

# Telephone contacts between triage nurses and cancer patients: an integral part of a community oncology practice

Victoria C. Lucia, PhD,<sup>1</sup> Veronica B. Decker, APRN, BC, MBA,<sup>1</sup>  
Cynthia E. Israel, RN, OCN,<sup>2</sup> and David A. Decker, MD<sup>3</sup>

<sup>1</sup> Research Institute, William Beaumont Hospital, Royal Oak, MI; <sup>2</sup> Cancer Care Associates, Royal Oak, MI;

<sup>3</sup> William Beaumont Hospital, Royal Oak, MI

The telephone has become almost as important as the stethoscope in managing cancer patients. Telephone contacts between triage nurses and patients seen in a community oncology office are an integral part of healthcare coverage. These calls focus on everyday concerns, such as pain management and chemotherapy side effects. They alert nurses to early signs of cancer recurrence. Unfortunately, telephone contacts are not normally billed directly to patients or indirectly through third-party payers. Although currently these telephone contacts are not a reimbursable expense, they provide a service that often helps avoid the high cost of an emergency room visit or hospitalization.

**M**ost medical oncologists understand that office staff, particularly nurses, spend numerous hours on the telephone assisting patients with various problems that arise during the course of disease diagnosis, treatment, and follow-up. These telephone calls are a fundamental part of a community oncology practice and have a very real procedural and financial impact on any private practice office, particularly since telephone consultations are a nonreimbursable expense. However, research related to the nature and volume of such patient-related calls is limited.

A few studies have focused on patient-related calls and subsequent telephone consultation in a specialty headache practice,<sup>1</sup> a pediatric infectious disease subspecialty program,<sup>2</sup> a women's health clinic,<sup>3</sup> and general practice.<sup>4-6</sup> Research in the general family practice setting has shown that a majority of patient-related calls do not require a face-to-face visit.<sup>4,5</sup> In addition, research in the areas of pediatric infectious disease and headache has indicated that telephone consultations are an "integral and important part"<sup>2</sup> of a practice and "contribute significantly to the burden of caring for patients."<sup>1</sup> Given that 2%–28% of all healthcare is conducted over the telephone,<sup>7</sup> it is likely that the conclusions of these two studies can be extended to other specialty care offices.

## KEY POINTS

Telephone contacts between triage nurses and cancer patients have become an integral part of the overall treatment process in a community oncology practice.

Treatment information, symptom management, prescription refill/change, and test/laboratory results are common reasons for patient-related telephone calls to triage nurses.

According to a study conducted in a community oncology practice, triage nurses were able to address patients' concerns over the telephone almost 90% of the time.

Telephone contacts often avoid the high cost of an emergency room visit or hospitalization. Currently, telephone contacts are not routinely billed directly to patients or indirectly through third-party payers.

Manuscript received August 14, 2006; accepted November 9, 2006.

Correspondence to: Victoria C. Lucia, PhD, Department of Outcomes Research, Research Institute, William Beaumont Hospital, 3811 West 13 Mile Road, Suite 501, Royal Oak, MI 48073; telephone: 248-551-8687; fax: 248-551-5069; e-mail: victoria.lucia@beaumont.edu.

Commun Oncol 2007;4:350-354 © 2007 Elsevier Inc. All rights reserved.

In cancer care, research has focused on the nature of calls to a telephone helpline for cancer patients in the United Kingdom.<sup>8</sup> In this study, most calls (55%) over a 20-day period to the cancer nurse specialist in urology were from patients. Of these patient calls, 55% were focused on psychological support, 24% concerned symptom management, and 21% regarded treatment information. These British studies have yielded interesting findings; however, because of differences in the healthcare system in the United Kingdom and in the United States, these results may not reflect the patient population in the United States.

The purpose of our study was to identify the nature, volume, and treatment characteristics of all patient-related telephone calls to a cancer nurse at a community oncology practice during a 1-week period.

## Methods

### *Sample and data*

The study was conducted in a private medical oncology practice adjacent to William Beaumont Hospital, Royal Oak, Michigan, one of the largest and busiest hospitals in the United States. The practice consists of 7 medical oncologists, who teach in the medical oncology fellowship program with the hospital system, and a staff of 71 (including 18 nurses). The practice registers 50% of the National Cancer Institute's Beaumont Community Clinical Oncology Program patients. Eighty-five percent of the nurses at this community oncology practice are certified oncology nurses, and most have a Bachelor of Science in Nursing degree. The practice sees approximately 1,600 new cancer patients annually, nearly 35% for breast cancer.

