Assessing the value of a nurse-led telephone advice and triage service

Kam Singh and Clare Warnock discuss the results of a study to identify whether patients received safe and appropriate support and to explore areas for practice improvements.

Abstract

National guidance recommends that cancer patients should have access to a telephone enquiry service supported by trained oncology staff. Previous studies indicate that nursing care delivered by telephone has the potential to make a substantial contribution to patient care. However, its role in oncology has not been widely evaluated or explored. This article evaluates a nurse-led telephone advice and triage service for patients and relatives at a regional cancer centre. It provides insight into the range and scope of the service, suggesting that further evaluation is needed to explore the role and use of telephone assessment tools in clinical practice. The findings indicate potential challenges that can be faced when providing this service.

Keywords
Cancer centre, evaluation, nurse-led services, telephone triage

CANCER AND its treatments present a range of physical challenges to patients. For example, chemotherapy and radiotherapy can potentially result in a wide range of side effects (Dollinger et al 2002), some of which can be potentially life threatening, such as neutropenic sepsis and diarrhoea. Others can cause considerable discomfort, anxiety, treatment delays and dose reductions affecting efficacy of treatment plans.

Many patients experience such problems while they are at home, away from the cancer centre, so providing them with a point of contact throughout their cancer treatment is a priority. It is recommended that this contact should include telephone advice, assessment and triage by specialist oncology practitioners located in the cancer centre (Department of Health (DH) 2011).

Previous studies have shown that nursing care delivered by telephone can make a substantial contribution to patient care (Lucia et al 2007). However, there has been limited research exploring nursing telephone assessment and triage in oncology, and that which does exist has mostly been carried out in the US (Flannery et al 2007, Lucia et al 2007), and Canada (Chobanuk et al 1999, Wilson and Hubert 2002).

After an extensive literature search only one study was found relating to telephone triage of oncology patients in the UK (Preston-Jones 2005). It was carried out in Wales and reviewed a new service for telephone triage, reporting that it had increased the efficiency of the existing oncology service.

Nursing triage of telephone calls is increasingly becoming an integral component of oncology services (Flannery et al 2007). In the Health Act 2009, the DH proposed that service evaluation enables staff to provide evidence that their priorities for service development and patient care are justified. This is important for telephone triage and assessment in oncology. This is a relatively new approach to delivering care to patients in the UK, and it is therefore important to evaluate and understand patient outcomes and factors that influence its effectiveness.

The project aimed to evaluate three factors:

■ Range and scope of the telephone assessment and triage service, for example, which patients rang the service, their reasons for calling and call outcomes.

■ Use of the telephone assessment tool and guidelines.
Appropriateness of advice given by nurses providing the service.

The project used a combination of audit and service evaluation methodology. It was carried out in a regional cancer centre in the north of England. The centre provides chemotherapy and radiotherapy services to solid tumour cancer patients from a wide catchment area. In keeping with the National Cancer Plan (DH 2000), patients receiving treatments such as chemotherapy or radiotherapy are advised to contact the centre for advice if they experience side effects they are unable to manage or have symptoms of potentially severe complications, such as infection.

The centre where the project was carried out has provided a telephone advice service for about ten years. Until 2010, it was provided by the clinical area treating the patient during working hours, and a senior nurse out of hours. In 2010, the centre established a telephone triage service to manage calls from patients ringing for advice 24 hours a day, seven days a week. This service is provided by a triage practitioner who is an experienced oncology nurse. Depending on the call content, triage nurses can provide patient advice, direct them to other sources of health care, such as a GP or local hospital, or admit them directly to an assessment unit at the cancer centre for review.

In 2009, a telephone assessment reporting form was developed and introduced locally to provide a structure for patient assessment and call documentation. In 2010 evidence-based guidelines and a revised telephone assessment tool were introduced. These were adapted from the UK Oncology Nursing Society (UKONS) (2010) triage guidelines with minor changes to take account of local pathways and practices. The assessment tools and guidelines centre on an evaluation of the incidence and severity of common cancer-related symptoms. If a patient has mild symptoms, the outcome of the call will usually indicate self-care and self-monitoring advice, while if the symptoms are severe, the patient will require urgent admission for medical assessment.

The project reviewed the content of telephone assessment forms completed by nurses taking the calls. All completed forms relating to two one-month periods were reviewed, a total of 420.

One of the aims of the project was to evaluate the effect of the revised telephone assessment form and triage guidelines introduced in August 2010. To achieve this, forms were reviewed from two time periods: October 2010, one month post-implementation, and October 2009. October 2009 was selected for the review, because it was thought that this could control for ‘time of year’ factors that might influence the number and type of patient calls to the service.

