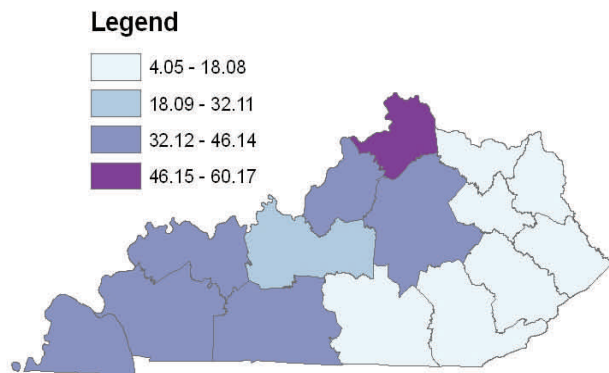
|                        |   |
|------------------------|---|
| <b>Number of cases</b> | 2935  |
| <b>Kentucky rate</b>   | 70.3 per 100,000*                                     |
| <b>U.S. rate</b>       | 113.5 per 100,000**                                   |
| <b>Rate by sex</b>     | Female - 72.4 per 100,000<br>Male - 68.8 per 100,000  |
| <b>Rate by race</b>    | White - 24.2 per 100,000<br>Black - 469.1 per 100,000 |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



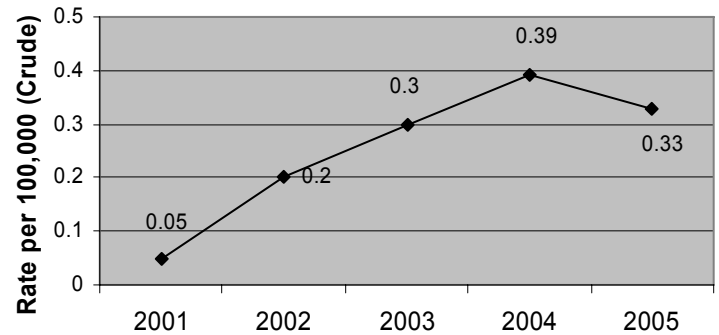
Source: Sexually Transmitted Disease Management Information System (STD\*MIS)

## Background

Gonorrhea is a sexually transmitted bacterial disease (STD) caused by *Neisseria gonorrhoeae*. In males, it is usually characterized by a purulent urethral discharge and dysuria. In females, initially there is a urethritis or cervicitis often so mild it may pass unnoticed. Depending upon sexual practices, pharyngeal and anorectal infections can occur. In males, the urethral infection is usually self-limiting; however, it may progress to epididymitis. In rare cases in male or female it can disseminate into an arthritis-dermatitis syndrome, endocarditis, and meningitis. Twenty percent of women infected with gonorrhea may progress to uterine infection, which may lead to endometritis, salpingitis, the subsequent risk of infertility or ectopic pregnancy.

# *Haemophilus influenzae*, Invasive

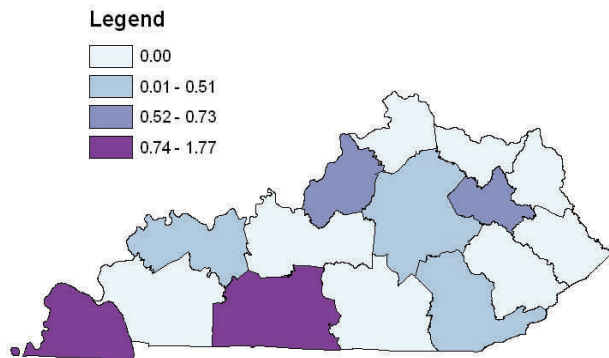
|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 14  |
| <b>Kentucky rate</b>        | 0.3 per 100,000*  |
| <b>U.S. rate</b>            | 0.7 per 100,000**   |
| <b>Age of case-patients</b> | Mean - 49 years<br>Median - 65 years<br>Range - 1 to 84 years |
| <b>Rate by sex</b>          | Female - 0.4 per 100,000<br>Male - 0.2 per 100,000            |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



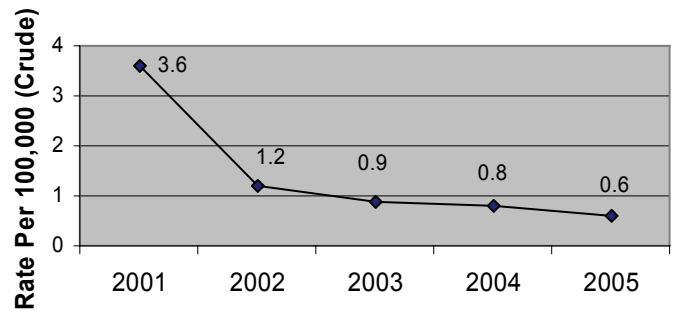
Source: KY Disease Surveillance Module

## Background

The organism *Haemophilus influenzae* type b causes meningitis, epiglottitis, septic arthritis and pneumonia, as well as localized infections such as conjunctivitis, sinusitis, otitis media and bronchitis in infants and young children. In adults, the organism often causes pneumonia. Droplets from the nose and throat spread the organism during the infectious period. A vaccine which protects against invasive disease caused by *H. influenzae* type b (Hib) is recommended for all infants beginning at two months of age. The vaccine has been available since 1998. Substantial decrease in rates of invasive disease occurred after the introduction of this vaccine.

