

Telephone Advice and Triage within Paediatric Oncology.

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Abstract

The topic of telephone triage is of particular interest to the author who works in a paediatric Oncology Unit which is the principal treatment centre for children's cancers within the Merseyside and Cheshire Cancer Network. This Unit provides 24 hour telephone advice for patients, families and carers. In addition, professionals within the network access the line for specialist information to support patients who are receiving on-going treatment for cancer, in particular, designated shared care centres and community teams who provide care nearer to home. To help develop good practice, the Oncology Unit developed a protocol supported by nine separate algorithms and a proforma upon which to document the 'Telephone Consultation Notes' made by the nurse (or other health professional). Having completed the handwritten documentation the policy requires the member of staff to further document these details on Meditech. The nine algorithms relate to nine separate health triggers which reflect the core of telephone triage calls and these algorithms aim to guide safe and appropriate practice and indicate what action the nurse should take. This study was developed in response to this initiative.

The aim of this study was to explore triage trained nurses' experiences of providing telephone triage in one NHS children's oncology setting. This study was underpinned by a two phase, exploratory mixed methods design although the main focus was on the qualitative data generated in the second phase. Phase 1 involved analysis of logged telephone consultation notes. In Phase 2 selected nurses working within the setting who had received training in the triage protocol and who had logged calls within the study period were interviewed.

In Phase 1, a total of 221 telephone triage calls (from parents or District General Hospitals) were logged as being received over the four months of data collection and were analysed and eight nurses (6 female and 2 male) participated in the second interview phase of the study. Following analysis of the data four main themes were identified in relation to telephone triage protocols as a means of (1) managing remote communication; (2) promoting safe and legal nursing actions; (3) ensuring best evidence-based practice; and (4) documenting comprehensive assessment

Telephone triage is a relatively new development, particularly within children's oncology care and whilst it provides parents with 24 hour access to advice and support it also creates challenges. Remote, hands-off assessment is not easy and whilst protocols can guide practice and support the practitioner to make clinical decisions it is clear that nurses in this study did not always adhere to the protocol. The study highlighted that nurses rely on their ward-based, face-to-face knowledge and skills and that this is not always readily transferable to telephone triage. Nurses expressed both levels of confidence and levels of uncertainty about their role in telephone triage. Recommendations for practice are proposed based on the findings of this study.

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Chapter 1: Introduction

Context of the Thesis

Children's cancers are rare. In the United Kingdom, only 1 in every 600 children, under 15 years of age develops a cancer. This means that approximately 1700 children (up to the age of 15) in the UK are diagnosed with cancer each year (UKCCSG 2005), and cure rates for children are higher than for adult cancers, suggesting that over 70% of all children can be completely cured. The UKCCSG (2005), states that nobody knows the cause of cancer, although there are many theories. The Health Protection Agency welcomed the publication of the 11th Report from the Committee on Medical Aspects of Radiation in the Environment (COMARE) (2006), on the distribution of childhood cancers in Great Britain. The Report shows that childhood cancers are not evenly distributed in the population and there is more variation than would be expected from a random distribution. There is no current consensus on the reasons for the clustering but COMARE's 11th Report could provide a significant contribution to the understanding of the cause of these cancers.

The treatment and prognosis for children with cancer continue to challenge nurses in their everyday practice. Early recognition of any side effects especially any which if acted upon quickly may improve the outcome for the child and family is vital. Centralization and specialization of children's oncology services have produced measurable benefits to patient outcomes (Stiller 1988). In a number of children's oncology units, this has in fact led to the development of shared care, whereby there is collaboration between the specialist Principle Treatment Centre (PTC) and the Paediatric Oncology Shared Care Unit (POSCU). The aim of this partnership is to combine the survival advantage of specialist care with the convenience of a local service (Hooker and Milburn 2008) which in turns allows the children to spend as much time nearer to home as possible.

The Oncology Unit in Liverpool is the principal treatment centre for children's cancers within the Merseyside and Cheshire Cancer Network. Since 1986 it has provided 24 hour telephone advice for patients, families and carers. In addition, professionals within the network access the line for specialist information to support patients who are receiving ongoing treatment for cancer, in particular,

designated shared care centres and community teams who provide care nearer to home.

The Oncology Unit which was the focus of this study, developed a protocol supported by nine separate algorithms and a proforma upon which to document the 'Telephone Consultation Notes' made by the nurse (or other health professional). Having completed the handwritten documentation the policy requires the member of staff to further document these details on the electronic care record (Meditech) which is used within the trust. The nine algorithms relate to nine separate health triggers which reflect the core of telephone triage calls. These algorithms aim to guide safe and appropriate practice and indicate what action, if any, the nurse should take.

Children's oncology is one area within the health care setting where all nurses benefit from being well informed and educated at all times and should maintain continuous education throughout their career.

Content of the Thesis

Chapter 1 will introduce the concept of telephone triage in relation to its use on a children's oncology unit. As the care of children and young people with cancer becomes even more complex and demanding, the need for the children's oncology nurse to understand the therapy and management of the side effects increases every year. The N.M.C (2004), states that nurses must maintain up to date knowledge, on which to base their practice, in a rapidly developing field and to develop the interpersonal and educational skills to provide support throughout the child's journey through the service. Therefore, nurses must draw on the most appropriate body of knowledge when caring for the children and young people, especially when providing telephone triage to their anxious parents/guardians.

Chapter 2 will provide an up to date overview of the literature surrounding telephone triage, specifically examining children's oncology nursing. Particular themes arose from the literature review and these will be discussed in more detail within this chapter.

Chapter 3 will explain how the researcher carried out the two phase, exploratory mixed methods study, with a focus on qualitative interviews with nursing staff. Chapter 4 will discuss the results from the research focusing on how the nursing staff found using the newly implemented nine algorithms, surrounding paperwork and documentation.

Chapter 5 will discuss the overall themes that have come out of the researcher's study in more depth and how these relate to existing literature within this field.

Finally, chapter 6 will provide an overall conclusion to the thesis and recommend changes to practice.

The appendices provide the supporting documentation required to completely understand the overall thesis.

Confidentiality for all medical professionals, children and families involved has been maintained throughout this thesis.

Chapter 2: Literature Review

Personal Location

I qualified as a children's nurse in April 1999 and as a student had spent a number of weeks on an Oncology Unit nursing children with cancer and developed an interest in their treatment plans, how the plans worked and the ethics behind family centred care and was eager to commence my nursing career in paediatric oncology. My mentor at the time gave me a very sound piece of advice: "Go out and get some basic nursing care before specialising - a child is a child before they are a child with cancer and develop all childhood illness." To this day, I find myself sharing this information with my student nurses. I worked in a Paediatric Oncology Shared Care Unit for four years and therefore had the best start to my career, through being involved in the symptom management of children with cancer alongside general surgical children's nursing. I still yearned for more, therefore when a new Oncology Unit was completed, I applied for a job and started my career in children's cancer nursing and I have never looked back. During my time on the Oncology Unit, I have completed my BSc (Hons) in Nursing Children and Young People with Cancer and undertaken the work for my MSc by Research.

The Development of Telephone Triage on the Oncology Unit, Alder Hey

The Oncology Unit at Alder Hey Children's NHS Foundation Trust, is the principal treatment centre for children's cancers within the Merseyside and Cheshire Cancer Network and provides 24 hour telephone advice for patients, families and carers. In addition, professionals within the network access the telephone advice line for specialist information to support children who are receiving ongoing treatment for cancer, in particular, designated shared care centres and community teams who provide care nearer to home.

The administration of a child's chemotherapy may be done in a number of different settings, depending on which is the most appropriate. The Principal Treatment Centre (PTC) (Alder Hey) is responsible for confirming the child's diagnosis and therefore prescribing, administering and guiding the family through complicated treatment regimes. Children with a diagnosis of Acute Lymphoblastic

Leukaemia or a number of solid tumours can receive their treatment at a Paediatric Oncology Shared Care Unit (POSCU) or at home, such as Vincristine which is a slow 5 minute bolus of chemotherapy, which is supervised by appropriately trained children's nurses (Edwards et al 2005). The popularity of shared care in the United Kingdom is on the increase as a way of organising a child's treatment and care (Houlston 2008).

Alder Hey Children's NHS Foundation Trust introduced a Telephone Triage Policy in 2010 which was devised to support the National Cancer Peer Review Programme, Manual for Cancer Services (2008), Children's Cancer Measures 7A 137. The aim of the policy is to provide underpinning guidance for the provision of the Oncology Unit's 24 hour telephone advice line for professionals, patients, carers and families. The policy aims to ensure that prompt, appropriate information and advice is given by staff who have the agreed level of specialist skills/knowledge and who are accessible via the PTC. The Oncology Unit was prompted to implement the 24 hour Telephone Triage Service due to a number of complaints from families with regard to the advice that they had received from staff when contacting the unit for support about symptoms and side effects of their child's treatment.

To support the Telephone Triage Policy, the Oncology Unit developed a protocol with nine separate algorithms and a handwritten proforma on which staff document their 'Telephone Consultation Notes'. Having completed the handwritten documentation, the policy requires the member of staff to further document these details on the electronic care record (Meditech) within the Trust. The nine algorithms (appendix 1) relate to nine separate health triggers which reflect the most common telephone triage calls. These algorithms aim to guide safe and appropriate practice and indicate what action(s) the person responding to the call – most usually a member of nursing staff - should take.

The study was developed with the aim of evaluating the new triage telephone advice system which was about to be implemented in the Oncology Unit at Alder Hey and to establish the usability of newly devised telephone triage policy for the staff.

Focus of the Literature Review

The focus of this literature review is on the use of telephone triage in providing health advice, with a focus on the role of telephone triage in providing advice to parents and carers whose children have cancer.

Search Methods

The literature reviewed for this thesis was identified through computerised literature searches between January 1989 and April 2012. The databases searched were the Cochrane library, Medline, CINAHL, PubMed, Proquest and Science Direct. Databases were searched using the keywords, telephone triage, telephone nursing, telephone advice, paediatric and paediatric oncology, cancer and telephone triage in oncology. Boolean operators were used to focus the search. Additional papers from reference lists from key articles were obtained. The researcher quickly became aware that there was limited literature specifically relating to telephone triage in children with cancer, therefore there was a need to expand the search to telephone triage within nursing in general, oncology nursing in general and the nursing care of children and young people.

Inclusion criteria for telephone triage articles were that they dealt with the practice of giving advice to patients/parents using the telephone as a means of communication, looking particularly at articles involving nurse provision of this service and also written in the English language. Due to the limited number of articles available at the time of searching, articles were only excluded if they were editorials, dealt solely with computerized services, were papers relating to GP practices or were papers which talked about the financial gain rather than the improvement to patient care.

Of the articles selected, the researcher divided them into four main subject areas as follows:

- an overview of telephone triage;
- nursing role in telephone triage;
- standardisation of practice, including protocols, guidelines, documentation and legal implications; and finally articles related to

- telephone triage in oncology which are integrated into the discussion of each topic area.

However, to provide a context for the telephone triage literature, a brief section is now presented on children with cancer.

Children with Cancer

Around 1,550 children are diagnosed with cancer each year in the UK. This equates to around 144 cases per million children. It has been estimated that around one child in every 500 will develop some form of cancer by 14 years of age in Great Britain (www.cancerresearchuk.org) Cancer is the second commonest cause of death in children in the developed countries (Kaatsch 2010).

Cancer at a cellular level is recognised as a state where normal regulatory processes controlling cell behaviour are upset and cells multiply out of control; cancer is also recognised as a genetic disease where the incidence rise exponentially in the final decades of human life (Kelland 2005). Cancers in the elderly are often associated with and strongly linked to environmental factors, whereas in the adolescent and young adult little is known about the causes of cancers. Cancers in the young child and infant are more likely to be influenced by prenatal and congenital factors (Kelland 2005).

Cancer in childhood is rare with a lifetime incidence of 0.5%, but despite this rarity, cancer is still the second most common cause of death in children. Jenney and Levitt (2008) state that survival rates in childhood cancer now exceed 70% due to the advances in medical treatment. The majority of the research states that paediatric oncology is a rapidly developing speciality and there have been major improvements in the prognosis for children and young people with cancer (Martin 2008). Children and young adults surviving cancer and living into adulthood may have significant morbidity due to the side effects of the high dose chemotherapy and radiotherapy used in these successful treatments.

Children with cancer are managed with complex treatment plans which require many hospital visits receiving their treatment and prolonged spells as inpatients due to the effects of antineoplastic agents on normal cells which are described as the side effects of therapy. Nurses need to be knowledgeable about both the treatment and the side effects in order to provide effective care to children receiving chemotherapy and displaying signs and symptoms of the treatment (Selwood 2008). Most side effects are responsive to nursing interventions which will ultimately have an effect on the comfort, safety and quality of life of the child.

The challenge faced by Oncologists today is to sustain the excellent survival rates while at the same time, striving to achieve optimal quality of life (Jenney and Levitt 2008). Nurses in children's oncology are often the main resource for overwhelmed parents and deal with complex patient issues over the telephone and often have concerns about best patient care, liability and accountability for the advice given (Black 2007). Selwood (2008) acknowledges that effective nursing intervention can reduce recovery times, prevent serious complications and reduce prolonged hospitalisation.

An Overview of Telephone Triage

The earliest evidence of providing support to individual members of the public regarding general life issues using the telephone was that provided by the Reverend Chad Varah in 1953 in the development of the Samaritans (Cornell et al 2004). Within healthcare it is documented that physicians have been providing medical advice by telephone for more than a century (Lee et al 2003). In many contemporary health care settings, telephone services are providing innovative approaches to delivering services and providing advice (Males 2007).

Telephone triage has been described as "one of the most rapidly growing clinical practice areas" (Rutenberg 2000,pg 77). There are many definitions of what constitutes telephone triage. A variety of different terminology is used in the literature to refer to this growing practice. Terms such as *telehealth* (Stamm 2000), *telephone advice service* (Monaghan 2003), *telenursing* (Hoare 1999), *telephone consultation* (Lattimer 1998) and *telephone triage* (Black 2007) are a just a few of the words used to describe this service. However, for the purpose of

this thesis, the service will be referred to as *telephone triage*, recognizing the potential expanse of services that can be provided. Briggs (2002) describes telephone triage as the process of screening and collecting a caller's symptoms over the telephone to evaluate the urgency of a health problem and to determine the most appropriate advice and treatment based on the described symptoms. In comparison, Keatings and Rawlings (2004) define telephone triage as prioritising clients' health problems according to their urgency and advising clients and making safe, effective and appropriate decisions, all by telephone. Black (2007) suggests the use of nurses to triage and advice via the telephone is a new and growing practice. Using nurses to triage is supported in the literature by many authors who suggest that nurses are the best health care professionals for providing this service (Coleman 1997, Black 2007 and VanDinter 2000).

One major benefit of telephone triage is the ability to provide convenient access to health care professionals and health care advice (Monaghan 2003). In 1997, NHS Direct was introduced: a nurse led, 24 hour, advisory telephone service. The service aimed to provide immediate advice to callers using computerised decision systems to promote self-help. Access to telephone support can reduce unnecessary Accident and Emergency, clinic or primary care visits, thereby, reducing health care cost (Dale et al 1998; Greenberg 2000). Telephone advice and interaction is not without its challenges, and all health practitioners who are giving advice over the phone need to be aware of the pitfalls and the limitations of this form of communication and be aware that they are accountable for care delivered by telephone (Malone 2006 and Dimond 2006). According to Cady (1999), being aware of potential pitfalls, however, enables nurses to provide better care while protecting the patient and perhaps even the nurse's career from harm. One of the main challenges identified in the literature regarding telephone triage is the difficulty of accurately assessing a situation with limited sensory input (Cady 1999). Telephone triage is different from face to face assessments as information is gathered through a conversation limited by the constraints of the telephone. The assessor is restricted to using just one sense –their hearing – whilst undertaking the patient assessment (Holmstrom and Hoglund 2007). Another challenge that needs consideration is ensuring that health care professionals are qualified to perform in the roles and functions associated with telephone triage is a major concern in health care today (Wilkinson et al 2000).

In relation to the care of children with cancer, the literature indicates that there is a specific need for oncology patients and their families who are receiving treatment to have 24 hour access to appropriate/consistent advice which is provided by adequately trained staff (Anastasia 2002), to allow for the early detection of potential of emergencies and side effects of treatment. A well-developed telephone triage service could ensure that appropriate and consistent advice is provided at a time when parents or guardians of children with cancer are under an enormous amount of stress (Jones 2010).

Nursing Role in Telephone Triage

Coleman (1997) suggests two main reasons for why he believes nurses are the best health care professionals for providing telephone triage, firstly nurses are believed to be well trained, competent professionals, and secondly, they are a less costly choice being cheaper than doctors (Young 1989, Coleman 1997). Greenberg (2000) performed a descriptive study to evaluate an established nurse run telephone triage service in a paediatric outpatient setting. Greenberg's study discusses how valued the nurses were for their excellent communication and listening skills and their ability to elicit information from the caller. The nurses were also found to impart information in a language appropriate to the caller, therefore helping the caller understand what information the nurse needed to be able to make a sound decision. Another study of patient outcomes, by Mayo et al (2002) also commended how highly satisfied patients were with nurse-run telephone advice services, stating that the nurse advice was helpful and prevented visits to other health care providers by adequately dealing with the issue over the telephone. Both studies reinforce the favourable outcome both from patient and the organisational perspective of this practice.

Not every nurse however, is best suited to telephone triage practice. Patient management may seem alien even to experienced nurses when the phone is the vehicle used. It is dangerous to assume that a nurse who is expert in using skills in a direct, face to face situation will be competent in performing similar skills via the telephone. There is no agreement in the literature as to what skills the nurse must possess. There does seem to be consensus, however, that the nurse must have a minimum of 3-5 years of nursing experience, preferably in a variety of

settings, as well as exceptional interpersonal skills and superior communication skills (VanDinter 2000).

Unlike areas such as Accident and Emergency, where cost control and efficiency were driving forces for implementation, telephone triage and nursing services in the outpatient oncology setting have developed as a response to patient need (Wilson and Hubert 2002). As the demand for nurses to provide telephone triage increased it has slowly become incorporated as an added nursing function (Black 2007). Due to the changing complex treatment plans in children's cancer care, the role of the children's nurse in a paediatric oncology outpatient setting has evolved in response (Trahan-Rieger and Henke-Yarbro 2003) mainly due to patient need (Wilson and Hubert 2002).

Telephone triage has been taken on by nurses as a function based on the nursing process (Brennon 1992). This process involves assessment, diagnosis, planning, intervention and evaluation (Coleman 1997). As the Nursing Midwifery Council (2008) states, "all care given by a nurse must be safe, effective and appropriate". Telephone triage is intrinsically no different from 'hands on' care and therefore the same rules must therefore apply. And as the Canadian Nurses Protective Society (CNPS) (1997, p1) states "when a nurse-client relationship is established with a caller, the nurse is professionally and legally accountable for the advice given".

Standardisation of Practice in Telephone Triage

As in many practice areas, nurses in the field of children's cancer, often operate without standardized practice or specific guidance to assist them in performing this aspect of their role. When undertaking telephone triage, nurses can often find themselves, dealing with complex and sometimes critical patient issues over the telephone with parents. Uncertainty about the most appropriate advice and direction to give parents as well as concerns regarding the accountability and potential liability for the advice given, contributes to work related stress and concerns about best practice in an already stressful work environment (Black 2007). One of the concerns that arise where practice is not standardised is that nurses with different skills, knowledge and experience could give different advice

after listening to the same information. As Briggs (2002) states, advice based on what the nurse *thinks* is appropriate, may actually be harmful. Nurses are not equal in education or knowledge base, assessment, or communication skills; this means that some may miss something in their assessments. Liability occurs when poor telephone procedures, lack of thorough assessment and inadequate documentation occur (VanDinter 2000). Therefore, the issue arises as to whether or not standardization of telephone triage practices can provide the opportunity for an improvement in the care of children with cancer or whether this standardization needs to be balanced with the intuitive knowledge and experience of the nurses involved.

The Royal College of Nursing (2006) clearly states that to ensure safe practice and to support nurses and practitioners in their developing roles, it is imperative that there are clearly documented frameworks. Protocols can help to maintain a consistently high standard of care over a wide variety of conditions (Black 2007) and help to protect telephone triage nurses from legal liability (Egleston et al 1997). These protocols should be user-friendly and easily accessible resources (Simonsen-Anderson 2002), which provide a basis for consistency and can decrease ambiguity (Rutenberg 2000). Although nurses are always responsible for their own acts and omissions, protocols can help nurses practise within agreed boundaries in keeping with their level of training, in recognition of their autonomy and to legitimise their knowledge (Pennells 1999).

In contrast to findings from Black (2007) and advice from the RCN (2006) stating that protocols and guidelines protect the nurse and ensure safe practice, findings from Keatings and Rawlings (2005) suggest a different picture. Keatings and Rawlings (2005) conducted the first comprehensive mixed methods evaluation of the Australian based telephone triage service, "Kids Kare Line". This study advocated moving away from the use of protocols and focussing on the nurses' awareness of their accountability and their nursing experiences of possible outcomes that guarantees their safety in telephone triage.

