



Epi -

Volume 5, Issue 1, June 2008

To Promote and Protect the Health and Safety of Orange County
Residents and Visitors By Providing Quality Public Health Services

Director	
Kevin M. Sherin, MD, MPH	x. 1164
Epi Program Manager	
Donna J. Walsh, RN, BSN, MPA	x. 1137
Epidemiologist	
Dawn Ginzi, MPH	x. 1136
Debbie Andrews, LPN	x. 1130
Karen Coombs, RN, BSN	x. 1140
Maritza Godwin, RN, BSN, MPH	x. 1139
Cheryl Hammad, RN, BSN	x. 1131
Beverly Keith, RN, BSN	x. 1134
Charlene McCarthy	x. 1147
Lori Theisen, RN, BSN	x. 1135
Charlene Williams, RN, BHS	x. 1132
Florida EIS Fellow	
Leah Eisenstein, MPH	x. 1138
Emergency Operations Manager	
Jim Pate, MS	x. 1110
Arlene Crow, BA	x. 1111
Betty Omerod, RN, MSN	x. 1108
Jack Tracy, M.Ed	x. 1112
Elizabeth Vazquez	x. 1113
Tenecia Wood, BA, MSA	x. 1114
Senior Physician	
Steven A. Hale, MD	x. 1160

Epidemiology Department Contact
407.858.1420
Fax: 407.858.5517

Reporting Update

The Florida Department of Health recently announced an extensive rewrite of Chapter 64D-3, *Florida Administrative Code*, which governs disease reporting by practitioners, laboratories, hospitals, and other entities. The purpose of the rewrite was to update, clarify, and streamline rule language. Some noteworthy changes include revised standard reporting timeframes and the addition of new diseases/conditions to the list. These include:

- Reportable by practitioners: HIV-exposed infants or newborns and conjunctivitis in neonates ≤ 14 days;
- Reportable by laboratories: CD-4 counts, HIV viral load, and STARHS (for detection of early HIV infection); abnormal cervical cytologist/histologies; ALL blood lead tests performed;
- Reportable by practitioners and laboratories (newly added): California serogroup viruses; HPV cancer-associated strains; novel or pandemic influenza virus strains (isolated from a human); influenza-associated pediatric mortality; hepatitis D, E, and G; Severe Acute Respiratory Syndrome; typhus fever (epidemic); varicella; varicella mortality; and cancer, including benign and borderline intracranial and central nervous system tumors.

The updated version of Chapter 64D-3 became effective November 20, 2006. Please see the updated reportable disease list on the Orange County Health Department Epidemiology webpage at: www.orchd.com/EPI/documents/ReportableDisease08.pdf.

Hepatitis Prevention Program

In June 2007, the Orange County Health Department secured funds from the Florida Hepatitis Prevention Program to begin a comprehensive hepatitis program in Orange County. This program is housed in the Epidemiology Section at the Orange County Health Department. Program services include providing hepatitis education, hepatitis screening, Hepatitis A and B vaccinations, counseling, and referrals for follow up care to high risk clients. Clients are deemed eligible for this program through guidelines set by the Florida Hepatitis Prevention Program. Examples of high risk clients include, but are not limited to, men who have sex with men, past or present IV drug users, and heterosexual persons with multiple sexual partners.

The hepatitis 09 Program is not for international travel clients, employee health or persons under the age of 18. Partnerships are being developed with agencies in the community servicing high risk clients to provide free testing and hepatitis A and hepatitis B vaccines. The hepatitis program is also providing community outreach (vaccinations provided at health fairs targeting at-risk communities), and partnering with community agencies to provide referrals for treatment of clients diagnosed with hepatitis. Testing for hepatitis A, B, and C and vaccinations for hepatitis A and B are being provided by appointment for high risk clients in the Epidemiology Clinic located at 6101 Lake Ellenor Drive, Orlando, FL 32809. For appointments and information regarding the hepatitis program, please contact Lori Theisen, RN at 407-858-1400, ext.1135.