# Hepatitis A, Acute

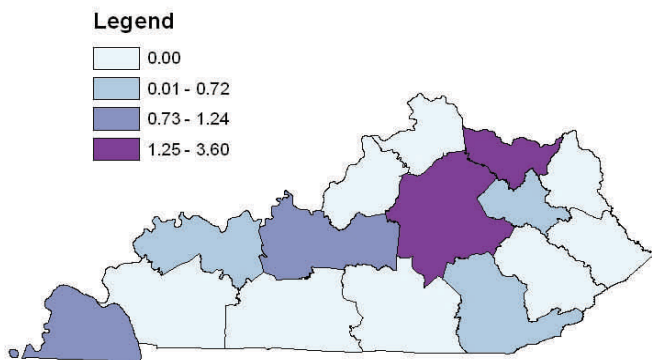
|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 24  |
| <b>Kentucky rate</b>        | 0.6 per 100,000*  |
| <b>U.S. rate</b>            | 1.9 per 100,000**   |
| <b>Age of case-patients</b> | Mean - 37 years<br>Median - 29 years<br>Range - 5 to 88 years |
| <b>Rate by sex</b>          | Female - 0.6 per 100,000<br>Male - 0.5 per 100,000            |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

## Background

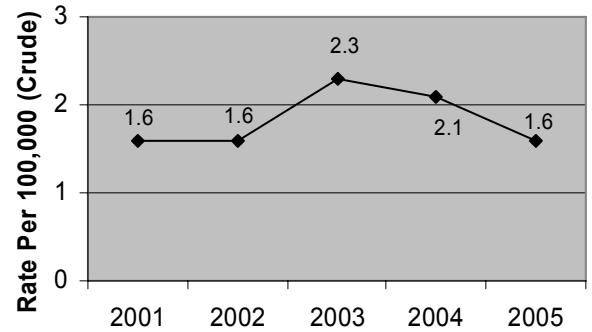
Hepatitis A is an illness caused by the hepatitis A virus. It is characterized by abrupt onset of fever, malaise, nausea, abdominal discomfort and fatigue; followed within a few days by jaundice. Severity of illness is highly variable and can be mild or asymptomatic in young children. Severity varies from person to person, but the mortality rate is low, ranging from 0.1% to 0.3%. The virus is transmitted person to person by the fecal-oral route. Poor environmental sanitation, poor personal hygiene, and close personal contact promote transmission. Transmission occurs sporadically in daycare centers. Common source outbreaks have been related to contaminated water, food contaminated by infected food handlers, raw and undercooked mollusks taken from contaminated water, and contaminated produce.

# Hepatitis B, Acute

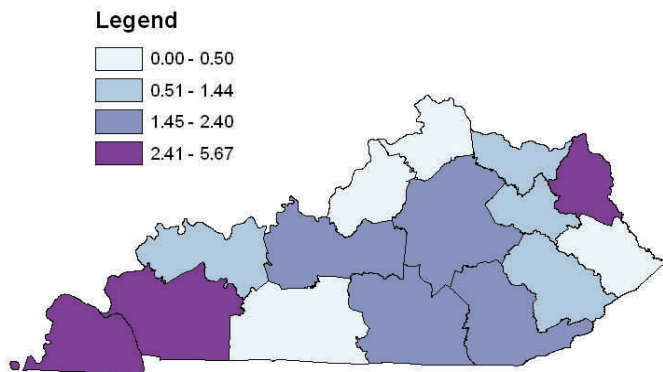
|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 67   |
| <b>Kentucky rate</b>        | 1.6 per 100,000*   |
| <b>U.S. rate</b>            | 2.1 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 36 years<br>Median - 34 years<br>Range - 14 to 89 years |
| <b>Rate by sex</b>          | Female - 1.4 per 100,000<br>Male - 1.8 per 100,000             |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

## Background

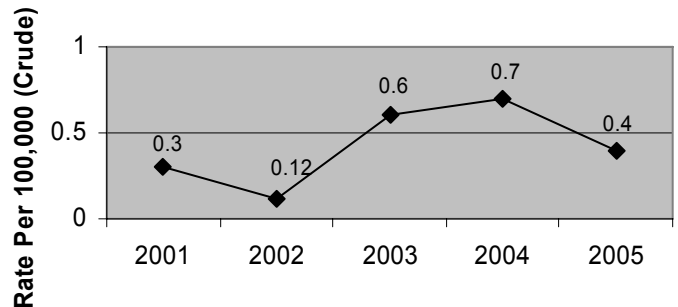
Acute hepatitis B is an illness with insidious onset of symptoms including anorexia, vague abdominal discomfort, nausea, vomiting, sometimes arthralgias and rash, often progressing to jaundice. The hepatitis B virus (HBV) is transmitted from person to person primarily through exposure to blood or other body fluids of infected persons. Infection can occur through sexual contact, injecting drug use, occupational exposure in healthcare settings, perinatal exposure, and household contact with a carrier. Only a small proportion of infections are clinically recognized. Five to 10 percent of infected adults and 90 percent of infected infants develop chronic infections. These individuals have a significantly higher risk of developing some form of serious liver disease in the future.

# Hepatitis C, Acute

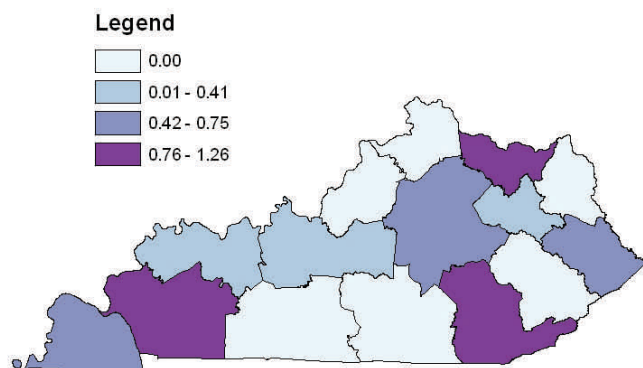
|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 16   |
| <b>Kentucky rate</b>        | 0.4 per 100,000*   |
| <b>U.S. rate</b>            | 0.3 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 35 years<br>Median - 36 years<br>Range - 19 to 54 years |
| <b>Rate by sex</b>          | Female - 0.4 per 100,000<br>Male - 0.4 per 100,000             |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