Conclusion

A new telephone triage policy was developed to support the National Cancer Peer Review programme (2008) which saw the introduction of nine telephone triage algorithms onto a busy children's oncology unit. Following a literature review on the available research, it has highlighted that many authors suggest nurses are in fact the best health care professionals to provide telephone triage and to support the nurses and ensure safe practice, protocols and guidelines should be utilised if available. This will be discussed further within the discussion chapter.

Chapter 3: Methodology

The development and utilisation of nursing knowledge, as suggested by Polit et al (2001), is essential for continued improvement in patient care. Therefore, research is generally undertaken to provide answers to pressing clinical questions. 'Applied research', is essential as it informs decision makers at every level and explores problems in real contexts with the overall goal of providing practical solutions (Whiting 2008). Parahoo (2006) describes nursing research as research that encompasses patients, nurses and nursing practices and where the findings aim to be of value to the organisation, service delivery and nursing practice.

Study Question

What are triage trained nurses' experiences of providing telephone triage using specific algorithms within a children's oncology unit and what improvements could be made?

Aim and objectives of the study

The aim of this study was to explore triage trained nurses' experiences of providing telephone triage in one NHS children's oncology setting

The objectives of the study were to:

1. Examine and explore the use of telephone advice and triage in children's health within the NHS with a particular focus on children's oncology
2. Examine the telephone consultation notes in one setting for content, completeness, consistency with the ratified algorithms and completeness of documentation on meditech.
3. Explore the triage trained nurses' experiences in one setting of providing advice using the ratified algorithm and its utility/ease of use.
4. Explore the triage trained nurses' experiences in one setting of documenting advice using the telephone consultation notes proforma.

5. Identify what, if any, areas for improvement can be identified to the process and algorithms used in one particular setting.

Methodology and Methods

Overview of study

This study was underpinned by a two phase, exploratory mixed methods design although the main focus was on the qualitative data generated in the second phase.

Phase 1 involved analysis of logged telephone consultation notes. In Phase 2 selected nurses working within the setting who had received training in the triage protocol and who had logged calls within the study period were interviewed.

An overview of mixed methods research

There are a number of differing definitions for qualitative and quantitative research. Jolley (2010) defines quantitative research as one that tries to identify the facts about something, whereas qualitative research tries to explore and find meaning in something. Usually quantitative research deals with numbers and qualitative research deals with verbal or testimonial material. Doordan (1998 pg101) describes qualitative research as “a descriptive study to collect and analyse in-depth narrative data that provides information about the subjective meaning of human experience and phenomena, usually conducted in a natural setting”. Quantitative research is a research study that collects numerical data and is based on objectivity, measurement, control of the situation; and ability to generalize findings” (Doordan 1998 pg 102). It used to be considered that qualitative and quantitative methodologies could not be combined, although there is increasing recognition that both methods can be used in combination in a valuable way to explore relevant questions. The researcher was aware that the first phase of the study needed to be broadly quantitative (although at the descriptive end of the quantitative continuum) as it focused on the analysis of the

telephone consultation notes and the second phase was qualitative as it relied on interviews. This led to the use of a mixed methods design.

“Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process.....its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.” (Creswell and Plano Clark 2007, pg 5)

Within mixed method research there are two main types of data collection: concurrent and sequential (Creswell and Plano Clark 2007). In concurrent designs the quantitative and qualitative data are collected within the same time frame but independently. This can possibly lead to contradictory results and therefore the potential for bias to be introduced through the data collection (Creswell and Plano Clark 2007). The researcher has used sequential data collection. The advantages of sequential data collection are that the analysis of the quantitative data in phase 1 informed the collection of qualitative data in a distinct phase two.

Rationale for a quantitative approach in Phase 1

The choice of research method is guided by the question to be answered and the time and resources available, therefore the decision was taken to use a descriptive quantitative approach in Phase 1. This involved the analysis of existing data from Telephone Consultation Notes (TCNs) (appendix 1) which were introduced onto the Oncology Unit at the start of the study. These TCNs were treated as secondary data as the researcher did not collect the data herself but relied on the people undertaking the telephone triage to complete (or not complete) the sheets. These written records had been previously developed by an experienced member of staff within the Oncology Unit to attempt to ensure the consistency and correctness of advice given over the phone to worried

parents/guardians and to fellow health care professionals from POSCUs The implementation of the TCNs was independent of the project and was a planned practice development initiative.

Secondary data analysis is the use of existing data to address new research questions or methods (Black 1995; Pollack 1999, Magee et al 2006). Knowledge expansion within nursing practice can be developed at a rapid pace by nurse researchers through the use of secondary data analysis (Fawcett 1995). This form of analysis can access data from sources not directly designed by the researcher.

Rationale for a qualitative approach in Phase 2

An exploratory qualitative approach was chosen to underpin Phase 2.

A qualitative design was used which, according to Polit et al (2001 pg 469), allows “the investigation of phenomena, typically in an in-depth and holistic fashion, through the collection of rich narrative materials using a flexible research design.” The researcher chose to carry out an exploratory qualitative design as this approach is a good way of understanding the perceptions and actions of participants (Parahoo 2006). In this study, exploring the perceptions of the nursing staff on the Oncology Unit aimed to enable the researcher to understand and gain an insight into how they used and perceived the implemented TCNs in the Oncology Unit whilst carrying out telephone triage.

The main features of exploratory qualitative research are that it is interactive, holistic, and inductive and is carried out by using flexible and reflective methods of data collection and analysis (Parahoo 2006). Doordan (1998 pg 61) defines exploratory research as being: “research studies that are conducted on phenomena that are relatively unknown”. There is little evidence or research which has examined telephone triage within a children’s oncology unit and as such this exploratory research aimed to provide new insight into the area under investigation (Jolley 2010).

Target population and inclusion criteria

The target source for Phase 1 of the study were completed Telephone Consultation Sheets resulting from telephone triage during the period of investigation.

The target population for Phase 2 of this study are nurses working on the Oncology Unit at the study hospital. The plan was for the potential participants to be purposively selected based on the initial analysis of the Telephone Consultation Notes (TCN)

Inclusion criteria:

1. All nurses who meet the 'triage protocol' criteria and who had logged calls within the study period. The triage protocol criteria required nurses to have more than two years' experience in the setting and to have received training in the triage protocol.
2. Nurses who meet criterion 1 and who also are identified as being able to report on areas of specific interest, for example,
 - a. TCN sheets that were only partially completed;
 - b. TCN sheets that documented that advice had been given that was 'off protocol'; and
 - c. TCN sheets that were complete/followed the protocol.

Method: Phase 1 - Secondary data – Telephone Consultation Notes

Phase 1 aimed to collect 100 sets of Telephone Consultation Notes (TCNs) logged by the telephone triage nurses over a period of time. Following the necessary approvals for the project, all members of staff on the Oncology Unit were invited to attend a short power point presentation about the new telephone triage policy and how to complete the TCN's. On completion of the presentation, all staff were asked to sign a register to say they had attended the training session and understood the TCN's. Once all staff had received training, a bright pink A4 folder (designed to stand out), clearly labelled as the TCN Research File was placed on the nursing stations in Oncology Unit Inpatients (OUI) and Oncology Unit Day Care (OUD) in close proximity to the telephones. Within these

folders, were the nine laminated algorithms (labelled A-I), blank TCN sheets and a copy of the telephone triage policy.

On completion of telephone triage call, nurses were asked to place the completed TCN back inside the pink folder within a clear plastic wallet labelled "completed TCN's". On a weekly basis, the researcher emptied the wallet from the OUI and the OUD. The completed TCNs were then photocopied: one copy was filed in the patient's medical notes and the second was anonymised using a black marker pen and then placed in one of ten research folders labelled A-I and 'other'. These folders were stored in a locked cupboard. Nursing staff in both clinical areas were extremely efficient at placing the completed TCN's in the pink folders and no issues were encountered with needing to 'chase' forms or missing information.

It was anticipated (based on the number and diversity of calls at the time when the study was designed) that 100 calls would be sufficient to ensure that data were captured about each of the nine algorithms within a data collection window of about two weeks. It was not expected that there would be equal coverage of calls across the nine algorithms. For example, it was expected that there would be more calls for pyrexia than those for the rarer side effects of treatment/disease process. A call logging matrix (appendix 2) was developed to assist in ensuring that there was appropriate coverage across the nine algorithms; the matrix also allowed the researcher to note which nurse had undertaken the consultation. The researcher felt it was important to be aware of how qualified the nurse was when providing the advice. Due to the relative rarity of some calls it was expected that the two week data collection window might be insufficient to log a call relating to a particular algorithm (e.g., end of life care). If this occurred it was planned that the researcher would purposively select one or two calls relating to that algorithm outside of the core data collection window.

It was originally decided that 100 documented calls would provide sufficient data but on analysing these calls it was decided to continue with the research for a further three months so as to allow more extensive collection of TCNs across the algorithms.

Method: Phase 2 - Interviews with Nurses

Although a questionnaire could have collected data relating to nurses' experiences of telephone triage and the TCNs it was felt that it was not the best approach to use. One to one communication avoids a number of issues related to questionnaires. A dialogue between two people can ensure what is communicated is fully understood by both parties and that there is a common understanding. Using an interview also enables a less structured, more flexible and more in-depth gathering of important data (Jolley 2010).

A research interview is a verbal interaction between researcher and respondents for the purpose of collecting valid and reliable data to answer a particular research question. A qualitative interview is a "broad term to denote a family of interviews with varying degrees of flexibility for the purpose of studying phenomena from the perspective of respondents" (Chenitz and Swanson 1986 pp3-15). Qualitative interviews can be structured, semi-structured or unstructured (Burns and Grove 2005, Polit and Beck 2006 and Whiting 2008). Within this study, semi-structured interviews were chosen as the most appropriate means of having some structure to guide the researcher but also allowing additional questions to be asked and for non-directive probes to be used, such as: 'what do you mean' (Cartwright 1986). The researcher felt that the opportunity to probe answers would be useful as it could encourage more detail in the participants' responses and allow clarity to be gained during the interview which could enhance the robustness of the interview. Interviews can include open and/or close-ended questions. The researcher chose the semi-structured format to be underpinned by open-ended questions. Closed ended questions would not have worked as effectively in this research as the response alternatives would have been specified by the researcher and would limit the ability to explore the phenomena. Open ended questions aimed to allow for rich and fuller information providing the respondents are verbally expressive and co-operative. As the researcher wanted to gain a depth of understanding about the topic from the participants, open-ended questions were the natural choice. The interview was designed to focus on a core of three areas:

1. The nurses' experience of using the algorithm;
2. The nurses' experience of providing advice and documenting the call; and

3. Any areas for improvement or other aspect of their experience.

The researcher chose to use seven open ended questions (Appendix 3) in the interview within these three areas. The interview was expected to last about 10-15 minutes and the interviews were planned to be held within 48-96 hours of the logged telephone triage conversation taking place. The researcher planned to conduct the interviews in a quiet, private room away from the busy ward area environment as recommended by Burns and Grove (2005).

The interview schedule was printed out on headed paper and a copy given to the participant as well as verbally read out. The researcher felt that this approach would allow the participants to respond to questions in their own words and express their feelings towards telephone triage in an open and honest environment.

The interviews were audio-recorded (with consent from the participant) and transcribed on completion of the interview. Audio-recording allowed the researcher to concentrate and listen to the respondents' answers fully during the interview without having to concentrate on writing notes or risking missing important information through having to decipher her handwriting at a later date.

Data Analysis

Phase 1

The TCNs were collected on a fortnightly basis by the researcher. Analysis started by the researcher going through each telephone triage proforma using a simple table she had devised. Initially this was a paper and pencil exercise that allowed the researcher to input the required information from all the proformas. Once this process was completed, the researcher devised a spread sheet on the Excel computer programme and inputted all the data from the paper table. The data included the date and time of the phone call, which algorithm, if any, was being used and which department had taken the call. Inputted data also included who had phoned the unit, whether or not the latest swab and blood results had been documented from previous admission/attendance to the Oncology Unit during the phone call and whether or not the TCN was fully completed and the

outcome of the telephone triage. There were a high number of phone calls where there was no algorithm which matched the reason for the telephone contact; the lack of an appropriate algorithm was also included as useful data. The researcher inputted and initially analysed the TCN's on a fortnightly basis. The TCNs were collected between the months of July 2010 and February 2011. Initially, the researcher believed that 100 completed algorithms would provide the data required but on analysis of the first 100, it was noted that some of algorithms had no data, therefore it was decided to extend the research period until at least one TCN was completed for each algorithm and therefore 223 were completed and analysed over an additional three months.

Once the data had been fully inputted onto the spread sheet, they were checked for accuracy and for any missing data. This took a long time, especially as the researcher was a novice at data inputting and it was rather tedious. However, it was essential to ensure that the data was as good as it could be. Once the researcher was reassured that her data set was complete, analysis of the data commenced.

Numerical data were analysed using descriptive statistics and frequencies and the open answer responses on the TCN were analysed using thematic analysis, as described in the analysis section for Phase 2).

Phase 2

The interviews were transcribed on completion of the interview. Each interview was recorded using a Dictaphone (with consent) and on completion, the interview was played back numerous times as the researcher hand wrote the transcriptions word for word. This was repeated for each interview and then typed up. This careful process allowed accurate transcription of the data and also allowed the researcher to become increasingly familiar with the data.. Once the interviews were transcribed they were subjected to thematic analysis. This involved the researcher reading the transcripts one by one and making notes and initial impressions. She found herself continuously interacting with the data and as she transcribed them the researcher continuously referred back to the already transcribed transcripts to generate the codes. This was followed by undertaking

line by line coding of the ideas, issues, concerns and other factors. These codes were then considered carefully and where there was overlap, the codes were condensed down until a clear code list was developed. Each code was linked to specific pieces of text. As the researcher worked with the data some ideas started to become clear and the codes were brought together to form tentative themes. These themes were considered and reflected upon and gradually the researcher felt more secure in them until the final set of themes was identified. As Jolley (2010) suggests, the researcher built up these themes as the transcripts were read. On completion of this task, the researcher compared the transcriptions for common themes and these were:

- assessing the child over the telephone,
- promoting safe and legal nursing actions; and
- documenting of the telephone triage call.

Ethics and Data Protection

The researcher's ethical stance is participatory, inclusive and non coercive; based on respect, beneficence, non-maleficence and justice. Approval for the study was granted via the Users' Views Evaluation Committee at Alder Hey Children's NHS Foundation Trust and the Faculty of Health Ethics Committee at the University of Central Lancashire. As this project as not deemed research approval through the national Research Ethics Service was not needed. Despite the project not being classified as research, the researcher adhered to the ethical principles which underpin research, where the dignity, rights, safety and well being of participants must be the primary consideration in any study (The Department of Health 2005).

The researcher was committed to equity of involvement and justice and as such aimed to provide opportunities for all health care professionals who took the time to fill in the telephone triage Telephone Consultation Notes to contribute in phase 2 of data generation.

It was not expected that participating in this project would raise any specific/sensitive issues, although it was possible that the nurses might have become distressed when talking about their telephone triage advice calls and

experiences during Phase 2 of the study. It was anticipated that this would not create undue distress and that the researcher would be able to provide appropriate levels of reassurance. Where this was not possible/appropriate other avenues of support were identified as means of support (for example, if one of the nurses had become very upset arrangements were in place for them to receive support from The Alder Centre based on site at Alder Hey).

In relation to data protection the Department of Health (2005) states that the appropriate use and protection of patient data is paramount and that everyone involved in research must be aware of their legal and ethical duties. The researcher was aware that she needed to give attention to ensuring that the systems she used ensured confidentiality of personal information and that systems were secure. Holloway and Wheeler (2010) suggest that anonymity is guaranteed, and a promise is given that identities will not be revealed, Therefore all data including hard copies of transcriptions/other documentation were kept in a locked cupboard with the hospital. All electronic data (including audio files, word and other files) were stored appropriately within the hospital computer system and were password protected.

A clear information sheet (Appendix 4) which explained the purpose of the research, covering aspects such as what was exactly would happen if the respondents agreed or not to be interviewed, the advantages and disadvantages of taking part, was devised for the target population. The information sheet for participants was clear, unambiguous and written in lay language (Holloway and Wheeler 2010) and was printed on headed paper (with both the hospital and university logos present). The information sheet was distributed at least 48 hours in advance of the interviews taking place to allow adequate time for participants to query anything or ask the researcher questions about the impending interview. All the people who had agreed to take part in the study were given the opportunity to discuss the study with the researcher. The researcher also explained that there would be no direct benefits to participating in the study, although past experience suggests that some participants find it interesting and personally useful to share their stories/have the opportunity for dialogue with a researcher. If after they had discussed the study with the researcher and they were still happy to take part, the researcher presented a consent form and all

participants were asked to sign the consent form (Appendix 5). The principle of respect for autonomy (Beauchamp and Childress 2001) can be related to the process of informed consent. Within the field of research, 'respect' demands that the participant is fully aware that participation is voluntary (Holloway and Wheeler 2010). The researcher ensured that all participants were aware that they were free to stop the interviews or withdraw at any time.

From the onset the requirements set out in the Data Protection Act (1998) were adhered to and were considered of paramount importance in order to establish with the respondent that confidentiality and anonymity would be maintained. It was emphasised that only the researcher had access to the raw data and no information was disclosed to other parties. The researcher also decided to remove any identifying features such as gender from the results and from and quotations so as to reduce the potential to identify individual members of staff.

Chapter 4: Results

Introduction

The Oncology Unit currently employs a total of thirty eight Children's Nurses. Of these, at the time of the research, 29 Children's nurses on the unit actually met the criteria required by the protocol to be eligible to provide telephone triage. Along with the nurses, one Doctor and three Advanced Nurse Practitioners (ANP's) all completed Telephone Triage Proformas which were included in the research results.

All 29 nurses who completed the telephone triage calls were approached to be interviewed, but due to busy clinical commitments and shift patterns, eight nurses (6 female and 2 male) participated in the second interview phase of the study.

The researcher has chosen to present the findings of her research by combining the qualitative (including both the open ended answers from the TCNs and also from the interviews) and quantitative data as she feels this enhances her findings rather than presenting them under two separate headings which she feels would disjoint her results.

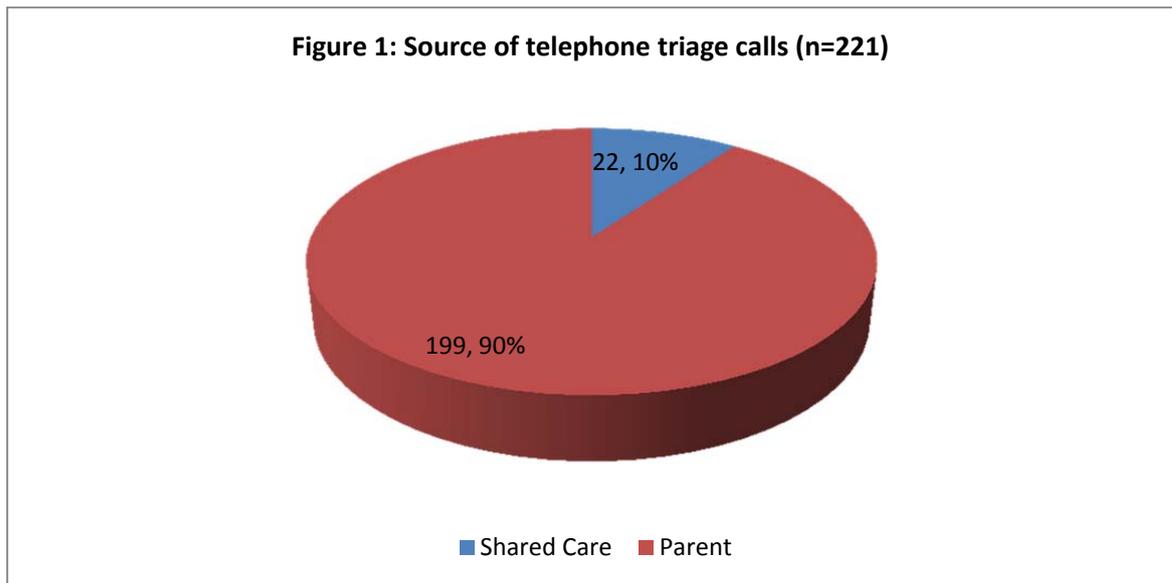
The details of how the data were analysed are presented in Chapter 3.

Source and outcome of telephone triage calls

Alder Hey Children's Hospital acts as the Principal Treatment Centre providing care to children (aged 0-24 years of age) with a diagnosis of cancer from the Isle of Man, North Wales, Liverpool and surrounding area up to Blackpool. Children who live outside the Liverpool area receive 'shared care' with local District General Hospitals for routine blood counts and basic nursing care in an emergency situation. All chemotherapy infusions are provided at Alder Hey and administered by appropriately trained nursing staff.

