



National Competency Framework for Pharmacists Providing Cancer Care

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1	Nov 2015	Version 1	National Competency Framework for Pharmacists Working in Cancer Care Working Group
2	Sept 2025	Version 2	NCCP Pharmacist Competencies (Cancer Care) Working Group
2a	Dec 2025	Replace term “Advanced Specialist” with “Expert” throughout and included explanatory footnote on page 6	N/A

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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 systemic anti-cancer therapy¹ (SACT) as a result of the ageing 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 anti-cancer medicines (OAM) which are dispensed to patients in the community. Consequently, the skill and knowledge requirements of pharmacists involved in the delivery of cancer care, in both hospitals and communities, have changed. This was recognised in the National Cancer Control Programme (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”. There is a role for pharmacists to support patients with cancer both in the hospital and the community setting and right across the cancer care continuum.

Competence assessment has evolved and been influenced by the learning taxonomy devised by Bloom (2). Bates & Bruno define competence as “the overarching capacity of a person to perform” (3). 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 providing cancer care. In addition, it will address the need to optimise medicine use, to improve the quality of care and to improve outcomes for patients with cancer by illustrating the behaviours, skills and knowledge pharmacists require for providing cancer care. This competency framework can be used at an individual level to measure performance and to help pharmacists providing cancer care, through reflection, to identify gaps in their continuing

¹ For the purpose of this document, SACT (systemic anti-cancer therapy) is defined as all drugs with direct anti-tumour activity that are administered for the treatment of cancer, including but not limited to chemotherapy, targeted therapies and immunotherapies. This includes SACT used in clinical trials and in compassionate use programmes.

professional development needs. At a more strategic level, it can be used as a method to inform the development and provision of training and education for pharmacists providing cancer care (4, 5).

The specific knowledge, skills and behaviour-related indicators identified in this competency framework are intended to be useful to the wide spectrum of pharmacists providing 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 Pharmaceutical Society of Ireland (PSI) Core Competency Framework for Pharmacists (6) 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 (IIOF), the Irish Pharmacy Union (IPU), 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 PSI Core Competency Framework for Pharmacists in Ireland (2013) (8), the British Oncology Pharmacy Association (BOPA) competency document (9) and the Royal Pharmaceutical Society (RPS) Leadership competencies (10) as the key reference documents for this work.

Using the PSI Core Competency Framework for Pharmacists as the foundation, Version 1 of this document mapped the competencies established by the BOPA (9) and the RPS Leadership competencies (10) with the PSI domains (8) in order to develop an NCCP National Competency Framework for pharmacists working in cancer care. Some competencies fitted within more than one domain.

In August 2015, a draft document (Version 1) 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. Version 1 of the NCCP framework (published in

November 2015) was based on Version 1 of the PSI Core Competency Framework for Pharmacists in Ireland, which included six domains (8). To note, the PSI Core Competency Framework for Pharmacists in Ireland was reviewed and updated in 2022 to reflect the evolving role of pharmacists. The updated PSI document is now called the PSI Core Competency Framework for Pharmacists and includes only five domains (6). Version 2 of the NCCP National Competency Framework for Pharmacists Providing Cancer Care also contains five domains (aligning with the PSI document).

A comparison of the domains of the NCCP National Competency Framework for Pharmacists Providing Cancer Care (V1 versus V2) is shown in Table 1 below:

Table 1: Domains of the NCCP National Competency Framework for Pharmacists Providing Cancer Care (V1 versus V2)

Domains in Version 1 NCCP Competency Framework	Domains in Version 2 NCCP Competency Framework
1. Professional Practice	1. Personal
2. Personal skills	2. Professional
3. Supply of Medicines	3. Organisation & Management
4. Safe & Rational use of medicines	4. Pharmacy Care
5. Public Health	5. Public Health.
6. Organisation & Management	

When drafting Version 2, additional competencies were added where appropriate based on competencies included in the International Pharmaceutical Federation (FIP) Knowledge and Skills Reference Guide for Professional Development in Cancer Care 2022 (11) and the PSI Core Competency Framework for Pharmacists (6), as well as the opinions of the Working Group.

Structure of Competency Framework

Similar to the PSI Framework (as updated in Version 2), Version 2 of the NCCP Framework contains five domains: personal, professional, organisation and management skills, pharmacy care and public health. Each of the five 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 setting² or the staff grade.

