



# Community & Hospital Letter

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## When Dogs Kill People

Tragically, on the 27<sup>th</sup> of July, a Kansas City, KS, woman was killed in her own backyard by a neighbor's pit bull dogs. This incident followed several other well publicized attacks on people in the metropolitan area by pit bull type dogs that were running free: 4<sup>th</sup> of May, a pack of pit bull dogs attacked 3 men in Independence, seriously injuring one of them; 6<sup>th</sup> of July, 2 men in Kansas City, MO, were attacked by a pair of pit bulls; and 19<sup>th</sup> of July, an elderly woman in Peculiar, MO, was attacked by a pit bull.

While these dog attacks are sensational, in terms of the media, and horrific for the victims and their families, they represent just a small fraction of the total dog bite problem in the metropolitan area. Each year, more than 690 Kansas City, MO, residents are treated in emergency rooms because of a dog bite and 19 are hospitalized as a result of their injuries (*Missouri Med* 2005; 102:565-568). It is estimated that nearly 4,000 dog bites occur each year to Kansas City, MO, residents. And, these num-

bers are for just residents of Kansas City, MO, proper, so metro wide there are probably at least 2-3 times more bites and hospitalizations.

Nationally, dogs kill about 20 people each year. These deaths account for nearly 11% of document animal-related human fatalities (*Wilderness Environ Med* 2005; 16:67-74). An analysis of such fatalities by breed revealed that pit bull types, Rottweilers, and German Shepherds accounted for 32%, 18%, and 11%, respectively, of fatal attacks (*J Am Vet Med Ass* 2000; 217:836-840). While large breeds predominate, even small-dogs, eg West Highland terrier and cocker spaniel, have been known, on occasion, to kill a person. More than half of all human fatalities involve children <10 years of age (*Pediatrics* 1996; 97:891-895).

Fatal dog attacks are rare in communities, such as Kansas City, KS, where bite regulations are promulgated and enforced.

## Premature Death in Men

More men than women <45 y of age die prematurely in 44 countries studied from around the world (*J Men's Health Gender* 2006; 3:139-151). The main causes of death among persons 15-44 y old were associated with lifestyle and risk taking. The nature of the risks that men face can be interpreted in many ways, from the physical risk associated with road traffic accidents to the personal lifestyle risk associated with smoking, poor diet, and alcohol consumption.

The study focused on 6 potentially avoidable causes of death—accidents, suicide, malignant neoplasms, diseases of the circulatory system, homicide, and chronic liver disease and cirrhosis. Across all age-groups, mortality rates

were higher among men (7.4%) compared to women (3.1%). The proportion of deaths that were premature varied widely between countries.

In Kansas City, the premature death rate for men 15-44 y of age is more than double that for females (187.2 per 100,000 population vs 81.5). For persons 35-44 y old, the rates were 354.0 for males and 189.1 for females. The five leading causes of death and rates (years 2000-2400) for 15-44 y old men were: homicide (42.6), motor vehicle crashes (20.0), heart disease (19.7), suicide (19.4), and HIV (12.5). For women they were: heart disease (10.9), homicide (9.5), motor vehicle crashes (9.0), suicide (4.4) and breast cancer (3.5).

## Communicable Diseases, KCMO, 2005

The table presented below displays trends in selected, reportable infectious and communicable diseases in Kansas City for the past 5 years and was constructed from data available in the Kansas City Health Department's 2005 Annual Report ([www.kcmo.org/health](http://www.kcmo.org/health)). For the majority of these diseases there has been little change over the time period and the case counts represent what are termed "endemic levels." However, there were some notable changes among other diseases.

The case counts for both hepatitis B and C declined significantly. In the case of hepatitis B, the decline can be attributed to the manner in which cases are classified as suspect, probable, and confirmed. The total number of reports regarding hepatitis B, although declining over the past decade, has not changed significantly from year-to-

year. Thus, the decline shown here represents a change in surveillance procedures. Administrative changes in surveillance data occur from time-to-time and influence the disease counts, up or down, for the diseases affected.

