# ACUTE ONCOLOGY

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# Acute oncology services

## Specialist acute oncology services continue to develop across the UK and not just in England where, following recommendations of a 2009 National Cancer Action Group report[1], Acute Oncology Peer Review Measures are in place.[2]

There are clearly defined measures of an acute oncology service, describing the key aspects that must be incorporated. But differences in needs and the resources available have required that services develop individually.

In many cases, there was initially doubt about the potential value of such services, and uncertainty about the number of people requiring this level of care. Many acute oncology teams were established on a project basis, often with a single acute oncology nurse. These teams have had to prove their worth in order to continue their services, and they have needed to expand to meet demand.

Acute oncology nurses are pivotal in the development of these services. They have been described as the oil in the machine – working to make sure all parts function smoothly, safely and efficiently, to ensure a robust and consistent service.[3]

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**About the author**

Philippa has recently been appointed to the post of Macmillan Associate Acute Oncology Nurses Advisor: an innovative role intended to support the development of Acute Oncology Services. She is the UK Oncology Nursing Society (UKONS) Acute Oncology Nurses Forum Lead and a member of a National Acute Oncology Working Group.

Excellent, varied and innovative services are in place. This article considers how they are developing and sharing their experiences.

We invited five acute oncology nurses, based in different parts of England, to provide brief descriptions of their services. Each has a different composition and patient pathway. But all have greatly improved the care and experience of people who have an urgent problem related to their disease or treatment.

### Manchester

Acute oncology is an exciting and evolving speciality. It brings together disciplines from accident and emergency, acute medicine, and palliative care to provide a cohesive service for people presenting with oncological emergencies. It is challenging, interesting, unpredictable and rewarding.

Our service was established in 2012. It is set in a large, busy, city-centre teaching hospital and works across all trust sites. The Acute Oncology Team includes:

- a Consultant Medical Oncologist (covering four sessions per week)
- an Acute Oncology Physician (two sessions per week)
- an Acute Oncology Team Leader/ Advanced Nurse Practitioner
- three band 7 Nurse Specialists
- a Service Coordinator.

We are also responsible for the Cancer of Unknown Primary Service.

The nursing service runs from 9am–5pm, Monday–Thursday and 9am–8pm on Fridays. We have daily medical cover and all patients are discussed in a daily team handover,

followed by a ward round. We aim to see patients as early as possible, including in accident and emergency, and we also have a weekly fast-track clinic.

An advanced IT infrastructure is in place, including a bespoke acute oncology database (built in-house) and a comprehensive cancer-flagging system.

This robust and busy service has developed over 18 months – with data to support it. We have had a successful peer review and have built good partnerships with other teams, particularly palliative care, accident and emergency, the medical admissions unit and the local cancer centre. Patient experience has been gauged through personal stories and questionnaires, with an excellent response, particularly around communication, safety and continuity of care. There are challenges, including the following issues:

- Cross-site staffing (nursing and medical) is difficult to judge. It is also challenging to achieve the standard of having a review by an oncologist for all acute oncology admissions within 24 hours.
- Teaching and education of staff in a large organisation is difficult to achieve and maintain.
- Meeting the peer review measure around disease-specific fast-track clinics is also challenging.

Our future aims are built around the needs of patients. They include extended service hours, pathways for people with a new cancer diagnosis, an e-learning package, further community involvement, and procedures to support patients and reduce the length of their hospital stay.

Kathryn Hornby

Advanced Nurse Practitioner and the Acute Oncology Team Leader

The Central Manchester University Hospitals NHS Foundation Trust

## Southampton

Thanks to funding from Macmillan, our Acute Oncology Service launched almost three years ago. Since then, we have established a service that aims to provide people with timely access to specialist advice, reassurance and urgent treatment – without them needing to attend the emergency department. Referrals are taken from a 24-hour telephone helpline (which is managed by the Acute Oncology Service), and also from surrounding clinics, clinical nurse specialists, research nurses and consultants.

We review oncology-related emergencies and have a unit with two chair spaces and two beds where patients are seen and assessed. Two acute oncology emergency nurse practitioners work within the area from 8am–8pm each day, with two specialist registrars available in core hours. An emergency practitioner works each night, holding the helpline, arranging admissions and commencing urgent treatment.