Three levels of practice have been adopted for pharmacists providing cancer care: Generalist, Specialist and Expert³. 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 practice will find themselves operating across several levels. This facilitates the formulation of professional development plans (9).

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.

² To note, there are a small number of generalist indicators that may not be applicable in the community pharmacy setting. These indicators have been marked with an asterix where relevant.

³ Version 1 of the National Competency Framework for Pharmacists Providing Cancer Care used the term Advanced Specialist to describe the highest level of practice. This version pre-dated the Implementation of the McLoughlin Report in Hospital Pharmacies (see circular linked [here](#)), which introduced the Advanced Specialist Pharmacist grade. Because the levels of practice within the National Competency Framework for Pharmacists Providing Cancer Care are **grade-agnostic and not linked to specific job titles**, Version 2 now uses the term “Expert” to denote the highest level of practice to prevent any potential confusion.

These reflect the particular competencies 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, e.g. a community pharmacist.

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 Expert. 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. While the competencies are structured across generalist, specialist and expert levels to reflect increasing depth of practice, they are grade-agnostic and not linked to specific job titles. However, locally, hospital teams may choose to align the framework with local grading structures to support workforce development and role progression.

For all domains, it is anticipated that pharmacists operating at all levels will endeavour to communicate with pharmacy colleagues as necessary to ensure consistent information and a seamless service.

Domain 1: Personal

• Demonstrates leadership • Confidently makes sound decisions and solves problems • Establishes and maintains collaborative working relationships • Communicates effectively		
Interprofessional Collaboration		
Generalist	Specialist	Expert
• 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 communicate / work with nurses, local physicians, allied health professionals and other healthcare providers to provide care, as part of a multidisciplinary team (MDT). • Respects, values and acknowledges the roles, contributions and expertise of others. • Develops and applies strategies for managing and resolving conflict constructively within the MDT to ensure optimal patient care.	• Demonstrates 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. • Fosters collaboration and team development of local cancer services 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.	• Encourages and supports colleagues to become actively involved in the networking process. • Complex decision-making ability with service-user safety in mind. • Leads, facilitates, and critically evaluates evidence-based clinical decision-making processes within the multidisciplinary team. • Provides encouragement and opportunity for people to engage in decision making and to challenge constructively. • 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. • Ability 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. • Is willing to lead a team, involving the right people at the right time. • Demonstrates advanced leadership in service development and innovation, including change management and quality improvement leadership within cancer pharmacy services. • Leads ethical discussions and decision-making processes for complex oncology scenarios, including innovative therapies, high-cost treatments, and patient autonomy issues.

Communication with Patients and Caregivers (in the Home, in other Institutions and in the Community)

Generalist	Specialist	Expert
Knowledge regarding effective communication: • Knowledge of communication channels within scope of practice with: ○ 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. • Awareness and demonstration of most effective communication techniques. • Ability to tailor communication style and message to meet the immediate needs of the patient or their carer. • Awareness of obligations in relation to equality, diversity and inclusion, demonstrating cultural and social awareness, especially with regards to minority groups.	Knowledge regarding communication channels: • Knowledge of communication channels within network including: ○ 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.	Knowledge regarding communication channels: • Knowledge of communication channels outside network including specialists for consultation or advice. • Ability to communicate regarding complex SACT issues.

Domain 2: Professional

• Applies a “person-centred” approach • Practises legally and ethically • Commits to lifelong learning and development • Adapts to change and innovation • Commits to evidence-based practice		
Understanding Cancer and organisation of Cancer Services		
Generalist	Specialist	Expert
• Understands the causes of cancer and has an awareness of the disease process. • Understands cytogenetics and how mutations can lead to cancer. • Understands the basic functions of the immune system and how it interacts with cancer cells. • 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 networks⁴. • Understands common terminology used in cancer. • Understands impact of cancer on patients and families. • Knowledge of the National Cancer Strategy. • Awareness of principles of survivorship care including contribution of the pharmacist. • Provides education and training to health professionals, patients and carers within own area of practice. • Maintains and continually develops knowledge in cancer care. • Maintains digital competence relevant to role and embraces technology and innovation to improve safety, efficacy and efficiency of patient care. • Understands likely disease progression within their scope of practice and impact on patient’s cancer journey.	• Demonstrates a comprehensive understanding of the 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. • Participates in research activities as required, with an understanding of research principles and interpretation of findings. • Develops an in-depth understanding of the molecular basis of common cancers relevant to targeted therapies and immunotherapies encountered in their scope of practice.	• 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. • Demonstrates expert knowledge of the molecular basis of a wide range of cancers, including rare tumours, and its application to personalised medicine strategies. • Leads initiatives to identify and address health disparities in cancer care access, treatment, and outcomes within their service or region. • Leads the evaluation, selection, and governance of new digital health technologies (including prescribing systems) to support cancer care for integration into pharmacy services, measuring their impact on patient care and efficiency.

