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## Occupational Burn Surveillance in Kentucky

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In October 1997, the Kentucky Injury Prevention and Research Center (KIPRC) at the University of Kentucky received funding to conduct surveillance of work-related burn injuries. This project is supported by the National Institute for Occupational Safety and Health through an agreement with the Kentucky Department for Public Health. The purpose of the project is to collect data on occupational burn injuries, then use the data to identify high risk jobs and develop intervention strategies. Information and prevention materials are disseminated to workers, employers and others interested in occupational safety.

Initial case notification is obtained through a network of facilities that identifies and reports persons who meet the case definition of *a worker who is burned on the job and seeks medical treatment for the injury*. Participating facilities include hospital burn units and emergency departments, occupational medicine clinics, outpatient treatment centers, and Kentucky Employers' Mutual Insurance, a workers' compensation insurance provider. Through follow-up phone interviews with injured workers and employers, details are obtained about the injury event and work practices. This report presents a summary of the data collected for the 30-month period of April 1998 - September 2000.

### Data Summary

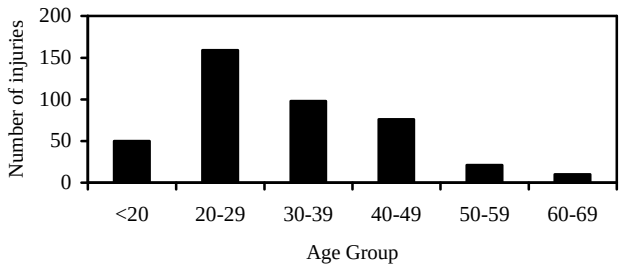
The network of facilities reported 430 cases of work-related burn injuries that required medical treatment. The workers were primarily male (72%), white (95%) and full-time (80%). Injury severity varied from workers who received medical treatment and returned to work within 24 hours, to others who spent weeks or months in the hospital, to workers who suffered fatal injuries. The majority of the burns were treated on an outpatient basis (92%), while 32 (7%) required hospitalization and 3 (1%) were fatal. The ages of the injured workers are shown in Figure 1. The age range was 14-69 with 37% of the injuries occurring in the 20-29 age group.

The majority of burns were thermal (64%), followed by chemical (16%), welding flash (12%) and electrical (5%). Most of the cases requiring hospitalization were due to thermal burns (58%) and electrical burns (35%). Electrical-related incidents claimed the lives of three workers when they came into contact with high voltage such as a power line.

***Inside This Issue***



Figure 1. Burn Injuries by Age Group




The sources of injury were categorized according to the *Occupational Injury and Illness Classification Manual*[1]. As shown in Table 1, the leading sources of burns were steam/water/liquids (15%), welding and heating hand tools (14%) and grease/oil (13%). All of the injuries due to hot grease occurred in food service settings.

**Table 1. Ten Leading Sources of Burn Injuries**

| Source | Frequency |
|---|---|
| Steam, water, liquids | 65 (15%) |
| Welding and heating hand tools | 63 (14%) |
| Grease/oil | 57 (13%) |
| Fire, flames | 29 (7%) |
| Electric parts | 24 (6%) |
| Cleaning agents | 21 (5%) |
| Molten metal, slag | 18 (4%) |
| Acids | 17 (4%) |
| Food | 16 (3%) |
| Heating and cooking machinery | 13 (3%) |

Industries with the most injuries are shown in Table 2, as categorized by the *Standard Industrial Classification Manual*[2]. Although the manufacturing industry

## Occupational Burn Surveillance in Kentucky (continued)

accounted for 27% of the injuries, this category is so broad that many sectors were represented but none accounted for a large number of the cases. In comparison, 87% of the injuries in retail trade occurred in eating and drinking places.