All practitioners within the service are on the advanced nurse practitioner pathway. This means they are developing advanced skills, such as history-taking, diagnostics and non-medical prescribing.

The service has patient group directives, allowing nurses to administer antibiotics in suspected neutropenic sepsis and blood-thinning injections for confirmed blood clots. The service also has expanded scope of practice initiatives, including ordering chest x-rays and taking arterial blood gases, which help to provide timely treatment in potentially life-threatening situations. The advanced nursing skills aim to improve patient experience and outcomes, by speeding up the pathways without the need to wait for a doctor.

The helpline has become a crucial asset for people undergoing treatment. We have had extremely positive feedback from people using it, who have referred to it as their 'life-line'. A clinical audit showed the number of calls has tripled since the helpline started. Due to this increase in demand, we will soon be moving to a larger space, with an aim to improve the cancer journey for many more people.

We are passionate and dedicated to improving the lives and experiences of people affected by cancer – striving for a service that places the person at the heart of everything we do.

Hannah Bingley
Macmillan Acute Oncology Service, Team Leader. The University Hospital of Southampton

## Staffordshire

The development of our new cancer centre building in 2009 provided an opportunity to review our services for people with acute oncology presentations.

This resulted in the development of an emergency assessment bay, situated within the inpatient ward. The bay aims to ensure patients have appropriate and timely access to specialist advice and treatment when experiencing urgent problems. It has dedicated, 24/7 medical and specialist nursing cover, providing expert advice and assessment. These professionals are responsible for managing a telephone triage and helpline service.

In response to the 2008 NICE guidance on metastatic spinal cord compression (MSCC)[4], a dedicated MSCC co-ordinator service was introduced in collaboration with the orthopaedic spinal team. This facilitated the development of a dedicated pathway for patients presenting with MSCC and spinal metastasis.

The trust-wide acute oncology service was launched in 2014, with a Macmillan-funded trust and community education event. The service ensures patients who present outside of the emergency admissions bay receive advice and expertise from the acute oncology team. This service also provides guidance for patients who present with cancer of unknown primary.

The need to ensure proficient working relationships has been integral to the development of the acute oncology service, particularly relationships with the medical admissions unit and the emergency department. We are supported daily by on-call oncologists who have a dedicated time for reviewing our patients.

These developments have impacted on the care people receive, increasing the quality of their experiences and their expeditious treatment. This has been evident in audit and patient satisfaction surveys. The service is set to develop further to accommodate the expansion of services envisaged by the trust. This will be supported by the appointment of a second acute oncology clinical nurse specialist, who will provide cross-cover and ensure continuity of care.

Clair Turner

Macmillan Acute Oncology CNS

Andrea Chatterley

Macmillan Cancer Nurse Specialist Malignant Bone Disease

University Hospital North Staffordshire

## Leicester

Our Acute Oncology Service started in January 2013 with one Acute Oncology Nurse and four planned activity sessions of consultant time (half days) per week. At this time, we were only able to cover one trust site and provide telephone advice for the other two.

We now have a very different team, consisting of:

- an Acute Oncology Advanced Nurse Practitioner (band 8A)
- an Acute Oncology Specialist Nurse (band 7)
- an Acute Oncology Specialist Nurse (band 6).

In addition, we have ten planned activity sessions of Acute Oncology Consultant time per week.

Cover is provided for all three hospital sites. The trust has a dedicated assessment unit for oncology and haematology patients, staffed by oncology and haematology nurses. The unit has specialist medical cover, including regular consultant visits.

This started as a Monday–Friday, 9am–5pm service, but is now open 24/7 and has expanded to:

- seven beds
- one triage room
- six triage chairs available from 8am–8pm.

Annie Law

Macmillan Acute Oncology Advanced Nurse Practitioner

University Hospitals of Leicester NHS Trust

Most patients are identified through our 24/7 helpline and largely present with treatment-related complications. Other sources of referral include the outpatient and chemotherapy departments, and a small number from the emergency department.

The Acute Oncology Service helps review the progress of neutropenic sepsis and MSCC patients and provides advice and support if required.

The majority of the Acute Oncology Service workload is patients admitted as an emergency due to complications of their cancer, or who are found to have a new diagnosis of cancer during an emergency admission. Patients with a known cancer diagnosis are identified to the team by alerts that inform them of patients who have been admitted anywhere in the hospital.

