

Factors Associated With Interview Completion Rates in a Surveillance Study of Osteosarcoma and Antecedent Exposures

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ABSTRACT

Background: Implementation of a case surveillance study to detect antecedent exposures in a rare cancer requires sufficient case identification and accurate exposure ascertainment. We describe our approach for conducting a surveillance study for a cancer that occurs at a rate of approximately 3-5 cases per million population per year and factors related to complete ascertainment of exposure.

Objectives: The primary objective of this study is to identify and interview at least 40% of diagnosed cases of osteosarcoma each year in US adults aged 40 years and older to ascertain antecedent exposures, including teriparatide, a product administered daily by self-injection for osteoporosis.

Methods: Incident cases of histologically confirmed adult osteosarcoma diagnosed on or after January 1, 2003 are identified through cancer registries. Patients or their proxies are interviewed by telephone for osteosarcoma risk factors and selected exposures. Cases can only be interviewed if all central and local requirements for consent (which can vary greatly) are met. To evaluate factors related to interview rate, we examined the percent interviewed among total eligible to be interviewed by time from diagnosis to time patient was eligible for telephone contact, as well as vital status at time of registry reporting.

Results: The 14 participating registries historically capture approximately half of all adult US osteosarcoma cases. Between June 2004 and December 2006, 430 cases were identified; 303 cases diagnosed in 2003-2005 were eligible for telephone contact; 123 of these cases were interviewed. There were no differences in demographic characteristics between patients interviewed and patients not interviewed. The interview rate for cases who were eligible for telephone contact in <12 months, 12-24 months, or >24 months was 58%, 38%, and 34% respectively. The interview rate by vital status at time of registry reporting was 48% if alive and 26% if deceased.

Conclusions: Targeted enrollment of a subset of state cancer registries and comprehensive cancer center registries allows us to identify more than half of US adult osteosarcoma cases. Shorter time between diagnosis and ability to contact patients is associated with a substantially higher interview success rate.

CONFLICT OF INTEREST

Eli Lilly and Company and RTI Health Solutions (RTI-HS) employees contributed significantly to the design and analysis plan for this study. Employees of RTI-HS, a nonprofit research organization, are collecting and analyzing data. Eli Lilly and Company is fully funding the Osteosarcoma Safety Surveillance Study. RTI-HS has an independent right to publish.

BACKGROUND

Osteosarcoma Safety Surveillance Study

A 10-year safety surveillance study was initiated to monitor for the possibility of a trend signaling a possible association between teriparatide, an injectable treatment for osteoporosis, and adult osteosarcoma, a rare cancer occurring at a rate of 3-5 cases per million population per year.

Study Objectives

Primary

- To identify approximately 40% of all newly diagnosed cases of osteosarcoma in men and women aged 40 years and older in the US, for a duration of at least 10 years;
- To identify individuals with incident cases of adult osteosarcoma, if any, who have a history of treatment with the drug of interest.

Secondary

- To systematically collect, for descriptive epidemiology purposes, additional patient information, including demographics, other drug treatments, relevant exposures, and comorbid conditions in this large series of individuals with osteosarcoma.

Study Procedures

After obtaining registry approval, RTI-HS identifies patients through select state, regional, and medical center cancer registries; receives descriptive demographic and cancer information from the registry; obtains patient consent; and conducts telephone interviews with patient or proxy to ascertain drug treatments, relevant exposures, and comorbid conditions.

- Cancers are reported to state registries approximately 6 months after diagnosis.
- Lag time from diagnosis to registry release of data for research ranges from 6 to 18 months.

OBJECTIVE

To evaluate factors related to interview response rates of US osteosarcoma patients aged 40 years and older identified through the Osteosarcoma Safety Surveillance Study.

METHODS

Design

- Ad hoc descriptive analyses were conducted using data from the Osteosarcoma Safety Surveillance Study through April 2007.

Setting

US Oncology Referral Centers (state/regional population-based cancer registries or comprehensive cancer center registries) with high numbers of cases of adult osteosarcoma in the US that were participating in the Osteosarcoma Safety Surveillance Study as of April 2007 (Figure 1). (Abstract presents data as of December 2006.)

- Ten state or regional central cancer registries (population-based);

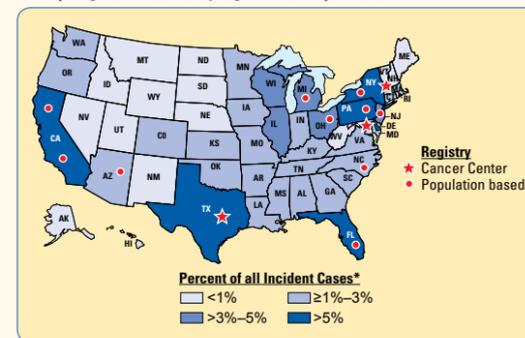
- Four comprehensive cancer center registries.

Main Measures

The following were the main measures of this analysis:

- Demographic profile (i.e., age, gender, race, ethnicity, and vital status) of interviewed versus all reported cases (Table 1);
- Average time lag from diagnosis to interview (Figure 2);
- Case status as of April 2, 2007 (Figure 3);
- Overall response rates by year of diagnosis (Table 2);
- Percentage interviewed among total eligible to be interviewed by time from diagnosis to time patient was eligible for telephone contact (Figure 4);
- Percent interviewed among total eligible to be interviewed by type of respondent, patient, or proxy (Figure 5).