WWW

website resources

Orange County Health Department
www.orchd.com

Florida Department of Health
www.doh.state.fl.us

Centers for Disease Control
www.cdc.gov

Leah Eisenstein, MPH - Florida EIS Fellow

Leah Eisenstein, MPH, EIS Fellow in the epidemiology department of the Orange County Health Department is entering her second year of participation in the unique, two-year post-graduate program of service and on-the-job training known as The Florida Epidemic Intelligence Service (FL-EIS).

Initiated in 2001 and based at the Florida Department of Health in Tallahassee, the mission of the program is to prepare epidemiologists for public health leadership positions in Florida. Successful candidates are assigned to a county health department, where, with their preceptor and mentors, they gain experience in descriptive and analytic epidemiology, disease cluster investigations, management of public information, and in the publication and presentation of findings, among other facets of epidemiology. Fellows are also involved with statewide epidemiology issues.

Leah graduated from the University of North Carolina in December of 2000 with a BS in Biology, and obtained a Masters of Public Health degree from Emory University in May of 2006. She heard about the program while at Emory, and applied for it before graduating.

Leah is assigned to both Orange and Osceola County health departments, and is mentored by Dr. Kevin Sherin, Orange County Health Department Director, and by Dawn Ginzi and Donna Walsh, epidemiologist and epidemiology program manager, respectively, of the Orange County Health Department.

Projects and activities Leah has been involved with include:

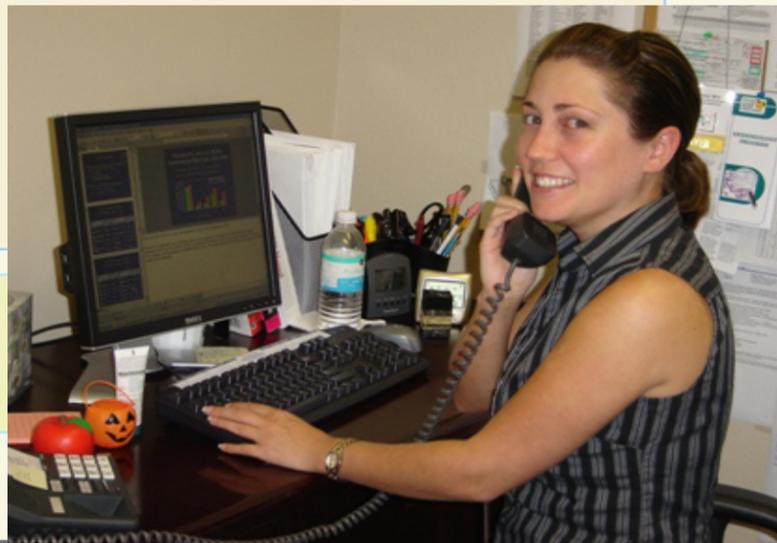
Analysis of foodborne disease outbreaks in Florida and the U.S.
Analysis of *Clostridium difficile* testing at a local hospital
An evaluation of Osceola County Influenza Public Health Intervention
Hepatitis A, Norovirus, Giardia, and Cryptosporidium outbreak investigations

Articles, reports, and presentations include:

Parasites in the Park: Investigation of a Cluster of Giardiasis and Cryptosporidiosis Cases, Orange County, FL
Descriptive Epidemiology of Foodborne Outbreaks in Florida and the U.S.
Vancomycin-intermediate Staphylococcus (VISA) Acquired in Florida
Summary of Osceola County's 2006 Free Influenza Shot Event
Field Partnerships During a Florida Red Tide Beach Exposure Study

Although she is interested in all aspects of epidemiology, particular interests of Leah include biostatistics, data analysis, the investigative aspects of foodborne outbreaks, and the epidemiologic aspects of high mortality-rate diseases such as Primary Amebic Meningoencephalitis and rabies.

For more information regarding the Florida Epidemic Intelligence Service, please see: www.doh.state.fl.us/disease%5Fctrl/epi/FLEIS/fleis.



