



National Competency Framework for Pharmacists Working in Cancer Care

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Background

The role of pharmacists in the delivery of cancer care has changed significantly in Ireland over recent years. These changes are largely due to increases in the use of chemotherapy as a result of the aging population, and supportive therapy for the management of side effects and co-morbidities. In addition, there has been a significant increase in the use of oral anticancer medicines (OAM) which are dispensed to patients in the community. Consequently, the skill and knowledge requirement of pharmacists involved in the delivery of cancer care, in both hospitals and communities, has changed. This was recognised in the NCCP Oncology Medication Safety Review (1) which recommended the development of: “National competencies for all disciplines in relation to acute oncology in collaboration with the relevant colleges and professional bodies”.

Competence assessment has evolved and been influenced by the learning taxonomy devised by Bloom (2). Bates & Bruno (3) define competence as “the overarching capacity of a person to perform”. Competencies are the “functional”, the “what” that are attached to competence and are defined as the knowledge, skills, attitudes and behaviours that an individual develops through education, training, development and experience (3).

This National Competency Framework hopes to inform the development and provision of training for pharmacists working in cancer care. In addition, it will address the need to optimise medicine use, to improve the quality of care and to improve outcomes for cancer patients by illustrating the behaviours, skills and knowledge pharmacists require for working in cancer care. This competency framework can be used at an individual level to measure performance and to help pharmacists working in cancer care, through reflection, to identify gaps in their continuing professional development needs (4). At a more strategic level, it can be used as a method to inform the development and provision of training and education for pharmacists working in cancer care (5,6).

The specific knowledge, skills and behaviour-related indicators identified in this competency framework are intended to be useful to the wide spectrum of pharmacists working within cancer care, including hospital and community pharmacists. The indicators described do not cover every aspect of practice and may overlap with a number of specialities. Users are encouraged to link the indicators, as detailed, to those in the PSI Core Competency Framework for Pharmacists (4) and other related fields such as palliative care (7), aseptic compounding, and other critical adjacencies.

Method

A working group was convened by the NCCP in May 2015 to support, guide and oversee the development of this framework. The working group included representatives from the NCCP, the Irish Institute of Pharmacy, the Irish Pharmacy Union, hospital oncology pharmacy and community pharmacy. An initial objective of the group was to identify existing national and international competency documents for pharmacists and to highlight those which could be used as reference documents. It was decided to use the Pharmaceutical Society of Ireland Core Competency Framework for Pharmacists in Ireland (4), the British Oncology Pharmacy Association (BOPA) competency document (8) and the Royal Pharmaceutical Society (RPS) Leadership competencies (9) as the key reference documents for this work.

Using the PSI framework as the foundation, this document maps the competencies established by the BOPA (8) and the RPS Leadership competencies (9) with the PSI domains (4) in order to develop a National Competency Framework for pharmacists working in cancer care. Some competencies may fit within more than one domain.

In August 2015, a draft document was circulated to key stakeholders and published on the NCCP website as part of a national consultation exercise. All feedback received was considered by the working group experts.

Structure of Competency Framework

Similar to the PSI framework, this framework contains six domains: professional practice, personal skills, supply of medicines, safe and rational use of medicines, public health, organisation and management skills. Each of the six domains has a number of competencies presented. Indicators pertaining to knowledge, skills and behaviours have been assigned within each domain. The indicators are applicable irrespective of the care setting or the staff grade.

Three levels of practice have been adopted for pharmacists working in cancer care: Generalist, Specialist and Advanced Specialist. The three levels in the competency framework are not necessarily discrete. Each level builds on the previous, creating a wider viewpoint at each stage; thus there is a gradation in understanding at different levels. Pharmacists mapping their activities will find themselves operating across several levels. This facilitates the formulation of professional development plans (8).

The first level of practice is defined as Generalist and consists of specific behaviours essential for any pharmacist providing cancer care, including both hospital pharmacists and community pharmacists. Pharmacists at this level will have a basic level of understanding of the principles involved in the prevention, diagnosis and treatment of common cancers. In a hospital setting, these pharmacists would typically be working under the guidance of a more experienced oncology pharmacist and may not necessarily wish to specialise further as oncology pharmacists themselves. These reflect the particular competences required at point of PSI registration or related to current role. The goal is to define a minimum level of competence for any pharmacist having an oncology clinical input.