⁴ 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	Expert
Within their scope of practice: • Knowledge of the needs of patients and their families and the local and national organisations that can provide information and support. • Recognises and supports patients whose mental health has been negatively impacted by their cancer diagnosis. • Knowledge of available psycho-oncology / mental health supports, both in primary and secondary care. • Awareness of the availability of cancer treatments and their funding streams (including the Primary Care Reimbursement Scheme (PCRS) Oncology Drugs Management System (ODMS) / community drug schemes and compassionate access), and ability to inform / communicate with stakeholders including patients with cancer, caregivers and the MDT, to inform decision making and discussions in relation to cancer treatment related medication costs. • Monitors the patient's medicines and comorbidities 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. • Applies principles of shared decision-making in patient consultations and develop skills in assessing and addressing varying patient health literacy levels.	• Awareness of the groups of patients and carers who have more difficulty in accessing information and the tools available to assist them. • Involvement in patient education on SACT, including ambulatory pumps. • Awareness of patient user involvement initiatives. • Champions the use of appropriate digital health tools to enhance patient support, education, and medicines adherence.	• Ability 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 3: Organisation & Management Skills

• Manages self • Manages within the workplace • Manages resources and finance • Contributes to continuous quality improvement and risk management		
Workplace Management Skills		
Generalist	Specialist	Expert
• Identifies and discusses how cancer services are adversely affected by poor performance. • Knowledge of how human factors can influence performance and decision-making which could impact safety and work practices. • Participates in audit or assessment after critical event reviews. • Examines the potential impact of their own performance on sustainability of new cancer 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. • Works with managers to evaluate and adapt service delivery in response to new evidence.	• Reviews cancer service targets and delivery by the multidisciplinary team. • Critiques departmental performance and systems of management. • Promotes changes leading to systems redesign where appropriate. • Takes part in discussions with health commissioners to develop understanding of future service plans. • Uses and interprets departmental performance data and information to debate cancer services within multidisciplinary team meetings. • Uses external references, e.g. IT based resources to support analysis. • Supports plans for cancer services that are part of the strategy for the wider health service.	• Uses management information to monitor and evaluate cancer 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. • Develops creative solutions to transform cancer services and care. • Identifies areas for improvement for cancer services and creates solutions through collaborative work. • Educates and informs key people who influence and make decisions.

Quality Assurance/Patient Safety		
Generalist	Specialist	Expert
• 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. • Follows clinical guidelines and ensures safe practice. • Gathers feedback from patients, carers, service users and colleagues to help develop plans for service improvement. • 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. • Recognises, reports and reflects on medication-related errors and near misses, contributing to a culture of safety by escalating concerns and following local reporting procedures. • Engages in open disclosure processes in accordance with the Health Service Executive (HSE) open disclosure policy with support from senior colleagues, understanding the importance of transparency and accurate documentation and patient centred communication. • Promotes a safety culture within the pharmacy and multidisciplinary team. • Undertakes open disclosure training and ensures that this training is refreshed regularly but most especially when new additions, changes or developments may occur.	• Takes part in clinical and/or other governance processes related to safety within the organisation. • Leads and supports incident investigation and contributes to open disclosure conversations, applying knowledge of cancer specific risks and patient safety principles.	• Develops systems to measure risk, and proactively practises to diagnose and quantify risk, in particular for high-risk oncology pharmacy processes and SACT use. • Contributes to the development of clinical governance strategies and practices, 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. • Drives systemic safety improvements and leads complex error investigations using cancer expertise to shape safer practice and influence service design. • Champions open disclosure and transparent communication providing leadership mentoring and training. • Critically analyses pharmacy-specific learning from incidents and openly shares insights with colleagues across organisations, while actively seeking opportunities to learn from the experiences and practices of others.