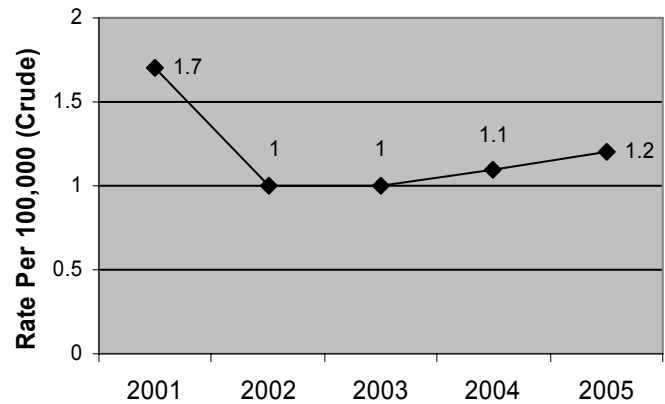
## Background

Hepatitis C is a liver disease caused by the hepatitis C virus (HCV), which is found in the blood of persons who have this disease. HCV is primarily spread by contact with the blood of an infected person (parenteral) and less frequently by sexual contact or perinatal transmission. Hepatitis C often produces an illness with insidious onset of symptoms, including anorexia, abdominal discomfort, nausea, vomiting, and progressing to jaundice less frequently than hepatitis B. Ninety percent of cases are asymptomatic, but chronic infection is common (50 to 80 percent of cases). Of these about half will develop cancer or cirrhosis of the liver. Groups at high risk of acquiring HCV are injecting drug users, recipients of blood products prior to 1992, and hemodialysis patients.

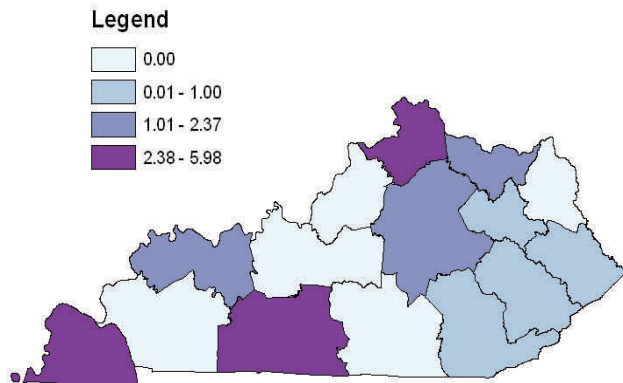
# Histoplasmosis

|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 50  |
| <b>Kentucky rate</b>        | 1.2 per 100,000*  |
| <b>U.S. rate</b>            | N/A   |
| <b>Age of case-patients</b> | Mean - 46 years<br>Median - 49 years<br>Range - 1 to 83 years |
| <b>Rate by sex</b>          | Female - 0.8 per 100,000<br>Male - 1.6 per 100,000            |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

## Background

Histoplasmosis is caused by the fungus *Histoplasma capsulatum* variety *capsulatum* that grows as a mold in soil and as a yeast in human and animal hosts. Common reservoirs are soil around old chicken houses, in caves with bats, around starling and blackbird roosts, and in decaying trees. The organism growing in soil produces spore forms (conidia). Breathing the airborne conidia causes infection.

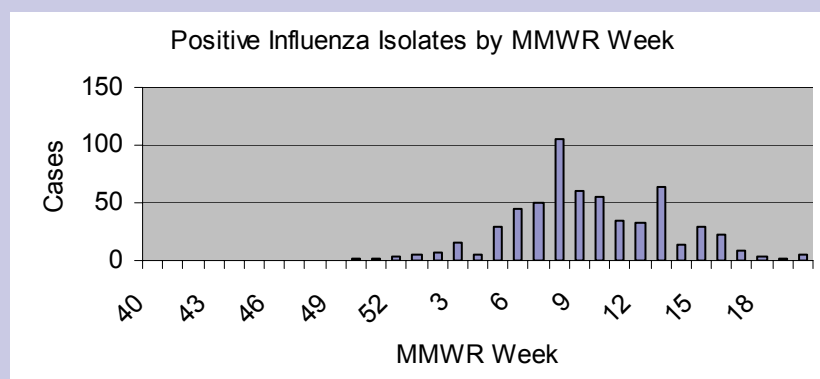
# Influenza

|                             |   |
|-----------------------------|---|
| <b>Number of isolates</b>   | 602   |
| <b>Kentucky rate</b>        | not available*  |
| <b>U.S. rate</b>            | not available   |
| <b>Age of case-patients</b> | Mean - 29 years<br>Median - 22 years<br>Range - 1 to 93 years |
| <b>Rate by sex</b>          | Female -13.5 per 100,000<br>Male - 14.9 per 100,000           |

## Background

Influenza is an acute respiratory disease most frequently caused by influenza type A or B viruses. Typical features of influenza include abrupt onset of fever, respiratory symptoms, such as cough, sore throat, coryza and systemic symptoms, such as headache, muscle aches and fatigue. Only influenza culture isolates are reportable in Kentucky; the true number of cases is undetermined.

\*Positive Influenza isolates are mainly reported from sentinel physicians; therefore unable to determine rates. The influenza season is based on MMWR weeks. The flu season for 2005 starts at week 40 of 2004 and ends week 21 of 2005.

