



Please Note: An update has been published to this article in the December 2004 GER issue. To view the update, please click <http://health.state.ga.us/pdfs/epi/gers/ger1204.pdf>

Influenza

Epidemics of influenza usually occur during the winter, causing an average of 114,000 hospitalizations for influenza-related complications and 36,000 deaths per year in the United States (1). While influenza infects persons of all ages, rates of influenza complications requiring hospitalization are highest among young children under two years of age, the elderly, and persons with certain chronic medical conditions. Rates of death from influenza are especially high among the elderly. Prevention strategies are designed to prevent and ameliorate disease in these 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 among all age groups, hospitalizations and death among persons at high risk for influenza complications, otitis media in children, and work absenteeism in healthy adults (2-5). Annual influenza vaccination is recommended for persons at high risk of developing complications from influenza (Table 1). New for the 2004-2005 season, the Advisory Committee on Immunization Practices (ACIP) now recommends annual influenza vaccination for children 6-23 months of age because they are at increased risk for influenza-related hospitalizations (6). Influenza vaccine is not indicated for children < 6 months of age, but they are also at increased risk for influenza-related hospitalizations. Therefore, influenza vaccine is recommended for household contacts and out-of-home caretakers of children 0-23 months of age.

The optimal time to receive influenza vaccine is October-November. In Georgia, influenza activity typically peaks after December, so influenza vaccination should continue throughout influenza season as long as vaccine is available. Figure 1 suggests the ideal times to vaccinate against influenza and to order influenza vaccine. Children aged less than 9 years who are receiving the vaccine for the first time require a booster one month later. Therefore, they should begin vaccination early in the season.

Overview of Influenza Surveillance in Georgia

Each year from October through May, 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 patient visits with influenza-like illness (ILI). ILI is defined as fever $\geq 100^{\circ}$ 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 testing at the Georgia Public Health Laboratory (GPHL). Because not all influenza-like illnesses are influenza and not all influenza illnesses are diagnosed, confirmed by laboratory testing, or reported,

Table 1. Target Groups for Annual Influenza Vaccination

Persons at High Risk for Influenza-Related Complications:

- Children aged 6-23 months
- Persons aged ≥ 65 years
- Residents of long-term care facilities that house persons of any age with chronic medical conditions
- Adults and children with chronic pulmonary or cardiovascular disorders, including asthma
- Adults and children who have required medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), kidney dysfunction, hemoglobinopathies, or immune system problems (immunosuppressed or immunocompromised)
- Children and teenagers (aged 6 months – 18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for developing Reye syndrome after influenza infection
- Women who will be pregnant during the influenza season

Persons Aged 50-64 Years

- Vaccination is recommended for persons aged 50-64 years because this group has a large proportion of persons with high-risk conditions.

Persons Who Can Transmit Influenza to Those at High Risk:

- Physicians, nurses, and other personnel in hospital and outpatient-care settings, including emergency response workers
- Employees of long-term care facilities who have contact with patients or residents
- Employees of assisted living and other residences for persons in high-risk groups
- Persons who provide home care to persons in high-risk groups
- Household members (including children) of persons in high-risk groups
- Household contacts and out-of-home caretakers of children 0-23 months of age

Persons Who Should Not Be Vaccinated:

- Persons known to have anaphylactic hypersensitivity to eggs or to other components of the influenza vaccine without first consulting a physician*
- Persons with acute febrile illness usually should not be vaccinated until their symptoms have abated*

* See MMWR May 28, 2004/vol. 53/No. RR-6. The complete report and other information on influenza can be accessed at <http://www.cdc.gov/flu/>.