Nurses rotate responsibilities of patient care and telephone triage. Patient care consists of chemotherapy infusion and treatment; patient and family teaching and support activities; as well as linkage to hospital, ra-

diologists, and hospice services. The triage telephone nurses received educational training on how to handle patient and family concerns, including guided counseling and matrixes used to identify when patients should see a physician or a mid-level provider as well as when emergency care at a hospital emergency room (ER) is warranted. During the study period, 17 nurses rotated, 2 at a time, to field patient-related calls.

This study was a collaboration between this community oncology practice and the William Beaumont Hospital Research Institute to identify the nature of telephone contacts and assess clinical effectiveness in caring for these needs. An audit was conducted of all patient-related calls to oncology registered nurses at a community oncology practice during the week of January 30, 2006, through February 3, 2006. The Institutional Review Board of William Beaumont Hospital approved the study.

### *Measures*

Several characteristics were documented for each patient-related telephone call to the oncology nurse. Data collected included date and day of call, date of diagnosis, patient gender, cancer site and stage, treatment, nature of the call (such as treatment information, psychological support, symptom management, prescription refill/request for new medication, test or laboratory results, or authorization or referral for/scheduling tests), and course of action taken by the nurse to resolve the call (eg, sent patient to emergency room, office, or laboratory or handled the call without any further intervention).

### *Statistical analysis*

Summary statistics were used to describe sample characteristics. One-way chi-squared test was used to test the significance of the call volume by day of the week. Data analysis was performed using descriptive proce-

dures, such as frequency and means, of the SAS System for Windows version 9.1.3, Service Pak 2.<sup>9</sup> A *P* value of < 0.05 was used as the level of significance for chi-squared analyses.

## Results

A total of 337 patient-related calls regarding 266 patients were received during the study period. Of these calls, 311 (92%) were from patients, 19 (6%) were from family members, homecare professionals, pharmacists, or other physicians, and 7 (2%) were unidentified. Multiple patient-related calls were received for 20% of the patients. There were two patient-related calls for 15% of patients, three patient-related calls for 3% of patients, and four patient-related calls for 2% of patients. The remaining 80% of patients had only one patient-related call. The mean age of the sample was 62 years. Females comprised 72% of the sample. The volume of calls was highest on Monday (23%) and Friday (20%). The fewest calls were received on Thursday (17%). However, there were no significant differences in the number of calls by day of the week ( $\chi^2 = 3.4$ ; degrees of freedom = 4; *P* = 0.49).

Approximately 40% of patient-related calls regarded breast cancer patients and more than 45% of the calls were related to patients with stage 3/4 cancer. More than 45% of patient-related calls focused on chemotherapy or hormonal treatment, with 17% of patient-related calls related to patients undergoing multiple treatments, including combinations of chemotherapy, hormonal therapy, irradiation, surgery, and drugs.

The majority of the calls (87%) centered on one topic. Only 13% of patient-related calls involved inquiries about multiple topics. Approximately 30% of calls pertained to prescriptions (refill or request for new medication), either as the only topic of the call or in conjunction with another topic. Similarly, about 20% of patient-relat-

**TABLE 1**  
Reasons for patient-related calls (n = 332)

Reason for call	Number (%)
Treatment information only	33 (9.9%)
Treatment information and	
■ psychological support	1 (0.3%)
■ symptom management	0 (0.0%)
■ prescription refill/change	4 (1.2%)
■ test/lab results	4 (1.2%)
■ referral for/schedule tests	0 (1.0%)
■ other	3 (0.9%)
Psychological support only	1 (0.3%)
Psychological support and	
■ symptom management	2 (0.6%)
■ prescription refill/change	0 (0.0%)
■ test/lab results	0 (0.0%)
■ referral for/schedule tests	0 (0.0%)
■ other	1 (0.3%)
Symptom management only	40 (12.0%)
Symptom management and	
■ prescription refill/change	11 (3.3%)
■ test/lab results	4 (1.2%)
■ referral for/schedule tests	0 (0.0%)
■ other	8 (2.4%)
Prescription refill/change only	82 (24.7%)
Prescription refill/change and	
■ test/lab results	0 (0.0%)
■ referral for/schedule tests	1 (0.3%)
■ other	3 (0.9%)
Test/lab results only	47 (14.2%)
Test/lab results and	
■ referral for/schedule tests	0 (0.0%)
■ other	0 (0.0%)
Referral for/schedule tests only	32 (9.6%)
Referral for/schedule tests and other	0 (0.0%)
Other only	53 (16.0%)
Treatment information, psychological support, and symptom management	1 (0.3%)
Treatment information, psychological support, and other	1 (0.3%)

