



# Georgia Epidemiology Report

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## Outbreak of Psittacosis Linked to a Shipment of Birds to Pet Stores in Atlanta, August 1995

**P**sittacosis is a zoonotic illness caused by *Chlamydia psittaci*. It is most commonly transmitted through inhalation of the aerosolized excreta from psittacine birds which include birds like parakeets, parrots, and cockatiels. Illness in humans is termed "psittacosis". Symptoms in humans generally consist of fever, chills, headache, myalgia, and malaise with or without respiratory symptoms. Avian infection is termed "chlamydiosis" and may be intermittent and asymptomatic. Signs in birds may include anorexia, ruffled feathers, lethargy, and green watery droppings.

On August 28, 1995, the Georgia Department of Agriculture was notified by a veterinarian that a bird from a pet store chain had died of chlamydiosis. A review of store records revealed that this bird was part of an August 8 shipment of 700 birds from a Florida distributor. The birds were shipped to nine Atlanta area pet stores belonging to a single chain. On August 29, birds from all nine stores were quarantined. Approximately 500 birds were moved from the nine Atlanta area pet store outlets to a tenth, yet unopened store which was being used as a quarantine facility. Of the over 700 birds from the August 8 shipment, along with the unsold birds already in the stores with which they were allowed to co-mingle, 280 birds eventually died. Sales records indicated that 210 households purchased 282 birds from the implicated flock. On August 31, the Georgia Department of Agriculture issued a press release asking that bird purchasers with symptoms contact the Georgia Department of Human Resources (DHR). On September 5, DHR began receiving reports of illness in humans.

The Centers for Disease Control and Prevention (CDC) was then invited to join an investigation to determine if *Chlamydia psittaci* had been transmitted to humans from birds in the implicated shipment. After psittacosis was confirmed in a number of persons who initially reported illness to DHR, a broader investigation was launched to identify risk factors for human infection and to assess the public health significance of a pet bird flock infected with *Chlamydia psittaci*.

Households that purchased birds from one of the implicated stores during August 1995 were surveyed and unexposed (control) households were contacted for comparison of the rates of illness. An adult from each household was asked about underlying medical conditions and development of

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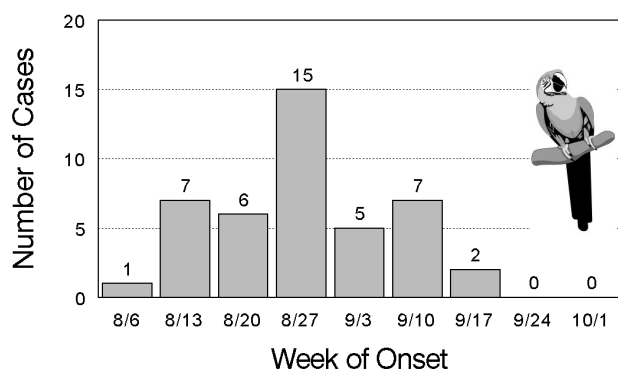
illness in each household member and, in the exposed households, about the health status of the bird that was purchased and exposures to the bird.

The clinical case definition of psittacosis consisted of fever or chills plus one or more of the following: cough, shortness of breath, chest pain, headache, or myalgia. The laboratory case definition was a *Chlamydia psittaci* IgG titer  $\geq 1:32$  measured by microimmunofluorescence (MIF).

All members of exposed households were offered serologic testing. Serum specimens were sent to the State Public Health Laboratory, tested by complement fixation, and forwarded to CDC to measure *Chlamydia psittaci* IgG titers by MIF. Dead birds collected by the Georgia Department of Agriculture were tested by tissue staining methods, polymerase chain reaction (PCR), and culture.

Of 428 persons in the 114 exposed households that were reached, 46 (10.7% of those exposed) had an illness meeting the clinical case definition for psittacosis. The epidemic curve is shown in Figure 1 below.

**Figure 1. Date of onset of psittacosis in Atlanta, August-September 1995.**



Illness compatible with psittacosis was more common in households if the bird became sick or died or if the bird was let out of the cage to move about the house. Kissing/nuzzling the bird, handling the bird, and feeding the bird were significantly associated with illness, but cleaning the cage was not (Table 1).