Referrals of newly diagnosed patients come from any ward, including the emergency department, multidisciplinary teams and radiology. Community palliative care teams also contact the service for advice.

The responsibilities of the acute oncology nurse include:

- Assessing patients and providing advice on further management, including helping to facilitate appropriate investigations, biopsies and referrals. Team members also act as MSCC co-ordinators.
- Acting as temporary key workers for newly diagnosed patients until they are allocated to the appropriate tumour site-specific nurse specialist. Patients, families and staff have evaluated this innovative development very positively. As key workers, nurses provide support and information, and facilitate the discharge of some patients to await results or further investigation.
- For the band 7 and 8 nurses, being the specialist nurses for cancer of unknown origin/cancer of unknown primary, and providing key worker support for this vulnerable group of patients.

- Contacting helpline patients who are identified as 'one amber' according to the UK Oncology Nursing Service (ONS) triage tool. These patients are advised to stay at home and are supported with a telephone follow-up within 24 hours, to assess if they are improving or require further care and advice. This avoids unnecessary attendance for the patient.

Plans for future developments include:

- a patient experience survey
- an acute oncology administrative post
- rapid review clinics/ambulatory care
- commissioning with payment for phone calls – admission avoidance
- expanding the service to primary care, especially GPs.

**West Midlands**

The Consultant Nurse-Led Acute Oncology Service in Walsall was launched in 2011. We have visiting oncologists for clinic and multidisciplinary team meetings, who provide planned care but minimal acute oncology input (generally advice only). There have been many successes:

- By proving the value of the Acute Oncology Nurse, we ensured the post was made substantive in 2013 after its two-year pilot. The trust recognised the substantial financial savings and the improvements in patient safety and quality we had demonstrated.
- The service was highly commended in the Nursing Times award for cancer nurse leader 2012, and the 2013 Health Service Journal award for service innovation. These achievements raised the profile of the service, which is now well-utilised throughout the trust.
- The trust is currently negotiating increased oncologist input for the acute oncology service.
- I have had many opportunities to influence oncology, chemotherapy, accident and emergency, and acute medical unit services by introducing new skills and knowledge. This includes reviewing training for central venous access devices and training for blood culture-taking, which was not happening previously.

There have also been problems:

- It has been difficult to maintain the educational programme for the frequently changing medical teams, particularly middle grades. We have had useful opportunities to promote the need for education when raising the issues of clinical incidents. This ensures you have the higher-level buy-in and support.
- Sometimes there is too much for one person to do, with issues of sustainability when absent.

This second point has partly been addressed by another success: training an acute medical unit band 5 nurse to work alongside and provide some level of cover. This has helped improve awareness and care, even out of hours, because the principles learnt by this nurse have been cascaded through the acute medical unit. This is certainly the case in achieving 'the one hour door-to-needle' for a first dose of antibiotics, facilitating the introduction of a patient group directive.

Nicky Adams

Acute Oncology Nurse Consultant

Walsall Manor Hospital

Improved outcomes have also been demonstrated for access to magnetic resonance imaging (MRI) along with improved treatment times for MSCC.

The cancer of unknown primary, multidisciplinary and core teams have been in place since February 2013. They aim to improve quality of care, while reducing length of stay and unnecessary investigation.

The latest UK Chemotherapy Partnership acute oncology event facilitated a really good exchange of ideas and experiences. I would love to see this repeated annually. As a professional group, we have a great energy. We can influence and steer many areas and should be involved in national groups developing acute oncology.

The last three years working in acute oncology have given me confidence, knowledge and energy to see and be able to make considerable difference to patients, and improve the working experience of staff. I have recently started an operational leadership course and I hope this assists my objectives to achieve and to be heard in whatever forum I find 'that voice'.

## The way ahead – Philippa Jones

I hope these five snapshots have demonstrated the diversity and dedication of our acute oncology nurses and teams.

They may also have provided some inspiration about how you may develop your service.

This is an emerging speciality, combining skills from acute and emergency nursing with specific knowledge and expertise from oncology and haematology. The role of the specialist acute oncology nurse is multifaceted. It demands that nurses demonstrate many skills including leadership, innovation, negotiation, teaching and, importantly, expert clinical skills.