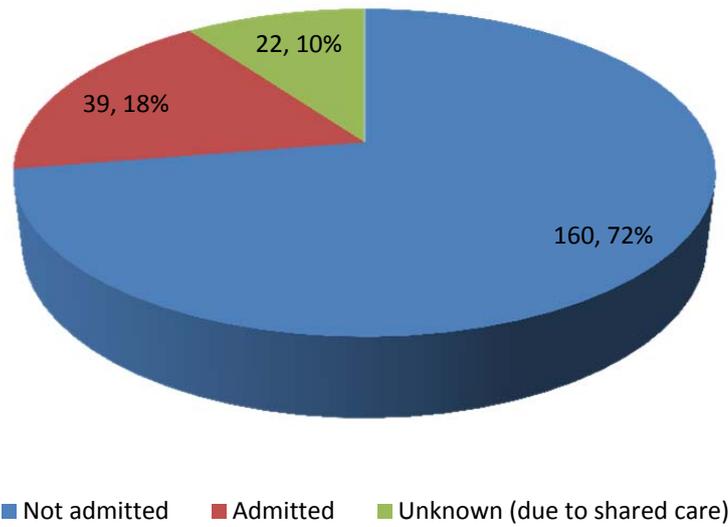
As Principal Treatment Centre, the Oncology Unit at Alder Hey receives telephone triage calls both directly from parents enquiring about their own child as well as from staff within the District General Hospitals providing shared care.

A total of 221 telephone triage calls (from parents or District General Hospitals) were logged as being received over the four months of data collection. Of these, 22 were from Shared Care facilities; the remaining 199 calls were from parents within the local area to Alder Hey Children's Hospital. Figure 1 below presents the logged telephone triage calls made to the Oncology Unit at Alder Hey using one of the nine algorithms during the time the study was conducted.



Thirty-nine of 199 telephone triage advice calls made by parents from the local area, resulted in children being admitted to the Oncology Inpatient Unit. The remaining 160 of calls were either dealt with over the telephone or the child attended the Oncology Unit as a ward attendee, had various investigations, was reviewed by a children's nurse and either a doctor or Advanced Nurse Practitioner (ANP) and discharged home. The researcher was unable to determine whether the shared care phone calls resulted in the child being admitted to their local treatment centre or remaining at home as the hospital computer system at the Principal Treatment Centre is not linked to the shared care hospitals as yet. Figure 2 shows the outcome of telephone triage calls in terms of whether the child was admitted or not admitted, where these data were available.

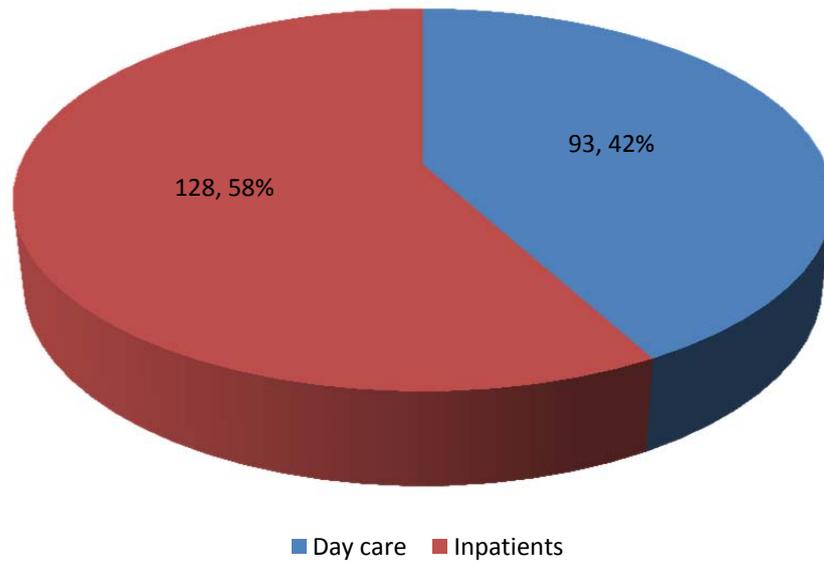
Figure 2: Outcome of Telephone Triage Calls (n=221)



Location of where calls were taken: OUD or OUI

There are two distinct locations within the oncology unit where nurses took the telephone triage calls: the oncology unit-day care (OUD) and the oncology unit-inpatient department (OUI). As can be seen in Figure 3, the oncology inpatient unit took the most number of telephone triage calls during the period of data collection. Out of 221 calls, OUD logged 93 calls and the OUI department logged 128 calls. These results were unexpected as it was assumed that the oncology day care unit would receive the majority of telephone triage calls. The day care unit is open for a maximum of eight hours a day and therefore the oncology inpatient unit takes the advice calls outside these hours.

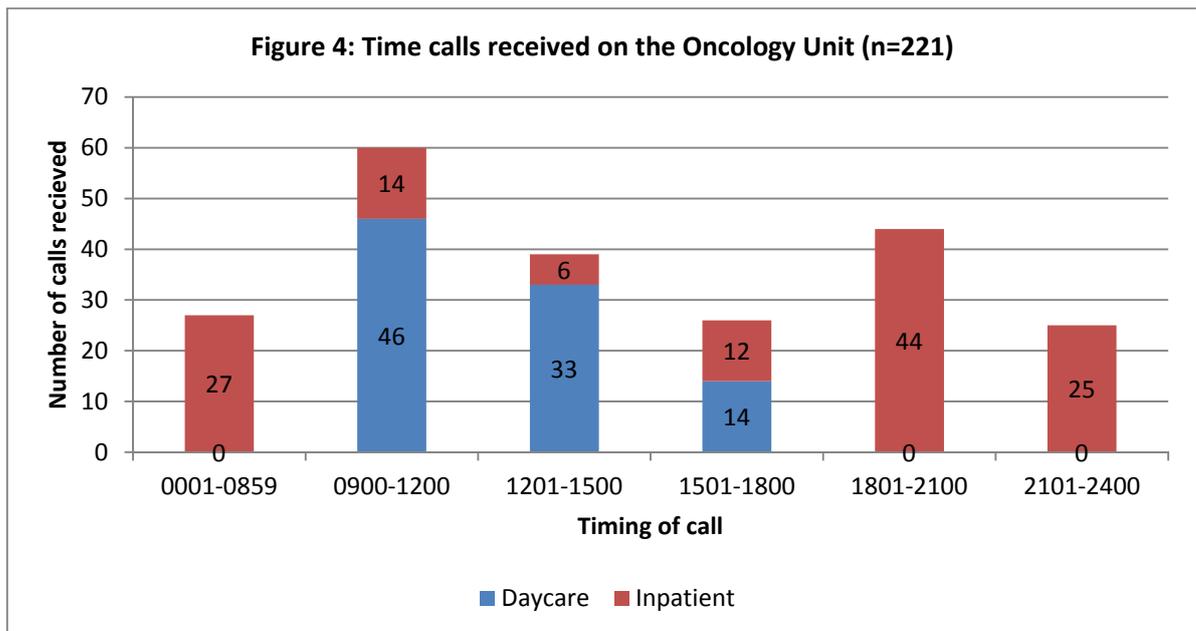
Figure 3: Location of where calls were taken in the Oncology Unit (n=221)



Timing of calls received

Calls were taken throughout the twenty four hour period as can be seen in Figure 4 which shows the timing of telephone triage calls made to the Oncology Unit.

Of the 221 calls, the highest incidence of logged calls occurred between 0900-1800 hours with 125 calls being made and responded to. Of these, the busiest period for receiving calls is between 0900-1200 (n=60) hours with the number of calls diminishing during the day with 39 being taken between 1201-1500hrs and 26 calls taken between 1501-1800hrs. However, in the hours between 1801-2100hrs an increase can be seen in the number of logged calls (n=44) although the number of calls falls back between 2101-2400hrs (n=25). Relatively fewer calls (n=27) are made between the hours of 0001-0859,.



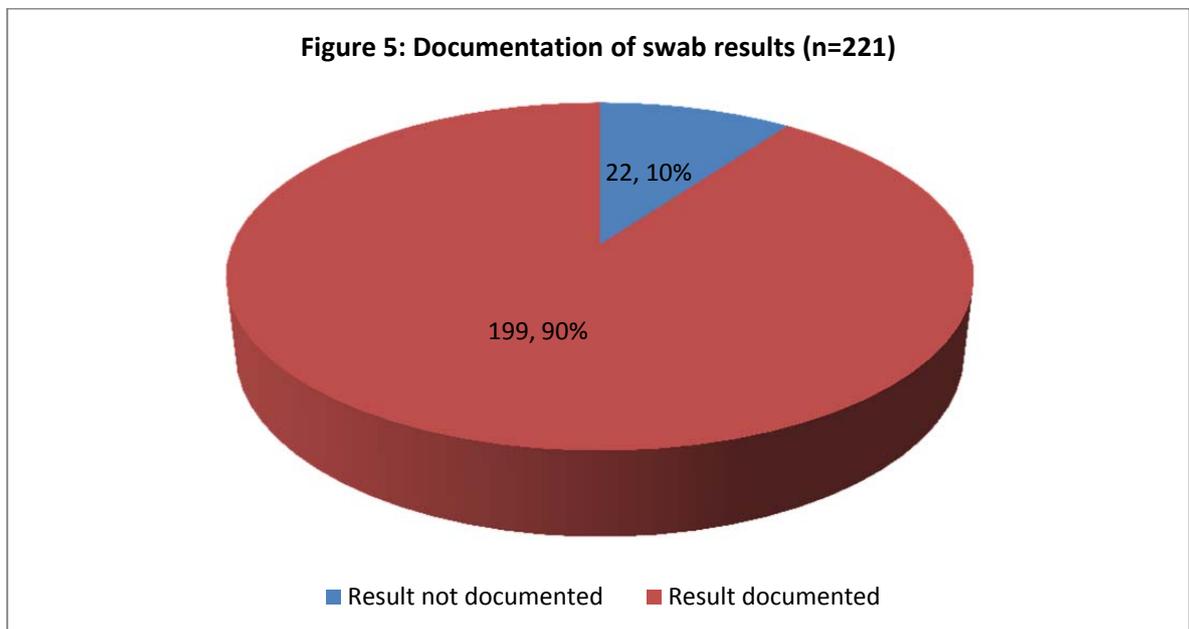
It would appear from the timings of logged calls to the Oncology Unit are mostly taken during the period when the OUD is open, (0900-1700hrs, Monday-Friday), and staffed appropriately for telephone triage advice. However, the fact that the OUD is closed at weekends, bank holidays and does not provide 24 hour cover increases the workload on an already busy inpatient setting (OUI). The OUI is staffed to provide nursing care for 13 inpatients and no provision with staffing is made to deal with the demands of telephone triage. It is clear from the number of calls (n=128) when daycare is closed, that the number of telephone triage advice calls that the inpatient staff are currently dealing with is high.

Documentation of swab results

The protocol states that all proformas should have the results of the child's last swab results documented. However, as can be seen in Figure 5 this was only completed in 22 cases.

Infection is the most important cause of morbidity in children with malignancy and it is the second major cause of death in children with cancer. The increased risk of infection is not only the consequence of underlying disease, but also the result of diagnostic monitoring and therapeutic procedures performed on these children. Only 22 proformas had anything documented in the 'swab results' section, which suggests that the majority of staff had either failed to access the

child's swab results from the computer and/or failed to document this section. There are a variety of factors which contribute to the child's susceptibility of infection but the most important factor is the repeated episodes of neutropenia that follow myelosuppressive chemotherapy. Although 64 phone calls were related to a child having pyrexia, 56 of these had no swab results documented. The eight nurses who were involved in the interviews explained that they did not feel the last swab results were relevant to the parents' queries which they answered. One nurse suggested that "I can't see the point of swab results when the enquiry is about pain or a TTO (to take away) medication" (Nurse 3).



Triage calls and the use of the algorithms

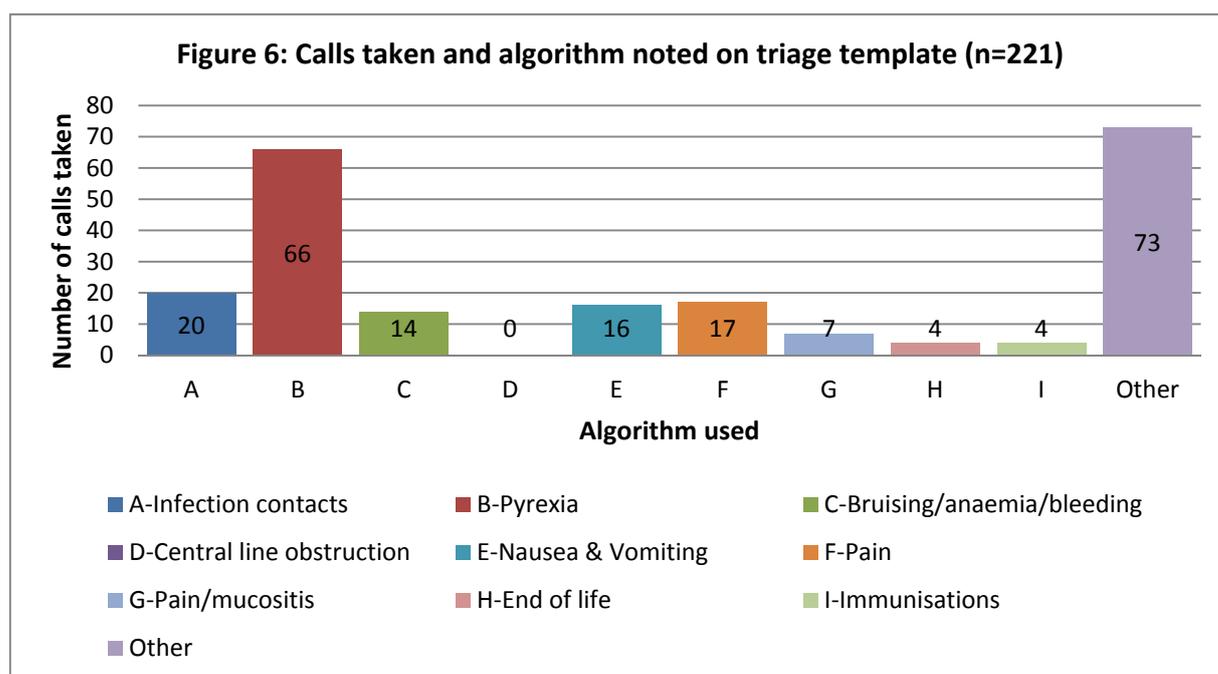
Telephone calls and algorithm assigned

The implemented telephone triage policy involved nine algorithms (A-I) to guide advice depending on the topic of the problem prompting the telephone contact. Of all the 221 calls taken, 170 were what could be described as legitimate triage calls, although, of course, for an anxious family needing information or support any call is legitimate (see later for presentation of calls which could be described as 'not legitimate').

Figure 6 shows the number of calls (n=221) made to the Oncology Unit and which algorithm was used when triaging the phone call. If a parent/guardian rang

more than once in the same day, and the same nurse provided the telephone triage, he/she would continue on the same proforma. This would usually happen if the nurse was using algorithm B (pyrexia), as the advice is to ring back in an hour with the child's temperature. It should also be noted that only one telephone triage algorithm was used per phone call. Therefore if a parent/guardian rang the unit due to their child having a temperature and pain-both symptoms would be documented on one proforma and the nurse would decide to document the call based on the main presenting symptom.

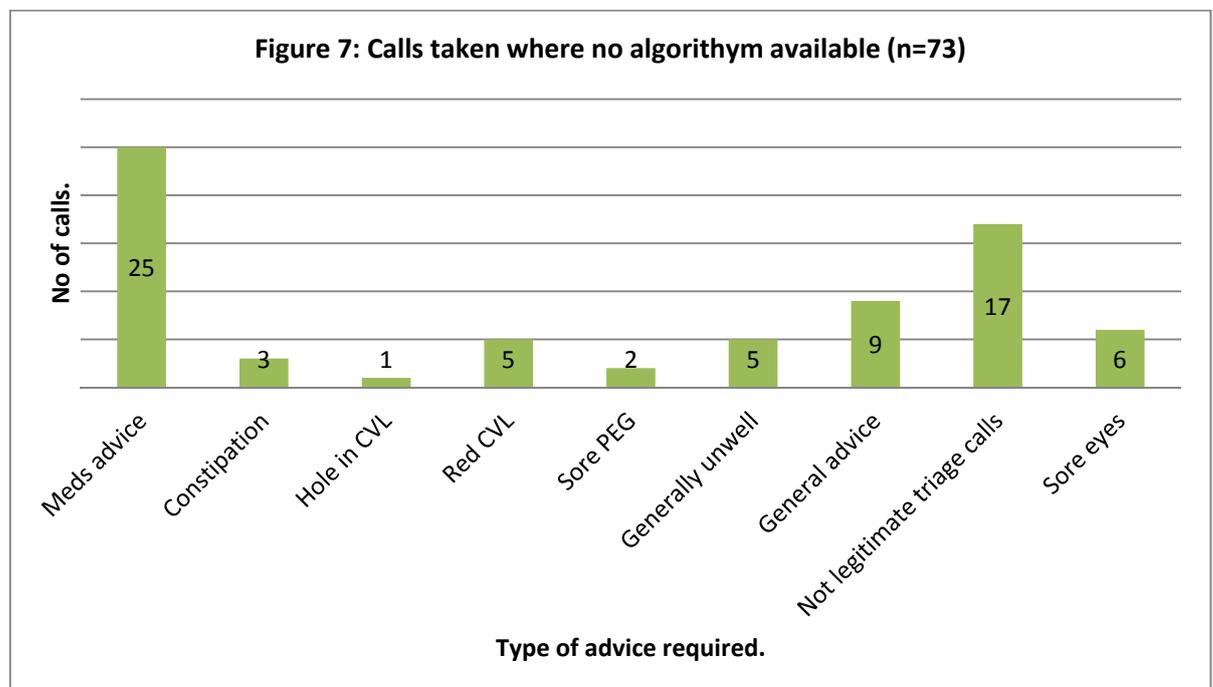
Out of the nine algorithms used, Pyrexia (B) (n = 66) was the most common telephone triage call taken. Four algorithms; Infection Contacts (A, n=20), Pain (F, n=17), Bruising/Anaemia/Bleeding (C, n=14), and Nausea and Vomiting (E, n=17) represented the next most commonly logged calls. The remaining calls documented on pre-existing algorithms were Pain/Mucositis (G, n=7) and End of Life (H, n=4) and Immunisations (I, n=4) represented a total of only 15 calls. Central Line Obstruction (D, n=0), was not used at all. What is surprising is the number of telephone triage calls documented, which could not be managed within any of the existing algorithms; these calls are presented in the 'Other' category (n=73). There were 73 calls categorised as 'other' calls.



Telephone triage calls where no relevant algorithm available

With the high number of calls that did not fit into pre-existing algorithms, it was clearly important to determine what the focus of the calls was about. Figure 7 presents data on the calls that did not fit into one of the pre-existing algorithms (noted as 'Other' in Figure 6) and the type of telephone advice logged.

The highest 'other' telephone advice provided were related to medication advice (n=25). These calls were about 'take home' medication not being provided to families on discharge home, calls regarding missed doses of medication and enquiries about the child refusing to take their medication at home. Seventeen of the documented phone calls (where no algorithm was available) were put in the category 'not legitimate triage call'; these calls related to the booking transport to pick a child up for planned treatment and parents phoning the daycare unit for times of appointments. Also included in these seventeen calls were two calls from parents regarding a broken thermometer. It is unclear why nursing staff completed the telephone triage proformas for these issues.



A cluster of calls (n=6), related to Central Venous Lines (CVL) although these could not be logged on Algorithm D as they did not relate to CVL obstruction. One logged call regarded a hole in a CVL and the remaining calls (n=5) related to a red and inflamed line site. Due to the vast amount of toxic drugs and blood products which are required to be administered safely to a child with cancer, it is common to use a CVL to reduce the repeated cannulation. A CVL is the commonly used long term device and lies in a subcutaneous tunnel exiting from the anterior chest wall; the tip lies at the junction of the superior vena cava and the right of the atrium. Children with cancer have an increased risk of infection associated with prolonged neutropenia (the cytotoxic effect of chemotherapy increases the child's vulnerability to infection because there is a reduction in circulating white cells). Therefore it becomes extremely important to observe the CVL site for redness and inflammation and parents are generally taught how to change the dressing on their child's CVL site and what signs and symptoms to be aware of and to ring the unit if are concerned or are unsure. The number of CVL related calls suggests the need for a further algorithm to address these issues.

In terms of the nine calls classified as general advice, which were made to the unit, these consisted of parents who were ringing for advice with regards to general childhood illnesses such as their child having worms in their faeces, indigestion, an anal tear and a broken finger. Generally after a little guidance and reassurance the parents were documented to be happy with the advice provided.

Five logged calls related to children being generally unwell with illnesses including diarrhoea, dizziness, cough and 'cold-like' symptoms and the child being 'not themselves'. Six calls were logged relating to one child's sore eyes on six different occasions over the data collection period, using six different triage proformas and by six different nurses throughout various shifts. Only three phone calls were made with regards constipation which is a common problem for children undergoing treatment for cancer. Two calls were made about sore PEG (percutaneous endoscopic gastrostomy) sites; in both cases the insertion site was sore but not inflamed or red, therefore parents were advised to administer analgesics and observe the exit site for inflammation and discharge. Gastrostomy feeding tubes (PEG) are becoming more widely used in the

oncology setting to allow adequate nutritional support to the children receiving cancer treatment.