Between October 2009 and October 2010 the number of calls more than doubled. However, the number of patients receiving chemotherapy was...
similar for both time periods, with 1,620 patients receiving chemotherapy in October 2009 and 1,472 in October 2010.

To explore this difference, we decided to investigate whether there had been an increase or change in the number of calls each month over time, around the two review time points. To do this, we analysed and compared the number of calls per month for two nine-month periods: April to December 2009 and April to December 2010.

The results (Figure 1) demonstrate that there was wide variation in the number of calls to the service each month.

The diagnosis of patients who used the telephone service is listed in Table 1. During both periods, breast, lung or bowel cancer was the most common diagnosis.

Reasons for calling Figure 2 presents the reasons for calling in relation to the type of treatment the patient was receiving. The highest number of calls were made by patients who were receiving chemotherapy, with 71 per cent (91/129 calls) in October 2009 and 77 per cent (224/291 calls) in October 2010.

A total of 315 patients rang regarding chemotherapy-related problems across both review periods. These patients called the service for a wide range of reasons, but the most common related to infection (103 calls, 33 per cent), nausea and vomiting (32 calls, 10 per cent), pain (24 calls, 8 per cent) and diarrhoea (21 calls, 7 per cent).

Over the two time periods, fewer calls were made by patients receiving radiotherapy (nine calls in 2009 and 22 in 2010, although one was undocumented) and by those not currently receiving cancer treatment (ten calls in 2009 and 23 in 2010).

Reason for calling was not documented on 19 forms in October 2009 and 22 forms in October 2010.

Triage outcomes The triage outcomes of all calls in 2009 and 2010 for patients receiving chemotherapy, radiotherapy or no treatment are shown in Figure 3. Differences in triage outcomes were identified for...
the three groups of patients. The most frequent outcome for patients who were not receiving treatment at the time they called over both time periods was to contact their GP.

In 2009, the most frequent outcome for the nine radiotherapy patients who used the service was to contact their GPs (three calls, 33 per cent). Two patients (22 per cent) were given advice over the telephone and two attended the cancer centre. In 2010, the outcome was documented for 21 radiotherapy patients, with information for one patient not documented. The most frequent outcome was advice given over the telephone (seven calls, 32 per cent), attending the cancer centre (five calls, 23 per cent) or contacting the GP (four calls, 18 per cent).

A change in outcome also occurred with chemotherapy patients. In 2009, the most frequent outcome was advice over the telephone (36 calls, 40 per cent), with 27 callers (30 per cent) being advised to attend the cancer centre for review. In October 2010, the most frequent outcome was to admit to the cancer centre for assessment, 87 callers (39 per cent), with 76 calls (34 per cent) being managed by advice over the phone. The percentage of chemotherapy patients being advised to attend their local district general hospital emergency department for assessment changed from 12 per cent (11 patients) in October 2009 to 6 per cent (13 patients) in October 2010.

Appropriateness of advice

October 2009 Concerns were identified with 20 (16 per cent) telephone assessment forms as follows:

- Advice thought to be inappropriate (seven of 20 forms, 35 per cent).
- Not enough information documented to be able to assess advice (12 of 20 forms, 60 per cent).
- Reviewers unable to decide if advice was appropriate (one of 20 forms, 5 per cent).

October 2010 Concerns were identified with 37 (13 per cent) forms:

- Advice thought to be inappropriate (17 of 37 forms, 46 per cent).
- Not enough information documented to be able to assess advice (13 of 37 forms, 35 per cent).
- Reviewers unable to decide if advice was appropriate (seven of 37 forms, 19 per cent).

The telephone assessment form introduced in 2010 contains a symptom profile section to document severity of the symptom against clear toxicity criteria. This was completed on 57 per cent (n=166) of reporting forms.
Discussion
The service evaluation found that telephone triage can be valuable in cancer care. The high volume of calls suggests that patients will use a telephone assessment service if it is provided. Patients were also directed to a range of appropriate sources of support and services, suggesting that telephone triage contributes to the effective use of healthcare resources. The evaluation did not explore patient satisfaction or their experiences of the service, but this would be an important area for future review.

The number of calls to the service more than doubled between 2009 and 2010. The authors’ initial assumption was that this might reflect a difference in the number of chemotherapy patients receiving treatment. However, a review of activity identified that the number of chemotherapy patients was similar during both periods.