**Table 2. Leading Industries for Burn Injuries**

| Industry | Frequency |
|---|---|
| **Retail Trade** | **123 (33%)** |
| Eating and drinking places | 107 (25%) |
| **Manufacturing** | **101 (27%)** |
| **Services** | **63 (17%)** |
| Health services | 19 (4%) |
| Educational services | 15 (3%) |
| **Construction** | **34 (9%)** |

The leading occupations for burn injuries are shown in Table 3, classified by the *Alphabetical Index of Industries and Occupations*[3]. By far, the occupation with the most injuries was food service work, accounting for 30%. Food service workers were most commonly burned by grease (38%), water/liquids (27%), food (12%) and grills/ovens (7%). One-quarter of the workers in food service jobs were age 18 or younger, and half were age 22 or younger.

**Table 3. Leading Occupations for Burn Injuries**

| Occupation | Frequency |
|---|---|
| **Service** | **154 (36%)** |
| Food service | 130 (30%) |
| **Operators, Fabricators, Laborers** | **133 (30%)** |
| Machine operators | 92 (21%) |
| Handlers, helpers, laborers | 36 (8%) |
| **Precision Production, Craft, Repair** | **73 (17%)** |
| Mechanics and repairers | 35 (8%) |
| Construction trades | 20 (5%) |

For 276 cases, we were able to obtain the length of employment. Over half (56%) had been at their job for 12 months or less when their injury occurred, 40% for 6 months or less and 15% for less than 1 month. It is not surprising that this was found among younger workers as well. Thirty-eight injuries occurred to teens aged 14-18 and the majority (82%) worked in eating and drinking places. Nearly all (96%) had been at their job less than a year when their injury occurred, 69% for 6 months or less, and 24% for less than 1 month. All of these young workers were treated on an outpatient basis and their injuries were caused most often by grease (18), water/liquids (6), ovens/grills (5) and cleaning products (5).

Twenty-six percent (n=98) of 375 injuries that occurred during the study period through June 2000 also were included in the Kentucky Workers' Claims files. The Workers' Claims files only include cases in which more than one day of work was lost. Because cases are excluded that result in the loss of one day or a partial day of work, but are still severe enough to require medical treatment, the Workers' Claims files underestimate the total number of burns. The surveillance system described here includes both minor and severe injuries.

### Conclusions

Food service workers accounted for a significant portion of the reported burn injuries. The workers were mostly young and inexperienced (65% had been at their job for less than a year when their injury occurred and 29% for 3 months or less). Although there is considerable variation in how the incidents occurred, the injuries most often involved contact with hot grease, food or water. The educational materials developed through this project have targeted these workers. Materials have been mailed directly to restaurants and disseminated through the Fayette County Health Department which conducts mandatory food handler testing and manager training courses.

We would like to increase awareness of burn prevention as well as first aid. Our data show that inappropriate first aid treatments are often used for thermal burn injuries, for example, vinegar, milk, cold pickle juice, butter, toothpaste, hot water and soap, and batter for frying food. Even though primary injury prevention is

**First Aid for Minor Thermal Burn Injuries**

Flush the burned area with low pressure running cool water.

Don't apply ice for prolonged periods— it can be too harsh for burned skin and cause tissue damage.

Cool water alone or a very mild soap can be used to gently clean the area.

"Folk remedies" such as applying butter do not help the healing process and may increase the risk of infection if the burn is severe.

Keep the burned area clean and dry as it heals. The area can be covered with a light bandage if needed and a small amount of an over-the-counter ointment can be applied to keep the bandage from sticking to the skin.

Seek medical treatment when a burn covers a large area or there is extreme pain or loss of sensation.

## Occupational Burn Surveillance in Kentucky (continued)

supervisors and workers should know how to properly treat burn injuries when they do occur to prevent any further damage and speed healing.

What can health departments do?

- Disseminate burn prevention and safety information through routine restaurant inspections to target food service workers.
- Disseminate safety information to clients receiving services at health departments.
- Offer education for first aid, perhaps making visits to schools or business sites.
- Provide parents and teens with knowledge about worker safety and health rights (i.e., the hours and types of work that adolescents are permitted by law).

What about employers?

- Ensure personal protective equipment (PPE) provides appropriate protection during potentially hazardous tasks, that all PPE is in good condition and is worn/used properly to ensure workers' safety and health.
- Provide thorough job training to employees, especially younger workers who likely have less job experience.