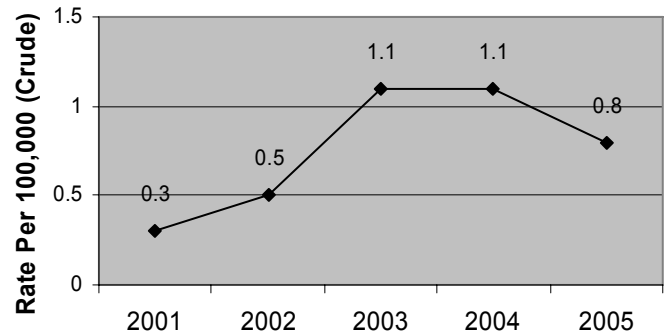


# Legionellosis

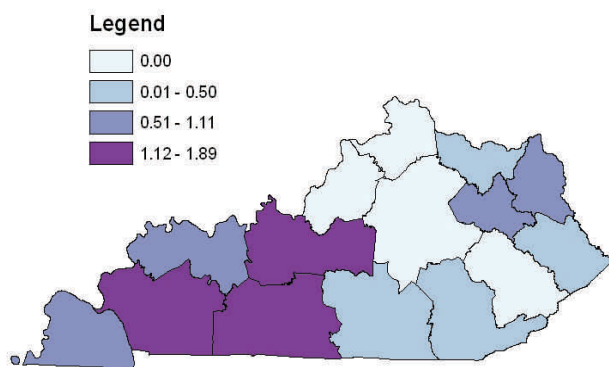
|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 33   |
| <b>Kentucky rate</b>        | 0.8 per 100,000*   |
| <b>U.S. rate</b>            | 0.7 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 59 years<br>Median - 59 years<br>Range - 25 to 85 years |
| <b>Rate by sex</b>          | Female - 0.4 per 100,000<br>Male - 1.2 per 100,000             |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance System

## Background

Legionellosis, a bacterial disease caused primarily by *Legionella pneumophila*, has two distinct manifestations: Legionnaires' disease and Pontiac fever. Both illnesses have an acute onset characterized by malaise, headache and fever. In Legionnaires' disease pneumonia may develop, and progress to respiratory failure. Patients with Pontiac fever have a milder disease without pneumonia, and recover within two to five days. Airborne transmission by aerosol producing devices (e.g. spas, humidifiers, air conditioning cooling towers) is the most likely method of transmission. Legionnaires' disease occurs both sporadically and in outbreaks. Pontiac fever is identified primarily in community outbreaks.



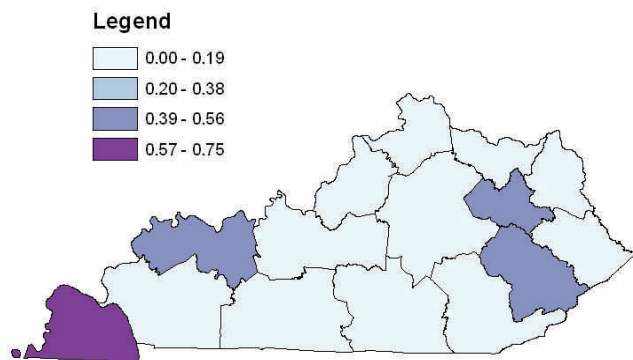
# Malaria

|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 10  |
| <b>Kentucky rate</b>        | 0.24 per 100,000*   |
| <b>U.S. rate</b>            | 0.5 per 100,000**   |
| <b>Age of case-patients</b> | Mean - 29 years<br>Median - 26 years<br>Range - 5 to 57 years |
| <b>Rate by sex</b>          | Female - 0.09 per 100,000<br>Male - 0.4 per 100,000           |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance System

## Background

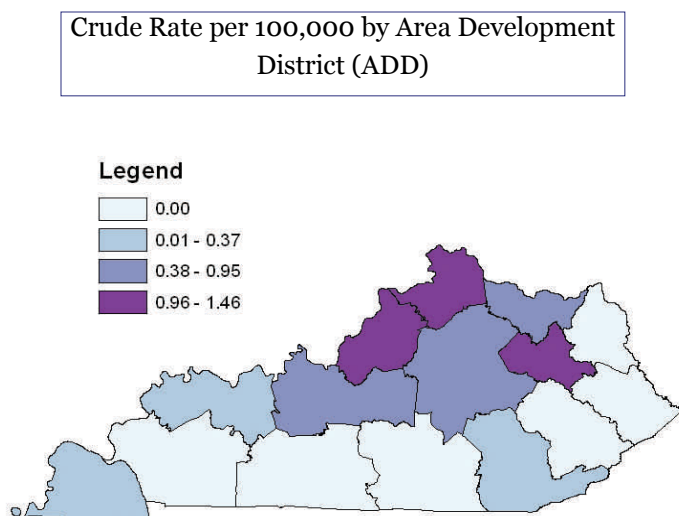
Malaria is a parasitic disease transmitted by infective female mosquito, *Anopheles*. It is not endemic to Kentucky; historically cases have come from persons traveling internationally. Malaria initially presents with high fever, shaking, chills and a severe flu-like illness. Four species of malaria parasites can infect humans causing illness. Improper or lack of treatment of *P. falciparum* may be fatal.