ed calls focused on symptom management, either as the only topic of the call or in conjunction with another topic. Table 1 shows the distribution of call types for 332 calls.

The triage nurses were able to assist the caller without any further intervention for 87% of the calls. The patient was referred for an office visit in 7% of the calls and for laboratory work in 2% of the calls. Triage nurses recommended that patients go to the ER for less than 1% of the calls received. Recommendation for some other course of action oc-

curred in 3% of the calls.

### Discussion

The study results provide useful, objective information on how community oncology practices save money for patients and insurance carriers. As is common knowledge, telephone contacts with cancer patients and family members seen in community oncology practices are not directly reimbursable by third-party payers; however, they are assumed to be a part of the healthcare coverage for concurrent services, such as for infusion treatment, physician visits, and diagnostic or laboratory evaluations.

This integral part of the cancer treatment process can be marginalized for lack of fiscal support. For example, practices could limit expenditures by assigning a medical assistant or receptionist to triage patient calls. Patient support could be referred to the American Cancer Society or other such groups that provide information and counseling. Medical oncologists could return calls to highly distressed patients, those who refuse to obtain a referral, or those who do not fit the typical caller. In addition, patients could be sent to the ER or scheduled for an office visit, both at an increased cost to third-party payers and patients.

To provide superior patient care, however, most community oncology practices have certified oncology nurses involved in triaging telephone calls as well as well-defined algorithms for triaging calls. Our study reveals that telephone triage nurses effectively and independently resolve most patient calls, thereby reducing the cost of care for patients (copayments) and insurance companies.

In the studied practice, 101 calls were received for a prescription refill/change. Instead of the oncology nurse appropriately handling this request over the telephone, the patient could be scheduled for a nurse office visit and a charge ranging from \$25–\$50 could be applied. Such charges may range from \$131,300–\$262,600 annually. With a

patient copayment of 20%, telephone triage could save study practice patients approximately \$26,260–\$52,520 over 12 months. Third-party payers may save more than \$100,000–\$200,000 annually on prescription-related office visits at this community oncology practice.

Similarly, 66 patients called about symptom management. These patients could be scheduled for an office visit with an oncologist or mid-level provider, at a charge ranging from \$75–\$150. These charges may range from \$257,400–\$514,800 annually. With a patient copayment of 20%, telephone triage could save study practice patients approximately \$51,480–\$102,960 over 12 months. Third-party payers may save more than \$200,000–\$400,000 annually on symptom management-related office visits at this community oncology practice.

Ideally, it would be best to decrease the number of prescription-related calls by assisting patients with symptom management in other ways before they need to call for help. It may be possible to reduce the number of calls related to prescription refills by reviewing with patients the number of necessary refills at each office visit. In addition, other technologic options can be used to address calls about symptom management. For instance, an automated telephone system for symptom management, which was utilized in the studied community oncology practice as part of a research project conducted by Given et al at Michigan State University, was well received by patients. Such an automated telephone system can significantly reduce the severity of symptoms for patients with some types of cancer.<sup>10</sup>

Three limitations to this study merit attention. First, patients with cancer undergoing treatment are considered active patients. However, another group of patients in remission may continue to call the practice regularly for medication refills or symptom management. This second group is not actively receiving treatment but still must be counted in this study. There is no way for the investi-

gators to confirm the number of people in this second group. Therefore, we are unable to provide a breakdown of the patient population by cancer site, stage, or treatment for this oncology practice. Furthermore, we are unable to conduct a meaningful test of overall goodness-of-fit for the sample because we do not know the expected values in the population. Second is the concern of generalizing study findings. The studied community oncology practice may differ from others in terms of patient population, treated cancer types, special interests of oncologists, and volume of patients. Finally, because data were collected for 1 week, it is difficult to assess whether or not the number of telephone calls received is comparable to that during other weeks throughout the year.

