



Community & Hospital Letter

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California Encephalitis Virus in Jackson County

In July, a pediatric case of neuroinvasive California encephalitis (CE) virus-complex was diagnosed in a Jackson County resident. While human infections with viruses of the CE virus-complex occur with regularity in the eastern half of the United States (see map below), such infections are infrequently reported in Missouri. The low frequency of reported cases may simply be a reflection of a lack of medical suspicion or the actual incidence of infections may be low. In 2002, a probable case of CE encephalitis was reported in a girl who lived in Kansas City; however, the case could not be serologically confirmed as CE.

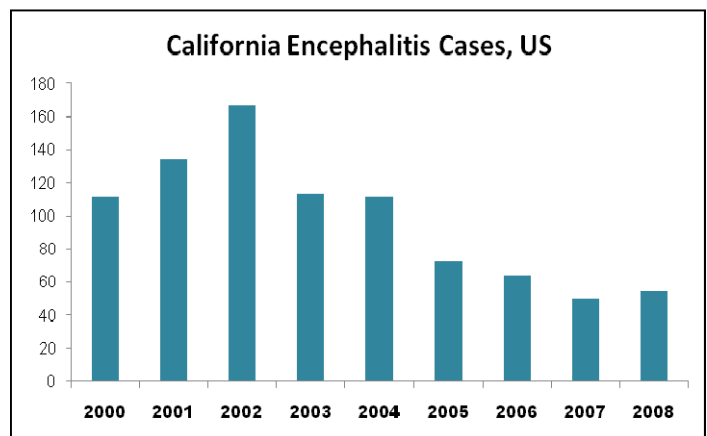
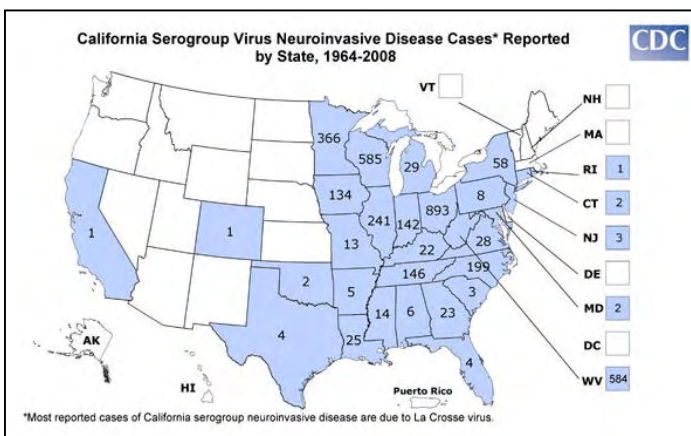
CE group viruses are transmitted by the daytime-biting tree-hole breeding mosquito, *Aedes triseriatus*. The virus is maintained in a zoonotic transmission cycle that involves chipmunks and tree squirrels. It is maintained over the winter by transovarial transmission in mosquito eggs. If the female mosquito is infected, she may lay eggs that carry the virus, and the adults coming from those eggs may be able to transmit the virus to chipmunks and to humans.

Of the various viruses that comprise the CE complex, La Crosse (LAC) encephalitis virus is the primary agent causing human infections. Most cases of LAC encephalitis occur in children <16 years of age. It initially presents as a

nonspecific summertime illness with fever, headache, nausea, vomiting and lethargy. Severe disease occurs most commonly in children <16 and is characterized by seizures, coma, paralysis, and a variety of neurological sequelae after recovery. Death from LAC encephalitis occurs in less than 1% of clinical cases, although it may take years for neurological sequelae to resolve. These sequelae result in adverse effects on IQ and school performance.

There is no specific treatment for LAC encephalitis and physicians often do not request the tests required to specifically identify the virus. Since its transmission season coincides with the main season for aseptic meningitis (primarily caused by enteroviruses), the presence of CE could easily be masked since physicians tend not to test for anything other than bacterial, and possibly enteroviral, etiologies when a person presents with meningitis. Consequently, it is suspected that many CE cases are reported as aseptic meningitis or viral encephalitis of unknown etiology.

Reported cases of CE (mainly La Crosse virus infections) in the US by year are shown in the graph below. As of middle of September, 22 cases of CE had been reported for 2009.