The second level of practice is defined as Specialist. This is aimed at pharmacists who demonstrate a commitment to oncology practice. Any pharmacist described as an oncology pharmacist or equivalent should be at, or aiming for, this level of practice. Pharmacists practising at this level will have an in-depth knowledge of both the treatment and support of patients with a wide range of cancers. This is the minimum desirable level for a pharmacist practising in oncology without the lead of a more experienced pharmacist.

The third level of practice is defined as Advanced Specialist. Pharmacists operating at this level will usually have a more strategic view of cancer services. They will have considerable in-depth knowledge, skills and experience in oncology practice, and will be able to demonstrate experience of caring for patients with complex co-morbidities or pharmaceutical care issues, or those with more specialist conditions within cancer care.

Domain 1: Professional Practice

- Practises ‘patient-centred’ care
- Practises professionally
- Practises legally
- Practises ethically
- Engages in appropriate continuing professional development

UNDERSTANDING CANCER

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Understands the causes of cancer and has an awareness of the disease process. ■ Knowledge of the key roles of the oncology, haematology and palliative care teams. ■ Understands the organisational structure of cancer services (surgery, radiation and medical oncology) as set out by the NCCP, e.g. the relationship between hospital networks¹. ■ Understands common terminology used in cancer. ■ Understands impact of cancer on patients and families. 	<ul style="list-style-type: none"> ■ Demonstrates a comprehensive understanding of the patient’s cancer journey. ■ Understands likely disease progression within their scope of practice and impact on patient’s cancer journey. ■ Demonstrates a comprehensive understanding of the treatments, therapies and the role a higher level practitioner plays in the holistic care of the patient. ■ Knowledge to act as a specialist resource for advice and support to health professionals, patients and carers. ■ Provides education and training to health professionals, patients and carers within own specialist area. ■ Knowledge of the National Cancer Strategy. 	<ul style="list-style-type: none"> ■ Assesses and advises on the impact national initiatives will have upon local cancer services. ■ Develops recommendations on the delivery of innovative cancer practice. ■ Actively participates in the development and configuration of cancer services within their locality. ■ Personally contributes to and utilises evidence to inform own practice and that of others. ■ Knowledge of specialist centres for specific cancers.

1 Network is defined as a designated cancer centre (hub) and their affiliated hospital(s) (spoke) where medical consultants from the hub hospital have sessional commitments in spoke hospitals. In instances where there are no such affiliations between hospitals then the term “network” refers to an individual hospital.

INFORMING, INVOLVING & SUPPORTING PATIENTS

Generalist	Specialist	Advanced Specialist
<p><i>Within their scope of practice:</i></p> <ul style="list-style-type: none"> ■ Knowledge of information and needs of patients and their families and the organisations that can provide information and support. ■ Monitors the medicines and other healthcare needs of the patient on a regular basis and makes recommendations for improvement to the patient and other healthcare professionals as appropriate. ■ Knowledge to impart information to patients and their carers in an appropriate format/language on their systemic treatment and supportive care medications (regimen schedule, possible side effects and their management and prevention). ■ Knowledge of educational and information leaflets which patients and carers should receive for specific regimens/treatments. 	<ul style="list-style-type: none"> ■ Awareness of the groups of patients and carers who have more difficulty in accessing information and the tools available to assist them. ■ Knowledge of the main local and national support groups and how to access them. ■ Knowledge of pharmacy involvement in patient education on Systemic Anti-Cancer Therapy (SACT) programs, including ambulatory pump programs, oral assessment and education. ■ Awareness of patient user involvement initiatives. 	<ul style="list-style-type: none"> ■ Able to utilise all forms of patient information to enable the patient to have a better understanding of their diagnosis and treatment plan. This will include the use of tools for patient/carers from the minority groups. ■ Recognises deficits in patient's information, developing and implementing new materials. ■ Ensures consistent information across the patient care pathway. ■ Develops protocols and procedures to ensure patients receive all relevant information. ■ Develops links with patient support groups (community-based services/cancer care nurse education/ community-based nurse service) in order to be able to signpost patients appropriately. ■ Utilises a range of techniques to monitor patient/user satisfaction with the service. ■ Involvement in comprehensive patient education programs.

