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Georgia Epidemiology Report

Influenza

Epidemics of influenza occur during the winter months, causing an average of 226,000 hospitalizations for influenza-related complications and 36,000 deaths per year in the United States. While influenza infects persons of all ages, young children under two years of age, the elderly, pregnant women, and persons with certain chronic medical conditions are at higher risk for serious influenza-related complications. Most influenza-related deaths occur among the elderly. Prevention strategies are designed to prevent influenza in high-risk populations and those living with or in close contact with high-risk populations.

Preventing Influenza

Annual influenza vaccination is the most effective way to prevent influenza and its complications. Influenza vaccination is associated with reductions in influenza-related illnesses and physician visits, influenza-related hospitalizations and deaths, otitis media in children, and work absenteeism. Annual influenza vaccination is recommended for persons at high risk of developing complications from influenza as well as their contacts (Table 1). However, all persons, including school-aged children and healthy adults, who want to reduce their risk of becoming ill with influenza or of transmitting influenza to others should be vaccinated.

During 2004-2005, the Advisory Committee on Immunization Practices (ACIP) recommended vaccination of all children aged 6 through 23 months. Beginning in 2006-2007, this recommendation was expanded to recommend vaccination of all children aged 6 through 59 months (i.e., 6 months through 4 years). These recommendations deserve emphasis because they are relatively new, and reported vaccination levels remain low among children. Children aged 6 months through 8 years who have not been previously vaccinated should receive 2 doses of vaccine the first year, followed by single dose vaccination in subsequent years. Children aged 6 months through 8 years who received only 1 dose in their first year of vaccination should receive 2 doses the following year (within the same season). To protect young children, especially those too young to be vaccinated (i.e. less than 6 months of age), vaccine is recommended for healthy household contacts and caregivers.

ACIP also emphasizes that healthcare personnel (HCP) and other persons who can transmit influenza to those at high risk should be vaccinated against influenza annually. Vaccination levels among HCP should be considered one measure of a patient safety quality program, for example, in hospitals or long term care facilities (LTCF), and healthcare administrators should implement policies to encourage HCP vaccination. Vaccination of HCP has been associated with reduced work absenteeism and with fewer deaths among LTCF residents and elderly hospitalized patients.

Four antiviral agents are approved for treatment or prophylaxis of influenza. Due to recent widespread resistance to two of these medications among circulating influenza viruses, ACIP recommends that neither amantadine nor rimantadine be used for treatment or chemoprophylaxis. Until susceptibility to adamantanes has been re-established among circulating influenza A viruses, oseltamivir or zanamivir may be prescribed for influenza antiviral treatment or chemoprophylaxis (1).

Table 1. Persons for Whom Annual Influenza Vaccination is Recommended (1)

- All persons, including school-aged children, who want to reduce the risk of becoming ill with influenza or of transmitting influenza to others.
- All children aged 6 through 59 months (i.e., 6 months through 4 years);
- Persons aged ≥50 years;
- Children and adolescents (aged 6 months through 18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for experiencing Reye syndrome after influenza infection;
- Women who are, will be pregnant during the influenza season;
- Adults and children who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological or metabolic disorders (including diabetes mellitus);
- Adults and children who have immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus);
- Adults and children who have any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions, or that can increase the risk for aspiration;
- Residents of nursing homes and other chronic-care facilities;
- Healthcare personnel;
- Healthy household contacts (including children) and caregivers of children aged <5 years and adults aged ≥50 years, with particular emphasis on vaccinating contacts of children aged <6 months;
- Healthy household contacts (including children) and caregivers of persons with medical conditions that put them at higher risk for severe complications from influenza.

2007-08 Influenza Vaccine

Both the trivalent inactivated influenza vaccine (TIV) and the live, attenuated influenza vaccine (LAIV) prepared for the 2007-08 season will include influenza A/Solomon Islands/3/2006 (H1N1)-like (new for this season), A/Wisconsin/67/2005 (H3N2)-like,

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and B/Malaysia/2506/2004-like antigens. TIV is given by intramuscular injection, and may be used for any person aged ≥6 months, including those with high-risk conditions. LAIV is given by intranasal spray, and is licensed for use in healthy non-pregnant persons 5 through 49 years of age.