The nurses' perspective on the algorithms

Of the eight nurses interviewed three stated they followed the protocol identified by the relevant algorithm and found the algorithms extremely useful in guiding their practice. When questioned, five of the nurses who participated in the interviews explained that although they had documented their call on the relevant triage sheet, they had not followed the algorithm; this meant that their care could be described as being 'off protocol'. When interviewing Nurse 3 he/she stated that "no, I didn't use an algorithm because I knew what advice to give without looking at the algorithm." Two nurses stated that they had not followed the relevant algorithm because they knew what advice to give without referring to the protocol. However, on further exploration one of the nurses provided different advice compared to what she/he should have done had he/she followed the relevant algorithm. The other three nurses who had not used an algorithm explained this by there not being an appropriate algorithm for the advice requested which was children being 'generally unwell' and 'diarrhoea'. One of these nurses accessed the patient's notes as the child was an 'end of life' patient and felt they would be more informative as the telephone triage call was out of hours and did not feel that the appropriate algorithm gave the individualised care required at this time.

One of the questions asked to all nurses was what their experiences of using the algorithms were and if they found them useful and easy to use. Three of the nurses stated that they did not find the algorithms very useful at all; the other five nurses believed that the algorithms were very influential to their practice. Nurse 2 commented that the algorithms were "very, very influential to my practice and very easy for me to use, self-explanatory." One nurse suggested that the algorithms would be extremely useful to junior members of staff and thought they were easy to use and self-explanatory, although they did not use them themselves as they had been "qualified a number of years and had a wealth of experience in a number of areas of children's nursing" (Nurse 2).

None of the nurses on the Oncology Unit has had formal telephone triage training, and, at the time of the research, only one of the nurses participating in the interviews held the BSc (Hons) in Nursing Children and Young People with Cancer. Therefore the knowledge the nurses discussed as having been gained through experience and practice from senior members of staff, and not through a formal education programme.

One nurse in particular discussed how his/her own experience allowed her to deviate from giving the advice proposed by the algorithm which meant she allowed a child with a pyrexia to remain at home whereas had he/she been following the algorithm the parents should have brought the child to the unit. The same parents rang the night after with the same problem and were advised by a more senior member of nursing staff to attend the unit. This resulted in the parents becoming confused by inconsistent advice. The purpose of the algorithms was to ensure consistent advice was provided, but it appears that some nurses deviated from this advice due to assumed superior knowledge. The nurse who did not follow the relevant algorithm defended her/his action by stating they were aware that the patient in question was not neutropaenic and therefore believed they did not need to attend the unit. The nurse explained their actions by stating that their knowledge of the side effects of chemotherapy allowed them to make a decision outside the algorithm. Only two of the nurses interviewed stated that the algorithms influenced the advice they gave. One nurse explained that the telephone triage call she/he took regarded a patient who was on an end of life plan and therefore the patient's notes were accessed instead of referring to the algorithm to provide the relevant advice.

In two cases nurses suggested parents were a factor which influenced the advice they gave and more individualised care was required rather than following a generic algorithm. One nurse received a telephone triage call from parents of a newly diagnosed child who were naturally very anxious and unsure of what they needed to do. As the parents were in a high state of anxiety and the nurse could not see the child to assess their condition, the nurse felt it necessary to advise the parents to bring the child to the unit so they could assess the child's condition. One nurse discussed the difficulty in relying on information provided by parents over the phone when the actual condition of the child was difficult to

assess: this increased the uncertainty of which action the nurse should carry out. This nurse was in charge of the busy oncology unit whilst taking the telephone triage call and she admitted finding it challenging to listen to parents in the middle of the busy ward. Due to the busy nature of the ward the nurse did not follow an algorithm as she/he did not have the chance to find the correct one to complete and therefore she/he used their own knowledge.

Who performed telephone triage, support available and training

As previously described the telephone triage calls were logged in both day care and inpatient units. Day care is a nurse led area, and is led by the Advanced Nurse Practitioners (ANP), the inpatient unit is a multi-disciplinary unit. It was therefore thought to be of interest to identify who was performing telephone triage. During the hours that day care is open, there is always an ANP present and therefore they are likely to perform telephone triage.

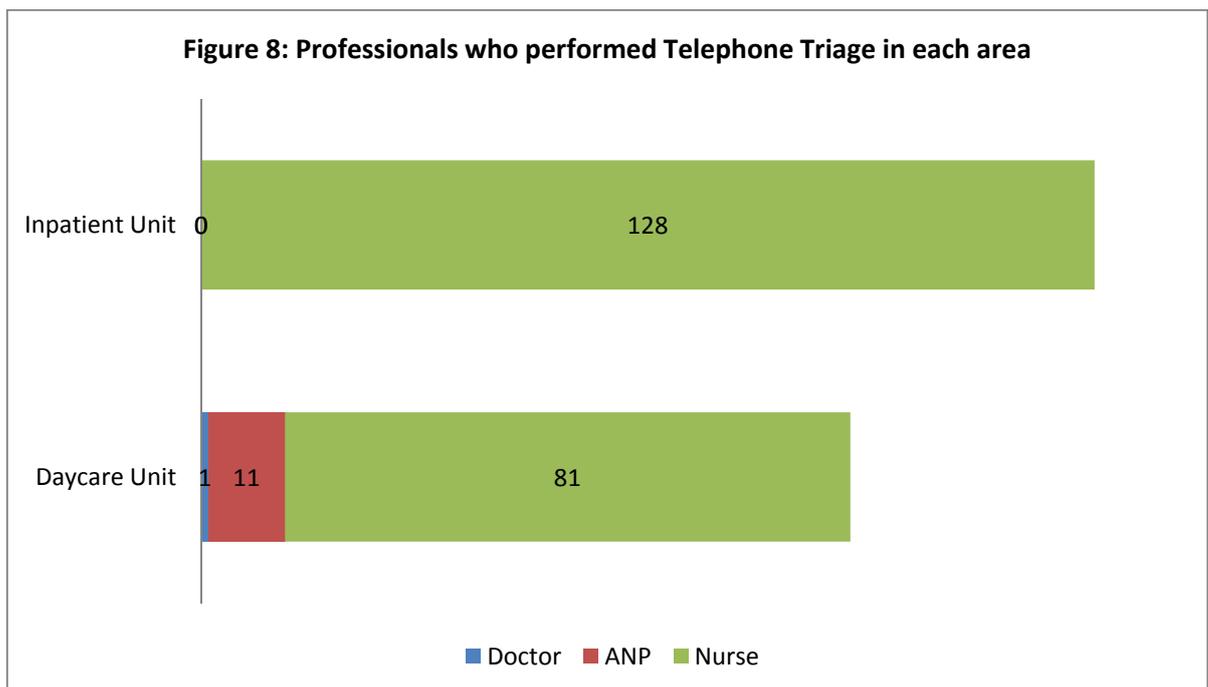


Figure 8 shows that only eleven of the phone calls taken in the day care area (OUD) were taken by an ANP, one call was documented by a doctor and the remaining calls were taken by nurses working on the unit. Within the inpatient area, as the majority of calls are made to this area outside normal working hours and weekends; all telephone triage calls were answered by nursing staff. In the

OULD there is constant support from ANPs whereas the OUI (inpatient area) does not have the same level of support, especially outside normal working hours.

During the interviews the nurses were questioned about if they felt they had enough knowledge and support for telephone triage. Out of the eight nurses interviewed, the majority (n=7) believed they had enough knowledge due to the length of experience they had working within the oncology unit. In addition to their experience, one nurse also drew on a degree level qualification in a related area. One nurse, when asked what qualified him/her, they perhaps a little facetiously, said that she/he relied on their “very in depth knowledge base and always questions why” (Nurse 4). All eight nurses stated they had had no formal telephone triage training and had picked up their knowledge over the years from more experienced staff. Nurse 6 suggested she/he did not feel she/he had enough knowledge but went on to say that “you never stop building on knowledge do you” (Nurse 6) and explained that she/he was therefore constantly learning new skills and improving on old ones.

The nurses were asked if they felt further training was required to support their professional development with regards to telephone triage and out of the eight nurses interviewed five were happy to continue with practice the way it is and felt no further training is required. One nurse explained that her/his ‘telephone tone’ is enough to support her/his professional development however, one nurse felt that staffing levels do affect the advice you give to parents. She/he explained that when the ward is busy, it is hard to always listen appropriately to the phone call and you can feel pressured to return to the inpatient’s bedside. The same nurse did not feel that the unit is staffed appropriately for telephone triage at all times. Three staff suggested the need for further training in the form of an E-Learning course into the importance of telephone triage and how to provide it effectively.

Satisfaction with the telephone triage documentation

When asked how the nurses felt with regards documenting on the telephone consultation notes proforma, three liked the proforma, found it easy to use and suggested that there was plenty of space for nursing staff to document what they want to say although they found it very repetitive with having to document

information on Meditech as well. Two of the nurses felt happy to document on the proforma as they believed it acted as evidence if the advice the nurse provided was brought into question. One nurse stated that by documenting the call on Meditech, meant that the complete MDT could access the information if and when required.

Overall, all eight of the staff were “happy” with the telephone triage sheets although they felt some improvements were needed to be made with regards the pain algorithm. Two staff felt the pain algorithm was extremely confusing and not easy to follow. Both nurses suggested that they would like to see which analgesics they should suggest to parents/carers actually written in the algorithm as they felt unsure as to what analgesics to advice parents to give their child.

Some areas for improvement were suggested. Nurse 3 suggested that all members of the MDT should be documenting on the proforma although at present, it is only nursing staff that are using them. Nurse 4 wanted a teaching session on each algorithm to help clarify what advice is given.

Themes from the interviews

The interviews generated some interesting data and some of this has already been presented as part of the first section of the findings. However, in the following section, the three themes - assessing the child over the telephone; promoting safe and legal nursing actions; and documenting of the telephone triage call - identified within the interviews are presented.

Assessing the child over the telephone

Nursing staff who were interviewed discussed the reasons for finding the assessment of a child over the telephone difficult. The principal concern related to the quality of information that they had available to base decisions upon. They reported feeling that were gaining second hand information rather than direct information based on them assessing the child themselves. Nurse 1 stated that:

“I prefer to observe and take the child’s temperature myself, not that I don’t trust the parent, it’s just that I’d rather do it myself”.

An advantage for nurses working with families on the Oncology Unit is the familiarity that they have with the families. The nurses talked of being very aware of which families they felt they could rely on to give you accurate information upon which they could base their decision making on and which families they felt required prompting in order to gain the required information upon which to conduct a full assessment of the child over the telephone. Nurse 4 reflected the feelings of the nurses when he/she suggested that:

“the advice you give these families is only as good as the information you receive”.

The nurses described that to undertake effective telephone triage they needed to have time to sit at the telephone so as to take a full history of the child’s problem and make every piece of information given to them count towards an accurate assessment. When this was not possible, the nurses felt under pressure and this resulted in them making the decision to bring the child into hospital even when – according to the protocol – this was not necessarily the advised outcome.

Promoting safe and legal nursing actions

What became clear to the researcher was that nurses were not really aware of the legal implications of providing telephone triage to parents and carers. One nurse within the study was shocked to realise that they were legally bound by their code of conduct when they provided the telephone triage over the telephone. Nurse 6 summed this up when they explained that he/she believed that telephone triage is:

“...just an ad hoc/unplanned phone call in the middle of a shift, didn’t realise I was accountable for it”.

As the nurses became aware of their accountability, their attitudes towards telephone triage changed and some became more reluctant to be involved. This had unanticipated consequences. Nurse 3 explained that:

“I’m not trained in telephone triage, so I’ll just bring them all in from now on”.

While Nurse 3 was perhaps maintaining his/her own safety, they were not following the protocol and the rationale for its implementation - to save children having to come to the hospital – was being overridden.

Three nurses interviewed believed the busy ward environment was not the safest place to provide telephone triage. There was concern about how the limitations of the technology impacted on safety. The nurses described the phone lines as being “rubbish”, and this especially the case for calls coming in via mobile telephones. Safety was felt to be compromised by the fact that calls could not be heard clearly. As Nurse 1 noted:

“you are not always provided with clear information and the ward environment can be very noisy, especially fellow staff”.

The problems with safety increased uncertainty and again impacted on the service. Nurse 2 was not prepared to lose her/his registration because of telephone triage, therefore said “it’s safer to bring the child in”. This sense of insecurity was evident in other interviews. Nurse 1, who was aware of his/her legal accountability towards telephone triage, felt “vulnerable” providing advice over the phone as he/she felt that he/she could give the wrong advice depending on what information the parents gave them, especially out of hours when no support was available.

Finally, an interesting point that was raised was that a lot of the children rarely attend Oncology inpatients as their treatment is all done in daycare. This increased the difficulty for staff to provide safe telephone triage advice as they did not know the family. Therefore, as Nurse 3 explained he/she tended to “err on the side of caution” and bring the child into hospital.

Documenting the telephone triage call

Although 221 telephone triage proformas were completed, they were not all documented on the hospital computer system-Meditech. Often this was due to either When there were competing demands and priorities or time constraints. Nurse 2 provides one of the reasons for this when he/she said:

“[documenting on Meditech was] “not a priority. As soon as I hung up the telephone, I went back to my inpatients”.

Nurse 4 discussed the reason for not documenting the phone call as he/she:

“just didn’t get time to document the call at the time, but I intended on going back to do it later”.

When the researcher asked if he/she had actually returned to document the advice on the Meditech system, the answer was simply “no”.

The protocol states that the telephone triage call should be documented at the time the call. When this does not happen, the nurses rarely have time to return to a job of documentation. This perhaps – partially, at least – explains why some documentation was incomplete.

Conclusion

Overall, the results provide evidence about telephone triage on the two units; some of the results are surprising. Firstly, the number of calls made out of hours to an already busy Oncology Inpatient Unit is surprising as it was expected that Oncology Daycare would attend to the majority of telephone triage calls. Secondly, although the parents may have been asked to bring their child to unit for review, it was surprising how few of children were actually admitted to the unit. Despite the nine algorithms being used there is room for improvement. New algorithms need to be devised to cover the variety of ‘other’ telephone triage calls made to the oncology unit. All nurses interviewed felt the algorithms were helpful although not specifically always directly helpful to them. All of the algorithms were seen to need to be improved. Finally, all of the nurses stated that would like to receive formal telephone triage training even though they felt that their existing experience and knowledge was sufficient to allow them to be competent in telephone triage.

Chapter 5: Discussion

From the findings, it is clear that there a number of the nursing issues faced by the nurses in this study have resonance with the findings from studies previously presented in the literature review. The findings from this study are presented and discussed in the context of the reviewed literature. which need further discussion. The nurses interviewed within this research and the nurses whose voices appear within the research literature all suggest the same problems within the field of telephone triage. The results chapter presented the data under the core headings triggered by the sections of the TCN.

In the discussion the findings have been pulled together to form core areas that allow the discussion of the use of telephone triage protocols. The following discussion focuses on four key areas related to telephone triage protocols, linking the findings from this study with the wider literature. The four key areas are presented in overview below and also in Figure 5.1

1. Telephone triage protocols as a means of managing remote communication
 - Being able to have 24/7 contact
 - Challenges to effective communication
 - Assessing what cannot be seen
 - The benefits and challenges of using protocols
 - Support structures required for telephone triage
2. Telephone triage protocols as a means of promoting safe and legal nursing actions
3. Telephone triage protocols as a means of ensuring best evidence-based practice
4. Telephone triage protocols as a means of documenting comprehensive assessment



Figure 9: Overview of potential benefits of telephone triage protocols

Although telephone triage is an important and growing component of current Oncology practice and it is important that patients receive timely and appropriate responses to their calls (Towie 2009). Many situations arise in oncology care that requires patient assessment over the telephone. At present, according to Towie (2009), there are no consistent national guidelines in place to support practitioners in helpline patient management. The findings of this study present some insight into the ways in which these protocols can be beneficial whilst contextualising their use in both the study setting and the other settings reported in the literature.

Telephone triage protocols as a means of managing remote communication

Being able to have 24/7 contact

It is important to recognise that telephone advice lines play an important role in enhancing self-management and supporting individuals with cancers. Advice lines also play a pivotal role in accessing prompt advice and support when attempts to self-manage fail or urgent guidance is required.

A child and their family who have received a new diagnosis of a form of cancer are advised on their first admission that the children's oncology unit (PTC) is open 24 hours a day, seven days a week. Further they are told that if they need advice or guidance at any time of the day or night, they should ring the PTC so that the nursing staff can provide support, reassurance and find the answers they require. Likewise, if the child is under the care of a POSCU, the parents are advised to ring the PTC and who would then liaise with the POSCU and advise them of the need to assess the child. The service provided by the PTC in this study conforms to the National Cancer Peer Review Programme, Manual for Cancer Services (2008) that states that telephone advice should be available 24 hours a day, seven days a week to patients and carers having or having had, or awaiting, treatment for cancer. This study demonstrated data supporting the need for a 24 hour telephone triage service both in terms of number of calls and the timing of the calls. Of the 221 calls to the Oncology unit, 160 children were actually admitted. The busiest period of calls was between 0900-1200hrs (n=60), which was followed by the number of calls diminishing during the day with 39 being taken between 1201-1500hrs and 26 calls between the hours of 1501-1800hrs. Between the hours of 1801-2100hrs there was an increase of logged calls (n=44) but falls back between 2100-2400hrs (n=25). Within the 24 hours, 0001-0859 actually accounted for 27 of the total number of logged calls.

Out of the nine algorithms used in this research, pyrexia (n=65) was the most common telephone triage call taken. Pyrexia neutropenia remains a major cause of morbidity in children with cancer (Hann et al 1997). The cytotoxic effect of chemotherapy increases the child's vulnerability to infection because there is a reduction in circulating white cells and this usually happens within the first 14 days post chemotherapy treatment. Reigle and Dienger (2003) suggest this impairment to the defence of the host's results in an increase both in the incidence and in the severity of infection.

There is strong evidence indicating that chemotherapy patients value 24 hour access to health care professionals (Oakley et al 2010) and an appropriate tool should facilitate the consistent safe delivery of advice by using a risk assessment tool based on internationally recognised assessment criteria and a defined process to provide safe outcomes of care.

The UKONS Central West Chemotherapy Nurses group has succeeded in developing, testing and producing a tool that if used correctly will standardise and support excellent practice. The tool kit has been successfully used to assess adult patients who contacted 24 hour help lines in 25 hospital trusts across the United Kingdom. There were no reports of adverse events or clinical incidents linked to the tool reported during the pilot period or since. The pilot has shown that there is an overwhelming need for patients to contact health care professionals within the first two weeks following chemotherapy. Through effective management of calls the pilot has proved that with training and education; these patients were adequately assessed and treated accordingly. The NCAG (2009) states that “each patient must be provided with a card containing key information about their treatment and contact details”. At the present moment, this is a recommendation for practice within the researcher’s place of work.

Challenges to effective communication

However, despite the evidence that telephone triage is an important component of supportive and ongoing care and communication with parents, Newton (2006) notes that the telephone does limit communication significantly. Chapman (2001) notes that 55% of the majority of communication is actually based on non-verbal cues, such as facial expression, hand gestures and eye contact. The way in which words are spoken, such as tone of voice and pitch, account for 38% which means that only the remaining 7% of what is understood is taken from the actual words that are spoken (Chapman 2001). Therefore, when a nurse provides telephone triage, effective communication is actually challenged. The nurse undertaking telephone triage loses much of the message and in the case of children’s oncology the nurse rarely communicates directly with the child but gains proxy information via the parent and this may mean that communication is further compromised. Communication has always been at the heart of health care and telephone triage services are now developing this further. Nurses who are providing advice over the phone need to be aware of the pitfalls and the limitations of this form of communication (RCN 2006). Consideration of the entire situation, rather than symptoms alone, yields the most appropriate triage decision

(Edwards 1994 and Nauright et al 1999). The key to telephone triage is the skilful art of hearing, what is said, as well as what is not said (Black 2007).

Assessing what cannot be seen

During this research, it became obvious that nursing staff on the Oncology Unit found it difficult to assess the child mainly because all communication was remote. The nurses could not directly see the child and had to rely on parental explanation and description of signs and symptoms. Healthcare professionals are trained in the art of observation, drawing data from their patients as they walk, talk and move them, and from appearance and feel of their uncovered bodies. The elimination of these traditional sources of information and common sense as he/she attempts to apply the theories of communication and the experience gained in clinical work to problems presented through speech and non-speech sounds while trying to practise safely-both for patients sake and to defence of his/her medico-legal position (Males 2007). The nonverbal components of communication are highly important aspects of nursing practice. Nursing staff rely both explicitly and implicitly on what is communicated nonverbally and what they are seeing during a patient assessment, from the use of nonverbal therapeutic touch, attention and silence to observe and scrutinise physical features in order to assess a patient's condition and emotional state. Pettinari and Jessop (2001) suggest that by conducting telephone triage changes this situation. Within their study, nurses anticipated that the lack of visual cues would be a significant challenge and according to one nurse, potentially the "biggest difference in triaging patients"(p 670). Although Pettinari and Jessop's (2001) research is discussing NHS Direct, the conclusion discusses that the environment of telephone triage is one in which activities, such as more detailed questioning can enhance effects on both caller and nurse.