Figure 1. Influenza Timeline 2004 -2005

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Target groups for vaccination (see Table 1)	OFFER VACCINE*	BEST TIME TO VACCINATE		NOT TOO LATE TO VACCINATE				VACCINATION NOT ROUTINELY RECOMMENDED				
Other persons not at high risk who wish to decrease their risk of influenza		VACCINE MAY BE AVAILABLE**	BEST TIME TO VACCINATE	NOT TOO LATE TO VACCINATE				VACCINATION NOT ROUTINELY RECOMMENDED				
Order influenza vaccine for upcoming season	2004 - 2005 INFLUENZA SEASON: EXPECT VACCINE DELIVERY			BEST TIME TO ORDER VACCINE FROM MANUFACTURER ("PRE-BOOK")			VACCINE MAY ONLY BE AVAILABLE FROM DISTRIBUTOR					

* If available, vaccine may be offered to those at high risk during routine healthcare visits or during hospitalizations to avoid missed opportunities.

** Efforts to vaccinate anyone who wants to prevent the flu (those not in the high-risk group) should begin in November; however, if such persons request vaccination in October, vaccination should not be deferred.

The Georgia Epidemiology Report Via E-Mail

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the sentinel network cannot be used to determine the precise number of influenza illnesses during a given season. However, the illness data coupled with the results of virologic testing help estimate influenza disease activity and distribution, and provide specimens for virologic surveillance and strain selection for next year's influenza vaccine. During 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.

Summary of 2003-2004 Influenza Season in Georgia

On November 14, 2003, the GPHL identified the 2003-2004 influenza season's first influenza virus isolate from a Georgia resident whose illness onset was in late October. During the 2003-2004 season, Influenza A (H3N2) predominated. CDC antigenically characterized 11 of the 88 influenza A isolates; 3 were antigenically similar to the vaccine strain A/Panama/2007/99 (H3N2), which was contained in the 2003-2004 season's vaccine, whereas 8 were antigenically similar to A/Fujian/411/2002 (H3N2), a drift variant of A/Panama/2007/99. Retrospective studies done in Colorado found that the 2003-2004 influenza vaccine had some effectiveness in preventing illness among children and adults even though the vaccine was not an optimal match to the predominant Fujian strain (7).

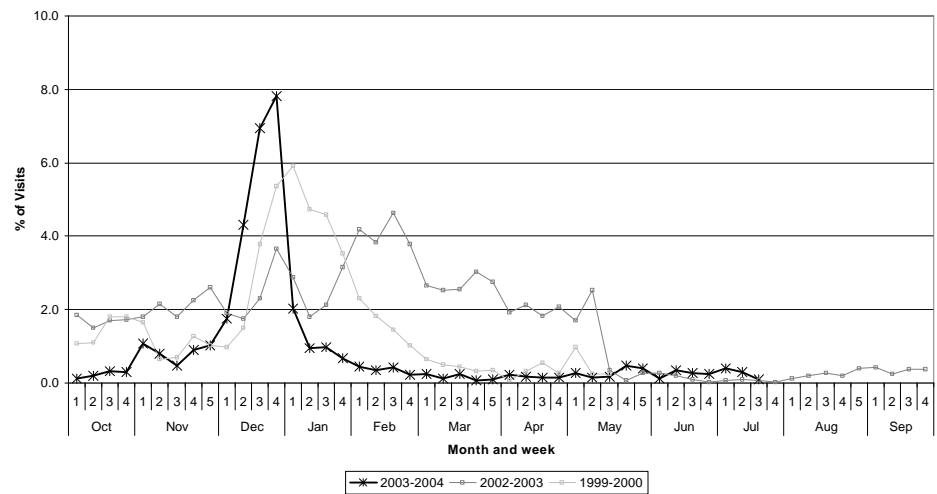
Table 2. Influenza Isolates from Georgia Reported by GPHL, 2003-2004* (N=97)

Influenza Virus Isolates	No.	(%)
A (H1)	1	(1)
A (H3N2)	87	(90)
A (not-typed)	8	(8)
B	1	(1)

Influenza activity peaked in Georgia during late December, the earliest peak of activity documented by the current surveillance system in use since 1997 (Figure 2). During the month of December 2003 (before public schools' winter break beginning December 22), GDPH received reports of ILI and high absenteeism among school children. One school in metro-Atlanta reported absenteeism as high as 23% in December. Reports of ILI outbreaks in 6 long-term care facilities were also reported in December. Influenza A was confirmed at GPHL as the cause of the outbreak in one of those facilities.