**References**

1. *Occupational Injury and Illness Classification Manual*. US Department of Labor, Bureau of Labor Statistics. Washington, DC: US GPO; 1992.
2. *Standard Industrial Classification Manual, 1987*. Office of Management and Budget. Springfield, VA: National Technical Information Service. (NTIS no. PB 87-199912)
3. *Alphabetical Index of Industries and Occupations*. US Department of Commerce, Bureau of the Census. Washington, DC: US GPO; 1992.

Materials such as newsletters, hazard alerts, annual reports, and a first aid poster are available on the KIPRC Website (www.kiprc.uky.edu). For more information, contact Amy Scheerer at alsche@pop.uky.edu or 859-257-6712.

## Kentucky Sexually Transmitted Disease Morbidity Trends

George DeRoller

Chlamydia and gonorrhea infections pose serious health consequences to men and women, but women and children they bear are the most seriously compromised. Undetected and untreated chlamydia and gonorrhea can lead to infertility, potentially fatal tubal pregnancies, and chronic pelvic pain. If not quickly diagnosed and treated during pregnancy, gonorrhea and chlamydia can result in preterm delivery and conjunctival and pneumonic disease of the newborn.

The most commonly reported STD in Kentucky is an infection caused by the bacterium *Chlamydia trachomatis*. In calendar year 2000, 8,063 cases of chlamydia were reported in Kentucky, compared with 7,378 in 1999 and only 43 in 1984 (Figure 1). The rise in chlamydia cases in Kentucky and nationally can be attributed to increased screening as the result of improved testing procedures and expanded screening programs. Prior to 1990, chlamydia was often clinically misdiagnosed as non-specific urethritis, or non-specific vaginitis, or went undetected and untreated.

Gonorrhea had shown a steady decline for 15 years (Figure 2). However in 2000, a small but significant increase was noted. In 2000, 3,502 cases of gonorrhea were reported in Kentucky, compared with 3,349 in 1999 for a 4.5% increase. This trend is continuing into 2001. Better-targeted screening and improved testing procedures are not fully responsible for this increase. The increase is not artificial and is being seen nationwide.

In 2000, 98 of 120 counties in Kentucky reported gonorrhea cases and 119 reported chlamydia cases. Seven counties including Christian, Fayette, Hardin, Jefferson, Kenton, McCracken, and Warren accounted for 2,548 (73%) of the gonorrhea and 3,689 (53%) of the chlamydia cases. Although gonorrhea and chlamydia cases were reported in all age groups, adolescents and young adults were most often reported. Patients between the ages of 15-24 years accounted for 63% of the gonorrhea and 78% of the chlamydia cases.

Improved ability to detect new cases in local health department screening programs has resulted in dramatically increased reporting. For example, 46 % (3,689) of chlamydia and 46% (1,607) of gonorrhea cases reported in Kentucky in 2000 were patients screened in local health department prenatal, family

## Kentucky Sexually Transmitted Disease Morbidity Trends (continued)

planning, and sexually transmitted disease clinics.

Syphilis is caused by the spirochete *Treponema pallidum* and may be either acute or chronic. The disease is characterized by a primary lesion (hard chancre), a secondary eruption involving skin and mucous membranes, long periods of latency, and late lesions of skin, bone, viscera, central nervous and cardiovascular system. Syphilis is defined by distinct stages. Primary, secondary, and early latent syphilis are considered early syphilis: late latent syphilis is disease greater than one year duration. Untreated early infection in pregnant women frequently results in fetal infection.

Since spiking to 487 early cases in 1993, syphilis cases have steadily declined (Figure 3). In 2000, 147 cases of early syphilis were reported for a 70% decrease from the high in 1993. Fayette (36) and Jefferson (97) County accounted for 90% (133) of the cases reported. This decrease is due in part to the **"Syphilis Elimination Program",** which was started in 1998. Through this federally sponsored program additional funds have been provided for reducing the incidence of syphilis to very low levels. This program has targeted Jefferson County, the highest morbidity area in the state. As a result, syphilis screening has been initiated at selected high morbidity sites and hiring additional staff for the specialty class in Louisville has strengthened clinical services.

