British Oncology Pharmacy Association

ONCOLOGY/HAEMATOLOGY PHARMACY
NON-MEDICAL PRESCRIBING GUIDELINES

Version 2.2
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1 Executive Summary

Pharmacists and nurses can undertake training to become Non Medical Prescribers, NMP’s. Oncology pharmacists have many opportunities to work alongside consultant oncologists and haematologists prescribing chemotherapy and supportive treatments for cancer therapy. The British Oncology Pharmacy Association (BOPA) supports the on-going work and further development of pharmacists and nurses as non-medical prescribers (NMPs) working as part of the cancer services team.

Chemotherapy nurses, specialist nurses and oncology pharmacists regularly undertake mid cycle reviews of patients receiving anticancer medicines when the patient does not require medical review. This has increased the flexibility of chemotherapy services and has helped manage increasing workload.

Pharmacists who have status as independent prescribers and have demonstrated that they have achieved suitable competencies in cancer services should be able to work alongside consultants in clinics or set up their own pharmacist prescribing clinics. Pharmacists can also use the prescribing qualification at ward level and/or when supporting the chemotherapy day units for amending, updating and initiating chemotherapy prescriptions in addition to prescribing supportive medicines.

This is a natural extension of the oncology pharmacist role. This will benefit medical prescribers by easing some of the burden of routine prescribing/patient care and ensures services are responsive to a patient’s needs. NMPs are not medically trained and are not seeking to replace the role of the doctor.

This document gives guidance for individual pharmacists and Trusts wishing to develop the role of oncology and haematology pharmacist NMPs. The document does this in two ways:

- Provides a framework for the development of NMP roles. Examples of the types of roles which can be developed are discussed.

- Provides competencies that detail the knowledge and skills the pharmacist working as a NMP must have and describes the relationship they will have with their supervising consultant. The competencies have been taken from the Medical Oncology Curriculum which is approved by the Royal College of Physicians and the Postgraduate Medical Education and Training Board, PMETB. BOPA believes it is important that NMPs are able to work to the same standards as medical prescribers and therefore achieve and maintain these competencies in addition to those undertaken when completing the prescribing qualification. The competencies are the first two levels of the five levels that doctors must achieve in medical oncology training.
2 Definitions / Limitations

It is recognised that the role of NMPs in oncology/haematology will grow as pharmacists working in these areas gain experience and credibility and seek to expand their roles over time. This document does not provide a limit on future role developments provided they are within a locally approved framework, subject to local peer review and are consistent with national guidelines.

For the purposes of this document the term anticancer medicine is used to refer to all drugs with direct anti-tumour activity, administered to cancer patients, including traditional cytotoxic chemotherapy such as carboplatin, capecitabine, hydroxycarbamide, paclitaxel; targeted therapies such as imatinib, sunitinib, rituximab and other agents such as thalidomide. It does not include hormonal or anti-hormonal agents such as tamoxifen and anastrazole.

3 Background

In April 2006 the Department of Health (DH) allowed nurses and pharmacists to become independent prescribers and encouraged the NHS to develop these roles. It is also recognised that other professions can become NMPs, for example radiographers can become supplementary prescribers and there may be role for radiographers to prescribe supportive medicines for cancer patients undergoing radiotherapy. The DH guidance states that NMPs can improve patient care without compromising patient safety by make it easier for patients to get the medicines they need and allowing more flexible team working across the NHS.

The DH’s working definition of independent prescribing is prescribing by an ‘appropriate practitioner’ (e.g. doctor, dentist, nurse, pharmacist) responsible and accountable for the assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical management required.

4 Pharmacist Role(s)

This section applies to pharmacists only. Nurses can also become NMPs and the principles in this document can easily apply to nursing, however it is beyond the remit of BOPA/RPS to set guidance for nursing staff. Pharmacists and nurses have differing skills but have a complementary role in prescribing for cancer patients. Each profession can learn from each other when working as NMPs with cancer patients.