The optimal time to receive influenza vaccine is October or November, prior to influenza virus exposure; however, in Georgia, influenza activity typically peaks after December, so influenza vaccination should continue throughout the influenza season as long as vaccine is available. ACIP encourages immunization providers to offer influenza vaccine and schedule immunization clinics throughout the influenza season. Healthcare providers who have vaccine available may post this information on the flu clinic locator website (http://www.immunizeadultga.org/), which helps Georgians seeking vaccine to find providers in their community. If uncertainties arise related to vaccine supply, ACIP may recommend that certain groups defer vaccination with TIV to ensure access for the highest risk groups, however no such problems are anticipated for the coming influenza season. Since high-risk groups do not receive LAIV, no such restrictions would apply for this vaccine.

Overview of Influenza Surveillance in Georgia

The Georgia Division of Public Health (GDPH) monitors influenza activity via a sentinel provider network, part of a nationwide surveillance network coordinated by the Centers for Disease Control and Prevention (CDC). Weekly during influenza season, volunteer sentinel healthcare providers throughout Georgia report the total number of patient visits, and the number of those patients with influenza-like illness (ILI). ILI is defined as fever ≥100^0 F AND cough and/or sore throat. Sentinel providers also submit throat or nasopharyngeal swabs from representative patients with ILI several times during the season for viral culture at the Georgia Public Health Laboratory (GPHL). Because ILI may be caused by pathogens other than influenza, and many cases of influenza are not medically evaluated, confirmed by laboratory testing, or reported, the sentinel surveillance network cannot be used to determine the number of influenza illnesses during a given season. However, ILI data coupled with the results of viral cultures from GPHL and from a network of hospital laboratories throughout the state that report to the CDC's National Respiratory and Enteric Virus Surveillance System (NREVSS) help to characterize influenza disease activity and distribution. Sentinel surveillance plays a critical role by providing specimens for influenza virus testing and allows strain selection for next year's influenza vaccine.

GDPH also monitors ILI activity through the syndromic surveillance component of the State Electronic Notifiable Diseases Surveillance System (SendSS). A growing number of hospital emergency departments participate in syndromic influenza surveillance (currently in 13 of 18 Health Districts), which monitors the number of patients presenting with respiratory syndromes or fever with flu-like symptoms. These symptoms are reported daily, and increases beyond expected counts prompt automatic alerts to key public health and hospital staff. The number of patients admitted or who die with these symptoms is also available to public health and hospital staff.

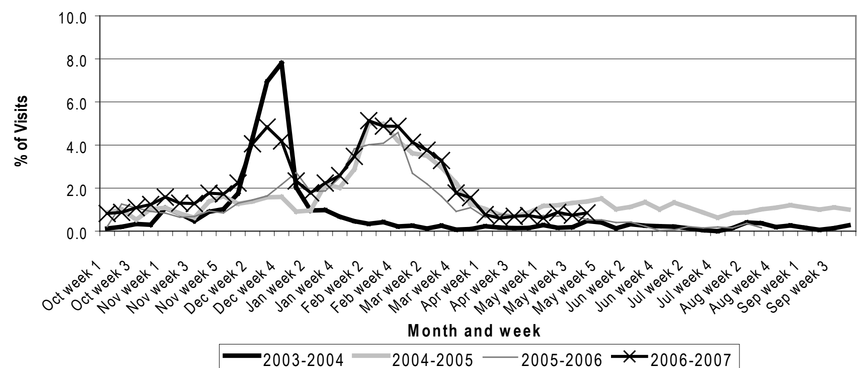
GDPH requires reporting of pediatric influenza-associated deaths and influenza outbreaks in schools, health care facilities, long term care facilities and other institutions. During the influenza season, Georgia influenza activity is posted weekly on the GDPH website, at http://health.state.ga.us/epi/flu, with links provided to nationwide data from CDC.