For information regarding sexually transmitted disease in Kentucky and the United States write to Sexually Transmitted Disease Control Program, Division of Epidemiology and Health Planning, Mail Stop HS1C-C 275 East Main Street, Frankfort, KY 40621-0001 564-4804 or fax (502) 654-4553.

**Figure 1. Kentucky Chlamydia Reports, 1984- 2000**

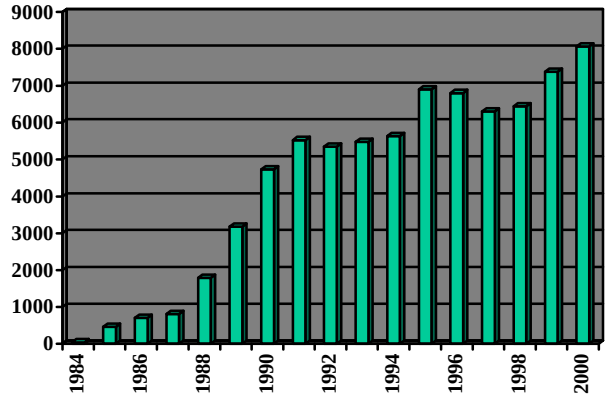



**Figure 2. Kentucky Gonorrhea Reports, 1984-2000**

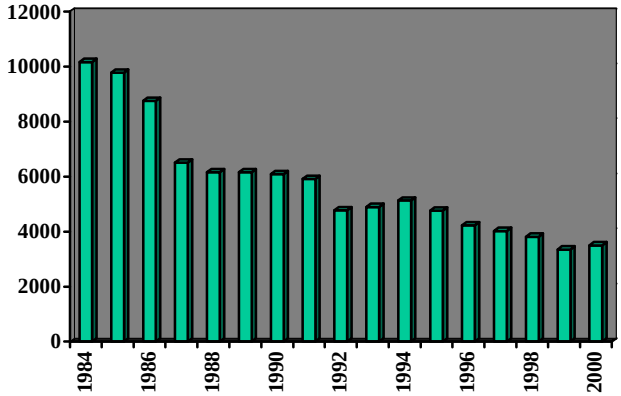
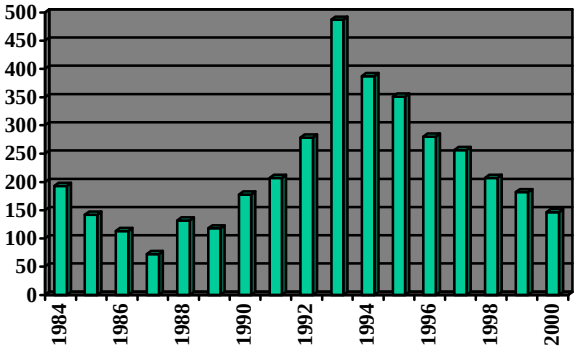