The nursing staff talked about the differences between unit-based and telephone-based assessments. On the unit, the child and families were visible to them and the nursing staff could personally and directly obtain essential information such as temperature, blood pressure alongside their visual assessment to competently assess their patient. Another important aspect, that the nurses felt important was access to the patient's medical notes and past trends alongside present

treatment being received and any past discussions with the child's oncologist. The nursing staff made a valid point when they said they felt like they received second hand information from the parents and only had the family readings of the child's temperature and descriptions of rashes to go by. The nurses in the study found themselves advising the parents to bring the child to the unit just so they could obtain their own temperatures and their own assessment of the child. There are a number of circumstances when telephone advice alone cannot safely resolve the problem. These include difficulties in interpretation of the presenting signs and symptoms, such as a skin rash. This could potentially result in a child who was well being admitted to the Oncology Unit unnecessarily instead of remaining in their own home if the nurse had have been more confident with their ability to provide telephone triage.

Many of the nurses interviewed in this study found that the inability to see the patient did affect the telephone triage outcome in unexpected ways. One of the nurses involved with this research discussed the difficulty on relying on information provided by parents/guardians over the telephone when the actual condition of the child was difficult to assess. This increased the uncertainty of which action the nurse should carry out and felt pressured from his/her inpatient patients to return to their care. Therefore, a busy paediatric oncology inpatient ward is not the best environment to carry out a telephone triage consultation with an anxious parent/guardian.

Research has shown that nurses manage to develop interaction skills in order to compensate for lack of visual cues, but also that skills have grown out of professional backgrounds and experience has developed in an ad hoc way. The nurses interviewed believed it made an assessment of the patient very difficult, and this is supported by findings from previous work within this field by Pettinari and Jessop (2001) although one nurse within Pettinari and Jessop's study suggested that not being able to see the patient stopped her from making a speedy judgement based on visualisation alone. A number of other nurses within their study suggested they found themselves displaying the seriousness of advice through using their voice quality as an instrument, and they transposed the ward experience of comforting a patient to the telephone environment.

Both the child at home and the child in hospital require the nurses to work by drawing upon their own clinical skills and their professional judgement. Most triage calls to the Oncology Unit were between the nurse and the parent (rarely directly involving the child) and nurses found that this added to the challenge of accurately assessing the severity of the situation. The encounter by telephone is faceless, because the nurse cannot see the caller and can make decisions based only on the information the caller chooses to reveal (Coleman 1997). The nurse, in this situation, must be able to extract the information needed to make a clinical decision, but according to Wheeler (2000) these assessments are often made in a crisis situation, and nurses must rely on the parent/guardian for information that may be inaccurate or incomplete. Coleman (1997) argues for streamlined, simplified documentation of triage calls to optimise nurse caller understanding and reduce the risk of legal action against nurses. However, as Rutenberg (2000) argues the judgement of the experienced, specially trained nurse who is on the phone with the patient should supersede written protocol (Rutenberg 2000).

The benefits and challenges of using protocols

Throughout the literature, it appears that emergency department nursing staff have been instrumental in the development of sophisticated telephone triage and advice programs (Rutenberg 2000). However, as suggested by Rutenberg's (2000) research she has called into question the validity of protocol use within telephone triage.

All of the triage calls in this study were taken by staff experienced in children's oncology care. Anastasia (2002) indicates that there is a specific need for oncology patients receiving treatment to have a 24 hour telephone enquiry service manned by trained staff. Such a service ensures that appropriate and consistent advice is offered and also allows for the early recognition of potential emergencies and side effects of treatment. The assessment and advice given to a potentially ill patient is crucial in providing the best possible outcome. Patient safety is an essential part of quality care; each and every situation should be managed appropriately (Anastacia 2002)

Wachter et al (1999) and Salk et al (1998), both carried out separate research studies, looking at protocol based decision making by telephone. Within both studies, Wachter and Salk used nurses who were reported to have had prior telephone triage experience although neither study made any reference to a specialised telephone triage course. Wachter et al's (1999) research indicated that the nurses within the study performed inconsistently on simulated telephone triage calls using protocols. Salk et al's (1998) concluded that the researchers actually found poor agreement between decisions made by nurses who benefited from face to face triage and those who were totally dependent on the telephone encounter. Both Wachter et al (1999) and Salk et al (1998) found that protocols did not significantly improve consistency in decision making. Within both studies, nurses deviated from the protocols and both pieces of research concluded that the use of protocols did not lead to standardisation among the nurses. As mentioned in the results chapter of this thesis, nursing staff interviewed also felt the need to deviate from the provided algorithm as they felt they were too 'confusing' and 'complicated'.

Nurses in paediatric oncology are often the resource at the other end of the phone line (Black 2007). Nurses can find themselves dealing with complex and sometimes critical patient issues over the telephone with parents of children with cancer. Uncertainty about the most appropriate advice and directions to give to parents, as well as concerns regarding the accountability and potential liability for the advice given, contributes to work-related stress and concerns about best practice in an already stressful work experience. One nurse within phase two of this research, actually suggested that the Oncology unit inpatient ward is not appropriately staffed to provide telephone triage, stating that "I do not always listen fully" to the parents/guardians when they provide telephone triage as they are under pressure to return to the busy ward and provide care to the inpatients. As this research has shown, it is unlikely that all telephone triage calls will fit neatly into a predesigned algorithm, therefore emphasis should be placed on seeking experienced nurses who are adequately trained for the challenges of telephone triage (Wilson and Hubert 2002). Triage over the telephone involves decision making under conditions of uncertainty and with limited sensory input. A well designed and well understood protocol is only a tool to guide decision making, according to Rutenberg (2000), telephone triage protocols are not "forms

of artificial intelligence” (p 77) and should never replace the experience of the nurse.

Support structures required for telephone triage

Telephone advice lines should be seen as an important service, integral to supporting and educating the caller through a problem solving process as part of the advice given. However, telephone advice services do have limitations which need careful consideration.

There appears to be an assumption that assessment skills used in face to face patient assessments are directly transferable to the telephone. A study by Purc-Stephenson and Thrasher (2010) does not support this view at all. They believe that specific training in telephone triage, assessment and decision making skills are essential. If in the triage practitioners clinical judgement the guidance is not appropriate to the individual situation, the rationale for that decision should be documented (NCAG 2009).

The oncology service that was the focus of this research study evolved with no formal infrastructure and like other telephone triage systems it was reliant on the parents'/carers' recall and description of signs and symptoms. These features caused the nurses involved in this study the most difficulty as they usually relied on face-to-face, hands-on assessments as this is what they are taught throughout their training. Without formal and continuing training and support in undertaking remote assessment the nurses are likely to continue to rely on face-to-face assessment and will remain uncertain about providing telephone advice. None of the nurses in this study discussed having received any formal telephone triage training although the benefits of formal training have been clearly presented in the literature (Pettinari and Jessop 2001, Rutenberg 2000 and Black 2007). If the Oncology Unit devised a robust framework for triage assessment, action and audit, the result could lead to improved quality and safety in patient care. Lephoron and Patal (1995) and Edwards (1994), to date, are the only authors throughout the literature reviewed that suggest the telephone triage experience for patients would be enhanced by a formalised education training programme in this role.

Telephone triage services must provide adequate facilities and time to ensure that the environment is conducive to exploring the patient's specific problems. Key information should be given clearly and a mutual agreement of the outcomes and decisions relate to the telephone interview should be confirmed by both the nurse and the caller. There may be restrictions to the level of information that can be provided over the phone if the nurse does not have access to the patient records at the time of the call. Occasionally there will be patients/carers who have complex needs and wish either to call the advice line frequently or, when they call, require a large amount of time to outline their problems. This can present a significant challenge for the nurse, particularly on a busy unit when the telephone is constantly ringing with callers trying to get through as was the case in this study. Such circumstances can be stressful for both caller and nurse as seen in this and other studies (Wahlberg et al 2003). A nurse needs to make sure they promote empowerment and not reliance as well as reviewing the telephone interview style nurses use and seek advice in structuring the telephone consultation. This requires managing the initial query in an empathetic way, listening to caller's problems/needs, collecting relevant clinical information to guide decision-making, refining the issues. Reiterating decisions made with the caller, drawing the call to a close with an agreed outline of actions reiterated clearly to the caller.

Telephone triage protocols as a means of promoting safe and legal nursing actions

There are a number of professional and legal issues for practitioners to consider when providing any form of health care support, and these principles remain as relevant when providing telephone triage advice. These principles include documentation, confidentiality, risk management, statutory training, professional codes of conduct (NMC 2008), complaints and governance procedures (Dimond 2006). Nurses providing telephone triage should adhere to governance and legal issues and keep clear documentation and records. Keeping accurate and up to date documentation is an essential part of a nurse's role. Documentation is essential for legal purposes, to demonstrate clarity of decision-making, advice provided and plan for follow up (where appropriate). The information recorded may also be vital to ensure high quality care and reduce risks related to poor

communication, either a specialised team or by other practitioners involved in the callers' care. There are three ways of helping to protect nurses undertaking telephone triage from legal liability and these are the use of protocols, the documentation of calls, and quality assurance and audit checks (Egleston et al 1994). Within this research study, two of these measures were in place; the protocols had been developed to guide practice and there was a requirement for the calls to be documented although as has been presented in the findings there were times when protocols were not adhered to and documentation was poor. There was less overt emphasis on final two elements of quality assurance and audit checks that Egleston et al (1994) suggest as important factors. However, this research study did pick up these elements and provided ongoing feedback to the clinical setting about issues which should be attended to (such as the problems with non-adherence to protocols).

Holmstrom and Hoglund (2007) conducted a qualitative piece of research looking at describing the ethical dilemmas which telephone triage nurses experienced in Sweden during their work. Twelve female telephone triage nurses were interviewed and the researchers concluded that there were a number of ethical dilemmas being faced on a daily basis by the nurses. Questions of autonomy, integrity and prioritizing were all highlighted by the nurses who were interviewed and these are central ethical values in all types of care. Similar issues were faced by the nurses in this study. The encounter by telephone is faceless because the nurse cannot see the caller and can make decisions based only on the information the caller chooses to reveal (Coleman 1997). Malloy (1998) points out the ethical conflict arising for the nurse when a standardised protocol advises one course of action but her/his experience, knowledge and intuition tell her that something else would be more appropriate. Holmstrom and Hoglund's (2007) study supports Malloy (1998) and they suggest that the lack of resources and the organisation of health care seem to hinder the nurses from acting in the best interests of the caller.

It is clear from the interviews carried out in this study that the nurses interviewed did not always provide consistent advice despite the nine algorithms being available. The main reason for this was that the nurses felt that their seniority on the Unit and the number of years of being qualified gave them sufficient

knowledge and skill to provide the appropriate telephone triage to the anxious parents/guardians. None of these nurses questioned whether their education, training and knowledge fully prepared them for telephone triage and the fact that is an extended part of their nursing role. Interestingly this stance was somewhat at odds with the uncertainty they expressed about some of the triage situations they had experienced. According to Dimond (2006) training for staff who are running advice lines should be given in addition to key clinical skills in practitioners' specialist field of practice. Health professionals and patient-led organisations should ensure that they are appropriately trained to provide telephone advice including the use of non-visual communication skills. These skills should enable the telephone triage nurse to acquire relevant clinical and general information, providing prompts when necessary to encourage the caller, and give clear, succinct and empathetic responses (Pettinari and Jessop 2001). Nurses should also have access to clinical supervision to ensure that they are adequately supported and can cope with the stresses related to telephone consultations (Severinsson and Kamaker 1999). Telephone interview skills can improve clinician performance, confidence and ultimately patient satisfaction (Payne et al 2002 and Car et al 2004).

Protocols are designed to safeguard nurses and patients and they should be based on best available evidence (Black 2007) and are therefore viewed in the NHS as policy and their use is mandatory. They are developed to set out the standard of care and if there is a protocol for a patient's condition, it is expected that the protocol should be followed. However, nurses who provide telephone triage are accountable for the care they provide and are autonomous (Black 2007). This autonomy means using independent judgement for each call and overriding the protocol when assessment of the entire situation warrants it (Coleman, 1997 and Simonsen-Anderson 2002), a view which is also supported by Rutenberg (2000).

As with any new development in practice, practitioners should ensure that their employer is fully aware and informed about the newly devised telephone triage service and the employer should endorse the service and work undertaken. This occurred in the service that is the focus of this study. Black (2007) further advises that the role and competencies of the practitioner providing the advice line

service must be outlined in the individual's job description although this did not occur in the study site.

Telephone triage protocols as a means of ensuring best practice and consistent advice

Evidence-based practice can help ensure that consistent and best advice is provided to parents. In this study, this did not always occur. A senior staff nurse within this research believed her experience allowed her to deviate from giving the advice proposed by the designated algorithm which meant she allowed a child with a pyrexia to remain at home whereas had he/she been following the algorithm, the parents should have brought the child to the unit for assessment and a full blood count. The same family rang the next night with same problem of pyrexia, the nurse who took the call was less senior and followed the appropriate algorithm and therefore the child attended the unit for assessment. On arrival the parents were confused as to why they had had conflicting advice

Although research studies such as Rutenberg (2000) have shed light on the role of protocols in telephone triage, they are fraught with the potential for misinterpretation. Protocols are not intended to supersede nursing judgement, but when they are properly designed and in the hands of well trained and experienced nurses, protocols can serve as effective tools that provide a blueprint guide to clinical decision making.

Telephone triage is an emerging speciality that requires specialised education and training" (Rutenberg 2000, p 76) Rutenberg goes on to suggest that although a nurse may be an expert in her/his chosen field of nursing, this does not give her/him the adequate skills to provide adequate telephone triage and therefore overlooks the specialised skills held by the nurse who is expert in telephone triage. Advice given over the telephone and close collaboration with community services using the protocols should ensure consistent advice is given and the number of patients requiring emergency administration may be reduced. Telephone triage enriches the oncology nurse to have a positive impact on the standards of care (UKONS)

However, although most of the literature on telephone triage advocates the use of protocols the evidence to support this is still fairly patchy. Many authors

advocate the use of problem specific protocols to standardise telephone triage within the accident and emergency and oncology settings (Stacey and Fawcett 1997, Chobanuk et al 1999, Dale et al 1998 and Black 2007). Authors such as Pursley-Crotteau and Bentley (1998) suggest that although improvement in the quality of care is in fact a goal of protocol use, along with the reduction of a legal risk (Black 2007), it is not evident that quality of care is best achieved through widespread use of these protocols. Using a standardised telephone triage protocol as a tool to assist nurses in best practice care can have its place (Black 2007). VanDinter (2000) suggests having a process in place as well as carefully selecting the staff involved can help ensure optimal patient care and avoid anecdotal speculations and recommendations, which may not be the best care for the patient. Despite Crouch and Dale (1998) providing the most pro-protocol literature, they do also point out that “little or no” (pg 163) evidence has been presented with regards to the evaluation of such protocols and their actual effect on clinical decision making within nursing

From the findings of this study and from the literature reviewed, it appears that further empirical study needs to be undertaken in regard to the comparative effectiveness of protocol driven models of telephone triage verses models that promote and rely on the heuristic reasoning skills and independent decision making of individual nurses who provide telephone triage. It is interesting to note that questions about consistency of advice and the nature of nurse decision making arise in relation to NHS Direct which was launched in 1998 with the overall aim of reducing unnecessary demands on the health services (Department of Health 1997). Pettinari and Jessop (2001) argue that uncertainty remains about the nature of nurse decision making during telephone triage, and for this reason, Thaker (2000) and Shamash (2000), argue that NHS Direct was started without adequate evaluation.

The main surprise of this thesis was how many telephone triage calls were actually taken by nursing staff on OUI compared to OUD. OUD opening hours within the children’s oncology unit are nine to five, Monday to Friday except bank holidays when they are closed. A 127 phone calls were received by an already busy OUI outside of OUD opening hours. Therefore, there is a need to question whether the children’s oncology unit needs to have a seven day a week OUD. It

would appear that promoting best practice in terms of a 24 hour telephone triage service is at the cost of best practice on the OUI. Weekend staffing is always at a minimum despite the fact the unit still provides care for planned day cases (blood transfusions/chemotherapy) and unplanned attendees (CVL flushes and line dressings), as well as emergency admissions, all of which take inpatient nurses away from their patients who are sick. Fifty three percent of calls were taken by OUI and forty three percent of calls were taken by OUD during the period of data collection.

Telephone triage protocols as a means of documenting comprehensive assessment

Patients who develop significant complications following chemotherapy need expert assessment and hospitalisation. Early assessment and interventions are likely to reduce the need for and the duration of hospitalisation (NCAG 2009-National Chemotherapy Advisory Group). The service that was the focus of the study had developed core protocols to guide comprehensive assessment and documentation. However, it became clear from this study that some of the telephone enquiries fell outside of the pre-existing protocols. Seventy six percent (n=170) of phone calls received taken during the data collection period did not fit in to an existing algorithm and six of these calls were about a serious side effects of chemotherapy. Sadly, there are too many side effects of the various chemotherapies to be able to write an algorithm for everyone but for a future recommendation to practice maybe we could amalgamate them into a new algorithm.

Just as there are limitations and risks with providing telephone triage in general, there are also limitations when implementing standardised protocols in an attempt to decrease the risk (Black 2007). Blind, mindless following of a protocol will not protect the nurse or the employer from liability (LaPierre 2006). As the author's research has demonstrated, in practice, the patient does not always fit neatly into the algorithm available and this makes assessment and documentation more challenging. When nurses within this research were confronted with a telephone triage call that had no algorithm, they simply used their own experience, no matter how experienced they were. In total there were

23 logged telephone calls which had no algorithm to guide the nurses, and these included holes in CVL's, red CVL's and constipation, some of these calls had very little documentation and in a couple of cases, none. The researcher acknowledges the facts that even the most knowledgeable and compliant nurse cannot follow or complete an algorithm that does not exist, but there is no excuse for poor documentation.

A wider problem of poor documentation was identified where aspects of the assessment were not completed and/or documented. The telephone triage consultation log sheets in the researcher's research clearly showed that the nursing staff involved in the research did not see the importance of documenting the patient's latest swab results. This lack of documentation is important as children with cancer are particularly prone to develop abnormal carriage of potentially pathogenic micro-organisms (PPM) including gram negative bacilli, which is among the most common cause of infection and sepsis in the patient with neutropenia (e.g., Klebsiella and Pseudomonas). When challenged, they advised it was due to work load constraints and the need to return to their patients. Lack of documentation makes it more difficult for the next nurse who comes along and answers a telephone triage call from the same parent about the same problem on the next shift and they are unable to access the previous nurse's advice.

Limitations

As with any study, this study has limitations. Some of these are related to the researcher's inexperience, others relate to issues such as sample size and data collection issues. These are now discussed in more detail.

The researcher was a novice researcher; therefore this could be seen to be one of the main limitations of this piece of research. The researcher had not previously carried out or been involved in any piece of research prior to this study and therefore was developing skills in all aspects of research whilst carrying out the study. For this reason, the completed research is possibly not as strong as if it had been carried out by a more experienced researcher.

The limitations of this study include the fact that a very small sample of nursing staff was interviewed due to the work commitments and time constraints on the researcher, as well as it being the researcher's first attempt at research. Some eligible nurses did not want to be interviewed on their days off as it would mean less family time at home and therefore the interviews had to tie in with when the researcher was available and the nurses in question were on duty. This therefore limited the number of interviews which were carried out. The interviews were kept brief because of the research schedule and the workload on the unit at the time. More expansive and detailed interviews could have produced more robust data. Although the researcher found interviewing friends fairly difficult, she feels that, due to the existing relationship with her, the nurses engaged in the interviews in an open and honest way..

Since the data were only generated within in a single centre, the results may not be typical of other centres and care should be taken in generalising the findings. To expand the research further, it would also be beneficial to conduct the research across the POSCU's and therefore gain the views of the nursing staff who deal with children receiving treatment for a diagnosis of cancer but who do not deal with these children and side effects on a daily basis. The researcher hopes this would highlight a complimentary set of data and any educational issues that the POSCU staff deal with and hopefully highlight the potential need for an educational program to be initiated within these centres.

Another limitation is that the researcher only focused on nurses' perceptions and if this study was expanded upon, the researcher would like to involve the parents and carers of the children and young people receiving treatment for a cancer diagnosis. The researcher would like to determine from parents if the telephone triage advice they received helped them to resolve their child's problem/issue. Involving parents and carers would allow the researcher to understand whether the parents and carers were satisfied with the advice provided over the telephone or if they would have preferred an alternative outcome to their problem/issue, for example, a face-to-face nurse assessment on the Oncology Unit. The limitation of the current is that it only provides information from a professional perspective. In a future study the aim would be to call all parents back within 24 hours and discuss with them if the initial reason for telephoning the unit had resolved and if

they were happy with the care provided and if not to liaise with them to find a solution to the problem.

The researcher feels it would also have been beneficial to have interviewed a wider range of health professionals on the Oncology Unit who also provided telephone triage, and to especially focus on the Advanced Nurse Practitioners (ANP's). Selectively focusing on interviewing the ANP's, may allow a more diverse set of results and therefore provided the researcher with a more interesting scope for development and hopefully change the way telephone triage is provided within the Oncology Unit.