Domain 2: *Personal Skills*

- Leadership skills
- Decision-making skills
- Team working skills
- Communication skills

INTERPROFESSIONAL COLLABORATION

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Knowledge of the care pathway for oncology/haematology patients within their scope of practice. ■ Knowledge of how to access healthcare professionals from across the cancer care pathway. ■ Ability to work with nurses, local physicians and allied health professionals to provide care – as part of a multidisciplinary team. 	<ul style="list-style-type: none"> ■ Able to demonstrate an in-depth knowledge of the integrated care pathway for areas within their hospital. ■ Communicates effectively within multi-professional team meetings. ■ Knowledge to initiate and participate in case conferences with all professionals involved in the delivery of patient care. ■ Team development of local oncology programme professionals to solve problems. ■ Knowledge of how to access the local palliative care team and to be able to advise on drug-related matters. ■ Knowledge base to allow working with a range of different specialists, including medical and radiation oncologists, surgeons, haematologists, etc. 	<ul style="list-style-type: none"> ■ Encourages and supports colleagues to become actively involved in the networking process. ■ Provides encouragement and opportunity for people to engage in decision making and to challenge constructively. ■ Respects, values and acknowledges the roles, contributions and expertise of others. ■ Evaluates and establishes inter-professional and inter-agency protocols/guidelines/patient care pathways. ■ Participates in inter-professional/inter-agency evaluation and audit. ■ Develops network links with all key stakeholders at a local, regional and national level. ■ Able to work with academic and research teams. ■ Adopts a team approach, acknowledging and appreciating efforts, contributions and compromises. ■ Recognises the common purpose of the team and respects team decisions. ■ Employs strategies to manage conflicts of interest and differences of opinion. ■ Is willing to lead a team, involving the right people at the right time.

COMMUNICATION WITH CAREGIVERS IN THE HOME, IN OTHER INSTITUTIONS AND IN THE COMMUNITY

Generalist	Specialist	Advanced Specialist
<p><i>Knowledge of communication channels within scope of practice with:</i></p> <ul style="list-style-type: none"> ■ Patient’s family members and close friends from the community. ■ Home care nursing and other caregivers in the home. ■ Other caregivers, including those from referral sites. ■ Awareness of confidentiality/sensitivity issues in cancer care. ■ Ability to build positive relationships with patients, carers, colleagues and other healthcare professionals. 	<p><i>Knowledge of communication channels within network including:</i></p> <ul style="list-style-type: none"> ■ Cancer treatment specialists from whom referrals are received. ■ Family physician communications. ■ Other local specialists for related care. ■ Local cancer society representatives. ■ Home care agencies for consultative advice. 	<p><i>Knowledge of communication channels outside network including:</i></p> <ul style="list-style-type: none"> ■ Specialists for consultation or advice.

Domain 3: Supply of Medicines

- Manufactures and compounds medicines
- Manages the medicines supply chain
- Reviews and dispenses medicines accurately

REGIMENS

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Knowledge of first line and relapse regimens used within scope of practice. ■ Demonstrates ability to accurately verify SACT prescriptions within scope of practice. ■ Applies pharmaceutical knowledge to select appropriate ingredients and excipients of the required quality standard for the manufacture and compounding of medicines. ■ Knowledge and understanding of Compassionate Use Medicines. 	<ul style="list-style-type: none"> ■ Ability to advise on and query appropriateness of prescribed regimens. ■ Ability to assess compliance and ability to manage oral SACT. ■ Ability to demonstrate an appropriate treatment schedule for a SACT regimen with supportive treatment. <p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ First line and relapse regimens for cancers treated within Network. ■ Current treatment guidelines, e.g. NCCP, NCCN, NICE, SIGN, etc. 	<ul style="list-style-type: none"> ■ Develops protocols for Network, combining drug regimen and supportive treatment, monitoring and dosage adjustment criteria. ■ Implements new treatment protocols and guidelines.

CALCULATION OF SACT DOSES, INCLUDING BSA DETERMINATION

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Demonstrates the ability to perform pharmaceutical calculations accurately, e.g. <ul style="list-style-type: none"> ○ weight or BSA ○ use locally agreed BSA formula (adult and paediatric) ○ carboplatin doses using Calvert equation or 24 hour urine collection ■ Knowledge of issues surrounding obesity, renal and hepatic function and low albumins, etc. on dosing. ■ Awareness of dose banding, capping and rounding. 	<ul style="list-style-type: none"> ■ Able to calculate lean body weight and ideal BSA. ■ Able to advise on dose modifications regarding issues surrounding obesity, renal and hepatic function and low albumins, etc. ■ Able to perform dosing calculations for SACT in paediatric populations. 	<ul style="list-style-type: none"> ■ Awareness of different mathematical models for dose calculation.