# Meningococcal Infections

|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 20  |
| <b>Kentucky rate</b>        | 0.5per 100,000*   |
| <b>U.S. rate</b>            | 0.5 per 100,000**   |
| <b>Age of case-patients</b> | Mean - 16 years<br>Median - 10 years<br>Range - 1 to 69 years |
| <b>Rate by sex</b>          | Female - 0.4 per 100,000<br>Male - 0.6 per 100,000            |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



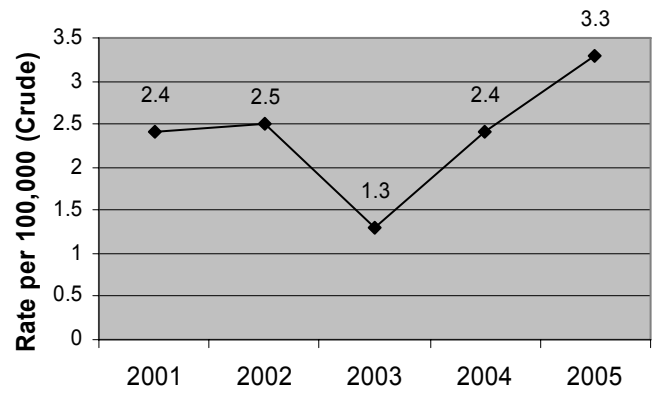
Source: KY Disease Surveillance Module

## Background

Invasive meningococcal infections caused by *Neisseria meningitidis* is most commonly manifested as meningitis, but it is also reportable if confirmed in other normally sterile sites. The disease is characterized by a sudden onset of fever, intense headache, stiff neck, nausea and vomiting, and often a petechial rash. Delirium and coma often appear and fulminant cases may exhibit sudden prostration, ecchymoses and shock. With early diagnosis and therapy the case fatality rate is between 5 and 15 percent. Transmission of the organism is from person to person through infected droplets or secretions from the nose and throat, more often from infected carriers than from cases.

# Pertussis

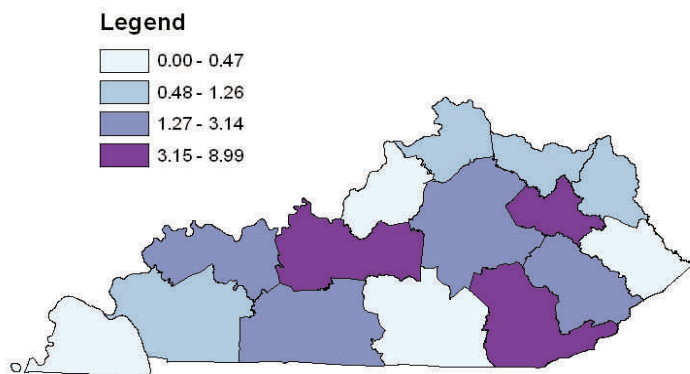
|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 155   |
| <b>Kentucky rate</b>        | 3.3 per 100,000*  |
| <b>U.S. rate</b>            | 8.9 per 100,000**   |
| <b>Age of case-patients</b> | Mean - 9 years<br>Median - 2 years<br>Range - 1 to 75 years |
| <b>Rate by sex</b>          | Female - 3.4 per 100,000<br>Male - 1.6 per 100,000          |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

## Background

Pertussis (whooping cough) is a highly contagious bacterial disease of the respiratory tract caused by *Bordetella pertussis*. The disease can progress to severe paroxysms of cough, often with a characteristic inspiratory whoop. Pertussis can be particularly severe in infants less than one year of age. Older siblings and parents may have mild or atypical pertussis. Transmission occurs by direct contact with aerosol droplets from the respiratory tract of infected persons. Immunization beginning at two months of age is recommended and completion of the four-injection series is required for protective immunity in children. In 2005, pertussis containing vaccines were approved for administration to adolescents and adults.

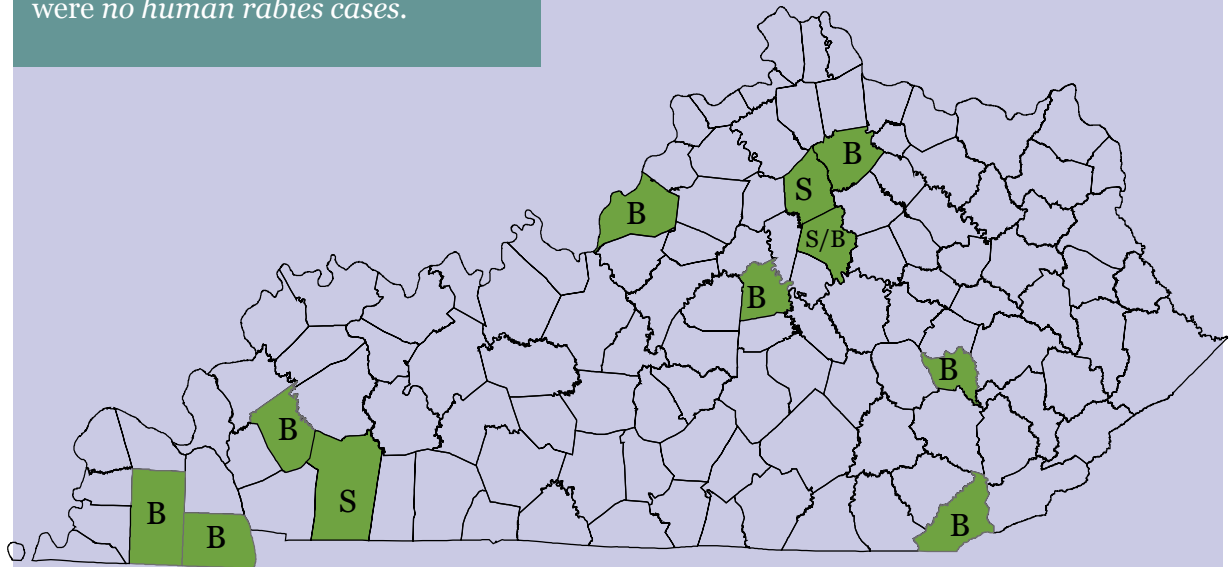
# Rabies, Animal

## Background

Human rabies is an acute viral illness of the central nervous system. The disease almost always progresses to coma or death within 10 days of the first symptoms. Onset is often heralded by a sense of apprehension, headache, fever, malaise, and various sensory changes at the site of a rabies infected animal bite. In 2005 there were *no human rabies cases*.

