



Tick-borne Disease Surveillance in Georgia, 2004

Five tick-borne diseases are notifiable in Georgia. Rocky Mountain spotted fever (RMSF), human monocytic ehrlichiosis (HME), human granulocytic ehrlichiosis (HGE) (a.k.a. human anaplasmosis), and Lyme disease are reportable to public health within 7 days after diagnosis. Tularemia is considered a possible bioterrorism agent and is immediately reportable. The Georgia Division of Public Health (GDPH) conducts enhanced passive surveillance for RMSF, HME, and HGE, and passive surveillance for Lyme disease and tularemia. Enhanced passive surveillance involves contacting the patient's doctor's office or hospital to ask for additional information including clinical compatibility, as well as requesting a convalescent serum if one has not already been drawn.

There were 17 confirmed and 61 probable cases of RMSF reported to GDPH in 2004. All confirmed and probable cases met laboratory and clinical criteria, as required by the CDC case definitions. None of the 78 cases of probable and confirmed RMSF in Georgia in 2004 were fatal. Fifty-five percent of cases were male, and the median age was 42 (range 6-80). Of 56 cases where both race and ethnicity were known, 51 (91%) were non-Hispanic whites. Eighty-two percent of cases had onsets during May-September, but cases occurred during every month of the year except January and December. Counties with the most confirmed cases were Greene, Newton, and Rockdale, each with two. Health districts with the most confirmed and probable cases were La Grange (15), East Metro (12), and North Central (11). La Grange health district includes the following counties: Butts, Carroll, Coweta, Heard, Henry, Fayette, Lamar, Meriwether, Pike, Spalding, and Troup. East Metro is comprised of Gwinnett, Newton, and Rockdale counties. North Central health district includes Baldwin, Bibb, Crawford, Hancock, Houston, Jasper, Jones, Monroe, Peach, Putnam, Twiggs, Washington, and Wilkinson counties. Eighty-three percent of cases resided north of the Piedmont Fall Line (the dividing line between the Piedmont and the Coastal Plain stretching across the state roughly from Columbus to Macon to Augusta), and about half of the cases were residents of the 28 county Atlanta Metro Statistical Area.

Enhanced passive surveillance for ehrlichiosis in 2004 detected 4 confirmed and 7 probable cases of HME, and 1 confirmed and 1 probable case of HGE, all of which met CDC's case definitions. One of the 11 HME cases died. All HME cases occurred during May-August, while the HGE cases occurred in September and November. The median age of HME cases was 64 years, with a range of 40-81 years. Eight of the 11 cases (73%) were male. Of 10 cases for which both race and ethnicity were known, 9 (90%) were non-Hispanic whites. Of the 18 Georgia health districts,

LaGrange district reported the most cases (3), and 55% of cases resided in the 28 county Atlanta Metro Statistical Area. The HGE cases were residents of Hall and Houston counties. The Hall county resident had not traveled outside the county during the 30 days before the onset of illness. The Houston county resident had vacationed at Lake Sinclair in Putnam county in the days before onset. These are the 2nd and 3rd cases of HGE ever reported from Georgia; the first was reported in the late 1990's. HGE is very rare in the Southeast, with most cases occurring in the Northeast and upper Midwest. It is caused by *Anaplasma phagocytophilum*, and vectored by *Ixodes scapularis*, the same tick that carries Lyme disease.

Twelve cases of Lyme disease reported to GDPH in 2004 fit the CDC surveillance case definition. Onsets were January-August; there were no deaths. The median age of cases was 38 (range 8-75) and 9 (75%) cases were female. For the 8 cases where both race and ethnicity were known, all were non-Hispanic whites. Half of the cases were reported from the Gainesville health district (serving Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Hart, Lumpkin, Rabun, Stephens, Towns, Union, and White counties).

There were no cases of tularemia reported to GDPH in 2004.

How to Report to Public Health

To report a case electronically, log on to Georgia's State Electronic Notifiable Disease Surveillance System (SENDSS) at <http://sendss.state.ga.us>. Enhanced screens for RMSF, HME, HGE, and Lyme disease now collect complete information needed for case confirmation. Alternatively, complete a Notifiable Disease Report Form (form 3095) and mail to your County Health Department, District Health Office, or Georgia Division of Public Health. Be sure to include clinical signs and symptoms in addition to laboratory results, as clinical compatibility is required by the surveillance case definition. For more immediate notification, for example reporting a cluster of disease or a case of tularemia, please call your County Health Department, District Health Office, or Georgia Division of Public Health. After hours, call 1-866-PUB-HLTH statewide.

How to Prevent Tick Bites

- Wear light-colored clothing so that ticks can be seen easily and removed.
- Wear long pants, a long-sleeved shirt with tight-fitting cuffs (weather permitting), and a hat when hiking, camping, or visiting tick-infested areas.
- Tuck pants into socks and shirt into pants, and wear a hat. Pull long hair back.