The decline in hepatitis C cases most likely represents a decreasing pool of infected, but yet unidentified, persons who are being tested for the virus. Most infections in the community were likely acquired prior to the 1990s.

Similarly the increase in chlamydia cases represents more expansive testing in the community for this sexually transmitted disease than actual increase in disease.

The increase in primary and secondary syphilis cases, unfortunately, does reflect an actual increase of the dis-

Disease	2005	2004	2003	2002s	2001
Campylobacter	36	32	25	31	39
Chlamydia	4,215	4,385	3,695	2,951	2,209
Cryptosporidium	6	7	10	4	8
<i>Escherichia coli</i> O157:H7	2	2	7	1	3
Gonorrhea	2,420	2,567	2,356	2,491	2,010
Hepatitis A	3	1	14	7	23
Hepatitis B	39	15	167	131	113
Hepatitis C	279	223	631	626	691
HIV	117	122	112	113	130
Influenza	820	141	1,129	383	87
Legionellosis	6	1	2	2	2
Meningitis, meningococcal	5	1	2	4	2
Meningitis, other bacterial	2	1	3	6	7
Pertussis	29	40	9	5	4
Salmonellosis	46	34	35	28	38
Shigellosis	349	11	9	6	16
Syphilis, P&S	61	23	16	7	5
Tuberculosis	24	21	26	28	32
West Nile	1	8	8	5	
Yersiniosis	0	0	0	3	4

ease in Kansas City, particularly among HIV infected men-who-have-sex-with-men (MSM); 66% of early syphilis cases in 2005 were among MSM.

The large number of shigellosis cases in 2005, while a significant deviation from the prior years, was not unanticipated. Approximately every 5 years, Kansas City ex-

periences an epidemic of shigellosis, primarily among preschool aged children and their families. The last three epidemics involved 349 cases in 2005, 197 cases in 2000, and 120 cases in 1995. Based on historical experience, the community should not expect another shigellosis epidemic until around 2011.

## Petting Zoos & Zoonotic Disease Transmission

County and state fairs, carnivals, and other summer time activities often include petting zoos where primarily young children feed, pet, and otherwise interact with small domestic and wild animals. And, as such, petting zoos are extremely popular with families. However, there is a dark side to these attractions, namely the transmission of animal diseases to the people, such as *Escherichia coli* O157:H7 (*MMWR* 2005; 54:1277-1280).

In 2005, the National Association of State Public Health Veterinarians, Inc (NASPHV) issued its *Compendium of Measures to Prevent Disease Associated with Animals in Public Settings* (*MMWR* 2005; 54:RR-4, [www.cdc.gov](http://www.cdc.gov)). Besides education for the venue operators, the compendium provided recommendations for managing public and animal contact, including: animal areas, food and beverages, cleaning procedures, supervision of children, feeding of animals, and use of animal areas for public activities. Foremost, the recommendations stress hand washing and the provision of appropriate hand washing stations for the public in relation to the venue. In preparing those recommendations, NASPHV reviewed reports of zoonotic disease outbreaks associated with animal exhibits (*J Am Vet Med Ass* 2004; 224:1105-1109).

Some states, such as North Carolina, have begun to adapt

the NASPHV recommendations into rules and regulations affecting the operation of petting zoos as well as increased protections for the public ([www.newsobserver.com/102/v-print/story/462270.html](http://www.newsobserver.com/102/v-print/story/462270.html)). North Carolina now requires visitors to reach through 29 inch high fences to pet the animals, prohibits food, drink and pacifiers in animal exhibits, requires signage about the possible health risks of touching the animals, and requires provision of hand washing stations.

Despite the implementation of rules/regulations based on the NASPHV compendium, there will undoubtedly continue to be instances where children and/or their families become ill from a pathogen transmitted from animals in a petting zoo setting. One cannot regulate all behavior or assume everyone will use "common sense" when interacting with animals. At the same time there needs to be a balance that does not engender fear among parents and other caretakers when children do interact with animals in petting zoos. The child-animal interaction should be encouraged, but it must occur under circumstances that minimize to the extent possible, potential disease transmission risks.