**USE OF SPECIALITY DEVICES FOR DRUG ADMINISTRATION,
INCLUDING INFUSION PUMPS**

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Demonstrates awareness of use of SACT delivery devices such as pumps and syringe drivers. ■ Able to describe drugs used, within scope of practice, which require filters, specific lines, etc. ■ Awareness of stability of SACT. ■ Awareness of the safe acquisition, storage and distribution/supply of SACT. 	<ul style="list-style-type: none"> ■ Knowledge of use and advantages/disadvantages of different types of administration devices used within local area for SACT and symptom control. ■ Awareness of stability and compatibility required for SACT drugs. 	<ul style="list-style-type: none"> ■ Awareness of new infusion devices and technological advances relevant to SACT administration. ■ Knowledge of alternative approaches to therapy, circadian rhythm infusions, pulsed therapy, intraoperative chemotherapy.

ROUTES OF ADMINISTRATION OF COMMONLY USED SYSTEMIC AGENTS

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Awareness of routes by which drugs used within scope of practice can be given. ■ Awareness of national and local intrathecal policy and practical implications. 	<ul style="list-style-type: none"> ■ Awareness of routes by which drugs used within institution can be given. ■ Awareness of differences in formulations required for different routes. ■ Awareness of clinical relevance of infusion rate for different SACT drugs. ■ Awareness of rationale behind order in which SACT drugs are given and their timing. ■ Awareness of policy for home administration of SACT relevant to scope of practice. 	<ul style="list-style-type: none"> ■ Awareness of routes by which drugs within the institution can be given. ■ Involved in the development of local policies in accordance with national guidelines.

Domain 4: Safe and Rational Use of Medicines

- Patient consultation skills
- Patient counselling skills
- Reviews and manages patient medicines
- Identifies and manages medication safety issues
- Provides medicines information and education

GENERAL THERAPEUTICS & TREATMENT GOALS

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Awareness of curative, adjuvant, neo-adjuvant and palliative goals, when these apply and their clinical implications. ■ Supports patient adherence to medication regimens. ■ Addresses patient expectations of treatment within scope of practice. ■ Awareness of the use of combined modality treatment, e.g. chemoradiation. ■ Awareness of the use of systemic therapy, radiotherapy, surgical oncology and supportive care to achieve goals. ■ Identification, monitoring and appropriate reporting of adverse drug events. 	<ul style="list-style-type: none"> ■ Use of advanced therapeutics (e.g. bone marrow/stem cell transplant) to achieve goals. <p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Locally used staging and its role in treatment decisions. ■ Staging systems and their role in treatment decisions. 	<p><i>Understanding of:</i></p> <ul style="list-style-type: none"> ■ Psychosocial goals associated with systemic therapy. ■ Patient decision-making processes.

PRINCIPLES OF SACT

Generalist	Specialist	Advanced Specialist
<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Classification and mechanism of action of SACT and hormonal agents. ■ Cell cycle and cell kill hypothesis. ■ Scheduling and basic principles of combination SACT. ■ Ways of monitoring tumour responses and disease progression. 	<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Classification and mechanism of action of other cancer treatment drugs. ■ Differentiation between drugs from same class. ■ Modulation of SACT drugs by non-SACT agents. ■ Pharmacokinetics and pharmacodynamics of SACT and other cancer treatment drugs. ■ Measurement of response, survival and other tumour outcomes for cancers within scope of practice. 	<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Pharmacogenetics of SACT drugs. ■ Principles of new anticancer drug development. ■ Principles of gene therapy. ■ Principles of drug resistance. ■ Differentiation of survival outcomes (overall, progression free, relapse free, etc.); meaning of complete, partial responses, stable disease, etc.

MONITORING & MANAGEMENT OF COMMON TOXICITIES OF CANCER TREATMENT

Generalist	Specialist	Advanced Specialist
<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Monitoring and management of regimen toxicities (including those that are dose limiting) used within scope of practice. ■ Monitoring blood counts with SACT. ■ Treatment and prevention of common toxicities. ■ Dose reductions or delays for neutropenia and other toxicities for regimens used within scope of practice. ■ Dose reductions in renal and hepatic impairment. ■ Documentation of toxicities. ■ Monitoring organ function tests with drugs that may cause organ toxicities. 	<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Monitoring and management of toxicities of regimens used within treating hospital. ■ Monitoring effectiveness of antiemetic therapy. ■ Dose modification strategies. ■ Identification of patients at increased risk of toxicity due to additional risk factors. ■ Distinction between early and late onset toxicities, accumulation effect (incl. paediatric and young patients). ■ Toxicity grading scales. ■ Evaluation, development and implementation of policies and guidelines to minimise toxicities. ■ Policies to reduce occurrence or treat toxicities relevant to diseases treated within hospital, e.g. use of irradiated blood products with fludarabine or management of GVHD. 	<p>Knowledge of:</p> <ul style="list-style-type: none"> ■ Monitoring other objective and subjective toxicities, including pain. ■ Evaluation of cancer outcome tests. ■ Unusual drug toxicities. ■ Advantages and disadvantages of assessment tools for measuring specific toxicities. ■ Systems in place to communicate potential side effects and management of them to primary and other secondary health workers.