Having a pharmacist initiating a prescription does not eliminate the requirement for a (second) pharmacist’s role in checking and validating the prescription. NMPs must not be directly involved in checking or dispensing of prescriptions they have written. The Royal Pharmaceutical Society (RPS) state that NMPs must ‘ensure separation of prescribing and dispensing whenever possible. Where a pharmacist is both prescribing and dispensing a patient’s medication, a second suitably competent person should normally be involved in the checking process.’
5 Accountability

All non-medical prescribers are personally accountable for their practice and must work to the same standards and level of competence that applies to medical prescribers. This includes the requirement to use electronic prescribing systems or pre-printed prescriptions in the absence of electronic systems. Prescribing should be compliant with local (England, Scotland, Wales and NI) NHS approved regimens and treatment algorithms. As prescribers, health care professionals have a duty to their employers to use resources efficiently and effectively. Therefore the number and cost of items prescribed must be monitored and local formularies must be taken into account where they exist.

Pharmacist prescribers are individually professionally accountable to the General Pharmaceutical Council (GPhC) and must act at all times in accordance with the GPhC Code of Ethics and Standards.

In order to exercise accountability and duty of care, all NMPs must identify and meet their individual continuing professional development (CPD) needs via, for example, additional training, clinical supervision, clinical placements, reading and research.

6 Workforce and Service Development

It is noted that there will be workforce issues around the development of NMP roles in Trusts/Health Boards, but that these should be dealt with at a local level. When developing the role of the NMP the key questions for the Trust/Health Board to address are:

- The need for the pharmacist to work as a NMP with cancer patients
- The advantages to the Trust/Health Board of having a pharmacist working as a NMP with cancer patients
- The impact of establishing pharmacist NMPs on existing pharmacist clinical roles. Note it may be that the role is an extension of current activity and may not have a major resource implication
- The arrangements for ‘backfill’ of the pharmacist duties where necessary.

As NMP roles are relatively new it may be the case that pharmacists train as NMP’s then develop their role as they gain experience and recognise opportunities.
7 Models of Care

An understanding of the medical model of seeing and reviewing patients undergoing chemotherapy and systemic anticancer therapy is helpful to see where NMPs ‘fit in.’ Cancer patients receiving anticancer medicines for solid tumours are generally under the care of consultant medical or clinical oncologist. Common cancers are treated in local hospital cancer units. These include breast, colorectal, lung, and can include upper GI, urology and gynaecological cancers depending on local arrangements. All these treatments can be safely given on oncology day case wards. Rarer cancers and those regimens requiring inpatient stay are usually treated in cancer centres. Haematological malignancies are managed in a similar way with Trust/ Health Board haematology services divided into different service levels, with outpatient chemotherapy in level 1/2 services and complex inpatient chemotherapy treated at level 3/4 centres.

The majority of cancer treatment prescribing follows an initial review at a Multidisciplinary Team Meeting (MDT), where the patient’s case is discussed. The MDT usually consists of pathologists, surgeons, physicians, oncologists, nurse specialists and physiotherapists etc as appropriate. Pharmacists currently do not routinely participate in MDT meetings; however as NMPs their attendance could be valuable. At the MDT the patient’s treatment plan will be decided. For common cancers such as breast or colorectal the patient will be often having surgery and/or radiotherapy first and then anticancer medicines. Once it has been determined that chemotherapy or systemic anticancer medicines are the preferred treatment option they are then referred to a consultant oncologist/ haematologist.

The oncologist/haematologist will see the patient in clinic. At the initial appointment they discuss the patient’s diagnosis and potential treatment plan is discussed. Patients are given an opportunity to think about proposed treatment before written consent is obtained, ideally at a subsequent appointment. Once the patient has been consented the first cycle of chemotherapy can be prescribed.

One of the largest uses of anticancer medicines in common cancers is for adjuvant chemotherapy treatment. That is where chemotherapy is used following surgery or radiotherapy to reduce the risk of the cancer returning and provides systemic treatment to ensure that all cancer cells have been removed from the body. Patients with advanced cancers will generally have palliative chemotherapy to extend their life and manage symptoms.