Rabies in Orange County, Florida

As of the end of November 2007, 6 animals have tested positive in Orange County (3 bats, 2 foxes, and 1 raccoon) and treatment has been recommended for 69 persons exposed to potentially rabid animals. Rabies is found in raccoons, bats, cats, foxes, otters, and skunks. Raccoons are the primary reservoir for rabies in Florida and the U.S. East Coast, although in the past 50 years, most human rabies cases acquired in the U.S. have been bat-associated. Rabies is a virus that is transmitted to humans from the saliva of an infected animal through open wounds, such as bites and scratches, or mucous membranes.

The OCHD advises persons bitten or scratched by a wild or stray animal to immediately report the incident to a medical provider and the health department and start the rabies post-exposure vaccine series because rabies is almost always fatal once symptoms begin. Prevention includes avoiding contact with wild or stray animals and keeping pets up-to-date on rabies vaccinations. Every year the Florida Department of Health's Division of Environmental Health releases a rabies compendium to provide recommended policies and procedures for rabies prevention and control in Florida. The 2007 rabies compendium, entitled "Rabies Prevention and Control in Florida, 2007", can be found on the Florida Department of Health's website: www.doh.state.fl.us/Environment/community/arboviral/Zoonoses/Rabiesguide2007.pdf.



DENGUE FEVER: INCREASE IN IMPORTED CASES SEEN IN ORANGE COUNTY

There have been six dengue fever cases reported in Orange County for this year as of this writing. All 6 cases were determined to be "imported cases"; that is, the disease was acquired from a location outside of the continental US. All of the patients were Orange County residents. This number is significantly higher than the case totals in the three previous years; only one case has been reported in each of those years (2004 through 2006).

Four of the six patients had recently traveled to Puerto Rico, which has experienced the most confirmed cases of dengue this year than in any other since the epidemic of 1994. One of these patients had also traveled to San Pedro and Santo Domingo. The other two patients had each traveled to the Philippines and the Dominican Republic.

Dengue is the most common cause of fever in travelers returning from the Caribbean, Central America, and South Central Asia. Its range has rapidly expanded in recent years to include parts of Mexico, many tropical countries in Southeast Asia, the Indian Subcontinent, the South Pacific, northeastern Australia, and Africa. Many other diseases mimic dengue; malaria and chikungunya are two additional diseases considered in the differential diagnosis of patients who have fever and have traveled to endemic areas.

The state laboratory offers free testing for arboviruses, including the causative agent for dengue. Before sending specimens to the state lab, practitioners are asked to contact the epidemiology department at 407-858-1420 for assistance and coordination of sample submission. Dengue is a reportable disease (please see the article: "Reporting Update" on page ____).

CDC Links:

Information for healthcare practitioners:

www.cdc.gov/ncidod/dvbid/dengue/dengue-hcp.htm

Outbreak notice:

www.cdc.gov/travel/contentDengueTropicalSubTropical.aspx

Travelers' Health: Yellow Book

www.cdc.gov/travel/yellowBookCh4-DengueFever.aspx



Female *Aedes aegypti* mosquito during a blood meal, CDC/Prof. Frank Hadley Collins, Dir., Cntr. For Global Health and Infectious Diseases, Univ. of Notre Dame.

Flu Vaccinations for the 2007-2008 Season

The Orange County Health Department provided free flu vaccinations for people 50 years of age or older and other at-risk groups at seven separate events during the months of October, November, and December. Free pneumonia vaccinations were also provided for specific age groups during these events.

During the 2007-2008 flu season, a total of 2,839 Flu vaccinations and 4,325 Pneumonia vaccinations were administered by the Orange County Health Department through clinics and outreach events. Persons in the 24 to 64 year age group received the most Flu vaccinations, and those in the 0-4 year age group received the most Pneumonia vaccinations.

More people die each year (approximately 36,000) in the United States from influenza than from any other vaccine-preventable disease. It is estimated that more than 200,000 hospitalizations occur in the United States annually as a result of flu complications. Children under 2 years of age are as likely to be hospitalized due to influenza complications as adults 65 years of age or older.