**Table 1. Exposures and their association with development of psittacosis.**

| Exposure      | % exposed |         | RR*  | 95% CI†   |
|---------------|-----------|---------|------|-----------|
|               | ill       | Not ill |      |           |
| Kissing       | 35        | 12      | 3.12 | 1.82-5.36 |
| Handling      | 61        | 39      | 2.17 | 1.24-3.79 |
| Feeding       | 63        | 46      | 1.83 | 1.04-3.23 |
| Cage cleaning | 43        | 40      | 1.11 | 0.64-1.92 |

\* relative risk

† 95% confidence interval

Only 1.8% of persons from 48 unexposed households representing 167 persons developed illness meeting the clinical case definition (odds ratio 6.52, 95% confidence interval 1.99-21.3). Individuals from exposed and unexposed households did not differ significantly

with respect to age, gender, existence of underlying medical conditions, or frequency with which medical attention was sought.

Of 58 persons from the exposed households who agreed to serologic testing by MIF, 10 had serologic evidence of psittacosis meeting the laboratory case definition. However a positive serologic result did not correlate with symptoms compatible with psittacosis, suggesting that some infections were asymptomatic.

Fifty-six dead birds from the pet store chain that either died in the stores or were returned by customers were sent to the University of Georgia for testing; two of the specimens were positive by tissue staining methods. Twenty-six of the birds were also tested at CDC using culture and PCR. Five of these specimens were positive by PCR; two were also culture positive.

This outbreak of human psittacosis was identified by recognition of avian chlamydiosis and not by surveillance of human illness. The illness in birds was detected by compliance with the Georgia Bird Dealer Licensing Act—a unique legislation which gives the state Department of Agriculture considerable authority in regulating the pet bird trade in the state and requires retailers to keep records identifying both the supplier and the purchaser of pet birds and to report bird deaths to the Georgia Department of Agriculture. Although in this investigation, infection in humans was mild or asymptomatic, psittacosis can have a very severe, even fatal course. PCR analysis of avian specimens improved the ability to detect *Chlamydia psittaci* over traditional tissue staining methods.

To improve the detection and prevention of psittacosis in humans, resources should be directed to the following areas:

- Education of pet store personnel in the proper handling of dead birds so that detection of *Chlamydia psittaci* is more likely and appropriate quarantine measures can be implemented.
- Informing customers about psittacosis and chlamydiosis so that should they develop illness and seek medical attention, their physicians would be more likely to consider the diagnosis of psittacosis and prescribe appropriate antibiotics.
- Implementation of a notification system so that if a case of well-documented psittacosis is linked to a flock, others who have had contact with the flock are warned of the potential for developing psittacosis.
- Wider use of polymerase chain reaction and microimmunofluorescence leading to improved diagnostic capabilities and greater recognition of human psittacosis.

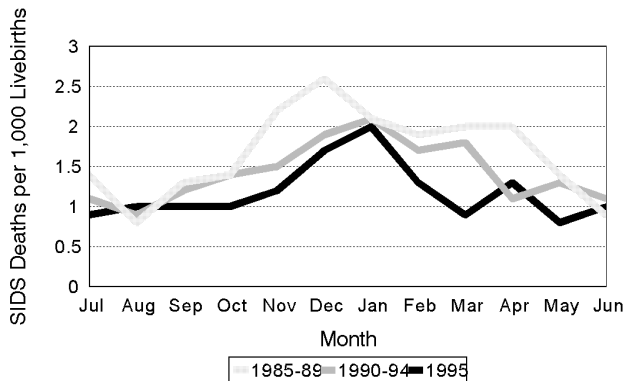
This report was contributed by John F. Moroney, M.D., Epidemic Intelligence Service Officer, Childhood and Respiratory Diseases Branch, CDC; in collaboration with R Guevara, C Iverson, F Chen, S Skelton, T Messmer, B Plikaytis, J Wenger & J Butler, CDC; P Williams & L Brooks, Ga Dept. of Ag.; T Munro & P Blake, Ga DHR; and numerous nurses and other health professionals from 11 health districts.