7.1 Oncology / Haematology Clinic Role

Looking at the model for how pharmacists work alongside their medical colleagues, the consultant and NMP will agree the appropriate patients to be managed by the NMP and ideally the patients will be seen in a clinic running alongside the existing consultant clinic. This could include the majority of adjuvant patients for instance for breast cancer and include some treatments in advanced disease.

The structure of oncology/haematology clinics will vary dependent on the skills of the professionals performing the clinics and local service requirements. NMPs may
manage their own caseload as there may not always be a consultant present in clinic/ward to work alongside the NMP. A medical consultant, ideally the patient’s consultant, must always be available for medical advice when NMPs are seeing patients, i.e. physically or by telephone and the mechanism for this documented in a framework. That is why the ideal clinic model is pharmacist and consultant working in adjacent or nearly adjacent consulting rooms to facilitate this cross checking and support. This model is similar to consultants working in this way with their registrars and trainees. If the NMP is not working alongside the consultant in clinic, there must be a pathway in the framework for sending patients for medical review, which could be a simple as referring the patient to next consultant clinic.

There are various examples of pharmacists working in clinic’s including, haematology clinics, e.g. managing patients with myeloproliferative disorders; oral anticancer medicine clinics, e.g. capecitabine or erlotinib; adjuvant breast cancer clinics; urology clinics (e.g. Abiraterone/ Enzalutamide). See section 9.4 below

7.2 Ward Based Prescribing

Prescribing supportive care on an oncology day ward or prescribing on in-patient wards can be done on a more routine day to day basis without supervision of a consultant provided the NMP is working within their own competency.

7.3 Non Prescribing Clinic Role

Finally there is also a role for pharmacists working in clinics, reviewing chemotherapy prescriptions and counselling patients without prescribing, e.g. where there is sufficient prescribing capacity. This can be advantageous to proactively managing chemotherapy verification workload and supporting patients counselling.
8 Framework for NMPs

NMPs do not have a medical qualification so there should be a framework/governance document that describes exactly what responsibilities they have during their clinical practice. It is also recognised that this framework may differ for different types of cancer e.g. adjuvant breast cancer patients present different challenges to lung cancer patients. A framework should be produced prior to clinics being set up; examples of frameworks are attached (appendix 1,2). The framework will define what the NMP will and will not do and also give criteria about referring back to the medical consultant. The framework can be used in a business case for developing the role if needed and should be approved by an appropriate local Trust Clinical or Governance groups, e.g. Chemotherapy Group or Medicines Management Group.

It is recognised that established pharmacist NMPs may have already developed services without a framework - if so it would be good governance to produce one retrospectively.

It is important that NMPs have a medical prescriber as their clinical champion or mentor, in developing a framework the NMP should involve and seek the views of the doctor(s) they will be working alongside.

It is recognised that being a prescriber carries a professional responsibility, that the pharmacist will use their judgement when reviewing patients and should a patient present a clinical challenge or symptoms of which the pharmacist is unsure, they would then seek advice from their medical colleague. A key feature of the competencies is the ability for the NMP to recognise the limits of their ability.

8.1 Supplementary Prescribers

All NMPs now train as independent prescribers (IP), however there may still be NMP’s who trained as supplementary prescribers. They will need to work in accordance with clinical management plans based upon chemotherapy regimens protocols and supportive care medicine guidelines and prescribe for ‘named’ individual patients under the supervision of the consultant. The framework should highlight if the prescriber is still working as a supplementary prescriber.

8.2 Audit of practice

It is recommended as good practice that NMPs should consider auditing their practice on a regular basis. This could be part of an overall Trust/ Health Board Policy for non-medical prescribing, as evidence for a professional portfolio or to provide practice based evidence of the value of pharmacist NMP’s. The BOPA audit and research subcommittee wishes to encourage pharmacists to publish evidence of the value of NMP prescribing.
9 What can NMPs prescribe?