PROCEDURES FOR SAFE HANDLING OF SACT

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Knowledge of basic safe handling procedures including spillage and disposal of chemotherapeutic waste. ■ Knowledge of extravasation risks. ■ Demonstrates basic understanding of occupational hazards of exposure to SACT drugs and waste. ■ Understands causes of exposure to SACT. ■ Able to describe precautions when extemporaneously preparing oral formulations of SACT (e.g. for paediatrics or clinical trial materials). 	<ul style="list-style-type: none"> ■ Ensures measures are in place to minimise risks when patients are having SACT at home (oral and IV). ■ Able to provide advice for patients in relation to handling SACT at home (spills, handling of contaminated linen, etc). ■ Knowledge of practical and administrative aspects of legislative requirements for safe handling/waste management. ■ Able to write, implement and evaluate procedures for safe handling of SACT. ■ Able to provide advice for patients and carers on how to handle potentially contaminated waste at home. ■ Able to provide advice for pregnant and breastfeeding staff in relation to handling SACT and contaminated waste. ■ Knowledge of personnel monitoring. ■ Documents extravasation, manages extravasation kits, reports within hospital reporting system and/or to Health Products Regulatory Authority (HPRA). 	<ul style="list-style-type: none"> ■ Assesses administration devices and new therapies to ensure occupational and patient exposure is minimised. ■ Understands implications of developing technologies, e.g. gene therapy products and monoclonal antibodies.

Domain 4: Safe and Rational Use of Medicines

COMMON SYMPTOMS OF DISEASE AND TREATMENT

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Awareness of symptoms and management of side effects and adverse effects such as: <ul style="list-style-type: none"> ○ Mucositis ○ Neutropenia ○ Pain ○ Extravasation ○ Hypercalcaemia ○ Diarrhoea ○ Nausea and vomiting ○ Constipation ○ Palmar-plantar erythrodysesthesia ○ Hypersensitivity reactions ○ Tumour lysis syndrome ■ Common symptom control drugs including analgesics. ■ Antibiotic regimens and growth factors for febrile neutropenia. ■ Use of mesna. ■ Use of folinic acid rescue. 	<ul style="list-style-type: none"> ■ Understands and makes recommendations for the management of symptoms, such as: <ul style="list-style-type: none"> ○ Electrolyte disturbances ○ Infections ○ Dyspnoea ○ Bleeding ○ Obstruction ○ Ifosfamide encephalopathy ○ Alkalinisation of urine ○ Hydration regimes and management of fluid balance ■ Understands and makes recommendations for the management of oncological emergencies: <ul style="list-style-type: none"> ○ Superior vena cava obstruction ○ Spinal cord compression ○ Hypersensitivity reactions ○ Anaemia and the role of epoetin/blood ■ Develops and evaluates local drug related policies. 	<ul style="list-style-type: none"> ■ Develops network treatment protocols for management of symptoms of disease or treatment. ■ Disseminates evaluated research on SACT drugs, advises on formulary changes, and informs policies. ■ Acts as expert advisor/stakeholder for national policies and guidelines.

USE OF SUPPORTIVE CARE AND SYMPTOM MANAGEMENT TREATMENTS

Generalist	Specialist	Advanced Specialist
<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Use of analgesics and adjuvant therapy for pain management. ■ Management and treatment protocols for cancer/haematological symptoms (e.g. constipation, diarrhoea, dyspnoea, cough, etc.) seen within scope of practice. 	<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Role of pharmacologic and non-pharmacologic pain management. ■ Application of pharmaceutical care for symptom control ■ Evaluation of symptom control protocols and practices within network. ■ Use of radiotherapy and SACT for supportive care and pain management within scope of practice. 	<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Integration of pharmacologic interventions with other treatments. ■ Use of radiotherapy and SACT for supportive care and pain management within network.