# Sudden Infant Death Syndrome Awareness Month, October 1996

**S**udden Infant Death Syndrome (SIDS) is the most common cause of infant death after the first week of life. SIDS is the sudden death of an infant which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of the clinical history<sup>1</sup>.

In June 1994, the U.S. Public Health Service and other organizations started a national Back-to-Sleep Campaign to prevent SIDS by positioning young infants to sleep on their back or side, by preventing exposure to cigarette smoke—before and after delivery—and by increasing breast-feeding during the first few months of life. Between 1994 and 1995, SIDS mortality in Georgia—as reported on death certificates—dropped 20%—from 1.5 to 1.2 deaths per 1,000 live births—and declined more in the colder winter months (Figure 1).

**Figure 1. Infant Mortality Rate from SIDS, Georgia, 1985-89, 1990-95, and 1995**



Source: Office of Perinatal Epidemiology

In the 1995 Georgia Womens Health Survey of 3,130 women, 871 reported they had delivered an infant during the past 5 years. During the first 2 months of life, 40% of mothers reported they put the infant to sleep on their back or side; 32% put the infant on their

stomach, and 27% put the infant in different positions<sup>2</sup>. During 1993-1994, the Pregnancy Risk Assessment Monitoring System (PRAMS) reported that 11.2% of mothers said they smoked during the last 3 months of pregnancy and 48% breastfed their infant for at least one week<sup>3</sup>.

Overall the United States experienced a larger reduction in SIDS mortality—a drop of 30% between October 1993-September 1994 and October 1994-September 1995. Moreover, an April 1995 national survey of 1000 U.S. households with infants under 8 months of age reported that during the previous 2 weeks, the nighttime caretaker had placed 70% of infants on their side or back<sup>4</sup>.

Georgia physicians and communities may lower SIDS mortality more rapidly by vigorously joining the national and state campaign supported by the Governor's announcement of SIDS Awareness Month. **Free Back-to-Sleep literature** may be obtained by calling **1-800-505-CRIB**. Contact **Ms. Lee Hackel (404) 679-0531** for further information on **SIDS prevention** efforts in Georgia.

## References

1. Centers for Disease Control and Prevention. Guidelines for death scene investigation of sudden, unexplained infant deaths: recommendations of the Interagency Panel on Sudden Infant Death Syndrome. MMWR 1996;45(No.RR-10):1-22.
2. Serbanescu F, Rochat R: Preliminary Report of the 1995 Georgia Womens Health Survey, Division of Public Health, Georgia Department of Human Resources, 1996 (in press).
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This report was contributed by Roger Rochat, MD, Office of Perinatal Epidemiology, Ga DPH.

## By the Governor of the State of Georgia A Proclamation

### Sudden Infant Death Syndrome Awareness Month, October 1996

**Whereas:** Sudden Infant Death Syndrome (SIDS), the sudden and unexpected death of apparently healthy babies, is the leading cause of death in Georgia for infants one week to one year of age; and

**Whereas:** SIDS claimed the lives of 163 babies in Georgia in 1994, as well as more than 4,000 infants in the United States; and

**Whereas:** A coalition of federal, state and private agencies launched a "Back to Sleep" awareness campaign in 1994 to educate parents about ways to reduce the risk of SIDS by placing infants on their backs or sides to sleep, by breastfeeding and by smoking cessation; and

**Whereas:** As a result of public awareness of methods to reduce the risk of SIDS, twenty to forty Georgia infants each year live to celebrate their first birthday; and

**Whereas:** The risk of SIDS in Georgia, as elsewhere, is higher in colder months (November through April) than warmer months; and

**Whereas:** Public awareness of SIDS and risk reduction measures can save the lives of babies and spare many Georgia families needless tragedy; now

**Therefore:** I, Zell Miller, Governor of the State of Georgia, do hereby proclaim the month of October, 1996, as "Sudden Infant Death Syndrome Awareness Month" in Georgia, and urge all citizens to be mindful of the safety measures that decrease the risk of SIDS.