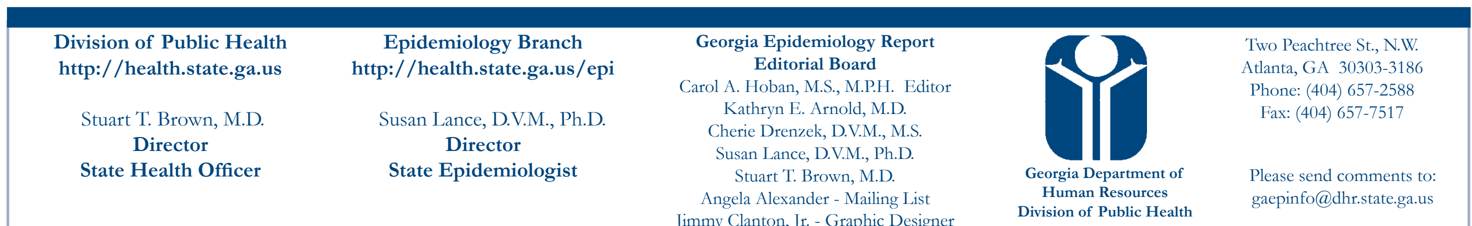
Georgia Influenza Surveillance, 2006-07 Season

The Georgia Public Health Laboratory (GPHL) confirmed the start of the 2006-07 influenza season by identifying the virus in a Georgia resident whose illness began on November 5, 2006. During the 2006-07 season, GPHL identified 93 influenza viruses. Of the 93 influenza isolates, 38 were subtyped as influenza A (H1), three were subtyped as influenza A (H3), and 52 were subtyped as influenza B. Thirty-one of the influenza isolates were then sent to CDC for antigenic characterization: 12 were characterized as A/NEW CALEDONIA/20/99 (H1N1)-like (one of the two influenza A components of the 2006-07 influenza vaccine), nine were characterized as B/OHIO/1/2005-like, (the B component of the 2006-07 influenza vaccine), one was characterized as B/FLORIDA/07/2004-like and one was characterized as B/HongKong/330/2001 (neither of which were a component of the 2006-07 influenza vaccine, although the vaccine would be expected to have conferred some cross-protection).

Two distinct peaks of influenza activity were observed during the 2006-07 season in both the sentinel and syndromic surveillance systems (Fig. 1). This pattern may have resulted from social distancing with school or work closures, and/or from altered patterns of healthcare-seeking behaviors during winter breaks. Overall, influenza activity peaked in Georgia in mid-February, consistent with four of the last five influenza seasons. The proportion of ILI visits to Georgia Influenza Sentinel Providers peaked at 5.1% during the second week of February and decreased to less than 1% by early April.

Figure 1. Percent of Visits for Influenza-like illness Reported by Sentinel Provider Network in Georgia





Influenza activity in Georgia was characterized as regional from November 5 – December 9, 2006, and widespread from December 10 – December 30, 2006. Activity decreased to regional from December 31, 2006 – January 27, 2007 and returned to widespread from January 28 – March 10, 2007.

Reports of Influenza-Associated Deaths among Children, Georgia, 2006-07

Since August 2004, influenza-associated deaths in children <18 years of age have been notifiable in Georgia. During the 2006-07 influenza season, five such cases were reported to GDPH. All had severe pneumonia and four of five had bacterial co-infections in addition to influenza; two with methicillin-resistant *Staphylococcus aureus* (MRSA), one with *S. aureus* documented by immunohistochemical staining, and one with invasive group A streptococcal infection. The fifth case was pregnant and had severe primary viral pneumonia.

Influenza Outbreaks, Georgia, 2006-07

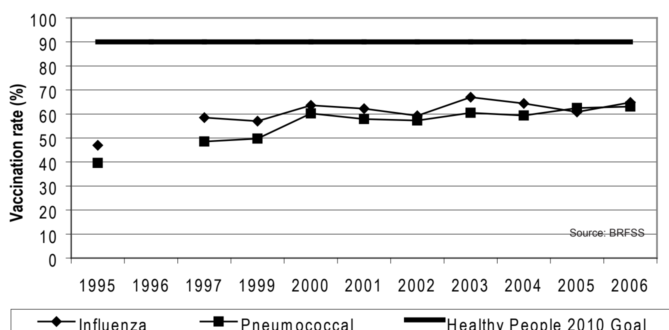
During 2006-07, four influenza outbreaks were reported to GDPH from institutional settings (three schools and one correctional facility). All four were confirmed influenza B outbreaks.

Vaccination Rates among High Risk Persons, Georgia, 2006

While most influenza vaccine is purchased directly by private providers, Public Health also distributes influenza vaccine. During the 2006-07 season, the Vaccines for Children Program distributed 244,200 doses of vaccine to Georgia providers for administration to uninsured and under-insured children. County and District Health Departments distributed 362,040 doses of vaccine.