Analysis over a longer duration showed a wide monthly variation in the volume of telephone calls received. This did not appear to be influenced by common sense variables, such as an increase in calls during the winter months when infections are more prevalent. The differences highlight the challenges nurses, and service managers, face when trying to predict demand for telephone advice as they try to ensure that appropriate resources, including staffing, are provided to run the service.

The literature on telephone triage advocates use of formal clinical guidelines to enhance clinical decision making (Isaacman et al 1992, National Comprehensive Cancer Network 2008). Some findings from this project raise questions about the way telephone assessment guidelines were used in everyday practice. The evaluation found that the symptom severity profile section was not completed on a high number of forms, written detail was instead provided about symptoms in the narrative section intended for description.

This was an important finding because the UKONS (2010) triage process uses formal identification and documentation of symptom severity to determine patient advice and triage outcomes. The authors’ findings raised a fundamental question: what did the absence of severity reporting in the symptom profile section of the form indicate about the way nurses were using the triage process and guidelines?

Poor compliance with completion of the symptom profile section suggests that nurses might not be following the triage process in a formal way, grading and documenting symptom severity. However, evaluation of the assessment outcomes found that advice given to most patients matched triage guidelines. Review of forms from 2009, before the guidelines were introduced, also found that most of the advice given was appropriate. This makes it difficult to assess the impact or use of the guidelines in relation to outcomes.

One factor that might influence local practice is the relatively high level of experience in oncology and telephone triage among the nurses providing the service, before and after introduction of the telephone assessment form and guidelines.

A number of studies have examined the role of experience as an independent influence on triage decisions, but none have found a significant relationship between experience and triage decision making (Considine et al 2007). Mayo et al (2002) found that nurses may rely more on past clinical experience than protocols or guidelines, and may not always use protocols completely. The findings from this evaluation suggest that, while nurses did not appear to use the assessment tool fully, this did not result in divergence of practice from triage guidelines.

A number of factors might have influenced the way in which nurses documented their assessments. One explanation might be that they had used a narrative form of documentation in previous telephone assessment tools and might not see any need to change.

A second factor could be linked to how an experienced oncology nurse who might rely less on the structure contained in the assessment tool carries out a patient assessment.

A third factor could relate to ease of form completion; the triage nurses report anecdotally that they find it difficult to manage and document calls during times of peak demand on the service and it may be quicker to write down the assessment briefly rather than document the full assessment.

These issues need to be explored because they had a negative influence on the quality of documentation on some forms. Further evaluation is required to investigate how nurses use the triage assessment tools and guidelines.

The importance of documentation cannot be emphasised enough when completing telephone assessment reporting forms. Accurate recording of the information exchanged provides a record of the rationale for decision making, enables clear communication with other healthcare practitioners...
if the patient calls again, and provides a process for informing the lead clinician about the patient’s care (Black 2007). It is also a legal requirement and may be used in a court of law or by the Nursing and Midwifery Council if concerns arise about a patient’s care or a nurse’s actions.

In our evaluation, a significant minority of telephone reporting forms did not contain sufficient information to enable the reviewers to evaluate the advice given; this needs to be addressed.

In addition, some outcomes of the telephone calls were not easily categorised into whether they were appropriate or not. In some cases, reviewers initially assessed advice differently and had to discuss a case before they reached agreement.

There were also eight forms where a decision on appropriateness of the call could not be agreed. These tended to relate to symptoms that did not fit clearly into the guidelines, such as a patient reporting a productive cough but with an absence of fever or feeling unwell. This demonstrates the complexity of the decision-making process associated with telephone assessment. It also highlights the need for telephone advice services to be provided by experienced oncology nurses and the need for ongoing nurse education to ensure patients are provided with safe and effective care (Cady 1999).

**Conclusion**

Nurse telephone triage is playing an increasingly important role in providing care to patients receiving cancer treatment at regional centres. This article offers insight into the range and scope of the service and identifies areas that require further investigation to improve practice.

The level of experience of the nurses providing the service may affect patient outcomes, and it is essential to offer education and formal training for new nurses. More experienced nurses may also require education that reinforces the principles underpinning the triage tools and guidelines, and that emphasises the importance of accurate and complete documentation.

Telephone assessment tools and guidelines have the potential to provide a structure for safe practice that ensures appropriate triage outcomes for patients. However, further investigation is required into factors that influence their use in practice.

Most patients using the service received appropriate advice and support, although concerns were identified about documentation, particularly the use of the structured symptom profile assessment. Reasons for this require further exploration to ensure that the tools and systems that are put in place for telephone triage support safe and effective care.

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**References**