**In Witness Whereof,** I have hereunto set my hand and caused the Seal of the Executive Department to be affixed, this 27th day of September 1996.



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## Reported Cases of Selected Notifiable Diseases in Georgia Profile<sup>†</sup> for June 1996

| Selected Notifiable Diseases | Total Reported for June | Previous 3 Months Total Ending in June |      |      | Previous 12 Months Total Ending in June |      |      |
|------------------------------|-------------------------|----------------------------------------|------|------|-----------------------------------------|------|------|
|                              | 1996                    | 1996                                   | 1995 | 1994 | 1996                                    | 1995 | 1994 |
| Campylobacteriosis           | 92                      | 188                                    | 304  | 282  | 888                                     | 1143 | 745  |
| Giardiasis                   | 47                      | 122                                    | 114  | 124  | 620                                     | 473  | 408  |
| Meningococcal Disease        | 18                      | 46                                     | 19   | 29   | 170                                     | 87   | 92   |
| Rubella                      | 0                       | 0                                      | 0    | 7    | 0                                       | 0    | 7    |
| Salmonellosis                | 130                     | 272                                    | 317  | 338  | 1653                                    | 1538 | 1357 |
| Shigellosis                  | 58                      | 151                                    | 440  | 517  | 776                                     | 1993 | 949  |
| Viral Meningitis             | 4                       | 9                                      | 11   | 24   | 100                                     | 65   | 142  |
| Tuberculosis                 | 38                      | 165                                    | 209  | 208  | 771                                     | 744  | 794  |
| Congenital Syphilis          | 2                       | 15                                     | 16   | 19   | 64                                      | 49   | 72   |
| Early Syphilis               | 130                     | 452                                    | 608  | 693  | 2293                                    | 2557 | 3201 |
| Other Syphilis               | 51                      | 214                                    | 261  | 225  | 1055                                    | 919  | 900  |
| Cryptosporidiosis            | 11                      | 18                                     | 7    | 2    | 129                                     | 28   | 9    |
| E. coli O157:H7              | 5                       | 11                                     | 9    | 4    | 33                                      | 31   | 19   |
| Legionnaires' Disease        | 0                       | 2                                      | 7    | 37   | 5                                       | 55   | 91   |
| Lyme Disease                 | 0                       | 1                                      | 5    | 45   | 5                                       | 59   | 93   |
| Mumps                        | 0                       | 1                                      | 3    | 3    | 7                                       | 13   | 15   |
| Pertussis                    | 0                       | 7                                      | 4    | 6    | 33                                      | 31   | 51   |

<sup>†</sup> 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.

### AIDS Profile Update

| Report Period      | Total Cases Reported * | Percent Female | Risk Group Distribution (%) |      |         |      |       |         | Race Distribution (%) |       |       |
|--------------------|------------------------|----------------|-----------------------------|------|---------|------|-------|---------|-----------------------|-------|-------|
|                    |                        |                | MSM                         | IDU  | MSM&IDU | HS   | Blood | Unknown | White                 | Black | Other |
| <i>Last 12 Mos</i> |                        |                |                             |      |         |      |       |         |                       |       |       |
| 09/95 to 08/96     | 2359                   | 17.6           | 45.7                        | 17.1 | 4.5     | 15.7 | 1.5   | 15.5    | 35.4                  | 61.5  | 3.1   |
| <i>5 Yrs Ago</i>   |                        |                |                             |      |         |      |       |         |                       |       |       |
| 09/90 to 08/91     | 1409                   | 11.7           | 60                          | 19.6 | 5.3     | 8.4  | 2.1   | 4.6     | 47.4                  | 51.5  | 1     |
| <i>Cumulative</i>  |                        |                |                             |      |         |      |       |         |                       |       |       |
| 01/80 to 08/96     | 16192                  | 13.9           | 52.8                        | 19   | 6       | 10.5 | 2.1   | 9.5     | 41.5                  | 56.5  | 2     |

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

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