



# Community & Hospital Letter

Volume 27, Issue 2 September 2006

## Firearm Storage by Kansas City Residents

On average, 355 Kansas City residents are treated each year in local hospitals for injuries caused by firearms. These injuries stem from a number of causes, such as criminal action, police response, self-inflicted, and unintentional (Table 1). Because children and, particularly adolescents, are frequently involved in unintentional and self-inflicted firearm injuries, and because firearms are present in about 1/3 of US households with children and adolescents, there is considerable emphasis on safe firearm storage practices in these households. The American Academy of Pediatrics and the Society for Adolescent Medicine recommend that firearms be stored unloaded and locked up. Yet, parents of adolescents tend to have less safe firearm storage practices than parents of younger children (*Pediatrics* 2000; 106:e31; *Arch Pediatr Adolesc Med* 1999; 153:586-590). A recent survey of homes with adolescents living in them, found that 22% of the homes had a loaded firearm, 32% had an unlocked firearm, and 8% had a firearm stored loaded and

unlocked (*Arch Pediatr Adolesc Med* 2006; 160:7888-792).

The 2006 Health Planning and Assessment Survey, commissioned by the Kansas City Health Department, surveyed 1,234 households in the City this summer and found that 245 (19.9%) had at least one firearm. Half of these 245 households reported that there was gun lock on the trigger of the weapon. Eighty-five percent said that the gun and ammunition were stored separately, with nearly 71% reporting the gun was kept in a locked drawer, closet, or cabinet. The prevalence of these practices in the community, although far from ideal, suggests that a majority of gun owners may be heeding the safe firearm storage recommendations whether or not children and adolescents reside in the home. Continued community emphasis on safe firearm storage practices is needed and should be encouraged at every opportunity.

Table 1 Firearm injuries treated at hospitals, Kansas City, MO, 2000-2004

Year	Total	Assault	Police action	Self-injury	Unintentional	Unknown intent
2000	360	189	2	10	90	68
2001	286	168	13	7	74	24
2002	334	211	4	7	82	30
2003	409	275	6	10	94	24
2004	385	273	5	7	74	26
<b>Total</b>	<b>1,1774</b>	<b>1,116</b>	<b>31</b>	<b>41</b>	<b>414</b>	<b>172</b>

You may have noticed the new look to the masthead of *Community & Hospital Letter* and wondered about the logo in the top right hand corner. This is the new logo for local public health that was developed by the National Association of City and County Health Officers (NACCHO) and adopted this July.

## Do Heavier Children = Heavier Babies?

It recently was reported that preschool age children from primarily middle class families in Massachusetts are becoming increasingly overweight and obese (*Obesity* 2006; 14:1107-1112). Over a 22 year period, the prevalence of overweight increased from 11.1% to 14.4%, while obesity increased from 6.3% to 10.0%. These increases were evident among all groups of children including infants <6 m of age.

This report generated some controversy particularly for children <2 y old for whom clear definitions of overweight and obesity do not exist. This is because babies have periods when they put on weight and periods when

they have accelerated growth. However, the study's authors felt that their observations may partially reflect more heavy babies being born now than 20 years ago, although they did not look at birthweight data, as well as parents feeding their children inappropriately.

According to the National Center for Health Statistics, the average baby (singleton birth) weighs 7.3 lb, although normal birthweight is considered to start at 5.5 lb. Table 2 displays the percent of 255,002 babies born at varying birthweights in Kansas City. Over the past 20 years, there appears to be a slight shifting upward in birthweight for those babies between 5.5 lb and 8.8 lb.