The study would have benefited from being conducted over a longer period allowing a more comprehensive view of triage to be developed, for example, a full year of triage data would allow for seasonal fluctuations, if any, to be identified. Despite the numerous limitations with this research, there are also a few strengths. Following an in-depth literature review surrounding the subject of telephone triage and children with cancer, this piece of research appears to be the first study of its kind and despite the researcher being a novice researcher, she is an expert in the clinical area and therefore confidently undertakes telephone triage on a daily basis and completely understands the system in practice.

During the period of completion of this research, the designated Oncology Unit has introduced a new unit manager, therefore the researcher would like to discuss her findings with the manager and discuss the recommendations that have been made based on the results of the study. The discussion will hopefully lead to the introduction of these recommendations and, over time, the Oncology Unit will improve their way of providing telephone triage to parents and careers of children and young people with a diagnosis of cancer. The researcher aims to cascade the main findings of this study to all members of staff on the Oncology Unit and it is hoped that this will lead to an improved understanding and outcomes with regards the change management when the recommendations are implemented.

Due to the limited available research within the field of telephone triage within children's oncology, dissemination will also occur outside of the clinical unit. The

researcher plans to submit an abstract to the Paediatric Oncology Nurses Forum conference, with the aim of presenting a poster presentation. In addition, the researcher will offer to undertake a teaching session to relevant professionals in other Oncology Units and/or in local Higher Educational Institutes with the aim of ensuring that other Oncology Centres benefit from the research that has been carried out so far. It has also been decided that a paper for publication will be written on the back of this research for a relevant nursing journal to ensure a wider audience of nurses can gain valuable knowledge of telephone triage within children's Oncology.

Implications for practice and future research

The Oncology Unit at the centre of this study is split between two areas: Daycare and Inpatients and it was expected that daycare would carry out the majority of telephone triage, but this research has actually identified unexpected findings about when the calls are received and therefore will lead to changes in practice.

The following points identify the key implications for practice and a suggested direction for future research

- Nurse-led telephone triage in paediatric oncology is a service which parents use and which provides a means of screening children in terms of whether they should attend hospital or can remain at home. This may reduce unnecessary visits and admissions to the ward
- In this setting telephone triage created additional workload to staff within the OUI and this needs to be addressed to ensure that nurses are in an environment and context where they can provide best practice via telephone triage whilst not reducing the care and attention to the inpatient children.
- It is likely that even experienced oncology nurses would benefit from structured telephone triage training to ensure that advice is consistent, appropriate and that they have the skills they need to undertake remote assessment.
- Future research studies should consider evaluating parents as well as triage nurses experiences of telephone triage as well as undertaking reviews of the quality of information provided and the accuracy of assessments undertaken.

Dissemination

Dissemination is an important element of every study. The following key areas are central to the way the findings will be disseminated:

1. **Local dissemination:** During the period of completion of this research, the designated Oncology Unit has introduced a new unit manager, therefore the researcher would like to discuss her findings with the manager and discuss the recommendations that have been made based on the results of the study. The discussion will hopefully lead to the introduction of these recommendations and, over time, the Oncology Unit will improve their way of providing telephone triage to parents and careers of children and young people with a diagnosis of cancer. The researcher aims to cascade the main findings of this study to all members of staff on the Oncology Unit and it is hoped that this will lead to an improved understanding and outcomes with regards the change management when the recommendations are implemented.
2. **Dissemination external to the Study Unit:** Due to the limited available research within the field of telephone triage within children's oncology, dissemination will also occur outside of the clinical unit. The researcher plans to:
 - a. submit an abstract to the Paediatric Oncology Nurses Forum conference, with the aim of presenting a poster presentation.
 - b. undertake teaching session(s) to relevant professionals in other Oncology Units and/or in local Higher Educational Institutes with the aim of ensuring that other Oncology Centres benefit from the research that has been carried out so far.
 - c. submit a paper for publication to a relevant nursing journal (e.g., Journal of Clinical Nursing) to ensure a wider audience of nurses can gain valuable knowledge of telephone triage within children's Oncology.

Conclusion

Telephone triage is a relatively new development, particularly within children's oncology care and whilst it provides parents with 24 hour access to advice and

support it also creates challenges. Remote, hands-off assessment is not easy and whilst protocols can guide practice and support the practitioner to make clinical decisions it is clear that nurses in this study did not always adhere to the protocol. In some instances the deviation from the protocol may be appropriate although the nurse needs to comprehensively document why this deviation has occurred. The study highlighted that nurses rely on their ward-based, face-to-face knowledge and skills and that this is not always readily transferable to telephone triage. Nurses expressed both levels of confidence and levels of uncertainty about their role in telephone triage. There is some evidence from the literature that the use of protocols safeguards patients and nurses and promotes consistency of advice.

Chapter 6: Conclusion and recommendations for practice

The aim of this research thesis has been to focus on the use of telephone triage within a children's oncology setting, specifically looking at the introduction of a new telephone triage policy which was implemented due to the new National Cancer Peer Review Programme, Manual for Cancer Services (2008), which states that telephone triage advice should be available 24 hours a day, seven days a week to patients and carers having or having had, or awaiting, treatment for cancer.

Chapter 1 provided an overview of the research and the reason why this thesis was being completed and the importance within children's oncology nursing. Chapter 2 examined the current literature and research, paying particular attention to telephone triage within children's oncology nursing. The research in this field was very limited, therefore the researcher had to extend to the search to include the adult sector and the Accident and Emergency setting where telephone triage appears to be setting a precedent. Chapter 3 discussed how the researcher carried out the study using a two phase exploratory mixed methods design, with the main focus being on the qualitative data generated in the second phase of the research. The results obtained from the study (chapter 4) demonstrated some interesting findings. Nine algorithms were implemented and the interviews with the nurses demonstrated that all algorithms had areas for improvement, with the need for new ones to be developed so as to more comprehensively cover the wide range of side effects of chemotherapy. Also, although the nurses interviewed suggested they felt their existing experience and knowledge was sufficient to provide telephone triage, they stated they would actually like to receive formal telephone triage training. Chapter 5 discussed the main themes which came out of the research in conjunction with the available literature. Examining the benefits and challenges of protocols and guidelines and how they can support safe nursing practice when used correctly. Effective communication was shown to be essential when assessing a patient over the telephone. Finally, chapter 6 provided the overall conclusion for this thesis by drawing on all the key aspects of the literature and recommending any recommendations for change within practice.

Telephone triage within an oncology setting, has been implemented primarily as an efficiency measure, as a direct response to expressed patient need within the adult sector (Wilson and Hubert 2002). As the demand increased for the patients experiencing the side effects of cancer treatments to be able to access telephone support, telephone triage by nursing staff was incorporated into the existing practice setting as an added nursing function. The difference that the researcher has noted between the adult and child sector is that within the field of adult nursing, some oncology units rotate oncology nurses through an on call area to receive daytime calls (Stacey and Fawcett 1997) and used designated management personnel out of hours (Chobanuk et al 1999)

According to Edwards (1994), nurses in general approach telephone triage conservatively and are marked by a tendency to err on the side of caution. Although the literature does suggest there are differing opinions as the best type of resource to support telephone triage, Simonsen-Anderson (2002) acknowledges that the nurses who provide telephone triage benefit from user-friendly and easily accessible resources, which provide a basis for consistency and decrease ambiguity (Rutenberg 2000). The nurses providing the telephone triage within this study did not provide consistent advice and this is an area which needs addressing in clinical practice. Protocols are developed on the best available evidence (Black 2007) and many therefore become part of the policy which underpins practice in the NHS. In many cases their use is mandatory, as is seen with the nine newly devised algorithms on the oncology unit involved within this research. These algorithms were developed to set out the standard of care for telephone triage and the expectation by managers within the Oncology Unit is that the protocol will be followed.

As discussed in the chapter 4, not all nurses will be effective at performing telephone triage. Nurses seem to either enjoy working with patients over the phone or they do not like it at all (Newton 2006). For telephone triage to be successful, it requires a nurse to have excellent communication skills. They must not only possess good clinical expertise but a nurse also needs to be able to listen carefully to the patient, decide what needs to be done and communicate this decision in a language appropriate to the patient. "Not only are nurses limited in their ability to thoroughly assess a patient by not being able to see the caller,

communication is inhibited by the lack of non verbal cues” (Woods 2010 pg 9). There is a need for nurses who do provide telephone triage to have clinical experience and expertise relevant to the needs of the anticipated patient needs (Newton 2006, Lephoron and Patal 1995, Edwards 1994), Children who have completed a course of chemotherapy treatment or who have become neutropenic as a side effect of their disease process may be put at risk if allowed to sit and wait in an accident and emergency unit. Early telephone triage with an experienced nurse, who has the added advantage of knowing the child may preempt these complications and therefore the child receives the medical treatment they require quicker.

The current evidence and data from this study suggests that nurses are uniquely situated, through education and experience, to provide holistic, patient-centred care via telephone triage. Newton (2010) advises all nurses who perform telephone triage nursing duties to not rush to answer but instead perform consistent, thorough nursing assessments for every patient call. Nurse led initiatives that are designed to improve the quality of care are more likely to succeed if they are underpinned with appropriate educational input (Hooker and Milburn 2008). One hundred percent of nurses questioned in this research study stated that they were happy with the level of training with regards telephone triage although no nurse has received a formal telephone triage qualification. Throughout the research there are a number of references to nurses requiring telephone triage training but relevant training courses are not outlined, therefore, a recommendation for practice within the oncology unit would be for all nurses who provide telephone triage to attend an accredited telephone triage course and complete competencies on completion of the course. A regular audit of how staff and parents/guardians feel with regards telephone triage should be undertaken, so amendments and improvements can be made when required.

The literature search and results from this study highlight that the decision making process in the field of telephone triage is complex, and involves a range of factors that can either facilitate or create barriers to adequately addressing family’s needs. Accurate and complete documentation is needed to ensure regulatory standards are met and that any guidelines or protocols are used appropriately. Results from chapter 4 indicated that staff did not appreciate

having to document the telephone triage conversation multiple times, they found it time consuming and pointless. To overcome this problem, a recommendation for practice would be to devise a computer based programme which facilitates ease of use when providing the telephone triage to the parents/guardians and that stops duplication by allowing the outcome to be printed out and placed in the patient notes.

The results have important implications for ongoing debate services by highlighting what it is like to make triage decisions via the telephone from a nursing perspective. The efficacy of telephone triage requires further empirical study and demonstration in both its qualitative and quantitative aspects. A number of recommendations have been made throughout this conclusion, but there is a need for all patients on diagnosis to receive a laminated card with key information such as diagnosis and treatment protocol along with hospital number and all oncology unit contact numbers which will provide nursing staff with relevant information which will aid the telephone triage process and all information will be to hand for the parent/guardian making the call which will ease their stress. A further recommendation would be a designated telephone number for telephone triage so nursing staff know when that telephone rings, telephone triage will be required which hopefully, will encourage the most appropriate member of the nursing staff to answer the telephone.

Although the researcher has gained a great amount of new and interesting knowledge from completing this thesis, it has been extremely hard work. The main recommendation for practice and one which the researcher will implement in practice is the development of an electronic documentation tool that prompts each nurse to ask the same questions related to the caller's main complaint, obtaining an accurate assessment, and providing consistent standards of care. To be able to do this and not compromise inpatient care, a dedicated experienced triage nurse would be required, especially out of normal working hours when OUI take over the telephone triage calls.

Summary of Recommendations

1. All existing relevant algorithms should be reviewed and improved.
2. New algorithms should be developed to improve comprehensiveness of cover.
3. Consider the environment in which calls are taken. Whenever possible take calls in a quiet area of the ward where there are fewer distractions and it is easier to concentrate on the call.
4. Nurses should stick to the protocol so as to improve the consistency of advice provided and to ensure that advice given is evidence based. Where clinical judgement requires a nurse to go 'off protocol', then the rationale for this should be clearly documented.
5. All nurses who provide telephone triage attend an accredited telephone triage course and complete relevant competencies.
6. Regular audit of how staff and parents/guardians feel with regards telephone triage so that amendments and improvements can be made when required.
7. Devise a computer based programme to facilitate use of the algorithms and documentation when providing the telephone triage to the parents/guardians and which stops the duplication of documentation.
8. All patients on diagnosis should receive a laminated card with key information (e.g. diagnosis, treatment protocol, hospital number, all oncology unit contact numbers). This could reduce parental stress and support nurses taking calls.
9. Consider having a designated telephone number for telephone triage so that nursing staff are aware that calls on this telephone are telephone triage calls.
10. Consider having dedicated experienced triage nurse(s) to take the calls, especially out of normal working hours when OUI take over the telephone triage calls.

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Appendix 1

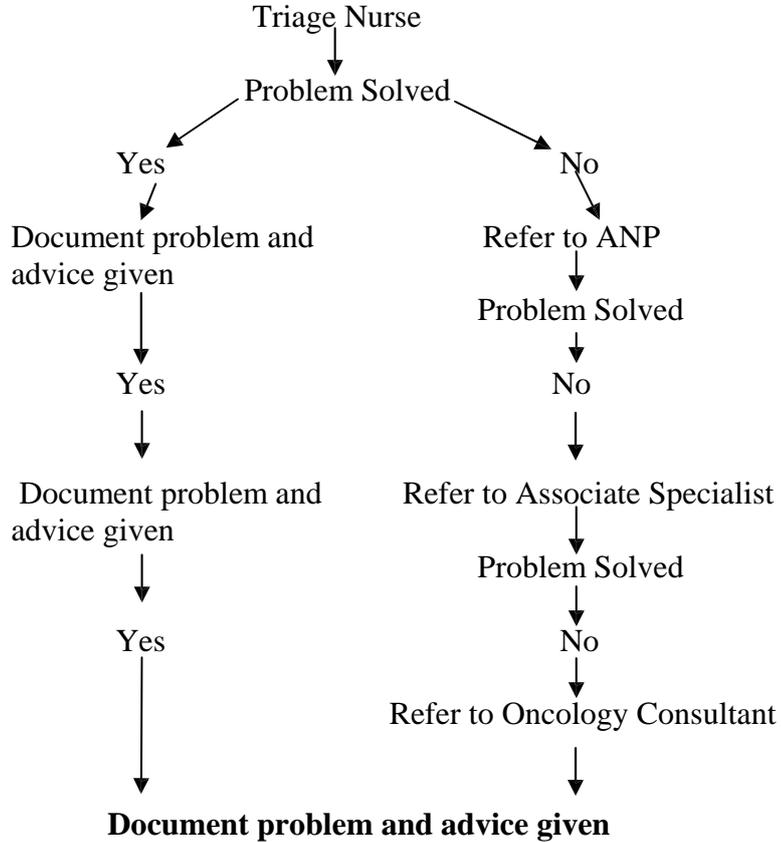
Oncology Unit 24 hour telephone advice service

Document Number	ONC3
Version Number	2
Scope	The Oncology Unit is the Principal Treatment Centre for Childrens Cancers within Merseyside and Cheshire Cancer Network and provides 24 hour telephone advice for patients, families and carer's. In addition professionals within and outside the Trust access the line for specialist information to support patients who are receiving ongoing treatment for cancer, in particular designated shared care centres and community teams who provide care nearer to home. Policy supports National Cancer Peer Review Programme, Manual for Cancer Services (2008) Children's Cancer Measures 7A 137
Prepared By	Oncology Unit Multi Disciplinary Team
Target Audience	Trust professionals Designated Shared Care Centres Patients, families and carers Community Teams GPs MCCN Children and Young Peoples CNG
Other Relevant approved Documents	
Evidence Based/ Legislation	National Cancer Peer Review Programme, Manual for Cancer Services (2008) Children's Cancer Measures NICE Improving Outcomes Guidance Children and Young People with Cancer
NHSLA Risk Management Standards/ CQC Essential Standards	
Consultation on Document	Oncology Unit MDT MCCN Children and Young Peoples CNG
Equality Issues	
Training Implications	Any professional giving advice via the 24 hour helpline will have appropriate agreed minimum skills / knowledge within the specialist area of children and young peoples oncology.
Resource Implications	Ward staffing establishment and 24/7 rota will ensure staff with minimum skills are rostered for every shift. This links with IOG and RCN guidance Decision making / advice given will be documented for each intervention to ensure effective governance / coding for each intervention
Risk/H&S/Quality Implications	
Monitoring and Audit	
Key Words	Telephone advice, triage, oncology
Dissemination	Is there any reason why any part of this document should not be available on the public website? No <input type="checkbox"/>
Approved by	Oncology Unit Multidisciplinary Teams 10 th March 2010
Ratified by	Clinical Governance Committee (Date)
Review Date and by whom	Alder Hey Oncology Unit Multidisciplinary Teams on or before 28 th February 2014.
Date Valid From	Date document is disseminated

Triage Policy
Patient /Carer 24 hours Contact Flow Chart

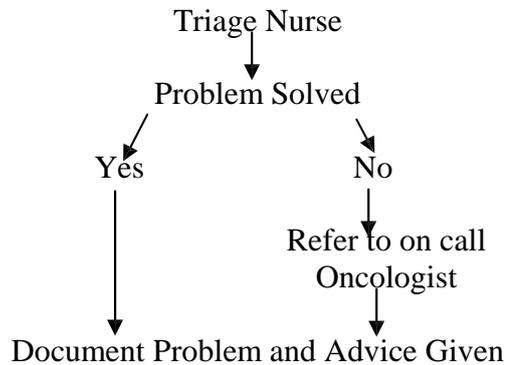
Monday to Friday
 0900 to 1700
Not Bank Holidays

Patient /Carer to contact Daycare 0151 293 3684
 (24/7 helpline number) to speak to



Between 1700-0900+
 All day weekends
 All day Bank Holidays

Patient/Carer to contact 24 / 7 helpline as above or Inpatients;
 0151 252 5212 to speak to;



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1 Introduction

- 1.1 The aim of this policy is to provide underpinning guidance regarding the provision of 24 hour telephone advice to Professionals, Patients, Carers and families. Via the oncology unit at Alder Hey which is the Principal Treatment Centre for Childrens Cancers within Merseyside and Cheshire Cancer Network.

2 Purpose

- 2.1 To ensure professionals, patients, carers and families receive prompt, appropriate information and advice from staff who have the agreed level of specialist skills / knowledge and who are accessible via the Oncology Unit at Alder Hey (Principal Treatment Centre)

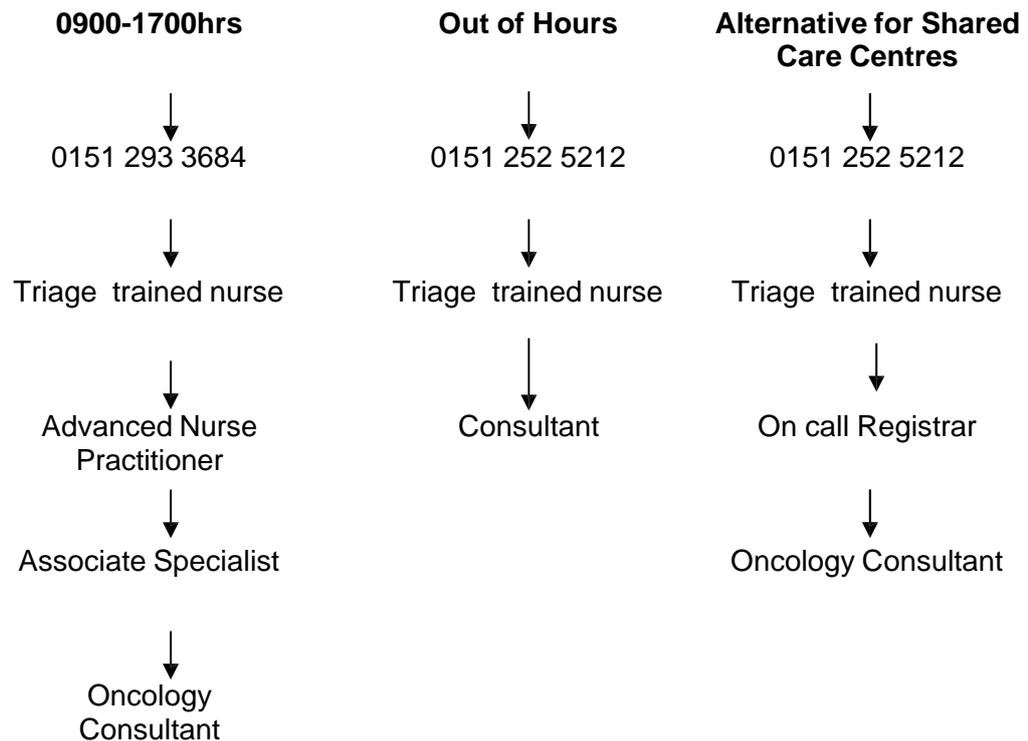
2.2 Policy Statement

Alder Hey Children's NHS Foundation Trust Oncology Unit staff will ensure that information is provided to callers by appropriately trained staff to ensure safe and effective treatment.