Forums such as the Midlands Acute Oncology Nurses Forum, which has a special interest group on Macmillan Learn Zone (**learnzone.org.uk**) and The UK Oncology Nursing Society's Acute Oncology Forum (**ukons.org/acute-oncology-forum**) are helping to share good practice, promote discussion and provide peer support and education. These groups may be helpful if you are currently developing a service.

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# The case for acute oncology

## Ernie Marshall and Alison Young outline the background to acute oncology and the evidence that is currently available for this emerging area of care.

Cancer remains a major cause of morbidity and mortality on a global scale. In the UK alone, 325,000 new cases of cancer are diagnosed each year, contributing 28% of all deaths each year.[1] The drive to improve cancer outcomes has delivered an ever-increasing level of sub-specialisation and individualised care, underpinned by remarkable progress in our understanding of cancer biology. As a consequence, there has been an inevitable increase in the number of patients receiving systemic anti-cancer chemotherapy (SACT) over the last 10–20 years. SACT now accounts for approximately £1 billion expenditure annually in the UK alone, demonstrating the financial burden of excellent cancer care.

While the focus on personalised medicine and the increasing delivery of SACT has undoubtedly improved outcomes for people with cancer, it has also resulted in an increasing burden of cancer treatment complications. The 2008 *National Confidential Enquiry into Patient Outcomes and Death (NCEPOD)* highlighted the fragmented care pathways often faced, with many patients interfacing with multiple institutions and departments within a given institution.[2] In the report, 42% of all sick people with cancer were admitted under general medicine rather than to a specialist oncology ward, with 43% of these patients recorded as having grade three or four toxicity on admission from SACT before death. 86% of patients were being treated with palliative intent, with almost half on their second or subsequent line of SACT. 15% of patients were not admitted to the organisation where their SACT was administered.

In response to these findings, the National Chemotherapy Advisory Group (NCAG) produced their report *Chemotherapy Services in England: Ensuring quality and safety* in 2009. This led to the concept of acute oncology, with its key recommendation that every Acute Hospital Trust with an emergency department should establish an acute oncology service.[3]

The NCEPOD and NCAG reports have rightly focused attention on the emergency cancer journey, at a time when late presentation of newly diagnosed cancer is also viewed as a major challenge for the UK. Data from the National Cancer Intelligence Network (NCIN) reports that approximately 25% of all new cancers diagnosed per year in England are diagnosed following an emergency admission to hospital.[4] This group of patients often presents to hospital acutely unwell, via a wide range of different routes including the emergency department, with a constellation of symptoms. They are then subsequently found to have cancer. Such patients often experience poorly co-ordinated care and delayed referral to oncology and palliative care services.

While the concept of acute oncology remains in its infancy, it is underpinned by a number of core principles. They promote education, awareness and early access to specialist oncology input, as well as a more integrated way of working amongst acute specialties within hospital trusts.

The need for greater integration of services appears indisputable. However, at present there is a distinct lack of evidence to support the solution proposed by the NCAG. Acute oncology binds together many aspects of emergency presentation that span diagnostic pathways, treatment complications and end-of-life care, and in many ways it highlights the need for greater cohesion and continuity of care for vulnerable patients who frequently move between disciplines and organisations. Published evidence is lacking, with only a limited number of publications, which are based largely around service description and retrospective audit.

Published data on acute oncology patterns and workload remain sparse. A 12-month report from a newly-formed regional cancer network acute oncology service (AOS) identified 3,013 new patient admissions across seven hospitals, from a population of 2.3 million, and equating to approximately 500 admissions per hospital emergency site.[5] 51% of admissions were due to complications of cancer. 30% were considered complications of treatment and 19% were new diagnoses of malignancy. Lung cancer represented the most common primary tumour diagnosis.