Table 2 Birthweight distribution, Kansas City, MO, 1972-2004

Years	<5.5 lb	5.5-6.6 lb	>6.6- 7.7 lb	>7.7-8.8 lb	>8.8 lb
1972-2004	9.1%	19.2%	37.2%	26.0%	8.6%
1972-1974	9.2%	19.7%	38.5%	24.7%	7.9%
1982-1984	8.8%	19.6%	36.9%	25.9%	8.9%
1992-1994	9.4%	18.9%	36.3%	26.6%	8.9%
2002-2004	8.4%	17.9%	38.2%	26.9%	8.6%

## Pathogen Survival on Inanimate Surfaces

Inanimate surfaces have often been described as the source for outbreaks of hospital acquired infections. A review of the literature on the subject found most gram-positive bacteria, such as *Enterococcus* spp (including VRE), *Staphylococcus aureus* (including MRSA), or *Streptococcus pyogenes*, survive for months on dry surfaces (*BMC Infectious Diseases* 2006, 6:130). Many gram-negative species, such as *Acinetobacter* spp, *Escherichia coli*, *Klebsiella* spp, *Pseudomonas aeruginosa*, *Serratia marcescens*, or *Shigella* spp, can also survive for months. A few others, such as *Bordetella pertussis*, *Haemophilus influenzae*, *Proteus vulgaris*, or *Vibrio cholerae*, however, persist only for days. Mycobacteria, including *M tuberculosis*, and spore-forming bacteria, in-

cluding *Clostridium difficile*, can also survive for months on surfaces. *Candida albicans* as the most important hospital acquired fungal pathogen can survive up to 4 months on surfaces. Persistence of other yeasts, such as *Torulopsis glabrata*, was described to be similar (5 months) or shorter (*Candida parapsilosis*, 14 days). Most viruses from the respiratory tract, such as corona, coxsackie, influenza, SARS or rhino virus, can persist on surfaces for a few days. Viruses from the gastrointestinal tract, such as astrovirus, hepatitis A, poliovirus or rotavirus, persist for approximately 2 months. Blood-borne viruses, such as hepatitis B or HIV, can persist for more than one week. Herpes viruses, such as cytomegalovirus or *Herpes simplex* type 1 and 2, have been shown to per-

sist from only a few hours up to 7 days. Thus, the most common hospital acquired pathogens may well survive or persist on surfaces for months and can thereby be a con-

tinuous source of transmission if no regular preventive surface disinfection is performed.

## The Right Drug for the Right Bug

On the 17<sup>th</sup> of August, the *Kansas City Star* ran a story that discussed the increasing prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) infections among emergency department patients across the nation, including Kansas City. The study upon which the *Kansas City Star* article was based showed that 74% of persons with skin infections who went to Truman Medical Center's emergency department had MRSA infections (*New Engl J Med* 2006; 355:666-674). Of the 11 participating emergency departments, Truman's rate was the highest, but in all cases the number of isolates tested was small. Genetic analyses confirmed that the infections were community-acquired rather than hospital-acquired. Overall, these findings supported other studies that have indicated an increasing problem since 2000 with MRSA outside of the hospital environment.

Antibiotic resistance by a wide variety of bacteria has been an important issue ever since penicillin came into widespread use following World War II. In recent years, however, the threat level from antibiotic resistance has been escalating as more bacterial species demonstrate resistance to a wider array of antibiotics. The situation is compounded by the virtual lack of any new class of antibiotics and the reliance on slightly different versions of current antibiotics to which antibiotic resistance quickly develops. If mankind loses the use of antibiotics because

of resistance problems, we will return to the pre-antibiotic era when infectious diseases caused significant morbidity and mortality.

There have been a lot of efforts to change physician prescribing habits as well as to educate consumers about appropriate antibiotic use. For the past several years, the Kansas City Antibiotic Resistance Task Force (KART) has been focusing educational efforts primarily at the parents, day care providers, and health care providers serving preschool children. One of KART's current projects is to train University of Missouri pharmacy students and residents how to teach "Wash Away Soiled Hands" or "WASH" in daycare centers throughout the Kansas City area.

KART is composed of a number of health care insurance plans, pharmaceutical companies, health care providers, the Missouri Department of Health and Senior Services, the Kansas City, MO, Health Department, and day care providers. To learn more about KART and its sister organization, Antibiotic Resistance Can Harm or ARCH in the St Louis area, go to [http://demos.learfield.com/Antibiotic\\_Resistance/default.htm](http://demos.learfield.com/Antibiotic_Resistance/default.htm).