Data from the Behavioral Risk Factor Surveillance System (BRFSS) indicate that influenza and pneumococcal vaccination rates have improved among Georgians aged ≥65 years during the past decade (Figure 2). However, influenza and pneumococcal vaccination rates are still far below the Healthy People 2010 goal of 90% vaccination for both vaccines among persons aged ≥ 65 years.

Figure 2. Influenza and Pneumococcal Vaccination Rates among Persons Aged>=65 Years, Georgia, 1995-2006



Resources

Many illnesses have signs and symptoms similar to those of influenza infection, making a clinical diagnosis difficult. Knowing when influenza virus is circulating in the community can help healthcare providers diagnose influenza infections among patients presenting with ILI. During influenza season, GDPH sends email updates on influenza activity in Georgia to those who are interested. If you would like to receive these updates, send an email to flu@dhr.state.ga.us with the word "subscribe" in the subject line.

GDPH has developed materials to assist long term care facilities and other care providers in preventing influenza. The materials include outbreak control guidelines, resources for ordering vaccine, using rapid tests, administering antiviral medications, billing Medicare for immunizations, and important contact and reference information. These materials are available at http://health.state.ga.us/epi/flu/outbreakcontrol.asp.

Thank you, Georgia Influenza Sentinel Providers

GDPH would like to thank the 2006-07 Influenza Sentinel Providers, especially those who continued to report through the summer (Table 2). These generous volunteers provide essential information on statewide disease trends and circulating influenza strains. If you are a healthcare provider interested in conducting influenza surveillance, contact Ariane Reeves, R.N., B.S.N., M.P.H., CIC, Influenza Surveillance Coordinator, at 404-657-2588.

Table 2. Georgia Influenza Sentinel Providers who submitted reports for at least half of the 34 weeks during the 2006-07 influenza season

Provider	Contact	City
Newnan Hospital	Amna Khan-Hickman, RN	Newnan
Wellstar Urgent Care	J. Dorland Brown MD	Kennesaw
Wellstar Urgent Care	Warren Falo MD	Marietta
Wellstar Urgent Care	Rodger Chapman MD	Marietta
Sandy Springs Pediatrics	Kytia Balcarek MD	Atlanta
Tanner Medical Center	Laura Larson MD	Villa Rica
The Pediatric Center	Patty Hopkins	Thomasville
Mountain Medical	Raymond Tidman MD	Blue Ridge
Valdosta State University	Rita Collins	Valdosta
Immediate Medical Care	Tulasi Vanapalli MD	Morrow
University of West Georgia	Johnnie Pollard RN	Carrollton
Columbus State University	Becky Tew RN, MSN	Columbus
Colquitt Complete Care	Bill Swafford, MD	Colquitt
Georgia Institute of Technology	William Manns MD	Atlanta
Northeast Georgia Medical Center	Stratton Kearns MD	Gainesville
Medical College of Georgia	James Wilde MD	Augusta
Fine and Associates Internal Medicine	Joel Fine MD	Snellville
LaVista Primary Care	Dich Van Nguyen MD	Tucker
Athens Neighborhood Health Center	Gail Hurley MD	Athens
Upson Regional Medical Center	Glenda van Houten RN	Thomaston
Northwest Georgia Family Practice	Herman Spivey MD	Summerville
Gilbert Health Center, University of Georgia	Jean Chin MD	Athens
Henry Medical Center	Jo Middlebrooks RN	Stockbridge
Archibald Urgent Care	Julia Weeks MD	Thomasville
Emory University Student Health Services	Michael Huey MD	Atlanta
Tracy Middlebrooks, Jr. MD	Tracy Middlebrooks, Jr., MD	Augusta
Community Care Center	Nancy Rowell MD, FNP	Riverdale
Ronny Sayers MD	Ronny Sayers, MD	Sardis
Lee Medical Arts Center	Susan Green RN	Leesburg
East Albany Medical Center	Susan Green RN	Albany
Trojan Battery Co.	Michelle Haney RN	Lithonia
Medical Services Dept, Coca-Cola Company	William Yang MD, MPH	Atlanta
Lakeside Pediatrics, LLC	Bob Bagheri, MD	Cumming
Lockheed Martin Medical Dept.	Mark Wood MD	Marietta
LaGrange Pediatrics	Suzanne Schuessler MD	La Grange
Cornerstone Medical Associates	Nina Courchesne LPN	Warner Robins
Family Health Center	Roberta Weintraut MD	Macon
Macon Volunteer Clinic	Lynn Denny MD	Macon
Cagle Inc.	Oneal Shaw	Pine Mtn Valley
Flint River Community Hospital	Kim Driver RN	Montezuma
Louis Smith Memorial Hospital	Brenda Jordan MT	Lakeland
Tift Regional Medical Center	Daniel Goff RN, CIC, ICP	Tifton
Georgia Southern University Health Services	Curtis Hames MD	Statesboro