Once qualified an NMP independent prescriber can prescribe any licensed medicine (i.e. any product with a UK marketing authorisation) for any medical condition provided it falls within their area of competence. NMPs must ensure their practice complies with local policies when prescribing clinical trial medications, unlicensed medicines and controlled drugs.

9.1 Prescribing first cycle of anticancer medicines

NMP’s can only prescribe the first cycle of chemotherapy after a clinical assessment and decision to initiate the specific chemotherapy has been made by the patient’s doctor. NMP’s cannot make the clinical decision on what chemotherapy regimen to prescribe for the patient. The 2014 Chemotherapy Measures state ‘Clinical assessments and the decision to initiate the first cycle of a course of chemotherapy should be restricted to consultant medical staff and ST3 and above medical trainee staff and NCCG medical staff who are assessed as competent for this by their approved training programme. Note this applies as competent for this by their approved training programme. Note this applies to medical oncology, clinical oncology and haematology oncology only.’

It is good practice to for the patients’ doctor to provide written confirmation of the chosen chemotherapy regimen name and drug doses (including instructions on any deviation from standard doses) to NMPs prescribing first cycle of chemotherapy. This could be part of a treatment plan or referral form/letter.

9.2 Range of systemic anticancer therapy prescribed by NMPs

There is potentially greater demand for NMPs to prescribe for patients with common cancers receiving adjuvant chemotherapy due to the higher volume of adjuvant chemotherapy prescribed. Adjuvant chemotherapy requires less intense monitoring of disease progression than advanced treatment with a palliative intent so may be more straightforward for less experienced NMPs. However, depending on the experience of the NMP they can also undertake management of patients diagnosed with advanced cancers. It must be acknowledged that there are long term risks associated with adjuvant treatment and it is individual patient factors and regimen toxicity profiles can dictate how ‘complex’ a patient group is to manage.

9.3 Tumour Site Specific Practice

Some oncology pharmacists have significant experience of one patient group and may wish to initially restrict their prescribing to this area. NMPs may prescribe for more that one tumour site depending on their knowledge and of the tumour groups. Pharmacist NMPs could consider the medical model where consultant oncologists will specialise to a small number of cancer sites. When NMPs who are not specialist in one particular clinical area start prescribing they may seek to gain experience with adjuvant patients before prescribing for advanced disease
9.4 Examples of NMP prescribing and monitoring roles

- Intravenous anticancer medicines as part of review and authorisation of treatment.

- Oral anticancer medicines, e.g. capecitabine, erlotinib. Pharmacists and nurses are increasingly involved in the review of these medicines and assessing suitability for continuation with therapy.

- Herceptin (trastuzumab) for early breast cancer, NMPs could take responsibility for managing the prescribing for these patient’s reviewing their echocardiograms and blood results every three or four months and authorising ongoing prescriptions.

- Long term medication for haematology patients, e.g. hydroxycarbamide for patients with myeloproliferative disorders (MPD). For example patient attends NMP in clinic who reviews their blood results, makes any necessary dosage changes and issue prescriptions for the on-going treatment. This may be an attractive alternative to a shared care arrangement as the NMP will work closely with the consultant haematologist easing the ‘routine’ workload for these patients but be onsite and at hand to refer/discuss management as appropriate.

- Prescribing role on oncology units and on oncology wards in the centre. In the centres this will include a prescribing role for in-patients and in cancer units it is likely to include prescribing supportive care items that are not available under patient group directions (PGDs) for example varying courses of antiemetics and other medications to treat the side effects of the chemotherapy treatment, or their underlying disease. Using NMP’s to prescribe supportive care results in much greater flexibility than using PGDs.

- Urology oncology clinics have increasing capacity pressures due to introduction of new agents, abiraterone/ enzalutamide so there is a role for NMPs to support these clinics and ease medical capacity.
10 Competencies for Oncology Pharmacist NMPs

10.1 Prescribing qualification competencies

As part of achieving the prescribing qualification NMPs have to demonstrate competency in a wide variety of areas e.g.