INTERACTIONS BETWEEN CANCER TREATMENT/ SUPPORTIVE CARE DRUGS AND OTHER DRUGS/FOODS

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Understands clinical significance of drug-drug and drug-food interactions with SACT drugs and drugs used to prevent and alleviate symptoms, within area of practice. 	<ul style="list-style-type: none"> ■ Understands clinical significance of drug-drug and drug-food interactions with SACT drugs, and drugs used to prevent and alleviate symptoms used within Network. ■ Knowledge of SACT drugs which are sensitised by radiotherapy. ■ Reports any interactions to HRP and within hospital. 	<ul style="list-style-type: none"> ■ Able to assess potential of interactions with investigational agents. ■ Knowledge of clinical significance of drug-drug and drug-food interactions to individual patient circumstances.

ADVICE ON COMPLEMENTARY AND ALTERNATIVE MEDICINE IN RELATION TO SACT

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Knowledge of the effectiveness, safety and potential for interactions of medicines with complementary and alternative medicine within scope of practice. 	<ul style="list-style-type: none"> ■ Understands reasons why cancer and haematology patients use alternative medicines. ■ Understands evidence of effectiveness and safety for complementary and alternative medications used within scope of practice. ■ Able to access information on complementary and alternate therapies used within oncology/haematology. ■ Able to advise on contra-indications to alternative therapies within scope of practice. 	<ul style="list-style-type: none"> ■ Able to critically appraise evidence for alternative medicines and therapies used within network.

DOCUMENTATION² OF SYSTEMIC TREATMENT ORDERS & ADMINISTRATION

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Documentation of pharmaceutical care activities and outcomes including those specific to oncology. 	<ul style="list-style-type: none"> ■ Documentation of treatments outcomes, pharmaceutical interventions and advice related to SACT on health records. 	<ul style="list-style-type: none"> ■ Knowledge and evaluation of different prescribing systems/prescription formats (including computerised).

² Documentation includes both paper and electronic systems where in place.

Domain 5: Public Health

- Population health
- Health promotion
- Research skills

EPIDEMIOLOGY OF CANCER

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Incidence and prevalence of common cancers (breast, lung and colorectal) and those within their scope of practice. 	<ul style="list-style-type: none"> ■ Incidence and prevalence of cancers treated within their hospital. 	<ul style="list-style-type: none"> ■ Knowledge of incidence and prevalence of cancers treated within their Network. ■ Knowledge of changing trends in cancer epidemiology.

PATHOPHYSIOLOGY AND SYMPTOMS OF CANCER

Generalist	Specialist	Advanced Specialist
<p><i>Knowledge of cancers within scope of practice, including:</i></p> <ul style="list-style-type: none"> ■ Characteristics. ■ Common metastatic presentations. ■ Associated symptoms. 	<ul style="list-style-type: none"> ■ Knowledge of anatomic characteristics of cancers and their metastatic presentations encountered within their hospital. ■ Symptoms associated with these cancers. ■ Knowledge of relevant genes and awareness that they are not necessarily cancer specific, e.g. HER2. 	<ul style="list-style-type: none"> ■ Characteristics of cancers treated within the Network including rare tumours and childhood cancers, their metastatic presentations, symptoms and relevant genes.

GOALS OF SUPPORTIVE AND PALLIATIVE CARE FOR CANCER PATIENTS

- Refer to HSE Palliative Care Competence Framework (10) for a more detailed outline of competencies for pharmacists specific to palliative care.

HEALTH PROMOTION & EDUCATION

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Able to conduct brief interventions for smoking cessation. <p><i>Demonstrates awareness of:</i></p> <ul style="list-style-type: none"> ■ The causes and prevention of cancer. ■ Chemoprevention strategies for cancer. ■ Health education and promotion issues. ■ Resources available for health promotion. ■ Knowledge of how to access referral centres. 	<ul style="list-style-type: none"> ■ Understands the principles of health promotion and the causes of cancer and how to apply these within their practice. ■ Actively participate in promotion of healthy lifestyles to foster cancer prevention. 	<ul style="list-style-type: none"> ■ Understands the principles of health promotion in relation to cancers within the Network. ■ Involved in the education and promotion of healthy lifestyles in cancer patients, their families, staff and the general public.

SCREENING

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Awareness and promotion of the national cancer screening programs. 	<ul style="list-style-type: none"> ■ Knowledge of the referral pathways for other screening services, e.g. genetic screening. 	<ul style="list-style-type: none"> ■ Demonstrates an understanding of the impact screening programs may have on service delivery and cancer patients and their families.