- Walk in the center of the trail to avoid overhanging grasses, weeds, and brush.
- Use insect repellent with DEET on exposed skin and use products containing permethrin on clothes. Follow label directions.
- Do tick checks frequently during the day and a full body tick check at the end of the day. Use a mirror and check behind ears, behind knees, underarms, and groin. Ask someone to help you check your back and scalp. Take a shower and wash your hair before going to bed.
- Do not sit directly on the ground—use a blanket or towel.
- Ask your veterinarian for suggestions on how to protect your pets against ticks. Do not allow outdoor pets on furniture or bedding.
- Remove excess brush and keep grass mowed around the house.

Tick-borne Disease Education Materials Available from the Georgia Division of Public Health

- Mosquitoes and Ticks and the Diseases They Spread (public information brochure)
- Tick-borne Diseases Poster (for physician's offices and hospitals)
- Tick-borne Diseases Website <http://www.health.state.ga.us/epi/vbd/tick.asp>
 - Disease fact sheets
 - Pictures of common ticks in Georgia
 - Information about tick identification and testing

To order education materials, contact your district Public Health Liaison or the Georgia Division of Public Health at 404-657-2588 or gaepinfo@dhr.state.ga.us.

This article was written by Laurel E. Garrison, M.P.H.

Announcement of Study Among Patients with Erythema Migrans-like Rashes and Potential Tick Exposure

Southern tick-associated rash illness (STARI) is a disease characterized by erythema migrans and vectored by *Amblyomma americanum*, the lone star tick. It is often called southern Lyme or Lyme-like illness, due to the fact that it is clinically indistinguishable from Lyme disease. It is also called Master's disease, named after the physician who first described the clinical presentation. There is much debate involving the incidence, causative agent, vector, and geographical distribution of STARI. Several studies have implicated the lone star tick as a vector, and suggested that a spirochete, *Borrelia lonestari*, is responsible for STARI. *B. lonestari* was recently isolated in culture for the first time by a team of researchers at the University of Georgia using a lone star tick cell line. However, culture isolation from a human case of STARI is necessary to demonstrate a causal link between the bacterium and the disease. There is no diagnostic test for STARI, but it is often diagnosed in patients who test negative for Lyme disease despite having erythema migrans and tick exposure. It is unknown how many cases of STARI are misdiagnosed as Lyme disease in the South, and vice versa, but both are thought to be relatively rare based on percentages of *Amblyomma americanum* and *Ixodes scapularis* infected and physician reports.

The Centers for Disease Control and Prevention (CDC) is conducting a study involving patients with suspected STARI or Lyme disease in the southeast. Patients must be at least 3 years old with acute onset of an annular, erythematous, expanding erythema migrans (EM)-like rash and a history of tick bite at the rash site or potential exposure to ticks. The study involves collecting skin biopsy specimens as well as acute and convalescent blood specimens for testing at CDC for STARI and Lyme disease. When arranged in advance, CDC pays all costs associated with skin biopsy and phlebotomy procedures, shipping of specimens, and specimen collection kits. The Georgia Division of Public Health is participating only to facilitate informing providers in Georgia of the study. **If you see patients in your practice with EM-like rashes associated with tick exposure or are otherwise**

interested in participating in this study, contact your district Public Health Liaison or Laurel Garrison (404-657-2912 or legarrison@dhr.state.ga.us) to request a copy of the protocol. The protocol includes detailed information about who qualifies, clinical specimen collection and handling, informed consent/assent forms, and an Unaffiliated Investigator Agreement (UIA). If you expect to see patients with EM-like rashes associated with tick exposure this spring or summer, it is best to request a copy of the protocol before the tick season to allow for signing and submitting the UIA, and requesting and receiving specimen collection kits.

Please consider participating in this study if you see patients with an EM-like rash and possible tick exposure. Isolation of *B. lonestari* from a human case of STARI is necessary to demonstrate the causal agent, and to characterize the epidemiology of STARI. Your participation will aid in developing the body of knowledge around STARI, including developing a diagnostic test to distinguish it from Lyme disease.

This article was written by Laurel E. Garrison, M.P.H.

Suggested Reading

1. James AM, Dionysios L, Wormser GP, Schwartz I, Montecalvo MA, and Johnson BJB. *Borrelia lonestari* infection after a bite by an *Amblyomma americanum* tick. J Infect Dis 2001;183:1810-4.
2. Varela AS, Luttrell MP, Howerth EW, Moore VA, Davidson WR, Stallknecht DE, Little SE. First culture isolation of *Borrelia lonestari*, putative agent of Southern tick-associated rash illness. J Clin Micro 2004; 42:1163-1169.
3. Stromdahl EY, Williamson PC, Kollars TM, Evans SR, Barry RK, Vince MA, Dobbs NA. Evidence of *Borrelia lonestari* DNA in *Amblyomma americanum* (Acari: Ixodidae) removed from humans. J Clin Micro 2003; 41:5557-5562.