3 Definitions

- 3.1 Specialist paediatric oncological advice regarding the management plans of current patients will be available from the Oncology Daycare Unit - Monday – Friday 9am to 5pm and Out of Hours via the Oncology In Patient Unit (after 5pm, weekends and Bank Holidays) Consultant to Consultant discussion for advice is also available 24/7 from on call Consultant.
- 3.2 Oncology Unit staff with minimum specialist oncology skills will triage all patient enquiries via this route and give appropriate advice.
- 3.3 All emergency admissions will be identified and managed via this route
- 3.4 Figure 1 on next page identifies communication pathways for best advice practice

Figure 1



4 Duties

- 4.1 The Trust Board has responsibilities for ensuring a professional advice service is available to patients and families which meets Cancer Services Peer Review guidance
- 4.2 The Chief Executive has overall responsibility for Health and Safety and is Merseyside and Cheshire Executive lead for Childrens Cancer Services and needs to ensure legal and statutory requirements are met and adequate
- 4.3 Clinical Governance Committee has responsibility to ensure safe governance procedures are followed that meet National Statutory guidance
- 4.4 The Divisional Director for medicine has Trust responsibility as Cancer Manager to ensure services are compliant with Cancer Services Peer Review measures
- 4.5.1 Oncology unit manager is responsible in ensuring safe and effective implementation of the policy locally and that all staff have access to appropriate training opportunities to meet national guidance and are aware of their own limitations regarding information giving

- 4.6 Telephone Triage staff have responsibility to ensure they have accurate up to date knowledge on oncological specific clinical issues or refer to a senior with those skills. Staff also have the responsibility to maintain accurate contemporaneous documentation regarding all advice given
- 4.7 Chief Executive, Divisional Manger and Oncology Manager have responsibility to ensure staffing establishment / skills meet national guidance from the Royal College of Nursing (RCN) and Cancer Services Peer review measures

5 Training

- 5.1 All staff offering advice on the 24 hour telephone advice line will have appropriate agreed underpinning specialist oncological skills / knowledge
- 5.2 Nurses will have achieved full external training as identified in the Manual for Cancer Services (2008) or full internal training plus a minimum of 2 years oncology experience within the principal treatment centre.
- 5.3 Medical staff will have completed the trust and unit induction processes covering the areas detailed in 5.4, and will only give advice appropriate to their level of training. All grades below consultant oncologist will be encouraged (as part of the induction process) to seek assistance from either triage trained nurses, or more senior doctors on the unit if there is any doubt as to the advice given.
- 5.4 All staff will have sufficient specialist oncology clinical knowledge / skill to advise on the following:-
- Pyrexia/ Neutropenia
 - Sepsis
 - Nausea/ vomiting
 - Diarrhoea
 - Mucositis
 - Rash
 - Central line Care
 - Chemotherapy
 - Immunisations
 - Schooling
 - Socialising
 - Infection Contacts
 - Miscellaneous (tanning / tattoos etc)

6 Consultation, Approval and Ratification Process

- 6.1 Policy agreed and ratified by Alder Hey Principal Treatment Centre for Children and Young Peoples Cancers through the MDT process
- 6.2 Approved by Merseyside and Cheshire Cancer Network (MCCN) Children's and Young Peoples Cancer Network Group (CNG) on 16th March 2010
- 6.3 Ratified by Alder Hey Children's NHS Foundation Trust Clinical Governance Committee on 10th May 2010.

7 Equality and Diversity

- 7.1 The Trust is committed to an environment that promotes equality and embraces diversity both within our workforce and in service delivery. This policy should be implemented with due regard to this commitment.

8 Review and Revision Arrangements

- 8.1 This policy will be reviewed by the Oncology Unit Multi Disciplinary Team on or before 28th February 2013.

9 Dissemination and Implementation

- 9.1 Dissemination and implementation will be through local and shared care processes as identified by clinical agreements with the oncology unit at Alder Hey Children's NHS Foundation Trust and designated shared care centres / community teams / families

10 Monitoring Compliance with the Effectiveness of Procedural Documents

- 10.1 Unit manager is responsible to ensure audit of effectiveness through Telephone triage documentation audit, patient experience of the service and review of any reported incidents related to telephone advice.

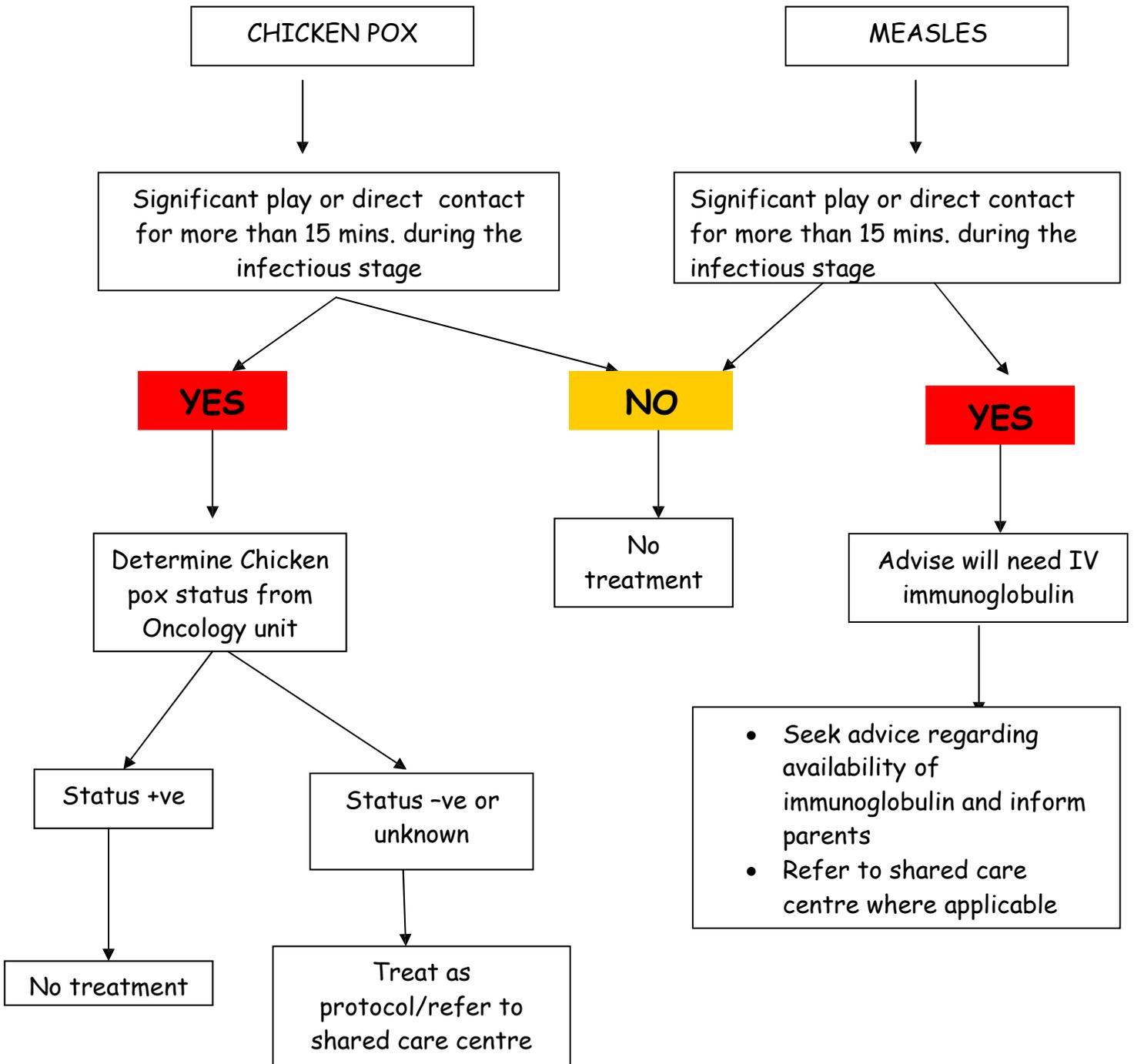
11 References

NICE Improving Outcomes Guidance, Manual for Cancer Services

12 Associated Documentation

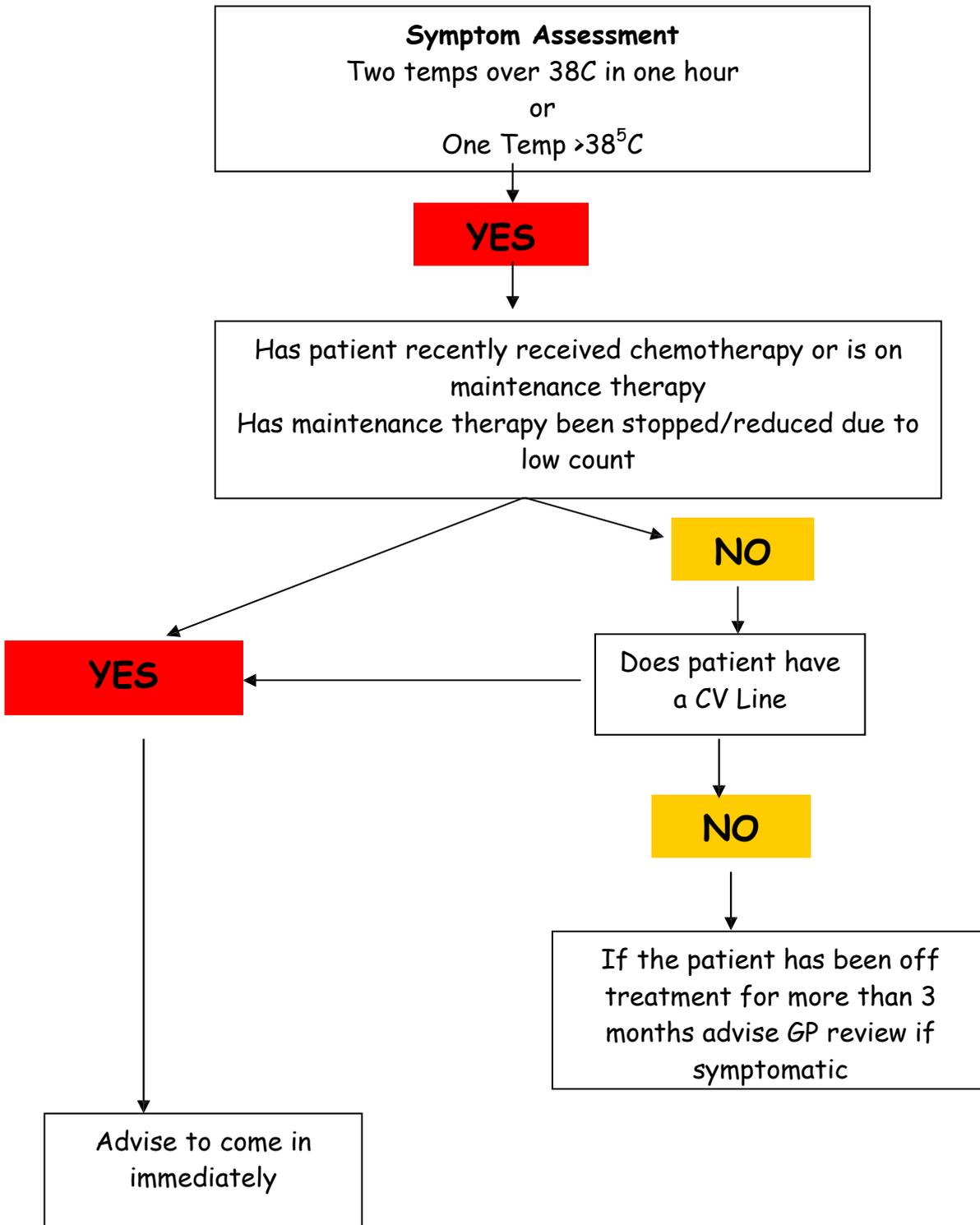
- 12.1 [Hyperlink to IOG MCCN Peer Review RCN](#)

INFECTION CONTACTS



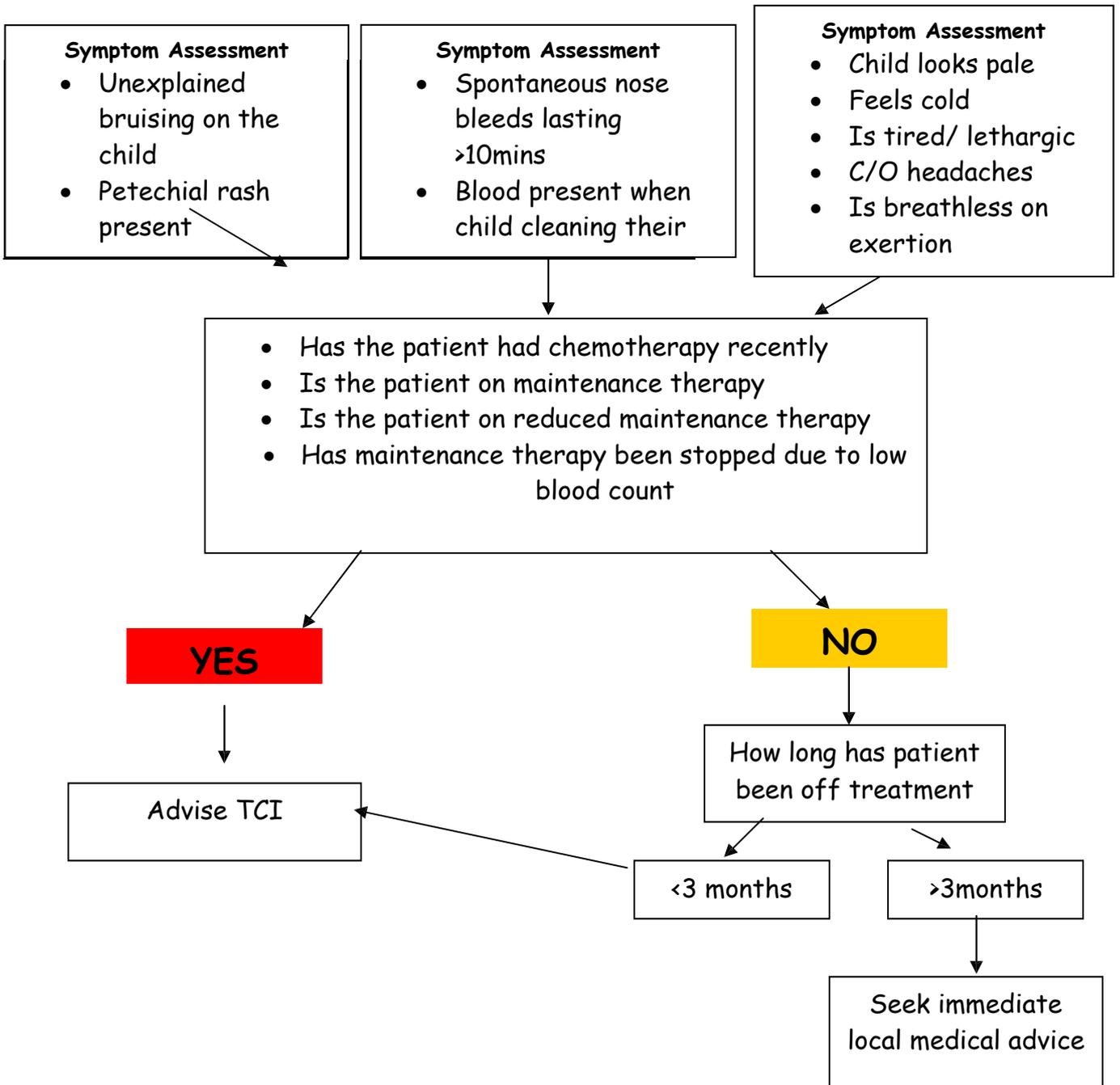
DOCUMENT ALL INFORMATION GIVEN VIA PHONE

PYREXIA



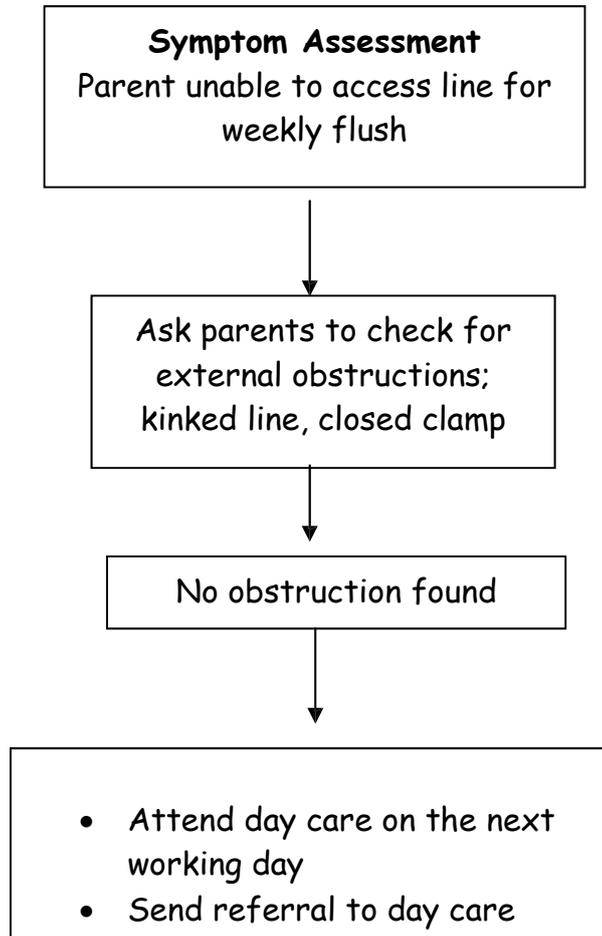
DOCUMENT ALL INFORMATION GIVEN VIA PHONE

BRUISING / BLEEDING / ANAEMIA



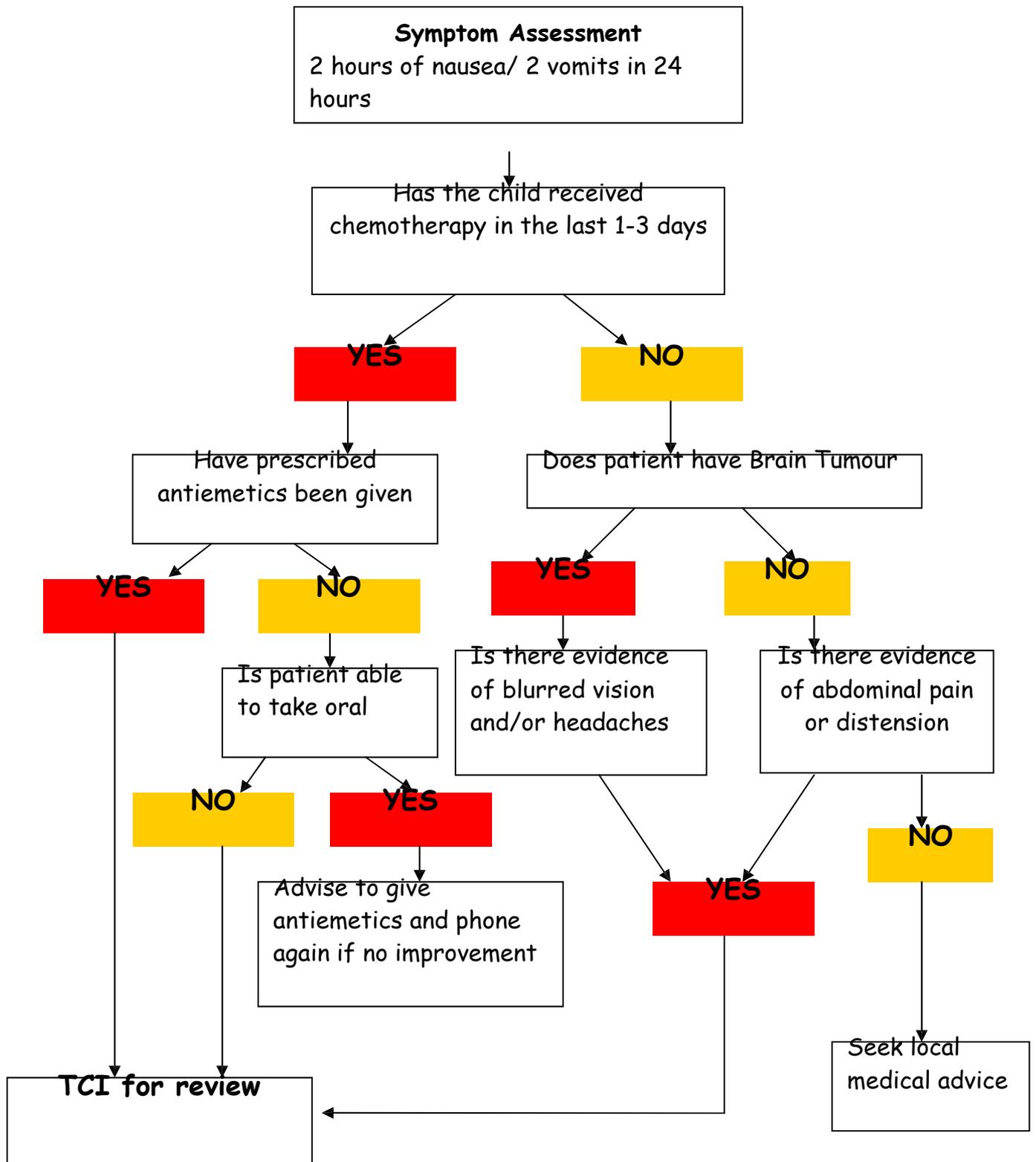
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CV LINE OBSTRUCTIONS