- Clinical and pharmaceutical knowledge
- Communicating with patients and consultation skills
- Clinical examination skills
- Safe prescribing
- Prescribing in context/ professionalism

10.2 Chemotherapy prescribing competency framework

The competency framework for Chemotherapy Prescribing is the framework used in the Medical Oncology Training Programme, which acknowledges prescribing by Oncology Pharmacist NMPs

The medical oncology framework has five levels; level 1 and 2 have been included in this competency framework as they are directly relevant to NMPs. Levels 3 and above differentiate the responsibilities of medically qualified prescribers from NMPs. The key difference between a level 2 and a level 3 prescriber is the ability of a level 3 medical practitioners is the ability to initiate systemic therapy for common cancers, i.e. make decision to treat and choose regimen. A proforma for recording competencies has been provided in appendix two.

NOTES

- Training programmes/competencies for the clinical oncology and haematology specialities will be different to that of medical oncology but for the purposes of clarity only one set of prescribing competencies has been referenced.
- Medical training requires use of an electronic portfolio and competency assessment using tools such as DOPS (directly observed procedures), mini-CEX (mini clinical examination), CbD (case based discussion). Pharmacist assessment of competency does not currently employ such tools.

10.3 Competency level one

A practitioner working to level 1 is able to undertake a review of a patient receiving systemic therapy and can authorise the next cycle of treatment to proceed. This professional could be medically qualified or an appropriately trained chemotherapy nurse, oncology pharmacist or a professional allied to medicine.

If the professional competencies in oncology/haematology described below are met then NMPs will be able to operate at this level during their training period as an NMP. NMPs already qualified must be able to demonstrate they meet these competencies. In addition the level 1 competencies form the basis for good practice for nursing and pharmacists who are not NMPs but are routinely involved in nurse/pharmacist lead review of mid cycle chemotherapy between medical reviews.
**Level 1 competencies**

1. Ability to authorise treatment to proceed following assessment of the patient and relevant laboratory investigations.

2. Ability to review a prescription for systemic therapy and accurately identify errors or omissions.

3. Ability to demonstrate knowledge and understanding of the methods for calculating the correct dose of medication for administration including those based on body surface area, pharmacokinetic and pharmacodynamic principles.

4. Ability to define the scientific basis of causation of nausea and vomiting and ability to identify the likely mechanism of emesis in a patient receiving systemic therapy.

5. Ability to determine the antiemetic requirements of patients receiving systemic therapy.

6. Understanding of issues surrounding administration of intravenous therapies, e.g. principles of extravasation treatment.

7. Ability to define the principles for dose delay or dose reduction of systemic therapies, based upon haematological and non-haematological toxicity.

**10.4 Competency level two**

A level 2 practitioner is able to prescribe systemic therapy, within local guidelines, or to continue a planned course of treatment but not initiate the first course of treatment. This professional is likely to be medically qualified or a nurse/pharmacist independent prescriber.

**Level 2 Competencies**

1. Ability to define the range of systemic therapies utilised in the treatment of patients with cancer and define the likely adverse effects of the agents in more common usage within a clinical service.

2. Ability to prescribe and order systemic therapies following assessment of the patient and relevant laboratory investigations, using appropriate systems defined by the local authorities.

3. Ability to accurately prescribe systemic therapies using various methods for calculating the correct dose of medication for administration including those based on body surface area, pharmacokinetic and pharmacodynamic principles.

4. Ability to define the scientific basis and parameters for dose modifications to systemic therapy in the light of clinical data relating to the liver, renal, haematological and other organ systems.

5. Ability to institute appropriate modifications in the prescription of systemic therapy in the light of clinical data that will relate to dose modification parameters relating to organ function.
6. Ability to perform a thorough assessment of toxicity and record the clinical information using defined systems such as the Common Toxicity Criteria.