## Total Animal Rabies Cases 17

Source: KY Disease Surveillance Module



**Bell – 1 Bat**

**Caldwell – 1 Bat**

**Calloway – 2 Bats**

**Christian – 1 Skunk**

**Fayette – 1 Bat, 4 Skunks**

**Graves – 1 Bat**

**Harrison – 1 Bat**

**Jefferson – 2 Bats**

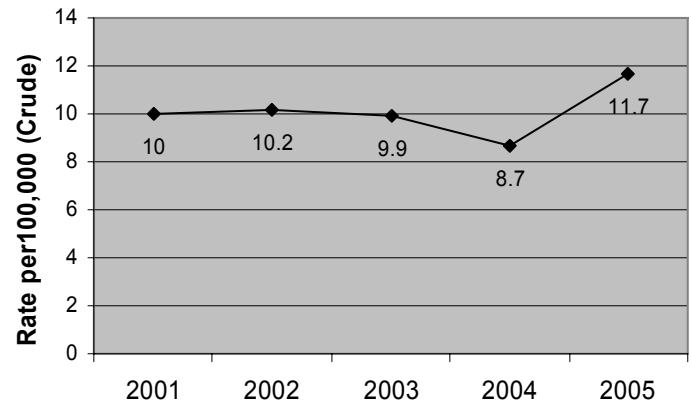
**Mercer – 1 Bat**

**Owsley – 1 Bat**

**Scott - 1 Skunk**

# Salmonellosis

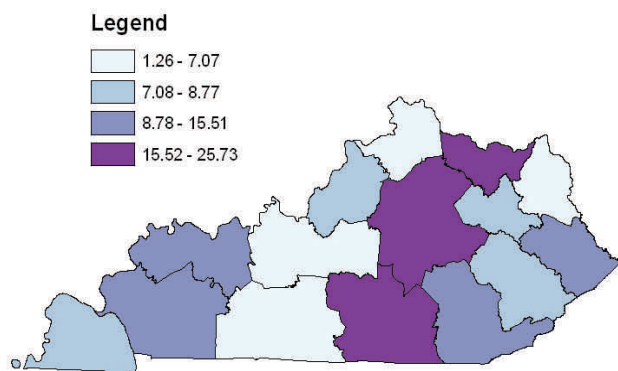
|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 488   |
| <b>Kentucky rate</b>        | 11.7 per 100,000*   |
| <b>U.S. rate</b>            | 14.5 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 31 years<br>Median - 30 years<br>Range - 1 to 92 years |
| <b>Rate by sex</b>          | Female - 11.7 per 100,000<br>Male - 11.4 per 100,000          |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

## Background

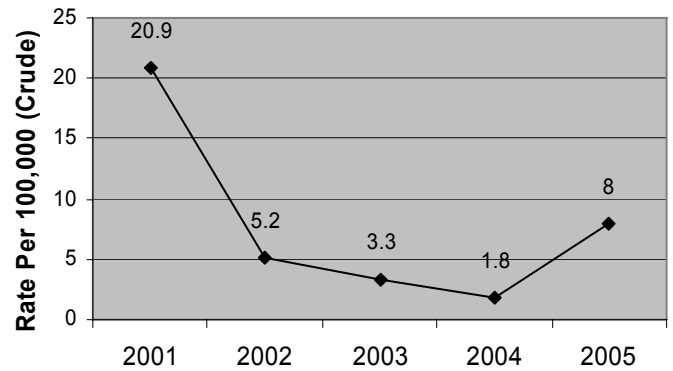
Salmonellosis is a bacterial enteric infection caused by serovars of the genus *Salmonella* that infect animals and humans. The disease is characterized by sudden onset of headache, abdominal pain, diarrhea, nausea, and vomiting. Infection is transmitted by ingestion of contaminated food or liquids, from person to person by the fecal-oral route, and by contact with infected animals or contaminated animal products. There are more than 2,000 recognized serotypes/serovars of *Salmonella*.

# Shigellosis

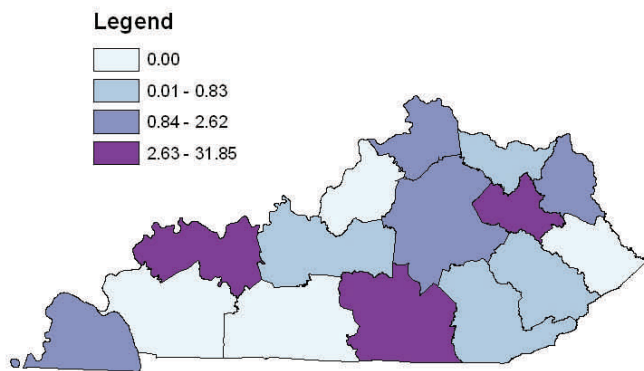
|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 335  |
| <b>Kentucky rate</b>        | 8.0 per 100,000*   |
| <b>U.S. rate</b>            | 5.0 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 10 years<br>Median - 5 years<br>Range - 1 to 89 years |
| <b>Rate by sex</b>          | Female - 8.3 per 100,000<br>Male - 7.8 per 100,000           |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



Crude Rate per 100,000 by Area Development District (ADD)



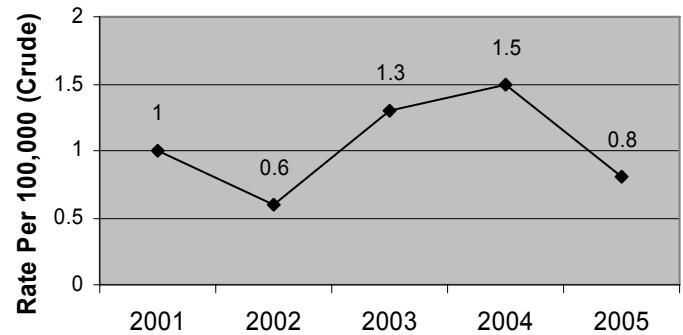
Source: KY Disease Surveillance Module

## Background

Shigellosis is an acute bacterial disease of the gastrointestinal tract caused by a bacillus of the *Shigella* species. It is characterized by diarrhea, frequently bloody, accompanied by fever, nausea, vomiting, and abdominal cramping. Transmission is by the fecal-oral route from person to person, or from contaminated food, water or milk. The disease is more severe in children than in adults and can be especially difficult to control in child care centers.