## Potpourri

**ROTAVIRUS IS THE** most common cause of severe gastroenteritis in infants and young children in the United States, with nearly every child being infected by age 5 y. Infections result in ~410,000 physician visits, 205,000-272,000 emergency department visits, and 55,000-70,000 hospitalizations each year, and, 20-60 children die annually from rotavirus infection.

In February, the Food and Drug Administration licensed

a live, oral rotavirus vaccine (RotaTeq<sup>®</sup>) and in August the recommendations of the Advisory Committee on Immunization Practices (ACIP) were published (*MMWR* 2006; 55:RR-12). The ACIP recommends routine vaccination of infants with 3 doses of rotavirus vaccine which are to be administered orally at ages 2, 4, and 6 months. The vaccine can be administered simultaneously with other childhood vaccines.

**WHILE NO ONE** likes having hay fever or asthma, there may be a good side to these conditions—a significantly decreased risk of developing cancer (*Am J Epidemiol* 2005; 162:212-221).

**IT HAS BEEN NOTED** in several communities across the globe that admissions of children with asthma to hospitals begin to rise in the first few days after school starts in the fall and continue to rise for the next four weeks (*Public Health* 2006; Aug 9, doi: 10:1016/j.puhe.2006.05.015). These observations suggest that returning to school after term holidays is strongly associated with increased risk of asthma hospital admissions in children especially following the long summer holiday. It has been recommended that preventive measures focused on return to school have the potential to substantially decrease admissions for asthma in children.

In Kansas City, emergency department visits and hospital admissions for asthma peak in October and in May.

House dust mite excrement or allergen is a common trigger of asthma symptoms in people with allergic asthma and can trigger allergy attacks in other people. Therefore, the preliminary test results of an experimental vaccine against dust mite allergy holds promise for relief. Cytos, a Swiss vaccine company, has developed a DNA-based vaccine that significantly reduced symptoms of allergy patients, and prevented attacks among asthmatics (<http://news.bbc.co.uk/go/pr/fr/-/hi/health/4945728.htm>)

**WEST NILE VIRUS** (WNV) has become an endemic disease across North America with human and veterinary cases occurring every year. Already several human cases have been reported in Kansas City, as well as in Jackson County, and Johnson County, KS, this summer.

As much as a public health threat WNV has become, there are other mosquito-borne viruses, which if introduced into the Americas, could cause as many or more problems. One of these agents is Rift Valley fever (RVF) virus. It considered a very dangerous human and veterinary pathogen. It has a 1% fatality rate in humans, which is higher than that for WNV, and it kills up to 30% of in-

fectured livestock. If found in animals in the US, other countries would impose livestock bans and other trade restrictions.

Most people infected with RVF virus develop a flu-like illness, but some wind up with serious symptoms, including liver and kidney disease. About 14% of those seriously ill with RVF die compared to the 10% of WNV patients with serious complications, eg inflammation of the brain.

RVF virus is transmitted by >30 species of mosquitoes, more than those that carry WNV. And, it has been researched as a bioweapon because of its stability in an aerosol form. There is no approved human or veterinary vaccine for this agent.

**FRESH PRODUCE** is an important part of a healthy diet and is consumed in greater quantity in the US than ever before. Consumption of cantaloupe has recently been associated with several large outbreaks of infections. The Centers for Disease Control and Prevention reviewed the 23 outbreaks caused by 5 serotypes of *Salmonella enterica*, *Campylobacter jejuni*, *Escherichia coli* O157:H7, and norovirus (*Epidemiol Infect* 2006;134:675-685).

The problem with cantaloupes is their rough skin, which can be very hard to clean. When they are cut open, bacteria on the skin can contaminate the flesh. The Food and Drug Administration recommends avoiding blemished melons, and scrubbing the skin under cold water before slicing.

**MONITORING OF WILD BIRDS** in the US for the H5N1 avian influenza virus has begun and efforts will intensify as the fall migration begins. You can now view a website showing current information about wild bird sampling and which provides state specific information (<http://wildlifedisease.nbio.gov/ai/>).

**KANSAS CITY** already has posted a record 5 rabid bats for the year. Rabid bats can be found anytime throughout the year, with one being found in November 2005.

**Healthy People, Healthy Communities**

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