1-866-PUB-HLTH

Georgia's Notifiable Disease Emergency Reporting System

Information for Healthcare Providers

What is 1-866-PUB-HLTH?

1-866-PUB-HLTH, also called the Notifiable Disease Emergency Reporting System, is a statewide service that facilitates better communication among Georgia health care providers, health departments, and emergency response personnel. **This telephone number is used to report public health emergencies and immediately notifiable diseases.** This includes clusters of illness as well as diseases that could result from a bioterrorism event. The Notifiable Disease Emergency Reporting System is available 24 hours a day, 7 days a week through the combined efforts of the Georgia Department of Human Resources Division of Public Health (GDPH), the Georgia Emergency Management Agency (GEMA), and District Public Health Offices.

Who should use 1-866-PUB-HLTH?

Clinicians, laboratory personnel, and public health professionals should use the number to report immediately notifiable diseases. Private citizens should NOT use this number.

How does it work?

When you call 1-866-PUB-HLTH, a GEMA communications officer answers the phone. The communications officer fills out a report, and then contacts the District Health Office of the patient's residence either by phone or fax, depending on the disease reported. **You can request that someone from the health department return your call 24 hours a day, 7 days a week.** The communications officer has no clinical or formal public health training and cannot answer questions directly, but will put you in contact with someone who can.

When should I use 1-866-PUB-HLTH versus other methods of reporting?

When you have a public health emergency or diagnose an immediately notifiable disease, including clusters of any illness and potential agents of bioterrorism. To report other notifiable diseases, you may: call your County or District Health Office, OR report cases electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at <http://sendss.state.ga.us>, OR complete a Notifiable Disease Report Form (#3095) and mail in an envelope marked CONFIDENTIAL to your County, District, or State Health Department.

If I report a case using 1-866-PUB-HLTH, should I also report using additional (redundant) mechanisms?

No. There is no need to report a case through multiple channels.

Division of Public Health
<http://health.state.ga.us>

Stuart T. Brown, M.D.
Acting Director
State Health Officer

Epidemiology Branch
<http://health.state.ga.us/epi>

Paul A. Blake, M.D., M.P.H.
Director
State Epidemiologist

Mel Ralston
Public Health Advisor

Georgia Epidemiology Report
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Georgia Department of
Human Resources

Division of Public Health
Two Peachtree St., N.W.
Atlanta, GA 30303-3186
Phone: (404) 657-2588
Fax: (404) 657-7517

Please send comments to:
Gaepinfo@dhr.state.ga.us



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Reported Cases of Selected Notifiable Diseases in Georgia Profile* for January 2005

Selected Notifiable Diseases	Total Reported for January 2005	Previous 3 Months Total Ending January			Previous 12 Months Total Ending in January		
	2005	2003	2004	2005	2003	2004	2005
Campylobacteriosis	31	155	98	122	674	617	587
<i>Chlamydia trachomatis</i>	1360	8666	7650	5404	35139	35177	30345
Cryptosporidiosis	4	23	40	20	122	132	182
<i>E. coli</i> O157:H7	4	7	3	8	46	27	28
Giardiasis	53	212	183	178	936	839	831
Gonorrhea	660	4468	3739	2523	18810	17272	13640
<i>Haemophilus influenzae</i> (invasive)	18	22	28	40	78	88	125
Hepatitis A (acute)	13	146	125	38	515	769	287
Hepatitis B (acute)	46	149	139	144	504	676	573
Legionellosis	1	5	2	6	21	32	44
Lyme Disease	0	1	2	0	6	11	10
Meningococcal Disease (invasive)	6	8	14	8	32	37	18
Mumps	0	0	0	0	2	3	2
Pertussis	4	6	7	12	31	33	31
Rubella	0	0	0	0	0	0	1
Salmonellosis	80	333	378	344	1957	2065	1967
Shigellosis	30	604	160	134	1901	1065	638
Syphilis - Primary	3	28	36	12	109	130	93
Syphilis - Secondary	15	96	108	63	356	467	373
Syphilis - Early Latent	2	179	127	17	718	709	277
Syphilis - Other**	14	191	174	94	787	853	620
Syphilis - Congenital	0	3	1	0	15	9	3
Tuberculosis	14	122	166	84	559	566	486

* 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: 04/04-03/05	8	1,437	1,445	26.2	32.6	7.0	2.0	11.3	1.6	45.5	22.4	75.4	2.3
Five Years Ago: 04/00-03/01	9	1,113	1,122	27.5	31.5	11.8	2.3	17.8	2.2	34.3	19.7	76.3	4.0
Cumulative: 07/81-03/05	224	28,184	28,408	19.2	45.6	16.1	4.9	14.3	1.9	17.1	32.1	65.4	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