7. Ability to prescribe antiemetic medications appropriate to the chosen therapy and ability to modify following review of the patient’s situation and symptoms following previous treatments.

8. Ability to define and initiate appropriately the pharmacological and non-pharmacological supportive measures that may be required by patients receiving systemic therapy, including growth factors and antibiotics.

9. Ability to define the indications for and adverse reactions associated with the use of blood products and ability to make treatment decision following assessment of a patient’s requirement.

10. Ability to obtain informed consent for procedures and initiation of treatments.

11. Ability to request assistance and advice when a situation requires the involvement of a more senior colleague.

12. Ability to determine the appropriateness of continuing treatment, particularly in patients with poor performance status or significant co-morbid conditions.

13. Ability to define and initiate appropriately the pharmacological and non-pharmacological supportive measures that may be required by patients receiving systemic therapy, including growth factors and antibiotics.

14. Ability to assess objective tumour responses and toxicity and make a balanced judgement about continuing.

15. Ability to define the scientific mechanism of action of the systemic therapies used in the management of cancer patients.*

16. Ability to modify the dosage of systemic therapy based on pharmacokinetic and pharmacodynamic information relating to a patient.*

**Note** competencies 15 and 16 are from the level three competencies but are deemed appropriate for experienced pharmacist NMPs

**10.5 Pharmacist specific competencies**

It is recognised that oncology pharmacists may well have a differing degree of experience and training. An oncology pharmacist is traditionally a title that is given to a job rather than by a route of credentialing and/or demonstration of educational competency. However there is now a route to credentialing as a specialist oncology pharmacist. BOPA is recognised as a partner organisation of the Royal Pharmaceutical Society (RPS). Leading on the credentialing and professional development of oncology pharmacists is the function of the BOPA CPD subcommittee.

The CPD committee developed the Cancer Care Expert Professional Practice Curriculum. This curriculum provides an overview of the knowledge, skills, experiences and behaviours required to practice at advanced level in Cancer Care at three stages: Advanced Stage I, Advanced Stage II and Mastery, in line with the requirements of the RPS Advanced Pharmacy Framework. By completing a portfolio of evidence mapped against the frameworks, pharmacists can apply for credentialing
as a specialist with the RPS Faculty. There is also a higher education route through which pharmacists are able to study and achieve postgraduate qualifications in oncology.

We suggest that any pharmacist who is working as a NMP in oncology and prescribing systemic anticancer therapies should be working at Agenda for Change Band 7 or above and meet the following requirements and competencies:

1. Ideally has a post graduate qualification in oncology at minimum of certificate level. This could be an MSc or a Post Graduate Diploma in Oncology.
2. Ideally has achieved membership of the RPS Faculty at at least Stage I by submitting a portfolio of evidence of their practice using the Cancer Care Expert Professional Practice Curriculum to illustrate their expert professional practice.

Employers should require that all pharmacists working as prescribers in oncology should work towards having a portfolio submitted to the RPS faculty for specialist credentialing and demonstrate their competence and continuing professional education in this area by on-going membership of the Faculty

It is recognised that there will be many pharmacists who have undertaken the prescribing qualification who do not have a post graduate qualification in oncology and currently are not members of the RPS Faculty. It is suggested that these pharmacists should, if they are already working as NMPs, have demonstrated competency through their prescribing course and be signed off by the consultant who was their mentor during the prescribing training. They should demonstrate continuing competency as an oncology pharmacist by undertaking an assessment of their practice against the competencies included in this document. Ideally this assessment should be peer reviewed. It is expected that they should undertake a commitment to prepare a portfolio of evidence.

11 Conclusions

- There are many opportunities for oncology pharmacists to work as NMP’s as part of the wider cancer team
- NMPs should meet the same competencies for prescribing anticancer medicines that cancer specialist medical trainees are expected to meet.
- Best practice is for NMP’s to prepare framework document describing the scope of their practice.