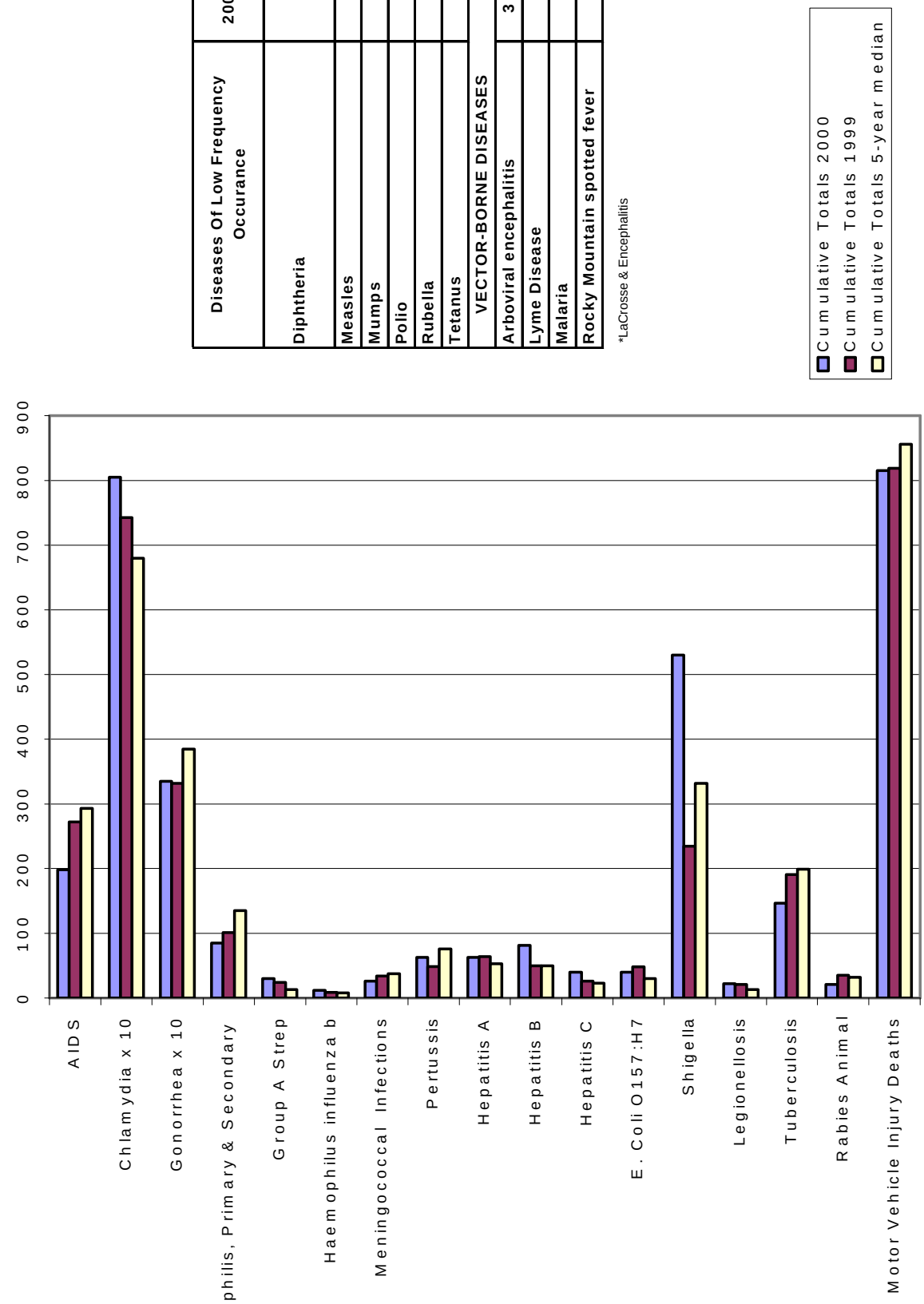

**Figure 3. Kentucky Early Syphilis Reports, 1984-2000**



**CASES OF SELECTED REPORTABLE DISEASES IN KENTUCKY, JANUARY 1, 2000 THROUGH DECEMBER 31, 2000**

| Diseases Of Low Frequency Occurance | 2000 YTD |
|---|---|
| Diphtheria | 0 |
| Measles | 0 |
| Mumps | 1 |
| Polio | 0 |
| Rubella | 1 |
| Tetanus | 1 |
| **VECTOR-BORNE DISEASES** | |
| Arboviral encephalitis | 3 LAC* |
| Lyme Disease | 13 |
| Malaria | 18 |
| Rocky Mountain spotted fever | 4 |

*LaCrosse & Encephalitis



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## Licensure Regulation for Abortion Facilities

Kentucky law requires the Cabinet for Health Services to promulgate administrative regulations that establish licensure standards for abortion facilities. The law defines an abortion facility as "any place in which an abortion is performed."

The Cabinet for Health Services promulgated an administrative regulation, now in effect, which governs the operation of abortion facilities. The regulation may be viewed at http://www.lrc.state.ky.us/kar/902/020/360.htm.

If your office or facility performs any abortions you need to contact the Office of Inspector General, Division of Community Health Services at (502) 564-2800 to request an application for licensure as an abortion facility.