Intuitively, the establishment of an AOS appears very rational. But what evidence do we have to support the investment? The report *Routes to Diagnosis* reveals the stark consequences of late presentation, with poorer one-and five year survival across all cancers.[4] Cancer of unknown primary represents a distinct subset that has been highlighted as an area of development for AOS, with 57% of patients diagnosed following emergency presentation.[6] Qualitative research into this vulnerable group of patients highlights the lack of continuity, accountability and timeliness of care, often in a setting of 'multidisciplinary team tennis'.[7] An AOS may deliver early oncology (and palliative care) expertise combined with reduced length of hospital stay. But improved outcomes may only be realised by a more comprehensive infrastructure that is aligned to other site specific cancers, as is explicitly described in the NICE cancer of unknown primary guideline CG104.[8, 9]

The principle justification for an AOS, as described within NCAG, was the potential to improve safety and quality of care, in the context of managing emergency presentation of the complications of cancer treatment. Is there evidence that an AOS promotes more effective care, resulting in reduced morbidity or 30-day mortality? General principles of care would suggest improved outcomes in early suspected febrile neutropenia should result from early diagnosis, coupled with immediate antibiotics. It is certainly true that these principles hold in the most severe cases, but we have little evidence base for the majority of patients with low-risk febrile neutropenia. In some institutions, an AOS has undoubtedly raised awareness and facilitated early antibiotic therapy, but we have little evidence yet that this has resulted in lowering of mortality or reduction in hospital stay.[10] Despite this, an AOS may be pivotal in developing and promoting the challenging, but necessary prospective, research, as highlighted by previous failed research (Cancer Research UK ORANGE Trial, 2007) and current NICE (CG151) recommendations.[11] Similarly, the role of an AOS in cancer complications may facilitate patient support and pathway development in cancer complications such as metastatic spinal cord compression (MSCC).[12] In this setting, an AOS may be pivotal in raising awareness and developing local pathways, but decision-making ultimately rests with joined-up clinical oncology and

**'The rising burden of emergency cancer care is widely recognised as a global problem. It poses key challenges for all healthcare services, against a backdrop of increasing cancer incidence in an aging population'**

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neurosurgical services. Formal evaluation of the benefits is also lacking and awaits prospective research on functional outcomes, patient experience and quality of life.

Few would argue that a key role of an AOS is improved coordination of care and early decision-making. A six-month pilot evaluating a new AOS reported significant statistical reduction in hospital length of stay and investigations in a relatively small cohort of patients, but highlighted the potential benefits of early oncology input.[13]

More recently, a much larger cancer network reported a reduced length of stay of 3.1 days per acute oncology episode in a population of over 3,000 patients reviewed at multiple acute hospital trusts, and equating to a potential saving of £2million.[5] In this study, 92% of patients were reviewed by a member of the AOS within 24 working hours and the majority of interventions were considered major (ie clinically significant impact on care). The study reported clear benefits and potential savings. However, 51% of patients were admitted with symptoms relating to progressive cancer and one quarter of all patients had a diagnosis of lung cancer, suggesting a complex interplay with palliative care services and the role of site-specific nurses and lung physicians.

The rising burden of emergency cancer care is widely recognised as a global problem. It poses key challenges for all healthcare services, against a backdrop of increasing cancer incidence in an aging population. A Canadian study found that 84% of patients who died of cancer in Ontario between 2002 and 2005 made 194,017 visits to the emergency department in the last six months of life, and that 40% of the visits were made in the last two weeks of life.[14] Progress in cancer therapies has also led to a shift towards end of life prescribing and increased admissions for end of life care, in the context of multiple lines of SACT. End of life care is a major issue in oncology in North America. Studies have found a significant proportion of patients with end-stage cancer experience aggressive care at the end of life, defined as chemotherapy close to death, as well as admissions to hospital and intensive care units within the last few weeks of life, and underuse of hospice services.[15, 16] Recent studies have shown significant benefits to early introduction of palliative care and better end of life care on survival[17], quality of life[18] and aggressiveness of care in patients with end-stage cancer.[19]

The evolution of acute oncology in the UK is a welcome and necessary response to the challenge of emergency cancer care. It highlights the need to support greater continuity of care and greater access to oncology expertise and patient information. The challenges mirror those facing the developing specialty of acute medicine and the need to support greater elements of ambulatory care and community-based provision. Acute oncology services have a pivotal role to play in cancer services, but they must ensure delivery of a joined-up approach, aligned to acute medicine and the Future Hospitals Commission.[20] The challenge for acute oncology services will be to ensure oncology leadership is delivered in a truly collaborative fashion, with the essential partners in palliative care, acute medicine and, increasingly, primary care.

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