Figure 1. Geographic Distribution of Incident Osteosarcoma Cases and Location of Participating Surveillance Study Registries as of April 2, 2007



Note: Map presents the most recent data (through April 2, 2007), updated from December 2006 data used for abstract submission.
*Assumes 290 cases per year in adults aged 40 and older.

RESULTS

Data presented are from ten registries actively contributing data as of April 2, 2007.

Table 1. Demographic Characteristics of Adult Osteosarcoma Patients Reported to the Osteosarcoma Safety Surveillance Study as of April 2, 2007

Demographic Variable	Statistic or Category	Total Identified by Registry n = 460	Interviewed n = 143
Age at diagnosis	Mean (SD)	61.9 (13.8)	60.0 (12.3)
	Range	40 - 99	40 - 91
Gender	Female	229 (50%)	68 (48%)
Race	White	375 (82%)	122 (85%)
	Black	51 (11%)	15 (10%)
	Other	20 (4%)	4 (3%)
	Unknown	14 (3%)	2 (1%)
Hispanic origin	Yes	49 (11%)	11 (8%)
Vital status	Living	285 (62%)	107 (75%)

SD = standard deviation.

Figure 2. Overview of Lag Time From Diagnosis to Completed Interview

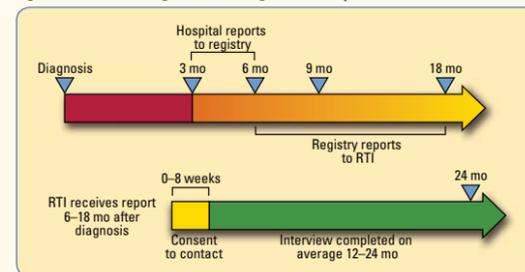


Figure 3. Case Status as of April 2, 2007

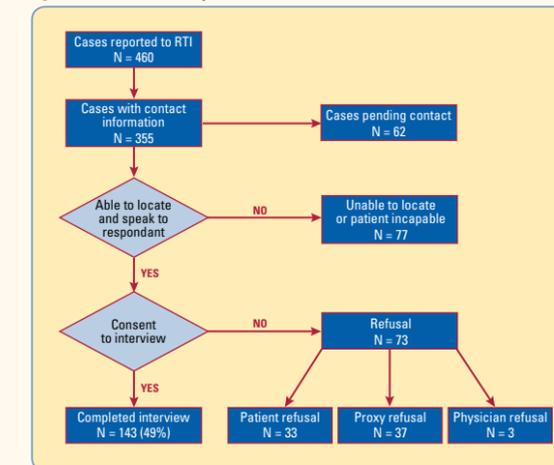


Table 2. Response Rates by Year of Diagnosis as of April 2, 2007

Osteosarcoma Patients	Year of Diagnosis				
	2003	2004	2005	2006	Total
Total with contact information reported to RTI	125	102	95	33	355
Total interviewed	52	41	46	4	143
Total refused	32	25	13	3	73
Total unable to locate	35	28	13	1	77
Total number pending consent to contact or pending interview	6	8	23	25	62
Response rate (# Interviewed/# Reported - # Pending)	44%	44%	64%	50%	49%

Figure 4. Interview Response Rate by Time From Diagnosis to Interview Among All Eligible to be Interviewed

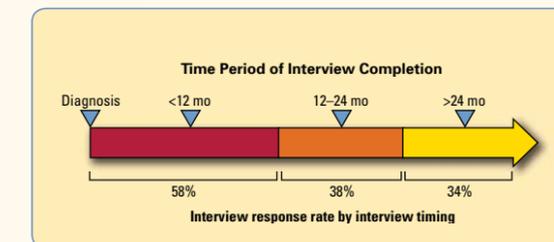
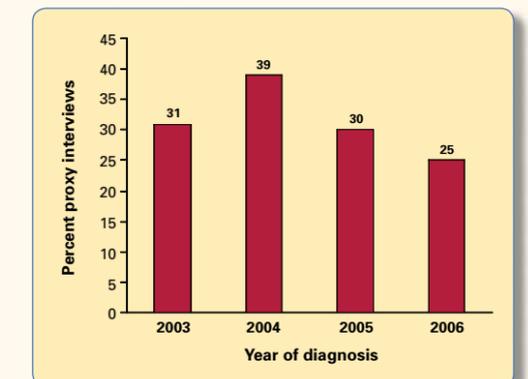


Figure 5. Percentage of Proxy Interviews Among Total Reported with Contact Information by Year of Diagnosis



CONCLUSIONS

- Demographic profiles for interviewed and noninterviewed patients with osteosarcoma are similar; however, more interviews were completed either with patient or proxy if patient was alive at the time the case was reported to the registry.
- The closer the interview was conducted to the date of diagnosis, the higher the interview completion rate:
 - Lower refusal rate was observed among patient respondents versus proxy respondents;
- For a long-term study of possible cancer risk using methods employed in this study, the lag time does not result in loss of cases; historical cases are maintained by ongoing registries. However, delays in case contact may lead to increased numbers of proxy interviews.
- Additional registries have been enrolled to meet the objective of interviewing 40% of all cases diagnosed in the US.

CONTACT INFORMATION

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