Early in the 2003-2004 influenza season, media reports of influenza-associated deaths among children caused concern that children were being disproportionately affected by influenza. To better understand the burden of severe disease among children, CDC asked that states voluntarily report pediatric influenza illnesses with encephalopathy and pediatric deaths possibly associated with influenza. During the 2003-2004 in-

Figure 2. Percent of visits for influenza-like illness, Georgia Influenza Sentinel Providers Surveillance Network



Note: 1999-2000 is the last season in which Influenza A (H3H2) predominated.

fluenza season, approximately 152 laboratory-confirmed influenza-associated pediatric deaths were reported to CDC, of which 10 were reported from Georgia. Approximately 50 influenza-associated pediatric encephalopathy cases were identified in the US, of which 7 were reported from Georgia. Because these data had not been collected in previous years, whether or not these are higher than baseline is uncertain. Additional data are necessary to monitor and describe characteristics of influenza-associated pediatric deaths, and to better understand which children are at high risk for serious complications from influenza. Therefore, **GDPH has made laboratory confirmed influenza-associated deaths among children < 18 years of age a reportable condition.** The Georgia Emerging Infections Program is also collaborating on a multi-state investigation of the burden of influenza on pediatric hospitalizations, based on data from 7 metro-Atlanta hospitals.

Early influenza activity and media reports of influenza affecting children created an unprecedented demand for influenza vaccine early in the season and resulted in a nationwide shortage of the inactivated, injectable vaccine in mid-November. During the 2004-2005 season, CDC plans to reserve a limited quantity of pediatric vaccine through the Vaccines for Children (VFC) Program. To find out more about VFC in Georgia, please go to <http://health.state.ga.us/programs/immunization/vfc>.

Avian Influenza

Since December 2003, WHO has received reports of confirmed human cases and widespread poultry outbreaks of avian influenza A (H5N1) in Asia. Although the human cases are thought to have resulted from direct exposure to infected live poultry or their contaminated environment, limited human-to-human transmission may be possible. The exposure of humans to ongoing poultry outbreaks is a grave concern because it enhances the potential for avian influ-

enza A (H5N1) viruses to undergo genetic changes or recombine with human influenza viruses and result in a new influenza A virus that is easily transmitted human-to-human, thus triggering an influenza pandemic. During the last century, 3 influenza pandemics resulted in millions of deaths worldwide.

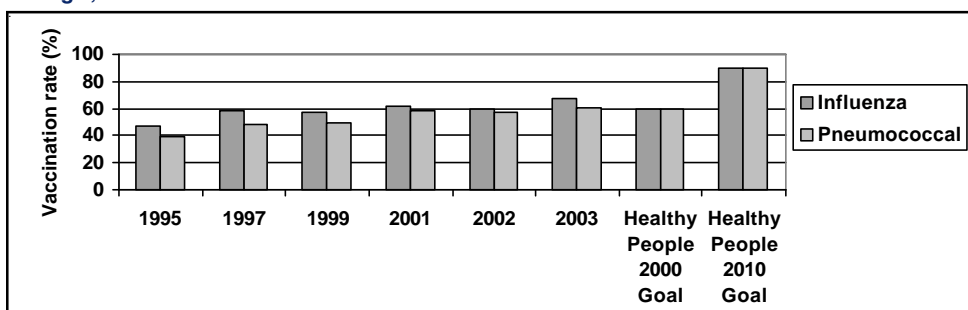
In the US, several states have reported avian influenza among poultry. However, the strains identified in the US are not the same subtype that is circulating in Asia. State and national authorities are monitoring the situation closely to prevent transmission to humans and to ensure widespread outbreaks do not occur.