## Potpourri

**WITH THE APPROACH** of the fall, waterfowl hunters already are planning their hunting seasons. And, lingering in the back of some people's minds is the question of whether waterfowl hunters are at increased risk for acquiring avian influenza viruses, particularly the H5N1 virus should it be in the North American waterfowl population this year.

Unfortunately, there was essentially no information available to assess risk until a small survey was conducted among waterfowl hunters and conservation workers in Iowa (*Emerg Infect Dis* 2006; 12:1284-1286). One hunter and 2 conservation workers were found to have antibodies against avian influenza A/H1N9. This virus is a less common avian influenza virus amongst waterfowl. While there was no attempt to associate illness and the presence

of antibody, the results suggest that occasional avian influenza infections in hunters/conservation workers can occur during normal interactions with waterfowl.

**THREE DIFFERENT** strains of avian influenza H5N1 virus have been introduced into Nigeria (*Nature* 2006; 442:37) demonstrating the complexity of dealing with this disease.

**WHEN WEST NILE VIRUS** first entered North America, there was concern that it might have detrimental effects on recovery efforts for certain bird species. This fear gained merit in July when four 3-m old endangered California condor chicks died at a breeding center in Idaho. Because of the deaths, this breeding center most likely will provide less than half of the number of birds to northern Arizona that it did last year.

**A PUBLIC HEALTH CONCERN** in urban communities is the amount of feces (and associated potential microbial and parasitic pathogens) that accumulates in parks, neighborhoods, and other locations when dogs and cats are allowed to roam freely and when dog owners do not pick-up after their pets while walking.

A study conducted in California looked at fecal deposition by cats in 3 communities (*J Am Vet Med Ass* 2006; 229:74-81). There were an estimated 7,284 owned and 2,046 feral cats in these communities. From surveys of cat owners, it was determined that 40% their cats defecated outside >75% of the time. The researchers calculated that the annual fecal deposition by owned cats to be approximately 77.6 tons per year, while feral cats contributed an estimated 29.5 tons of feces.

It was concluded that feral cats, therefore, are not the principal source of fecal loading in the community since owned cats defecating outdoors contributed 72% of the total load.

Allowing owned cats to roam freely presents serious health and safety risks to the animals as well as to others in the communities. Restricting this type of behavior is desirable and would significantly decrease the amount of cat feces being deposited in a community.

**IF YOU ARE A RAT** who likes alcohol and cigarettes then you will like this. It turns out that when alcohol and nicotine are consumed at the same time, the nicotine somehow delays movement of the alcohol from the stomach into the intestines (*Alcoholism: Clin Exper Res* 2006; 30:1408-1413). This delay permits the alcohol to metabolize resulting in less alcohol being available for absorption in the intestines.

Extrapolating these findings to humans would mean that smokers who binge drink or are heavy drinkers are encouraged (via the nicotine) to drink more alcohol in order to achieve the same desired effect of the alcohol.

**AMONG BLACK ADOLESCENTS** high gestational weight gain does not improve the baby's birth weight (*Am J Clin Nutr* 2006; 84:183-189). Adolescents entering pregnancy underweight or at average weight should be counseled to gain weight within already established recommended ranges, whereas overweight adolescents need to avoid excessive gestational weight gain.

**A GLOBAL EARLY WARNING SYSTEM** for animal diseases transmissible to humans was formally launched at the end of July by the UN Food and Agriculture Organization (FAO), the World Organization for Animal Health (OIE) and the World Health Organization (WHO). The Global Early Warning and Response System (GLEWS) is the 1<sup>st</sup> joint early warning and response system conceived with the aim of predicting and responding to animal diseases, including zoonoses, worldwide. As demonstrated across the globe, weaknesses of early detection and rapid response for animal diseases and the inability to control major diseases at their source have contributed to the spread across borders of diseases of animal origin. The information gathered through the tracking and verification channels of each organization will be shared using the GLEWS web-based electronic platform and jointly analyzed to decide whether to issue common early warning messages.

**DEATH RATES AMONG** overweight and obese women in the US are lower than for men up until age 45 y. After that, women's mortality is higher than men's (*Am J Public Health* 2006; 96:in press Sept issue).