Resource Management Skills		
Generalist	Specialist	Expert
- 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. - Identifies the financial constraints that affect their service. - Highlights areas of potential waste to senior colleagues within the department. - Proactively assesses and advocates for the effective and judicious use of resources in cancer services.	- Participates in departmental discussions about resource allocation and service improvement. - Seeks opportunities to learn about HSE resource allocation principles and practices.	- Works closely with the business manager to manage the budget for the service. - Forecasts for financial limitations and plans resource allocations accordingly. - Advises on the cost-effective use of SACT. - Actively participates in formulary management for new cancer medicines at an institutional or regional level. - Reviews current service delivery, identifying opportunities for minimising waste and introducing change for more efficient work. - Ensures services are delivered within allocated resources. - Leads the development and presentation of comprehensive business cases for significant service developments, new technologies, or medicines, incorporating detailed pharmacoeconomic analyses and Health Technology Assessment (HTA) principles.

Human Resources Management Skills		
Generalist	Specialist	Expert
- 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. - Awareness of mental health and wellness of self and staff with an awareness of potential causes of personal / workplace stress. - Recognises the professional and personal demands of cancer care and identifies strategies to manage stress. - Influences others to use knowledge and evidence to achieve best practice.	- Teaches and mentors other staff members with regard to other disciplines. - Assesses and appraises staff's cancer care competencies. - Recruits and selects staff for cancer services. - Identifies policy and legislation relevant to people management practices. - Applies strategies to maintain personal resilience and supports colleagues in managing the demands of the role.	- 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. - Leads strategic workforce planning for oncology pharmacy services, including needs assessment, role redesign, and the development of targeted recruitment and retention strategies. - Develops and implements succession plans for key and specialist pharmacy roles within the service. - Monitors staff capabilities, training plans and revalidation in line with organisational governance requirements. - Supports team members to develop their roles and responsibilities. - Champions a workplace culture that supports wellbeing and actively develops systems to mitigate burnout and promote professional resilience within the pharmacy team.

Domain 4: Pharmacy Care

• Manufactures and compounds medicines • Manages the medicines supply chain • Dispenses, supplies and administers medicines • Provides patient consultations and counselling • Reviews and manages medicines • Leads for safety • Provides medicines information and education		
General Therapeutics & Treatment Goals		
Generalist	Specialist	Expert
• 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. • Ability to identify, monitor and appropriately report adverse drug events. • General awareness of cellular therapies e.g. BMT, CAR-T.	• Knowledge of the use of advanced therapeutics (e.g. bone marrow/stem cell transplant, CAR-T) to achieve goals. • Knowledge of: ○ Staging systems and their role in treatment decisions.	• Applies comprehensive knowledge and understanding of cancer therapeutics and therapeutic modalities. • Understands: ○ Psychosocial goals associated with systemic therapy. ○ Patient decision-making processes.

Principles of SACT		
Generalist	Specialist	Expert
- Knowledge of: - 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. - Awareness of the use of advanced therapeutics and personalised medicines (e.g. cellular therapy, immunotherapy, targeted therapy).	- Knowledge of: - 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. - Develops expertise in the mechanisms, unique toxicity profiles (e.g., immune-related adverse events), and specific management strategies for newer agent classes like immunotherapies and common targeted agents relevant to their patient population.	- Knowledge of: - 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. - Implements and evaluates processes for incorporating pharmacogenomic testing into clinical practice for selecting SACT, predicting toxicity, and individualising doses. - Leads the development and integration of comprehensive survivorship care plans, focusing on the pharmaceutical aspects of long-term follow-up and toxicity management. - Leads the development of a specialised oncology/haematology pharmacy service (e.g. geriatric/paediatric oncology).