Health Zones—2007 Data for Kansas City

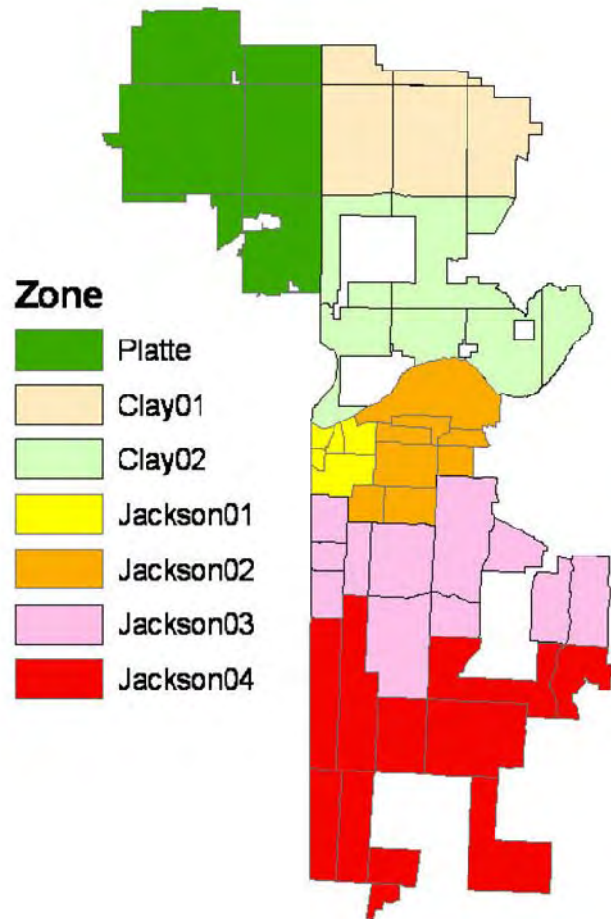
Geographically, health indicator data for Kansas City can be divided many different ways. One of the geographies used by the Kansas City Health Department is that of *Health Zones*. These zones, as opposed to City Councilmatic districts, are not based on population, but rather on economic and other similarities of the zip codes that comprise Kansas City.

The *Health Zones* are shown in the figure on the right. Comparison data for select demographic and health indicators are shown in the table on the opposite page. All of the measures have been standardized to facilitate comparisons. For example, Jackson02 had the highest percentage of children who had elevated blood lead levels, while Jackson04 had the lowest percentage of premature deaths (deaths <65 years of age) and the fewest years of potential life lost as a result.

Remember that the indicator values shown in the table apply to the whole of each *Health Zone*. Within a *Health Zone* the rates may vary by neighborhood. For a number of the indicators, zip code level rates may be found in the Health Department's *Community Health Assessment 2009* report which will be posted at www.kcmo.org/health by mid-October.

The following defines the zip codes that comprise each *Health Zone*.

- **Platte Zone** (includes zip codes 64079, 64151, 64152, 64153, 64154, 64163, 64164)
- **Clay01 Zone** (includes zip codes 64155, 64156, 64157, 64165, 64166, and 64167)
- **Clay02 Zone** (includes zip codes 64116, 64117, 64118, 64119, 64158, 64160, and 64161)
- **Jackson01 Zone** (includes zip codes 64101, 64102, 64105, 64106, and 64108)
- **Jackson02 Zone** (includes zip codes 64109, 64120, 64123, 64124, 64125, 64126, 64127, and 64128)
- **Jackson03 Zone** (includes zip codes 64110, 64111, 64112, 64113, 64129, 64130, 64132, 64133, and 64136)



- **Jackson04 Zone** (includes zip codes 64012, 64030, 64081, 64114, 64131, 64134, 64137, 64138, 64139, 64145, 64146, 64147, 64149, and 64192)