# Streptococcal (Group A), Invasive

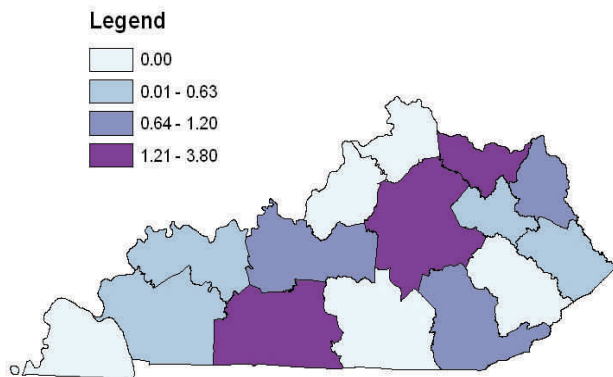
|                             |   |
|-----------------------------|---|
| <b>Number of cases</b>      | 35  |
| <b>Kentucky rate</b>        | 0.8 per 100,000*  |
| <b>U.S. rate</b>            | 1.8 per 100,000**   |
| <b>Age of case-patients</b> | Mean - 44 years<br>Median - 51 years<br>Range - 1 to 92 years |
| <b>Rate by sex</b>          | Female - 1.1 per 100,000<br>Male - 0.5 per 100,000            |



\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development District (ADD)



Source: KY Disease Surveillance Module

## Background

Group A (GAS) *Streptococcus* is a bacterium often found in the throat and on the skin. People may carry group A streptococci in the throat or on the skin and have no symptoms of illness. Most GAS infections are relatively mild illnesses such as strep throat, or impetigo. On rare occasions, these bacteria can cause other severe and even life-threatening diseases. These bacteria are spread through direct contact with mucus from the nose or throat of persons who are infected, or through contact with infected wounds or sores on the skin. Ill persons, such as those who have strep throat or skin infections, are most likely to spread the infection. The laboratory criteria for a confirmed case is an isolation of group A *Streptococcus* by culture from a normally sterile site (blood or cerebrospinal fluid, joint, pleural or pericardial fluid).

# *Streptococcus pneumoniae*

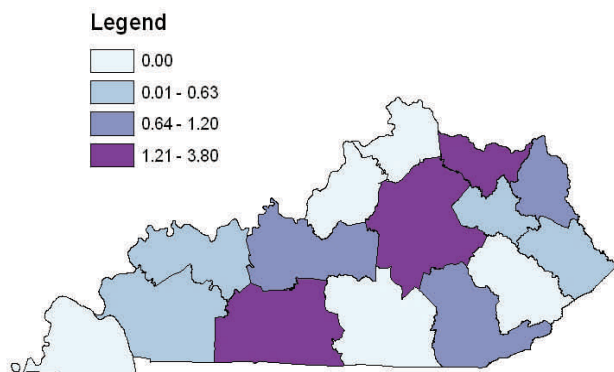
## Drug Resistant, Invasive

|                             |  |
|-----------------------------|--|
| <b>Number of cases</b>      | 32   |
| <b>Kentucky rate</b>        | 0.8 per 100,000*   |
| <b>U.S. rate</b>            | 1.5 per 100,000**  |
| <b>Age of case-patients</b> | Mean - 52 years<br>Median - 53 years<br>Range - <1 to 91 years |
| <b>Rate by sex</b>          | Female - 0.6 per 100,000<br>Male - 0.8 per 100,000             |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>

Crude Rate per 100,000 by Area Development  
District (ADD)



Source: KY Disease Surveillance Module

### Background

Pneumococci are ubiquitous, with many people having colonization in their upper respiratory tracts. Transmission is from person to person, presumably by respiratory droplet contact. Pneumococcal infections are most prevalent during winter months; most common in infants, young children and the elderly and more common in black individuals and some American Indian populations. Clinical features are pneumonia, bacteremia, otitis media, meningitis, sinusitis, peritonitis and arthritis. More specifically laboratory criteria for a confirmed case requires isolation of pneumococci from a normally sterile site and a “nonsusceptible” isolate (intermediate or high level resistance to at least one antimicrobial agent currently approved for use in treating pneumococcal infections).