A list of the high risk individuals for whom annual vaccinations are recommended can be found at the Orange County Health Department web page www.orchd.com/Immunization/FluInfo.asp.

Additional information can be found in the immunizations section of the Orange County Health Department web site: www.orchd.com/Immunization/, as well as on the CDC web page: www.cdc.gov/flu/.

	Flu			Pneu			Total
	FEMALE	MALE	Total	FEMALE	MALE	Total	
0 - 4 Years	173	197	370	1,902	1,895	3,797	4,086
5 - 24 Years	289	288	577	62	65	127	696
24 - 64 Years	809	639	1,508	137	167	304	1,543
65 Years +	194	190	384	46	51	97	397
Total	1,525	1,314	2,839	2,147	2,178	4,325	6,712

Former Regional Epidemiologist for Central Florida Links Injury to “Flesh-Eating” Bacteria

Zuber D. Mulla, PhD, former Regional Epidemiologist for Central Florida (Florida Department of Health, Bureau of Epidemiology), and his colleagues recently completed a statistical analysis of patients hospitalized throughout Florida for invasive infections caused by group A Streptococcus, dubbed the “flesh-eating” bacteria by the popular press. They found that patients who had the “flesh-eating” manifestation (necrotizing fasciitis) were almost six times as likely as the remaining patients to have had a recent non-penetrating injury known as blunt trauma.

For years the possible connection between blunt trauma (e.g., a football tackle) and group A streptococcal necrotizing fasciitis was discussed in case reports but this is the first epidemiologic study of its kind according to Mulla who is an associate professor and Director of Epidemiologic Research in the Department of Obstetrics and Gynecology at the Texas Tech University Health Sciences Center School of Medicine in El Paso. Their article has been accepted for publication in the peer-reviewed journal *Annals of Epidemiology*. The first author is Ziyad Nuwayhid, MBA (also with the Dept. of OB/GYN), and David Aronoff, MD (Dept. of Internal Medicine, University of Michigan).

The biological reason why a previously healthy person may die of group A streptococcal necrotizing fasciitis after a seemingly minor injury was reported last year by another group of scientists who found that injured muscle cells in the laboratory produce a protein called vimentin which binds with group A Streptococcus and this action possibly facilitates the initiation of a group A streptococcal infection. For more information, please contact Dr. Mulla at zuber.mulla@ttuhsc.edu

Community-based Mass Prophylaxis Drill: The University of Central Florida Experience

The threat of a severe influenza pandemic occurring in the next few years is very real. The Department of State, US Centers for Disease Control and the Florida Department of Health have called for communities to formulate pandemic plans. Effective planning for any disaster, bioterrorism, or catastrophic event such as flu pandemic, requires collaboration among many community members and identification of accessible/available resources. On August 28, 2006 members of the University of Central Florida (UCF) community conducted a mock Pandemic Flu Mass Prophylaxis Drill.

The University of Central Florida is located in Orlando, Florida. With a student enrollment of approximately 48,000 students, it ranks as one of the 7th largest universities in the United States.

Planning for the mass prophylaxis drill was initiated in March 2006 when a UCF emergency management group met with representatives of the Orange County Health Department (CHD) to discuss UCF pandemic preparedness. Amongst other recommendations, Orange County public health officials advised planning for a mass vaccination drill. They further suggested that community vaccinations be accomplished within a 48-hour timeframe to also meet bioterrorism mass prophylaxis recommendations.

In April 2006, a UCF Mass Prophylaxis Planning Committee was formed. This committee consisted of community stakeholders from the University’s Health Services Continuity of Operations Committee, Environmental Health and Safety, campus police, news and information representatives, the College of Nursing, and staff from the Orange CHD. The group also served as the Incident Command for the drill. Planning assumptions included that sustained human to human transmission had begun four months prior to the availability of vaccine, and endemic illness was present locally. In addition, the community size estimated for vaccination was 50,000 people.