12 References

1. Improving patients' access to medicines: A guide to implementing nurse and pharmacist independent prescribing within the NHS in England. Department of Health 12 April 2006

3 Specialty Training Curriculum for Medical Oncology: Joint Royal Colleges of Physicians Training Board: August 2010: Available at http://www.jrcptb.org.uk/specialties/medical-oncology last accessed 27.11.14
Appendix One Framework Template for Chemotherapy NMP Clinics

Background
Describe the background to the clinic

Aims
What are the aims of the service?

Resources
Describe the resources in place to run the clinic, e.g. rooms, staffing, etc.

Timescales
Stipulate if the clinic is time limited

Clinical Group
List inclusion / exclusion criteria for patients to be seen in clinic

Patient Pathway & Responsibilities
Consider
- Doctors responsibilities
- Pharmacist NMPs responsibilities
- Describe who will prescribe and what they will prescribe
- Reporting of adverse reactions:
- Frequency of review:
- Describe any specific circumstances where patients may require referral

Training & Competence
Describe necessary competences - refer to framework
Consider
- Patient assessment
- Holistic care
- Prevention and management of side effects
- Chemotherapy administration techniques
- Supplementary prescribing
- Communication

Documentation
Describe what shared notes are used, how the NMP will communicate i.e. dictating clinic letters and what the arrangements for administrative support.

Audit & Review of Clinic Outcomes
Describe arrangements for audit of clinics where appropriate

Document Approval

Agreed By: Oncologist / Haematologist
Trust Chemotherapy Group
Appendix Two: Record of Oncology/Haematology Competencies

Name ___________________________ Job Title ___________________________

<table>
<thead>
<tr>
<th>Competency level 1</th>
<th>Supporting Statement / List of Evidence</th>
<th>Date Achieved</th>
<th>NMPs Signature</th>
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</thead>
<tbody>
<tr>
<td>(Review and Authorise Administration of Systemic Anticancer therapy)</td>
<td>Ability to authorise treatment to proceed following assessment of the patient and relevant laboratory investigations.</td>
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<td></td>
<td>Ability to review a prescription for systemic therapy and accurately identify errors or omissions.</td>
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<td></td>
<td>Demonstrate knowledge and understanding of the methods for calculating the correct dose of medication for administration including those based BSA, pharmacokinetic/pharmacodynamic principles.</td>
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<td></td>
<td>Ability to define the scientific basis of causation of nausea and vomiting and ability to identify the likely mechanism of emesis in patient receiving systemic therapy.</td>
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<td></td>
<td>Ability to determine the antiemetic requirements of patients receiving systemic therapy.</td>
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<td></td>
<td>Ability to administer intravenous bolus therapies, as prescribed, and according to departmental guidelines. (Nurse only)</td>
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<tr>
<td></td>
<td>Ability to define the principles for dose delay or dose reduction of systemic therapies, based upon haematological non-haematological toxicity.</td>
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NMP Signature: .......................................................... Date: .........................