	Citywide	Platte	Clay01	Clay02	Jackson01	Jackson02	Jackson03	Jackson04
Demographic Measures (2000 census)								
Total population	441,515	34,559	21,277	62,661	15,906	81,065	123,993	101,850
<5 years	7.2%	7.3%	8.9%	7.7%	6.8%	8.2%	6.4%	6.7%
5-14 years	14.2%	14.1%	16.4%	13.8%	11.6%	17.1%	13.3%	13.0%
15-24 years	13.7%	12.7%	11.3%	12.8%	16.5%	14.7%	14.9%	12.6%
25-64 years	53.2%	57.7%	57.8%	55.3%	55.6%	48.3%	53.7%	52.3%
≥65 years	11.7%	8.3%	5.6%	10.3%	9.6%	11.7%	11.7%	15.4%
Race								
White	60.7%	89.3%	93.5%	89.6%	44.0%	34.6%	48.7%	64.1%
Non-white	39.3%	10.7%	6.5%	10.4%	56.0%	65.4%	51.3%	35.9%
Health Measures (Year 2007)								
Birth rate per 1,000 population	18.1	16.3	34.3	18.1	20.4	21.2	15.2	16.2
Infant mortality rate per 1,000 live births	8.2	3.5	4.1	5.3	9.3	9.9	13.3	6.0
Percent of babies with low birthweight	8.5	7.8	5.8	6.5	10.2	9.8	9.3	8.9
Percent of mothers with no 1 st trimester prenatal care	16.9	7.9	6.2	12.5	19.3	23.7	19.3	18.1
Birth rate to teenagers per 1,000 live births	12.7	5.8	3.8	8.4	14.2	20.0	16.4	9.8
Percent of women smoking during pregnancy	11.8	10.1	6.0	14.6	6.8	14.0	13.1	10.2
Number of children screened for lead poisoning [2008 data]	9,650	447	558	1121	614	3,200	2,306	1,404
Percent of children with elevated blood lead levels [2008 data]	0.7	0.0	0.4	0.0	0.2	1.4	0.6	0.4
Mortality Measures (Year 2007)								
Percent of premature deaths (prior to 65 y)	33.8	28.7	31.8	31.9	41.5	44.1	35.7	25.3
Years of potential life lost (YPLL) prior to 65 y per 100 total deaths	1,571	1,338	1,368	1,599	1,817	2,012	1,645	1,198
Death rates per 10,000 population								
Persons <20 years	2.4	1.2	2.3	1.1	2.5	3.5	3.1	1.9
Heart disease	17.4	14.5	13.6	14.5	17.0	19.6	17.3	19.2
All cancers	19.8	19.1	16.4	22.8	17.0	17.8	19.8	20.8
Lung cancer	5.7	4.3	4.2	7.2	1.9	5.8	5.6	6.3
Diabetes	2.3	2.0	0.9	1.3	1.9	3.0	2.4	2.8
Stroke	4.5	4.3	5.2	2.9	1.9	5.2	4.3	5.6
Homicide	1.8	0.0	0.5	0.0	3.1	3.7	2.7	1.0
HIV infection	0.6	0.0	0.0	0.0	2.5	1.4	0.4	0.6
Alzheimer's disease	2.9	2.9	3.3	1.9	3.1	1.9	2.5	4.7
Rates per 1,000 population for								
Sexually transmitted infections n among persons 15-24 y	74.6	37.7	14.1	29.4	77.5	108.1	88.0	71.8
Assault/rape (emergency medical services data)	78.3	31.8	3.8	7.8	288.6	155.7	85.2	35.0
Stabbing/gunshot injuries (emergency medical services data)	29.5	4.6	2.5	4.3	62.9	65.9	39.2	10.1

Potpourri

STARTING ON THE 1st of October, the most comprehensive change in more than 30 years to the Missouri Special Supplemental Nutrition Program for Women, Infants and Children, commonly known as WIC, will occur. The program is changing to encourage more women to breastfeed their babies and help fight obesity – one of the nation's fastest growing health concerns. The WIC program will increase the amount of food provided to mothers who breastfeed their babies full time to better promote and support the establishment of successful long-term breastfeeding. In addition, the revised guidelines add new food categories and offer optional substitutions for some of the current food categories.

Under the new rules:

- WIC clients can purchase whole grains and fresh and frozen fruits and vegetables
- Beginning at 6 months, all infants receive infant fruits and vegetables, while fully breastfed infants also receive infant meats
- Soy milk and tofu may be given as an alternative to milk, with medical documentation
- Canned beans are offered as an alternative to dry beans
- The amount of milk, eggs, juice and cheese is reduced for women and children
- Juice is eliminated for infants
- The amount of infant formula is reduced for partially breastfed and older infants

WITH RECENT SURVEYS showing that the Internet has now bypassed printed newspapers as the news outlet of choice and rivals television in some age groups (*Pew Research Center, Dec. 2008*), there is a growing demand for health information to be made available on-line. In a step towards addressing this need, the Kansas City Health Department developed a Facebook page to augment communication with this new audience.

If you have a Facebook account, you can find the Health Department's page by searching for "City of Kansas City, Mo., Health Department". Unfortunately, due to the number of accounts available, if you enter any less information than this, Facebook may provide you with links to a number of pages. Whether you have a Facebook account or not, you may find the Web page through most search engines, or view the Health Department's Facebook page at the following link:

<http://www.facebook.com/pages/Kansas-City-MO/City-of-Kansas-City-Mo-Health-Department/123109774085>

SMOKING MARIJUANA DAILY can affect a man's ability to reach orgasm during sex (*J Sex Med 2009; 17 Aug epub ahead of print*). Researchers found that smoking marijuana daily, for both men and women, was associated with an increased likelihood of having two or more sexual partners a year. It also was associated with the occurrence of sexually transmissible diseases in women, but not men. Conversely, daily smoking was unrelated to sexual problems in women but did cause issues, particularly orgasm, in men.

Measuring Health Disparities

The Kansas City Health Department will offer its 4 hour introductory course on **Measuring Health Disparities** on the morning of Wednesday, 13 January 2010. This course is free of charge. All registrations must be received no later than 1 December 2009.

To register, send an email request to

Gerald_Hoff@kcmo.org.

Previous issues of Community & Hospital Letter are available at www.kcmo.org/health under the medical publications tab.

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