The resultant plans were consistent with those outlined by the Agency for Healthcare Research and Quality. Four strategically-located campus sites were identified to serve as the Dispensing/Vaccination Centers (DVCs). These sites were chosen for ease of access, size, security, local storage, utility/communications capacity, back-up generator availability, campus location, and proximity to the campus health center, which would serve as Command Central and the stockpile staging and distribution site. Campus administrators agreed to provide alphabetized lists of all registered students, faculty, and staff. For the drill, the student union ballroom DVC was activated. Although the entire DVC structure was set up, only partial staffing was planned.

The UCF Pandemic Mass Vaccination Plan calls for 74 people to staff each DVC for two 10-hour periods of time. These plans call for the DVCs to be staffed with 4 greeters, 8 check-in persons, 24 triage persons, 24 dispensing persons, 4 crowd-flow directors, 7 medical triage consultants and 3 check-out persons. Patients will be processed through various stations (check-in, form completion, screening/triage, vaccination and checkout). The rate limiting step is estimated to be two minutes for form completion. Such staffing will allow 12,500 persons to be processed at each site over two days (or 625 vaccinations per hour). These staffing allocations do not include campus police, who will secure the site and control the crowd. The calculations take into account essential break times for staff.

“Patient” volunteers were recruited from faculty, staff and students. Participants could proceed through the drill as many times as they desired and were registered for lottery prizes in exchange for participation. Approximately every 20th person was given a mock problem (possibly pregnant, fever, sore throat without fever, person on chemotherapy, person with close contact with individual who died of Avian flu and person who returned from travel from Vietnam in the past 10 days). “Worker” volunteers were largely made up of health service personnel and faculty and students from the College of Nursing.

The UCF drill positioned two greeters outside the DVC who directed people toward check-in stations and identified the potentially ill. Signage was posted outside the DVC requesting people to self-identify sickness or potential Avian flu exposure. People who self-identified had their temperature taken and were given a surgical mask. If febrile, they were referred to the health center. Afebrile persons continued to check-in. Check-in tables were positioned just outside the entry point. Each check-in worker identified people on the printed lists. Once checked in, patient volunteers were given a Spanish or English vaccine consent form. This form integrated WHO identifiers for Avian flu and standard CDC influenza vaccination consent information. Patients were directed to tables within the dispensing site for completion of the consent form. Posted conspicuously on the tables was CDC information that distinguished colds from influenza, and a list of countries with known cases of Avian flu.

After completing the questionnaire, people were directed to the screening/triage station where a healthcare worker reviewed the consent form. Those with risk for Avian flu were given a surgical mask to wear and were referred to the onsite medical unit (problem table). People with potential contraindications (pregnancy or pharmaceutical) were also referred to the onsite medical unit for consultation. Medical professionals who assessed the appropriateness of vaccination staffed the medical unit. Those who had possible Avian flu exposure with fever were referred to the health center. Once cleared by the screening or medical units, the patient volunteers were then directed to the vaccination stations. Two workers were at each station; one worker drew up vaccine and the other dispensed vaccine. M & M candy was dispensed in place of vaccination. N-95 face masks were worn by all workers and alcohol-based hand sanitizers were available throughout the building. There were also cots for acutely ill persons.

Command Central was contacted via walkie-talkie either when individuals were referred to the health center or if someone required transportation to the center via golf cart. Following successful vaccination, participants reported to the check-out stations and were qualified for a lottery and other favors.

The drill took place over a 3.5-hour timeframe and local media were on hand to record the event. Three hundred seventy-five individuals (or 107 per hour) were processed using approximately ¼ of the dispensing site workstations that would be staffed during an actual event. A steady-state operation was achieved, with uninterrupted flow and very little perceived wait times. With full dispensing site staffing, an equivalent of 429 individuals per hour would have been serviced, or 4,290 over 10 hours, or 8,580 over two projected days at this DVC. This was somewhat less than the initial goal of 625 vaccinations per hour, but still a successful outcome.