Approved by :
(Oncologist / Haematologist)................................................ Date: .........................
<table>
<thead>
<tr>
<th>Competency level 2</th>
<th>Supporting Statement / List of Evidence</th>
<th>Date Achieved</th>
<th>NMPs Signature</th>
</tr>
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<tbody>
<tr>
<td><strong>(Prescribe Systemic Anticancer therapy - 2nd cycle onwards)</strong></td>
<td></td>
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<tr>
<td>To define the range of systemic therapies utilised in the treatment of patients with cancer and define the likely adverse effects of the agents in more common usage within a clinical service.</td>
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<tr>
<td>Ability to prescribe and order systemic therapies following assessment of the patient and relevant laboratory investigations, using appropriate systems defined by the local authorities.</td>
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<tr>
<td>Ability to accurately prescribe systemic therapies using various methods for calculating the correct dose of medication for administration including those based on body surface area, pharmacokinetic/pharmacodynamic principles.</td>
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<tr>
<td>To define the scientific basis and parameters for dose modifications to systemic therapy in the light of clinical data relating to the liver, renal, haematological and other organ systems.</td>
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<tr>
<td>Ability to institute appropriate modifications in the prescription of systemic therapy in the light of clinical data that will relate to dose modification parameters relating to organ function.</td>
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<tr>
<td>Ability to perform a thorough assessment of toxicity and record the clinical information using defined systems such as the Common Toxicity Criteria.</td>
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<tr>
<td>Ability to prescribe antiemetic medications appropriate to the chosen therapy and modified following review of the patients situation and symptoms following previous treatments.</td>
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<tr>
<td>Competency level 2 (Continued)</td>
<td>Supporting Statement / List of Evidence</td>
<td>Date Achieved</td>
<td>NMPs Signature</td>
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<tr>
<td>Ability to define and initiate appropriately the pharmacological and non-pharmacological supportive measures that may be required by patients receiving systemic therapy, including growth factors and antibiotics.</td>
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<td>Ability to define the indications for and adverse reactions associated with the use of blood products and ability to initiate appropriate prescription following assessment of a patients requirement.</td>
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<td>Ability to obtain informed consent for procedures and initiation of treatments.</td>
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<td>Ability to request assistance and advice when a situation requires the involvement of a more senior colleague.</td>
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<td>Ability to determine the appropriateness of continuing treatment, particularly in patients with poor performance status or significant co-morbid conditions.</td>
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<td>Ability to assess objective tumour responses and toxicity and make a balanced judgement about continuing.</td>
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<tr>
<td>Ability to modify the dosage of systemic therapy based on pharmacokinetic and pharmacodynamic information relating to a patient.</td>
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<td>To define the scientific mechanism of action of the systemic therapies used in the management cancer patients.</td>
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NMP Signature: ................................................................. Date: ..........................

Approved by :
(Oncologist / Haematologist).................................................. Date: ..........................
Document Control

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<th>Date</th>
<th>Author/Editor</th>
<th>Summary of Change</th>
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<td>1.1</td>
<td>27.3.09</td>
<td>Steve Williamson</td>
<td>Updated following circulation to FCP / BOPA committee members.</td>
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<td>1.2</td>
<td>18.5.09</td>
<td>Steve Williamson</td>
<td>Updated following BOPA consultation</td>
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<td>1.3</td>
<td>26.06.09</td>
<td>Steve Williamson</td>
<td>Review and update of 1st cycle fixing section 9.1 and updated references to professional bodies</td>
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<td>1.4</td>
<td>06.09.11</td>
<td>Steve Williamson</td>
<td>Updated and revised, general updates including sections on ward based prescribing, updated education/ competencies requirements</td>
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<td>2.0</td>
<td>25.11.14</td>
<td>Steve Williamson</td>
<td>Updated following comments from consultation with BOPA committee review panel.</td>
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<td>2.1</td>
<td>23.06.15</td>
<td>Steve Williamson</td>
<td>Corrected formatting for upload to site</td>
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Contributors

- Calum Polwart: General comments, framework document
- NECN Chemo Group: General comments, models of care
- Dr Graham Dark Consultant Medical Oncologist, NCCC: Competencies and medical advice
- Bruce Burnett, Helen Flint, Ann Hines and Tim Root: General comments, grammar and clarification of detail.
- SCAN (via Ewan Morrison), POP via Julie Mycroft, BOPA membership, Sue Marsh: General comments, clarification and additional detail.
- Jennifer Allen: General Comments and Editing

Information Reader Box

- Proposed Target Audience: Oncology and Haematology Pharmacists, Provider Trust Chief Pharmacists, Clinicians, PCT Prescribing Advisors
- Proposed Circulation List: BOPA Members, FCP Members, DH Chief Pharmaceutical Officer, UKONS committees, Provider Trust Chief Pharmacists, Heath Board Chief Pharmacists, RSPGB, CCG prescribing Advisors, NHS England Area Team Pharmacists, Chemotherapy CRG, Heads of Schools Pharmacy
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