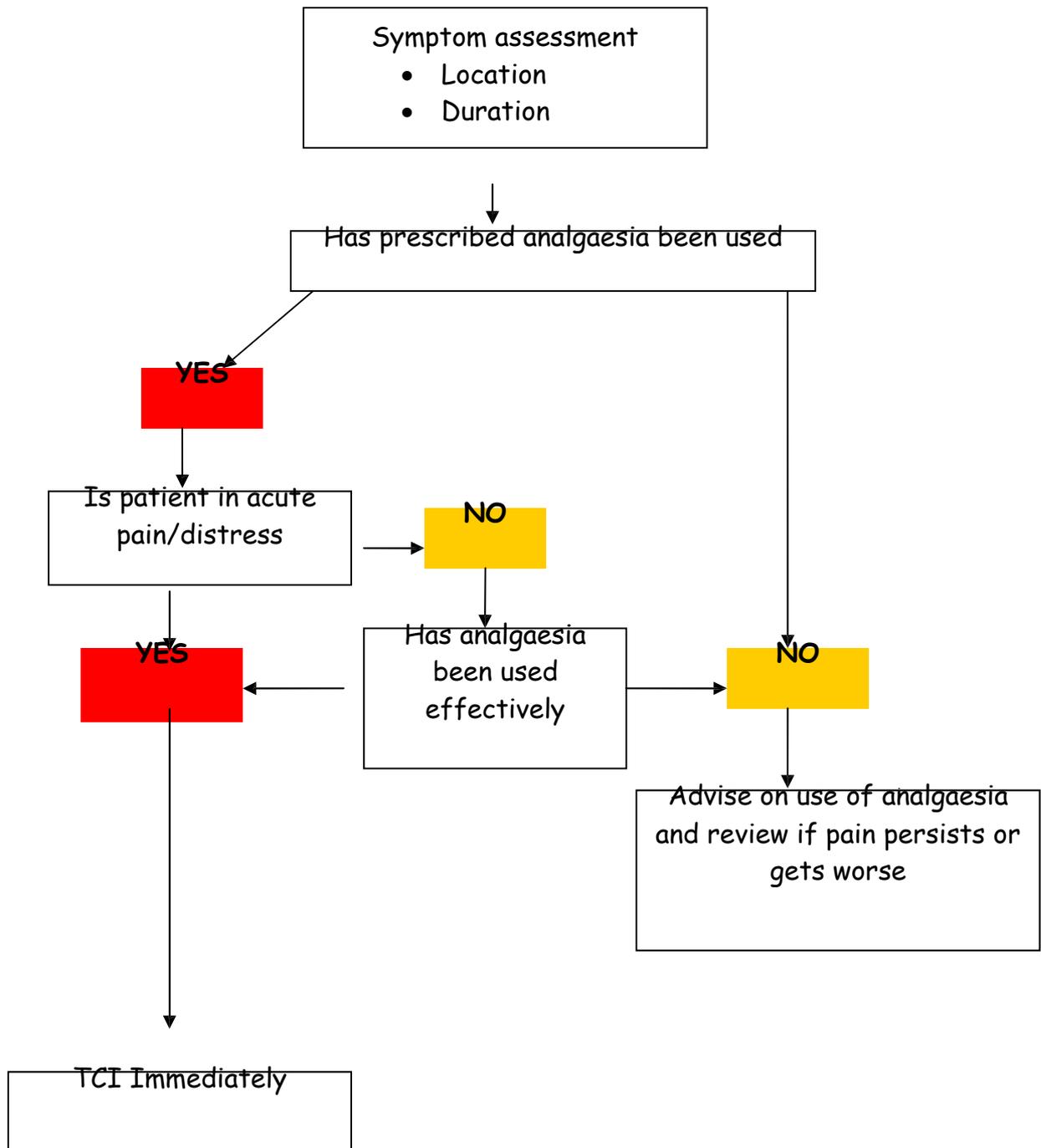
DOCUMENT ALL INFORMATION GIVEN VIA PHONE

NAUSEA AND VOMITING



DOCUMENT ALL INFORMATION GIVEN VIA PHONE

PAIN

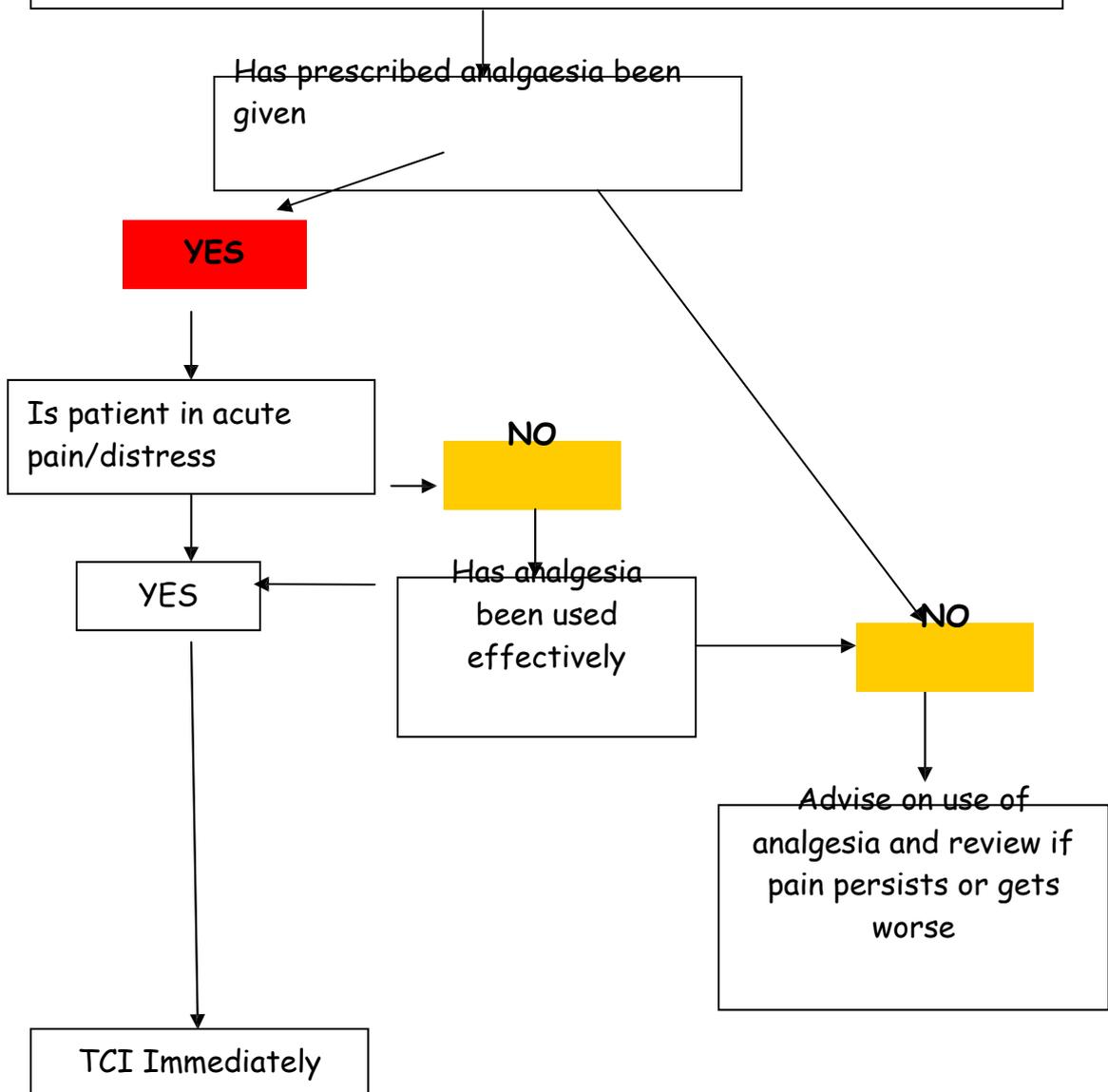


DOCUMENT ALL INFORMATION GIVEN VIA PHONE

PAIN/MUCOSITIS

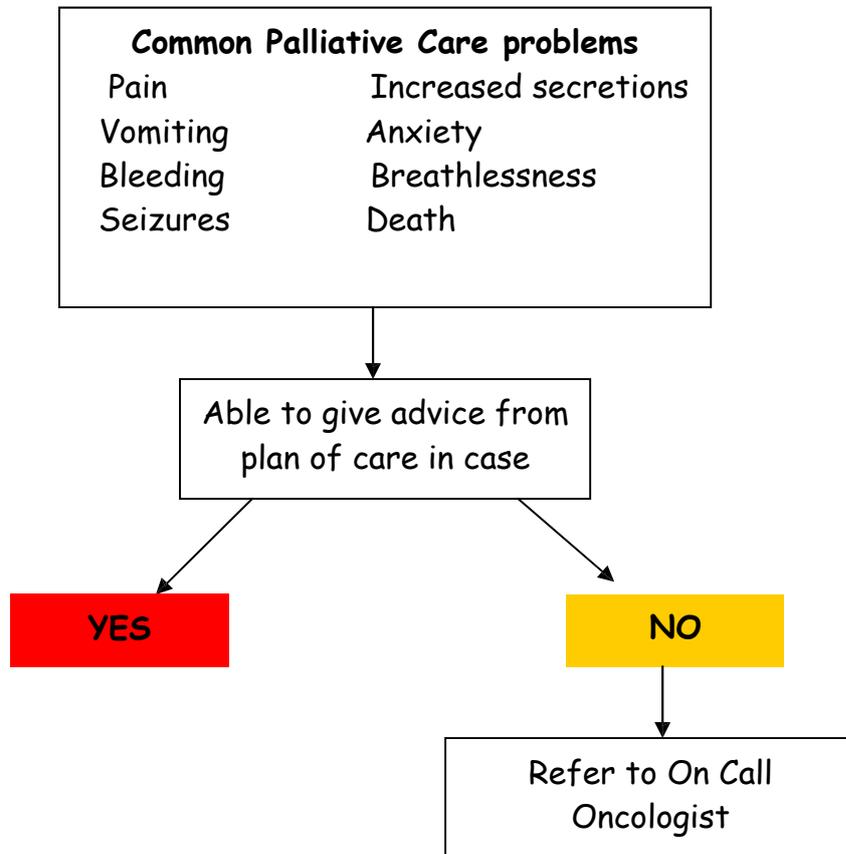
Symptom Assessment

- Recent chemotherapy consisted of high risk chemotherapeutic agents; eg Methotrexate; Doxorubicin; Vinblastin
- Recently received or is receiving oral Mercaptopurine
- Recently or still is receiving radiotherapy to head and neck region



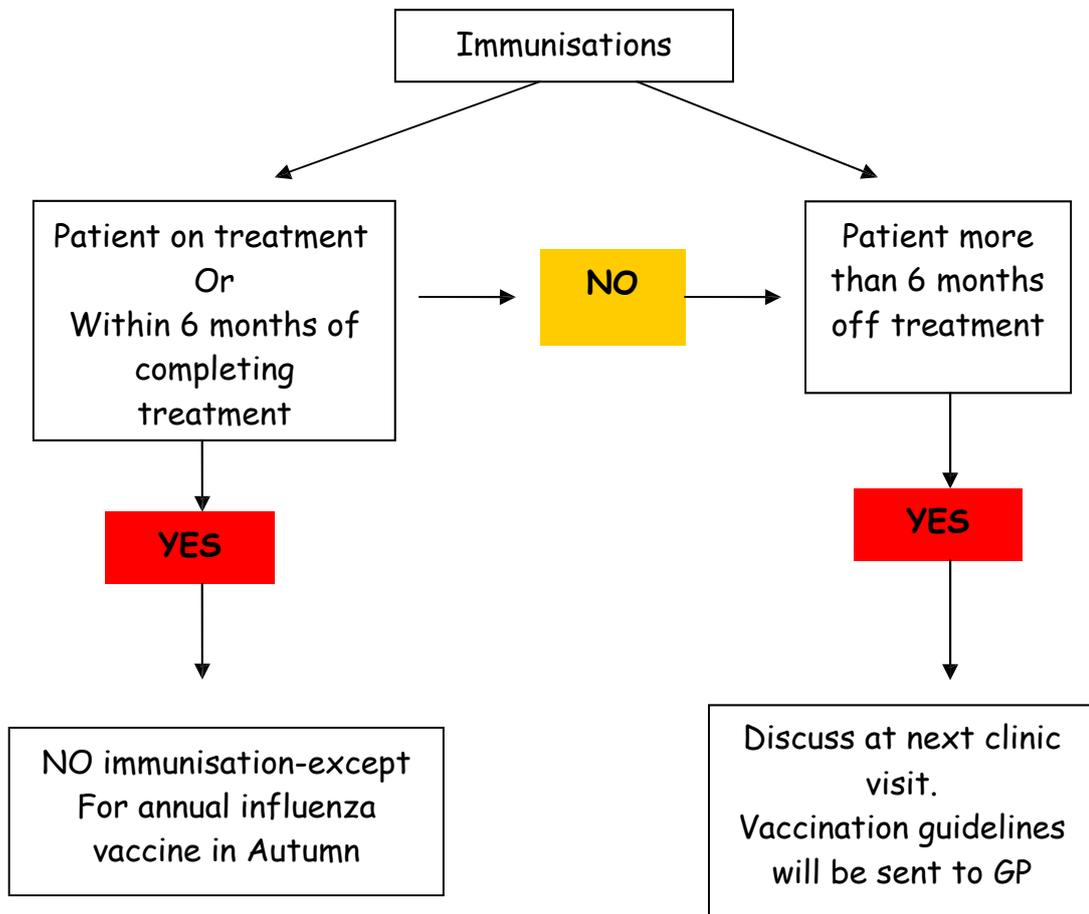
DOCUMENT ALL INFORMATION GIVEN VIA PHONE

END OF LIFE



DOCUMENT ALL INFORMATION GIVEN VIA PHONE

IMMUNISATION



DOCUMENT ALL INFORMATION GIVEN VIA PHONE

Telephone Consultation Notes

Date:

Call From

Reason for Call

Name:

Unit number:

Advice Given

Last Blood Count

Date :

Hb

WCC

Platelets

Neuts

Lymphs

Action Taken

Swab results

Other Notes :

Caller agrees with advice

Call documented on
meditech

Date..

Signature..

Form ready for filing in notes

Print Name..

Version	Date	Author	Status	Comment
1	February 2010	Kath Birchall	Current	New policy created

Appendix 2

Calling Matrix.

Table 1: Indicating matrix for logging calls across the nine algorithms

A-I are the nine algorithms within the telephone triage policy

	A	B	C	D	E	F	G	H	I
C1	✓ (Nurse X)								
C2	✓ (Nurse X)								
C3		✓ (Nurse Y)							
C4									
Calls logged ↓				✓ (Nurse Z)					
	✓								
							✓ (Nurse G)		
									✓ (Nurse S)
C100			✓ (Nurse A)						

Appendix 3

Interview Questions.



Interview Questions for Nursing Staff on the Oncology Unit.

Researcher: Did you use a telephone triage algorithm to provide the telephone advice you gave? If so, which algorithm and why?

Researcher: What is your experience of using the algorithm? Was it useful? Was it easy to use?

Researcher: When providing the telephone triage advice, were there any factors that influenced the advice given?

Researcher: How do you feel about the documentation required, using the telephone consultation notes proforma?

Researcher: Do you feel there are any areas for improvement in relation to your experience with Telephone triage?

Researcher: Do you feel that you have enough knowledge to provide telephone triage advice to parents and other members of the multidisciplinary team with regards the care of children undergoing treatment for a diagnosis of cancer?

Researcher: What qualifies you to have enough knowledge?

Researcher: Do you feel any further training is required to support your professional development with regards to telephone triage?

Thank you for your time in answering these questions.

Appendix 4



Information Sheet for Nurses

Telephone Advice and Triage within Paediatric Oncology.

I would like to ask you if you would like to take part in my research project. Before you consider your options, you need to know a little about the project I am doing and what will happen. Please take time to read the following information carefully and discuss it with others if you wish. If anything is not clear to you or if you would like more information then please feel free to ask, my details are at the end of this information sheet.

What is the aim of this project?

The aim of this project is to evaluate a new triage telephone advice system which has been implemented within the Oncology Unit and to establish whether or not the newly devised telephone triage policy is useable for the staff. This project is being carried out as part of my MSc by Research.

Do you have to take part?

No, it is entirely up to you to decide whether or not you take part in the project. It will not be held against you if you decide not to take part.

What will happen if I am happy to take part?

If you decide to take part, please send the slip back to me in the envelope enclosed so I know you are happy to take part. Phase 1 of my project included the logged telephone consultation notes from the telephone triage nurses which were collected over a period of time until 100 logged consultations. Phase two of the project consists of focused, semi structured individual interviews, which will last up to 30 minutes and will take place in a secure office on the Oncology unit during your working hours. This interview will be held within 48-96 hours of the logged telephone triage conversation taking place. The interview will focus on a core of three questions: a) your experience of using the algorithm; b) your experience of providing advice and documenting the call; and c) any areas for improvement or other aspect of your experience. The interviews will be audio recorded and consent will be sought prior to interview. You can change your mind at any

time about taking part and no-one will mind. If you decide to withdraw after the interview then I will discuss with you what you would like to happen to the information you shared. On completion of interviews, the information sought will be transcribed and all data will be kept in a locked cupboard within the hospital. Anonymity and confidentiality will be assured at all times.

Why should I take part?

I hope that you will enjoy taking part in the research project. The information that you provide aims to help improve the way we deal with telephone triage and hopefully improve the system for nurses, patients and families. I will disseminate all my findings through in house teaching on completion of my research.

What are the disadvantages of taking part?

I cannot see any disadvantages to taking part. It will take some of your time to be interviewed, about 30 minutes which will be done in works time.

Did anyone else check the research project is satisfactory to do?

Before any research project like this can start, it has been through the 'Users' Views Evaluation Committee based at Alder Hey Children's NHS Foundation Trust and also through the Faculty of Health Ethics Committee at the University of Central Lancashire, and has been granted ethical approval.

Who is funding the study?

The funding for my research project is coming from the Florence Nightingale Foundation Trust, London. No personal payments will be received for undertaking this project.

What if I have any further questions?

If you have any questions about this research project, please feel free to contact Nicola Rowe on 0151 252 5212 or drop me an email at niki.rowe@alderhey.nhs.uk

Thank you for reading this and considering my research project!

Appendix 5



Alder Hey Children's 
NHS Foundation Trust

Consent Form

Title of Project Telephone Advice and Triage within Paediatric Oncology

Name of Researcher Nicola Rowe

Please initial box

1. I confirm that I have understood the information sheet for the above study and have had the opportunity to ask questions	<input type="checkbox"/>
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason, and without my rights being affected	<input type="checkbox"/>
3. I agree to the interview being recorded, the tapes will be destroyed within 6 weeks once transcribed.	<input type="checkbox"/>

Name of Participant Date Signature

Name of Researcher Date Signature

Appendix 6: Recommendations and Action Plan

	Recommendations	How they will be achieved	Time Required	Date of Change
1	All existing relevant algorithms reviewed and improved.	Team of professionals updating the algorithms as policies change	3 months.	
2	New algorithms should be developed to improve comprehensiveness of cover.	Researcher will write new algorithms as new side effects emerge	6 months.	
3	Consider the environment in which calls are taken. Whenever possible take calls in a quiet area of the ward where there are fewer distractions and it is easier to concentrate on the call.	Discuss with the oncology manager.	1 month	
4	Nurses should stick to the protocol so as to improve the consistency of advice provided and to ensure that advice given is evidence based. Where clinical judgement requires a nurse to go 'off protocol', then the rationale for this should be clearly documented.	Researcher will provide yearly evidence based updates to all 'telephone triage' trained nurses	Yearly	
5	All nurses who provide telephone triage attend an accredited telephone triage course and complete relevant competencies.	Training course to be devised and accredited	3 years.	
6	Regular audit of how staff and parents/guardians feel with regards telephone triage so that amendments and improvements can be made when required.	Randomly audit the telephone triage system to ensure staff are happy with the system	Yearly.	
7	Devise a computer based programme to facilitate use of the algorithms and documentation when providing the telephone triage to the parents/guardians and which stops the duplication of documentation.	Researcher to work with IT to devise a computer programme	6 months.	
8	All patients on diagnosis should receive a laminated card with key information (e.g. diagnosis, treatment protocol, hospital number, all oncology unit contact numbers). This could reduce parental stress and support nurses taking calls.	Researcher to devise laminated card and have them accepted by unit manager and Oncology Consultants.	3 months.	
9	Consider having a designated telephone number for telephone triage so that nursing staff are aware that calls on this telephone are telephone triage calls.	Discuss with oncology unit manager	6 months.	
10	Consider having dedicated experienced triage nurse(s) to take the calls, especially out of normal working hours when OUI take over the telephone triage calls.	Discuss with oncology unit manager	1 year.	