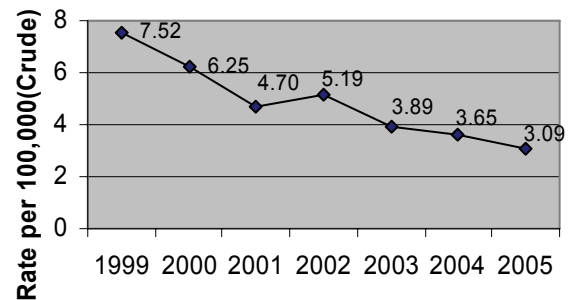


# Syphilis

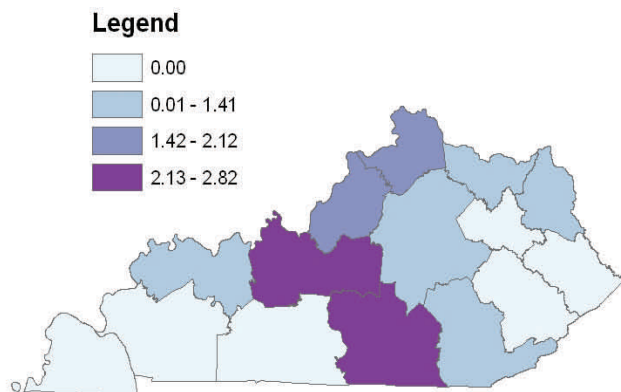
|                        |   |
|------------------------|---|
| <b>Number of cases</b> | 129   |
| <b>Kentucky rate</b>   | 3.1 per 100,000*                                    |
| <b>U.S. rate</b>       | 11.5 per 100,000**                                  |
| <b>Rate by sex</b>     | Female - 1.3 per 100,000<br>Male - 4.9 per 100,000  |
| <b>Rate by race</b>    | White - 1.9 per 100,000<br>Black - 14.1 per 100,000 |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\*<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: Sexually Transmitted Disease Management Information System (STD\*MIS)

## Background

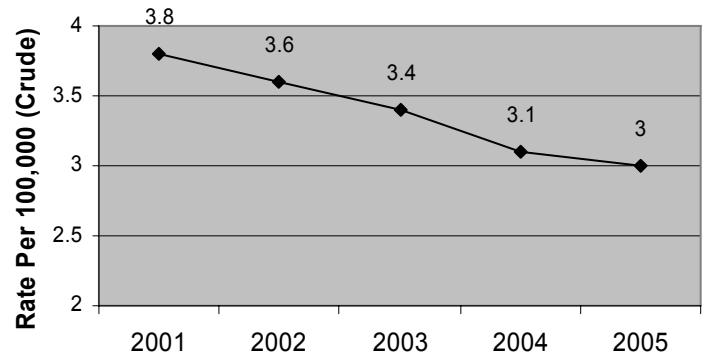
Syphilis is a sexually transmitted disease caused by the spirochete *Treponema pallidum*. The disease, which may be acute or chronic, is characterized clinically by a primary lesion (chancre); a secondary eruption involving skin and mucous membranes; long periods of latency; and late lesions of skin, bone, viscera, the central nervous system, and the cardiovascular system. Fetal infection occurs with high frequency in untreated early infections of pregnant women. Transmission occurs by direct contact with infectious exudates during sexual contact. Transmission may occur through blood transfusion if the donor is in the early stages of the disease. Fetal infection occurs through placental transfer or at delivery.

# Tuberculosis

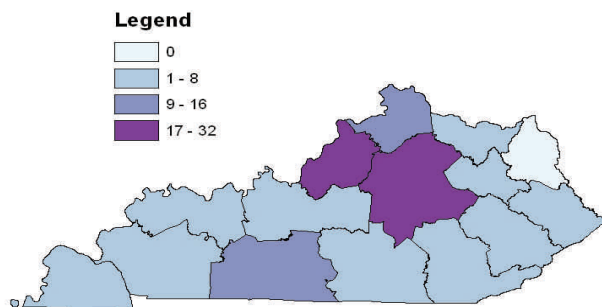
|                             |                          |
|-----------------------------|--------------------------|
| <b>Number of cases</b>      | 124                      |
| <b>Kentucky rate</b>        | 3.0 per 100,000*         |
| <b>U.S. rate</b>            | 5.0 per 100,000**        |
| <b>Age of case-patients</b> | Mean - years             |
|                             | Median - years           |
|                             | Range - years            |
| <b>Rate by sex</b>          | 1.6 Female - per 100,000 |
|                             | 4.4 Male - per 100,000   |
| <b>Rate by race</b>         | 2.7 White - per 100,000  |
|                             | 5.1 Black - per 100,000  |
|                             | 20.6 Asian per 100,000   |

\*<http://ksdc.louisville.edu/kpr/popest/est.htm>

\*\* <http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5353a1.htm>



Crude Rate per 100,000 by Area Development District (ADD)



Source: TIMS (Tuberculosis Information Management System) KY-CDC Reporting System

## Background

*Mycobacterium tuberculosis* is a rod-shaped bacterium that can cause disseminated disease but is most frequently associated with pulmonary infections. The bacilli are transmitted by the airborne route and, depending on host factors, may lead to latent tuberculosis infection (sometimes abbreviated LTBI) or tuberculosis disease (TB). Both conditions can usually be treated successfully with medications.

# Diseases of Low Frequency

| <u>Disease</u>                     | <u>Case Count</u> |
|------------------------------------|-------------------|
| Botulism, Infant                   | 1                 |
| Ehrlichiosis Human Granulocytic    | 1                 |
| Ehrlichiosis Monocytic             | 4                 |
| Hansen's Disease                   | 1                 |
| Listeriosis                        | 5                 |
| Q Fever                            | 2                 |
| Rocky Mountain Spotted Fever       | 3                 |
| Rubella                            | 1                 |
| Streptococcal Toxic Shock Syndrome | 4                 |
| Tetanus                            | 1                 |
| Toxoplasmosis                      | 1                 |
| Tularemia                          | 3                 |
| Typhoid Fever                      | 2                 |
| West Nile, Encephalitis            | 5                 |

Source: Kentucky Disease Surveillance Module



Cabinet for Health and Family Services

Department for Public Health

Division of Epidemiology and Health Planning

Communicable Disease Branch

275 East Main, HS2E-B

Frankfort, KY 40621

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<http://chfs.ky.gov/dph/epi/reportablediseases.htm>

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