CLINICAL TRIALS

Generalist	Specialist	Advanced Specialist
<p><i>Knowledge of:</i></p> <ul style="list-style-type: none"> ■ Purpose of clinical trials in oncology patients. ■ Clinical trial endpoints in cancer trials. ■ Documentation requirements. ■ The role of other practitioners involved in running clinical trials and how to access them. ■ The clinical trials supported in Network. ■ Principles of ICH-GCP and the EU Directive. ■ The role of national and international organisations such as MRC/CRC/EORTC/ICORG. 	<ul style="list-style-type: none"> ■ Knowledge of basic research design and application for oncology. ■ Access to clinical trials in Network. ■ Ethical considerations specific to oncology. ■ Understands the role of national and international organisations such as ICORG/MRC/CRC/EORTC. ■ Knowledge of how to set up clinical trials. ■ Identifies areas where research or audit could improve. ■ Able to undertake and supervise dispensing of clinical trials within scope of practice. 	<ul style="list-style-type: none"> ■ Understands clinical trial design and application at the local site and across the country (especially nationally funded/badged trials). ■ Aware of most relevant clinical trials underway for patient populations served within hospital/treatment centre (including ICORG and NCRN studies and important trials with other groups). ■ Aware of immediate and future potential impact on service resulting from the trials participation (funding, staffing and training). ■ Knowledge of practice which allows ability to identify research questions and initiate research activity. ■ Critically evaluates clinical trials and audit and implications for future clinical practice. ■ Advises on drug aspects of clinical trial protocols. ■ Assists with the preparation of patient information in line with local practice.

Domain 6: Organisation and Management Skills

- Self-management skills
- Workplace management skills
- Human resources management skills
- Financial management skills
- Quality assurance

WORKPLACE MANAGEMENT SKILLS

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Identifies and discusses how services are adversely affected by poor performance. ■ Participates in audit or assessment after critical event reviews. ■ Examines the potential impact of their own performance on sustainability of new services. ■ Researches appropriate sources of information to support learning. ■ Critically analyses appropriate information and data to determine trends. ■ Implements appropriate record-keeping and data systems. ■ Works effectively with the documented procedures and policies within the workplace. ■ Identifies pharmacy resource requirements and manages those resources effectively, as appropriate to their level of responsibility. ■ Investigates and identifies problems in small group work. ■ Applies principles of evidence-based practice. 	<ul style="list-style-type: none"> ■ Reviews service targets and delivery by the multidisciplinary team. ■ Critiques departmental performance and systems of management. ■ Promotes changes leading to systems redesign. ■ Takes part in discussions with health commissioners to develop understanding of future service plans. ■ Uses and interprets departmental performance data and information to debate services within multidisciplinary team meetings. ■ Uses external references, e.g. IT based resources to support analysis. ■ Synthesises information and prepares a business case. ■ Supports plans for oncology services that are part of the strategy for the wider health service. 	<ul style="list-style-type: none"> ■ Uses management information to monitor and evaluate service delivery against national/local targets and plans. ■ Communicates progress against targets and plans and ensures that colleagues take personal responsibility for outcomes. ■ Informs the dialogue around the introduction or amendment of locally set performance targets. ■ Uses audit outcomes to challenge current practice and develop consistent, reliable care. ■ Delegates responsibility to colleagues to act as service leads and supports them to innovate. ■ Changes service delivery in response to new evidence. ■ Gathers feedback from patients, service users and colleagues to help develop plans. ■ Develops creative solutions to transform services and care. ■ Identifies areas for improvement for oncology services and creates solutions through collaborative work. ■ Educates and informs key people who influence and make decisions. ■ Obtains and acts on patient, carer and service user feedback and experiences.

QUALITY ASSURANCE/PATIENT SAFETY

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Participates in patient safety, clinical audits, risk assessment or other safety related activities. ■ Critically analyses significant events/critical incidents to identify the effect on patient outcomes. ■ Ensures safe practice within clinical guidelines. 	<ul style="list-style-type: none"> ■ Takes part in clinical and/or other governance processes related to safety within the organisation. ■ Trains others in safe work practices and a culture that facilitates safety through consultation with patients. ■ Undertakes a risk assessment of a clinical service area. ■ Works to develop systems that are safe and reliable, and prevent harm from occurring. ■ Evaluates the outcome of changes following clinical audits or other audit activity. ■ Works with managers to support service change/improvement. 	<ul style="list-style-type: none"> ■ Develops systems to measure risk, and practises to diagnose and quantify risk. ■ Contributes to the development of clinical governance strategies and practises, learning from relevant national collaborative projects. ■ Develops strategies to promote a safety culture within the service or organisation. ■ Identifies and quantifies the risk to patients using information from a range of sources. ■ Monitors the effects and outcomes of change. ■ Supports more junior colleagues to lead a service improvement project. ■ Works with healthcare colleagues and patients/service users and their representatives to establish the most appropriate means of collecting and analysing patient and carer feedback. ■ Supports colleagues to evaluate and audit the outcomes of healthcare improvement projects. ■ Ensures that protocols and policies are established and followed consistently.