Healthcare providers are asked to report to public health patients who have respiratory symptoms and who have recently traveled to a country with poultry outbreaks or had recent close contact with potentially infected poultry or a human case of avian influenza. Close contact includes visiting a poultry farm, household where poultry are raised, or live bird market in an affected country. It does NOT include exposure to cooked or processed poultry. Please go to <http://health.state.ga.us/healthtopics/avianflu.asp> for more information.

Georgia shows improvement, but vaccination among those at high risk remains low

Data from the Behavioral Risk Factor Surveillance System (BRFSS) indicate that influenza and pneumococcal vaccination rates have improved in recent years among Georgians aged ≥ 65 years (Figure 3). Although vaccination rates are increasing, they are still far below the Healthy People 2010 goal of 90% vaccination for both vaccines among people aged ≥ 65 years. In 2002, white persons (63.2%) were significantly more likely than black persons (44.8%) to receive the influenza vaccine. Greater efforts should be made to vaccinate older black persons in Georgia.

Figure 3. Influenza and pneumococcal vaccination rates among persons aged > 65 years, Georgia, 1995 - 2003



BRFSS details can be found at <http://health.state.ga.us/epi/brfss/>.

Resources

Many illnesses have signs and symptoms similar to those of influenza, making a clinical diagnosis difficult. Knowing when influenza is circulating in the community can enhance the accuracy of clinically diagnosed influenza. During influenza season, GDPH emails periodic 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>.

GDPH is also developing materials to promote influenza vaccination among healthcare workers in Georgia. These materials will be available on the GDPH website at <http://health.state.ga.us/>.

2004-2005 Influenza Vaccine

Both the inactivated and live, attenuated vaccines for 2004-2005 will contain: A/Fujian/411/2002 (H3N2)-like, A/New Caledonia/20/99 (H1N1)-like, and B/Shanghai/361/2002-like antigens. An estimated 100 million doses of vaccine should be available during the 2004-2005 season. A limited supply of a live, attenuated intranasal influenza vaccine will again be available for the 2004-2005 season. This intranasal vaccine is licensed for use in healthy persons 5-49 years of age.

If you are providing influenza vaccine and would like to get the word out, go to <http://www.immunizeadultga.org>. Healthcare providers who will have vaccine available may sign up on the website so that Georgians seeking vaccine can find providers in their community. Public health will monitor the website during influenza season to know where influenza vaccine may be available.

Thank you Georgia Influenza Sentinel Providers: GDPH would like to thank the 2003-2004 Influenza Sentinel Providers, especially those who continued to report through the summer (Table 3). These generous volunteers provide essential information that permits influenza surveillance to follow statewide disease trends and circulating influenza strains. If you are a healthcare provider interested in volunteering to conduct influ-

enza surveillance, contact Alison Han, Influenza Surveillance Coordinator, at 404-657-2588.

This article was written by Alison Han, M.S., Kathryn Arnold, M.D., and Pauline Terebuh, M.D., M.P.H.

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Table 3. Georgia Influenza Sentinel Provider Network participants who submitted reports for at least half of the 34 weeks in the 2003-2004 influenza season