## Conclusion

Telephone contact provided to cancer patients by oncology nurses is an integral component in the over-

all treatment process. Future research in this area would benefit from more detailed information regarding the nature and length of such calls. A multi-week data collection period might also be helpful in determining whether the number of calls received during any 1-week period is comparable to that received during other 1-week periods.

## References

1. Loder E, Geweke L. Volume and nature of telephone calls in a specialty headache practice. *Headache* 2002;42:883-887.
2. Chatterjee A, Lackey SJ. Prospective study of telephone consultation and communication in pediatric infectious diseases. *Pediatr Infect Dis J* 2001;20:968-972.
3. Kelley M, Mashburn J. Telephone triage in the office setting. *J Nurse Midwifery* 1990;35:245-251.
4. Spencer DC, Daugird AJ. The nature and content of physician telephone calls in a private practice. *J Fam Pract* 1988;27:201-205.
5. Daugird AJ, Spencer DC. Characteristics of patients who highly utilize telephone medical care in a private practice. *J Fam Pract* 1989;29:59-63.
6. Greenhouse DL, Probst JC. After-hours telephone calls in a family practice residency: volume, seriousness, and patient satisfaction. *Fam Med* 1995;27:525-530.
7. Yanovski SZ, Yanovski JA, Malley JD, Brown RL, Balaban DJ. Telephone triage by primary care physicians. *Pediatrics* 1992;89(4 pt 2):701-706.
8. Twomey C. Telephone contacts with a cancer nurse specialist. *Nurs Stand* 2000;15:35-38.
9. SAS Institute Inc. SAS OnlineDoc 9.1.3. Cary, NC: SAS Institute Inc; 2006.
10. Sikorskii A, Given CW, Given B, et al. Symptom management for cancer patients: a trial comparing two multimodal interventions. In press.

## ABOUT THE AUTHORS

*Affiliations:* Dr. Lucia is a manager in the Department of Outcomes Research, Research Institute, William Beaumont Hospital, Royal Oak, MI. Ms. Decker is Administrative Director, Research Administration, Research Institute, William Beaumont Hospital, Royal Oak, MI. Ms. Israel is Nursing Services Manager, Cancer Care Associates, Royal Oak, MI. Dr. Decker is Division Chief of Hematology/Oncology, William Beaumont Hospital, Royal Oak, MI.

*Conflicts of interest:* None disclosed.

continued on **page 354**

*Commentary*

# Telephone management: a reimbursable expense?

Linda D. Bosserman, MD, FACP | Wilshire Oncology Medical Group, Inc., La Verne, CA

As community oncology practices have grown and employed highly experienced, well-trained oncology nurses, they have assumed an additional role of triaging potentially very ill patients by telephone. However, the practice assumes all the risk for managing these patients with no reimbursement to cover the costs.

The study by Lucia et al documents the types of calls and considerations surrounding this issue. Many standard evaluation and management (E&M) visits at the clinic were avoided, many patients were treated at no charge (but at significant cost to the practice), and some patients were diverted from emergency room (ER) to clinic treat-

ments at significantly lower cost. Only a few were sent to the ER or admitted to the hospital, as appropriate.

Reimbursement for E&M visits has dropped and not kept up with inflation, even as our treated and follow-up patients have more complex diseases, side effects, and psychosocial issues and as our call volumes have increased significantly.

Furthermore, the service discussed by Lucia et al offers a cost benefit and justifies insurers reevaluating appropriate payment codes for phone management with appropriate documentation. As reimbursements decrease and more cancer drugs are being given orally instead of by infusion, the resources

for additional oncology nurses will not be available for this care. Patients will then be forced to make more costly clinic appointments or use ER care, where practitioners may not be as familiar with patient issues and may order more tests, workups, and admissions than would experienced oncology practitioners. As cancer survivors fight for better quality of life, living through and beyond cancer therapies, it is critical for payers and consumers to understand the great benefit of telephone management and to develop appropriate coverage levels and policies.

---

*Dr. Bosserman can be reached at [linda.bosserman@womgi.com](mailto:linda.bosserman@womgi.com)*