Domain 6: Organisation and Management Skills

RESOURCE MANAGEMENT SKILLS

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Identifies how changes in resources can affect patients and their safety. ■ Awareness of role/implications of advisory bodies, e.g. NCPE/NCCP. ■ Understands the principles of pharmacoeconomic assessment and medicines cost-benefit analysis. ■ Awareness of role/implications of the funding pathways of oncology drugs. ■ Demonstrates awareness of HSE reimbursement schemes. 	<ul style="list-style-type: none"> ■ Participates in departmental discussions about resource allocation and service improvement. ■ Identifies the financial constraints that affect their service. ■ Highlights areas of potential waste to senior colleagues within the department. ■ Questions and challenges the use of resources. ■ Seeks opportunities to learn about HSE resource allocation principles and practices. 	<ul style="list-style-type: none"> ■ Works closely with the business manager to manage the budget for the service. ■ Forecasts for financial constraints. ■ Advises on the cost-effective use of SACT. ■ Reviews current service delivery, identify opportunities for minimising waste and introducing change for more efficient work. ■ Ensures services are delivered within allocated resources.

HUMAN RESOURCES MANAGEMENT SKILLS

Generalist	Specialist	Advanced Specialist
<ul style="list-style-type: none"> ■ Identifies and manages human resources and staffing issues as required in their position of responsibility. ■ Supports, motivates and mentors others within group learning. ■ Contributes to peer assessment/review. 	<ul style="list-style-type: none"> ■ Teaches and mentors other staff members with regard to other disciplines. ■ Influences others to use knowledge and evidence to achieve best practice. ■ Delegates work to staff. ■ Assesses and appraises staff. ■ Recruits and selects staff. ■ Identifies policy and legislation relevant to people management practices. 	<ul style="list-style-type: none"> ■ Interprets and implements HR processes for a service, e.g. recruitment and selection, appraisal, mentoring and coaching. ■ Undertakes appraisals of junior clinical colleagues. ■ Manages the performance of staff within an area of responsibility, undertakes challenging conversations with colleagues whose actions have been associated with poor performance and takes appropriate action, including disciplinary action, where necessary. ■ Provides practice supervision which may be across professional boundaries. ■ Develops workforce plans in line with pharmacy service reviews/requirements. ■ Monitors staff capabilities, training plans and revalidation in line with organisational governance requirements. ■ Supports team members to develop their roles and responsibilities.

Glossary

Competency -	the knowledge, skills, attitudes and behaviours that an individual develops through education, training, development and experience
Consultant -	consultant medical oncologist or haematologist
Prescriber -	the person authorised to order or prescribe chemotherapy
Prescription -	a written or printed prescription for dispensing in a retail pharmacy business
Systemic anti-cancer therapy -	all chemotherapy, biological agents and vaccines delivered with the purpose of treating solid and non-solid malignancies
Treatment order -	a written, printed or electronic order for chemotherapy to be administered in a hospital

Abbreviations

BOPA	British Oncology Pharmacy Association
BSA	Body Surface Area
CRC	Clinical Research Centre
EORTC	European Organisation for Research and Treatment of Cancer
GVHD	Graft Versus Host Disease
HPRA	Health Products Regulatory Authority
HER2	Human Epidermal Growth Factor Receptor 2
ICH-GCP	International Conference on Harmonisation – Good Clinical Practice
ICORG	All Ireland Cooperative Oncology Research Group
MRC	Medical Research Council
NCCN	National Comprehensive Cancer Network
NCCP	National Cancer Control Programme
NCPE	National Centre for Pharmacoeconomics
NCRN	National Cancer Research Network
NICE	National Institute of Clinical Excellence
OAM	Oral Anticancer Medicines
PSI	Pharmaceutical Society of Ireland
RPS	Royal Pharmaceutical Society
SACT	Systemic Anti-Cancer Therapy
SIGN	Scottish Intercollegiate Guidelines Network

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