Name	Practice Name	City
Gail Hurley, MD	Athens Neighborhood Health Center	Athens
Sally Williams, RN, CIC	Children's Healthcare of Atlanta at Egleston	Atlanta
Sally Williams, RN, CIC	Children's Healthcare of Atlanta at Scottish Rite	Atlanta
L. Kitty Price, RN	Coleman Community Health Center	La Grange
Linda Roberts, FNP	Community Care Center	Riverdale
Melody Hawthorne, Nurse Manager	Crenshaw Family Practice	Columbus
Brian Palmer, MD	DeKalb County Board of Health, Ryan White Clinic	Decatur
Barry Froraneli, MD	DeKalb County Board of Health	Decatur
Susan Reines, MD, Lalitha Chikkala, MD	Vinson Health Center Adult Health Services	Decatur
	DeKalb County Board of Health	Decatur
	Vinson Health Center Child Health Services	
Michael Huey, MD	Emory University Student Health Services	Atlanta
Joel Fine, MD	Fine & Associates	Snellville
Donna Nolan, RN	Forber Student Health at Valdosta State University	Valdosta
William Manns, MD	Georgia Tech University	Atlanta
Jo Middlebrooks, RN	Henry Medical Center	Stockbridge
Robin Dretler, MD	Infectious Disease Specialists of Atlanta	Decatur
David McCann, MD	Infomedix Professional Corporation	Colquitt
William Yang, MD, MPH	Medical Services Dept, Coca-Cola Company	Atlanta
	Newton Medical Associates	Govington
Herman Spivey, MD	Northwest Georgia Family Practice	Summerville
Philip Saleeby, MD	Philip R. Saleeby MDPC	Brunswick
Lea Hicks, RN	Tanner Medical Center/Villa Rica	Villa Rica
Jean Chin, MD	University Health Center	Athens
Tara Anthony, RN	University of West Georgia Health Services	Carrollton
Glenda van Houten, RN	Upson Regional Medical Center	Thomaston
Jill Goggans, MD	Waycross Internal Medicine	Waycross
Glenn Carter MD, William Roberson, DO		Hinesville

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Reported Cases of Selected Notifiable Diseases in Georgia Profile* for June 2004

Selected Notifiable Diseases	Total Reported for June 2004	Previous 3 Months Total Ending June			Previous 12 Months Total Ending in June		
	2004	2002	2003	2004	2002	2003	2004
Campylobacteriosis	57	176	174	145	618	665	587
<i>Chlamydia trachomatis</i>	2940	8544	9050	8243	33929	35874	34312
Cryptosporidiosis	13	24	26	29	152	125	145
<i>E. coli</i> O157:H7	1	18	8	13	56	35	31
Giardiasis	81	218	190	212	904	905	858
Gonorrhea	1227	4650	4414	3436	18846	18625	15944
<i>Haemophilus influenzae</i> (invasive)	7	18	18	37	105	76	114
Hepatitis A (acute)	27	127	131	91	758	511	707
Hepatitis B (acute)	46	112	152	162	466	553	708
Legionellosis	5	4	12	20	11	30	41
Lyme Disease	1	2	6	2	4	11	8
Meningococcal Disease (invasive)	2	10	7	5	42	32	28
Mumps	0	2	1	0	4	1	2
Pertussis	1	8	12	6	22	34	28
Rubella	0	0	0	0	0	0	1
Salmonellosis	204	384	388	394	1763	1940	2064
Shigellosis	61	355	405	181	1237	1980	742
Syphilis - Primary	0	25	31	15	110	112	116
Syphilis - Secondary	6	82	132	48	296	432	362
Syphilis - Early Latent	8	161	219	44	696	794	463
Syphilis - Other**	12	169	217	76	798	838	605
Syphilis - Congenital	0	5	5	0	21	13	3
Tuberculosis	24	141	142	102	578	553	538

* 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	Total Cases Reported*			Percent Female	Risk Group Distribution (%)						Race Distribution (%)		
	<13yrs	>=13yrs	Total		MSM	IDU	MSM&IDU	HS	Blood	Unknown	White	Black	Other
Latest 12 Months: 09/03-08/04	8	1,797	1,805	27.8	34.1	6.4	1.8	15.3	1.1	41.3	20.7	75.8	3.5
Five Years Ago: 09/99-08/00	8	1,314	1,322	27.2	32.2	12.3	3.3	20.3	2.0	29.9	20.1	76.9	3.0
Cumulative: 07/81-08/04	219	28,586	28,805	18.7	46.4	16.3	5.2	14.3	1.9	15.9	32.6	64.8	2.6

MSM - Men having sex with men IDU - Injection drug users HS - Heterosexual

* Case totals are accumulated by date of report to the Epidemiology Section