On-site observations suggest that extra capacity was achievable. It would appear that in the event of an actual mass prophylaxis, projected UCF staffing plans would be adequate. A debriefing by the planning committee identified the following needs: Better segregation of vaccination stations; larger letters on signage; develop a plan to recruit volunteers and identify all future mass vaccination workers; project 30-40% excess staffing to accommodate absenteeism; periodic pre-print student/faculty/staff rosters (took one working day to print); define a single building entry and exit, and specific lines leading to the check-in area; provide DVC workers with vaccine prior to mass vaccination event; address discomfort associated with sustained use of N-95 masks by workers; set up a telephone tree for all work groups and update monthly.

The drill served not only to heighten UCF preparedness planning for a pandemic or bioterrorism event, but also helped to significantly raise awareness within the campus community. Both university leadership and community members now better understand pandemic contingency plans. After the drill, campus officials approved funding for further significant pandemic preparedness that includes stockpiling supplies and a large-scale hand-washing campaign. Communications with the Orange CHD have been further strengthened. The UCF Mass Prophylaxis Planning Committee will continue to meet on a regular basis to review CDC recommendations, update plans as needed, and establish target dates for future drills.

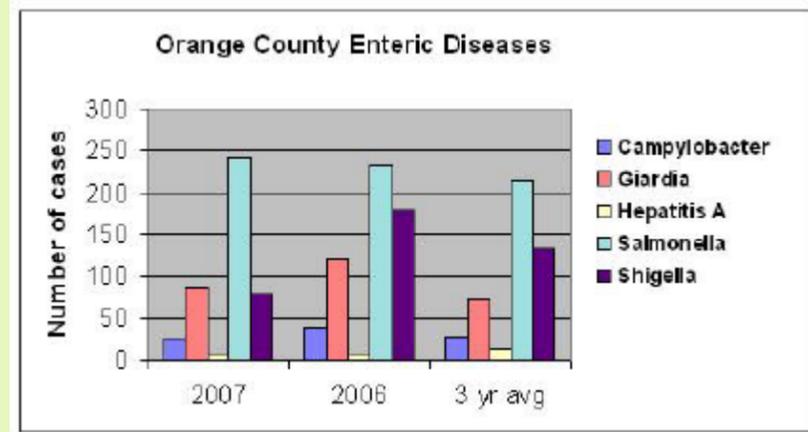
References

1. Agency for Healthcare Research and Quality, Community-Based Mass Prophylaxis: A planning Guide for Public Health Preparedness, August 2004, No. 04-0044, Available at: www.ahrq.gov/research/biomodel.htm.
2. Bozzette SA, Boer R, Bhatnagar V, et al. A model for a smallpox-vaccination policy. *N Engl J Med* Jan 30 2003; 348(5):416-25.
3. Center for Disease Control and Prevention. Transmission of Influenza A Viruses between Animals and People. Available at <http://www.cdc.gov/flu/avian/gen-info/transmission.htm>. Accessed August 2006.
4. Godley J. Bioterror Emergency readiness: a local Responsibility. *Managed Care* Nov 2003; 12(11 Suppl): 13-5.
5. Lila Guterman, Facing Down the Flu, *Chronicle of Higher Education*, 12/16/2005, v52
6. MMWR, Epidemiologic Notes and Reports Hepatitis B Associated with Jet Gun Injection, 6/13/1986, 373-6
7. McNeil DG; In a Daylong Drill, an Agency Tries to Prepare for a Real Outbreak of Avian Flu, *The New York Times*, 2/1/2007.
8. Osterholm MT. How to vaccinate 30,000 people in three days: realities of outbreak management. *Public Health Rep* 2001; 116(Suppl 2): 74-8.
9. Stein BD, Tanielian TL, Vaiana ME, Rhodes HJ, Burnam MA. The role of schools in meeting community needs during bioterrorism. *Biosecure Bioterror* 2003; 1(4): 273-81
10. State of California Mass Prophylaxis Guide. Emergency Medical Services Authority of California. Available at www.emsa.cahwnet.gov/dms2/draft_mass_prophy_final.pdf. Accessed April 2006.
11. World Health Organization. Avian Flu frequently asked questions. October 2005. Available at http://who.int/csr/disease/avian_influenza/avian_faqs/en.index.html. Accessed October 2005.
12. World Health Organization. Cumulative Number of Confirmed Human Cases of Avian A/ (H5N1). August 2006. Available at http://who.int/csr/disease/avian_influenza/country/cases_table ... Accessed August 2006.

