

Philadelphia Metropolitan Area Amyotrophic Lateral Sclerosis (ALS) Surveillance Project Summary

BACKGROUND

ALS, or Lou Gehrig's disease, is a rare, difficult to diagnose neurological condition with no known cause or cure. Because ALS is a non-notifiable disease, little is known about its incidence and prevalence in the U.S. To help learn more about ALS, the federal Agency for Toxic Substances and Disease Registry (ATSDR) maintains the [National ALS Registry](#) (Registry).^{1,2} The Registry identifies ALS cases using national administrative databases, including those from Medicaid, Medicare, and the Veterans Health Administration and Veterans Benefits Administration, and by patient self-enrollment through a web portal. ATSDR funded McKing Consulting Corporation (McKing) to complete surveillance projects to gather reliable and timely data to describe the incidence and demographic characteristics of ALS and to assist ATSDR in evaluating the completeness of the Registry. Surveillance projects were conducted in three states (Florida, New Jersey, and Texas) and in eight metropolitan areas (Atlanta, Baltimore, Chicago, Detroit, Las Vegas, Los Angeles, Philadelphia, and San Francisco). This summary describes the Philadelphia project.

METHODS

All neurologists practicing in Philadelphia County, Pennsylvania, southern New Jersey, and Delaware were asked if they diagnosed or provided care for ALS patients that resided in Philadelphia County. Emphasis was placed on neurologists specializing in the diagnosis/care of persons with ALS who practice at referral centers in the region that typically see more than 50 patients per year. Neurologists were asked to submit one-page case reports for ALS patients under the doctor's care who were alive at some point between January 1, 2009 and December 31, 2011. A medical record verification form (MRVF) and an electromyogram (EMG) report were requested for a sample of cases and reviewed by an independent consulting neurologist to confirm ALS diagnosis. Death data were reviewed to identify additional cases, and attempts were made to obtain case reports for decedents that were not already reported.

Compensation was offered to neurologists for completed forms. No patients were contacted. Crude incidence rates were calculated using the count of cases diagnosed in each year as the numerator and the corresponding U.S. Census population data³ as the denominator. Crude average annual incidence rates were calculated by adding the incidence rates for the three years and then dividing by three. This project was approved by the Centers for Disease Control and Prevention Institutional Review Board.

RESULTS

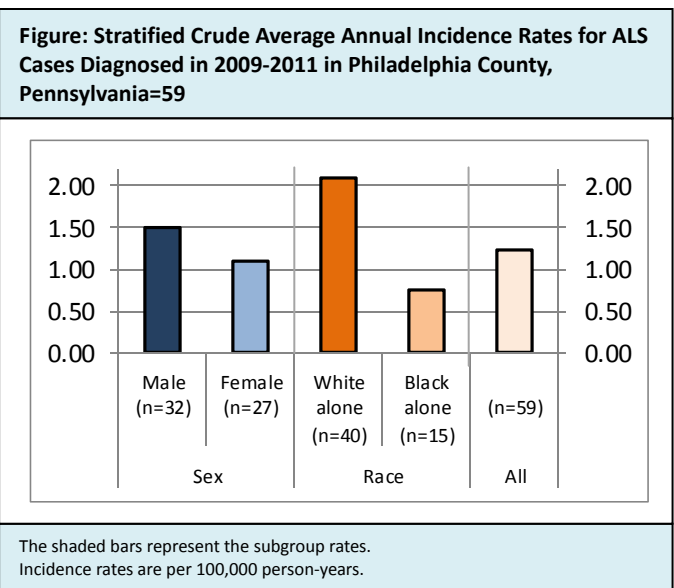
- ▶ Five percent (13/290) of neurologists indicated that they diagnosed and/or cared for ALS patients and 54% (7/13) of those neurologists reported cases. All major referral centers in the region participated.
- ▶ Using 2010 U.S. Census population data and estimates of incidence and prevalence, we expected to identify 116 unique cases in the project area.^{3,4} A total of 123 case reports were received; 114 were unique cases, which is approximately 98% (114/116) of the expected cases.
- ▶ Eighty-six percent (98/114) of cases were reported as "definite," "probable," or "probable-lab supported" according to the El Escorial criteria.⁵ All (10/10) of the requested MRVFs were received; 50% (5/10) were classified as "definite," "probable," or "probable-lab supported," and 50% (5/10) were classified as "possible" by the consulting neurologist.
- ▶ Seventy-five percent of cases were 50 years of age or older at diagnosis, 55% were male, 61% were white, and 91% were not Hispanic or Latino (Table).
- ▶ Of the 100 cases for whom data were available, 50% had symptoms for 12 months or less before diagnosis. Ninety percent of the 100 cases were diagnosed within 36 months of having symptoms.
- ▶ Forty-six percent (53/114) of cases had only federal payers [(Medicare, Medicaid, Veterans Affairs (VA)), 26% (30/114) had only non-federal payers (HMO, private insurance, self-pay, or other), and 27% (31/114) had both federal and non-federal payers.

- ▶ There were 59 cases diagnosed in 2009-2011. The crude incidence rates for 2009, 2010, and 2011 ranged from 0.98 to 1.51 cases per 100,000 person-years. The crude incidence rates were not different by sex or race (Figure). The age-adjusted average annual incidence rate for the three year period was 1.31 cases per 100,000 person-years.

Table: Demographic Characteristics of All Reported ALS Cases in Philadelphia County, Pennsylvania, n=114

Demographic Characteristic	n	%*
Age (years)		
Under 40	11	9.6
40 – 49	17	14.9
50 – 59	29	25.4
60 – 69	26	22.8
70 – 79	24	21.0
80 or older	6	5.3
Unknown	1	0.9
Sex		
Male	63	55.3
Female	51	44.7
Race**		
White alone	70	61.4
Black/African American alone	36	31.6
Asian alone	4	3.5
Unknown	4	3.5
Ethnicity		
Hispanic	5	4.4
Not Hispanic or Latino	104	91.2
Unknown	5	4.4

*May not add up to 100% due to rounding.
 **There were no cases reported with multiple races.



**FOR MORE INFORMATION
 PLEASE VISIT THE ATSDR WEB SITE:
[HTTP://WWW.CDC.GOV/ALS/ALSSTATEMETRO.ASPX](http://www.cdc.gov/als/alsstatemetro.aspx)**

DISCUSSION

- ▶ All ALS referral centers in the region participated which was crucial to the success of the project.
- ▶ A small percentage of neurologists diagnosed or cared for patients with ALS. Some non-referral center practices in the region participated. One non-referral center practice and the Philadelphia VA Medical Center had cases to report, but declined to participate. However, it is unclear if providers at these practices would have reported unique ALS cases.
- ▶ Nine unique names were identified in the death data that were not reported to the project. It is unknown if any of these individuals were true ALS cases.
- ▶ We found higher, but not statistically significant, crude annual incidence rates among ALS cases that were older, male, and white, which is consistent with published literature.^{4,6,7}
- ▶ Examining localized ALS incidence and demographics may help to reveal at-risk populations for additional studies.

REFERENCES

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