This article was written by James R. Cope, M.P.H., Shani Thompson, M.P.H., Ben Sloat, M.P.H., and Kathryn Arnold, M.D.

References

1. CDC. Prevention and Control of Influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2007. MMWR 2007;56(No. RR-6).

The Georgia Epidemiology Report
Epidemiology Branch
Two Peachtree St., NW
Atlanta, GA 30303-3186

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Reported Cases of Selected Notifiable Diseases in Georgia, Profile* for July 2007

Selected Notifiable Diseases	Total Reported for July 2007	Previous 3 Months Total Ending in July			Previous 12 Months Total Ending in July		
	2007	2005	2006	2007	2005	2006	2007
Campylobacteriosis	96	215	169	241	611	572	649
Chlamydia trachomatis	30	8082	10280	2154	32977	38119	33241
Cryptosporidiosis	19	27	54	48	164	202	258
E. coli O157:H7	5	7	17	8	21	43	32
Giardiasis	46	175	165	149	829	690	677
Gonorrhea	7	3874	5460	807	15606	18908	15105
Haemophilus influenzae (invasive)	1	18	27	22	111	116	120
Hepatitis A (acute)	4	38	19	19	186	85	66
Hepatitis B (acute)	6	38	57	24	300	190	154
Legionellosis	3	13	13	8	31	36	43
Lyme Disease	3	3	5	6	5	8	8
Meningococcal Disease (invasive)	1	7	2	4	20	15	20
Mumps	0	0	3	0	3	5	0
Pertussis	2	19	8	5	46	32	25
Rubella	0	0	0	0	0	0	0
Salmonellosis	214	562	546	484	1854	1913	1886
Shigellosis	125	130	290	639	526	947	1839
Syphilis - Primary	1	29	28	10	110	136	82
Syphilis - Secondary	8	134	112	58	507	472	431
Syphilis - Early Latent	5	106	112	40	361	402	305
Syphilis - Other**	9	262	244	117	956	984	822
Syphilis - Congenital	0	0	1	0	4	8	3
Tuberculosis	29	130	143	108	489	523	472

* The cumulative numbers in the above table reflect the date the disease was first diagnosed rather than the date the report was received at the state office, and therefore are subject to change over time due to late reporting. The 3 month delay in the disease profile for a given month is designed to minimize any changes that may occur. This method of summarizing data is expected to provide a better overall measure of disease trends and patterns in Georgia.

** Other syphilis includes latent (unknown duration), late latent, late with symptomatic manifestations, and neurosyphilis.

AIDS Profile Update

Report Period	Disease Classification	Total Cases Reported*			Percent Female	Risk Group Distribution						Race Distribution			
		<13yrs	>=13yrs	Total		MSM	IDU	MSM&IDU	HS	Unknown	Perinatal	White	Black	Hispanic	Other
Latest 12 Months**:	HIV, non-AIDS	41	3,694	3,735	27	28	4	1	10	56	1	23	71	5	1
2/06-1/07	AIDS	14	2,089	2,103	27	29	6	1	10	54	<1	24	69	6	1
Five Years Ago:	HIV, non-AIDS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/02-1/03	AIDS	1	1,790	1,791	25	37	9	3	15	36	-	20	73	6	1
Cumulative:	HIV, non-AIDS	271	11,952	12,223	32	28	7	2	11	50	2	22	73	4	1
07/81-1/07	AIDS	282	37,359	37,641	20	44	15	5	13	23	<1	30	66	3	1

Yrs - Age at diagnosis in years **MSM - Men having sex with men** **IDU - Injection drug users** **HS - Heterosexual**

* Case totals are accumulated by date of report to the Epidemiology Section ** Due to a change in the surveillance system, case counts may be artificially low during this time period
***HIV, non-AIDS was not collected until 12/31/2003