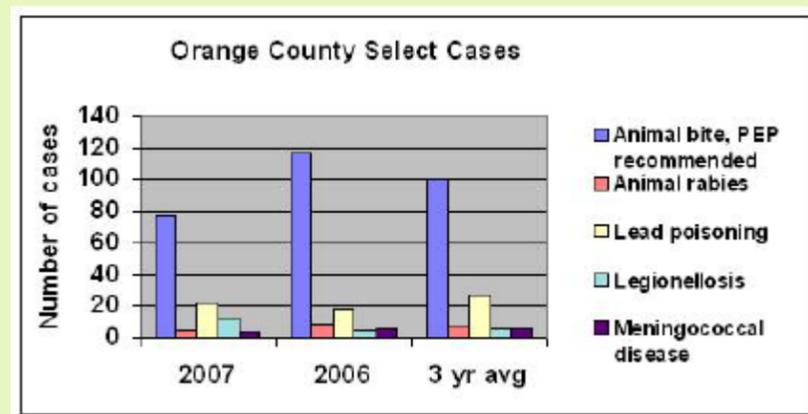


Orange County Select Data Summaries

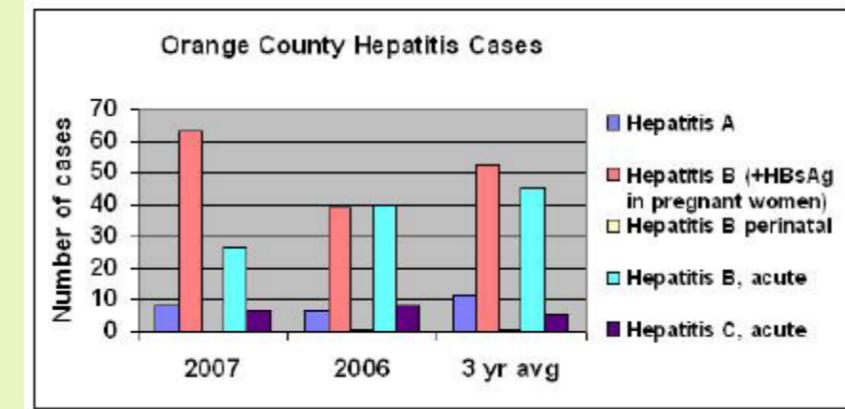
The graph below depicts select reportable diseases and conditions declared dangerous to the public's health or which have public health significance. The represented data reflect reported cases for 2005, 2006, and the three year average, which includes 2004.



This graph presents the number of enteric disease cases in Orange County for, left to right: 2007 (through November), 2006, and the average of 2004, 2005, and 2006 cases. Currently, campylobacteriosis and hepatitis A case counts for 2007 are similar to what was seen in the past 3 years, while giardiasis and salmonellosis cases are higher than the 3-year average, and shigellosis cases are lower than the 3-year average.



This graph presents the number of select disease cases in Orange County for, left to right: 2007 (through November), 2006, and the average of 2004, 2005, and 2006 cases. The number of animal bites with post-exposure prophylaxis (PEP) recommended is lower than the past 3 years, as is the number of rabid animals. The 2007 legionellosis case count is double both the 2006 case count and the 3 year average count.



This graph presents the number of hepatitis disease cases in Orange County for, left to right: 2007 (through November), 2006, and the average of 2004, 2005, and 2006 cases. Acute hepatitis B cases continued to decline, while acute hepatitis C cases were less than 2006, but greater than the 3 year average. No perinatal hepatitis B cases were reported in 2007, through November.