Procedures for Safe Handling of SACT		
Generalist	Specialist	Expert
• Knowledge of basic safe handling procedures including spillage and disposal of chemotherapeutic waste / hazardous medicinal products. • Knowledge of extravasation risks. • Demonstrates basic understanding of occupational hazards of exposure to SACT drugs and waste. • Understands causes of exposure to SACT. • Ability to describe precautions when extemporaneously preparing oral formulations of SACT (e.g. for paediatrics or clinical trial materials). • Ensures measures are in place to minimise risks when patients are having SACT. • Ability to provide advice for patients re: handling SACT at home (spills, handling of contaminated linen, etc). • Knowledge of practical and administrative aspects of legislative requirements for safe handling/waste management. • Ability to provide advice for patients and carers on how to handle potentially contaminated waste at home. • Ability to provide advice for pregnant and breastfeeding staff re: handling SACT and contaminated waste.	• Ability to write, implement and evaluate procedures for safe handling of SACT. • Knowledge of personnel monitoring. • Documents extravasation, manages extravasation kits, reports within hospital reporting system and/or to the Health Products Regulatory Authority (HPRA).	• 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. • Leads comprehensive risk assessments for all aspects of hazardous drug handling within the institution and develops mitigation strategies, ensuring alignment with relevant guidelines and standards.

SACT Regimens		
Generalist	Specialist	Expert
- 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. - Advocates for advancement of pharmacist role in cancer services e.g. non-medical prescribing, outpatient clinics - Awareness of the safe acquisition, storage and distribution/supply of SACT.	- 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. - Knowledge of: - First line and relapse regimens for cancers treated within network. - Current treatment guidelines, e.g. NCCP, NCCN, NICE, SIGN, etc.	- Develops protocols for the network, combining drug regimen and supportive treatment, monitoring and dosage adjustment criteria. - Implements new treatment protocols and guidelines.
*May not be applicable to all community pharmacists		
Calculation of SACT doses, including BSA determination		
Generalist	Specialist	Expert
- Demonstrates the ability to perform pharmaceutical calculations accurately, e.g. - 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*.	- Ability to calculate lean body weight and ideal BSA. - Ability to advise on dose modifications regarding issues surrounding obesity, renal and hepatic function and low albumins, etc. - Ability to perform dosing calculations for SACT in paediatric populations. - Demonstrates competency in the use and quality assurance of technologies involved in SACT verification and dose calculation (i.e. National Cancer Information System [NCIS]).	- Awareness of different mathematical models for dose calculation. - Leads the development and audit of protocols for managing SACT verification and dosing in highly complex or novel therapeutic scenarios (e.g., compassionate access programmes, first-in-human trials if applicable, advanced cellular therapies). Engage with NCIS office where necessary.
*May not be applicable to all community pharmacists		

Interactions between Cancer Treatment / Supportive Care Drugs and other Drugs / Foods		
Generalist	Specialist	Expert
Understands the clinical significance of drug-drug and drug-food interactions with SACT drugs and drugs used to prevent and alleviate symptoms, within area of practice.	- Proactively identifies, evaluates, and manages complex drug interactions involving SACT, particularly with novel oral agents and polypharmacy. - Knowledge of SACT drugs which are sensitised by radiotherapy. - Reports any interactions to the HPRA and within hospital.	- Ability to assess potential of interactions with investigational agents. - Knowledge of clinical significance of drug-drug and drug-food interactions to individual patient circumstances.
Routes of Administration of Commonly Used SACT in all Settings		
Generalist	Specialist	Expert
- Awareness of routes by which drugs can be used within scope of practice. - Awareness of national and local intrathecal policy and practical implications*.	- 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. (If involved) Competently manages patients receiving SACT via community / home administration programmes, including patient training and adherence to local policies.	- Awareness of routes by which drugs within the institution can be given. - Involved in the development of local policies in accordance with national guidelines. - Develops, implements, audits, and refines institutional policies and procedures for the safe community / home administration of selected SACT (oral and parenteral), including comprehensive patient / carer training programmes and waste management strategies.
*May not be applicable to all community pharmacists		

Use of Speciality Devices for Drug Administration, including Infusion Pumps

Generalist	Specialist	Expert
• Demonstrates awareness of use of SACT delivery devices such as pumps and syringe drivers*. • Ability to describe drugs used, within scope of practice, which require filters, specific lines, etc*. • Demonstrates awareness of the rationale for and correct use of Closed System Transfer Devices (CSTDs) in SACT preparation and administration, adhering to institutional safe handling procedures based on HSE guidance*. • Awareness of stability of SACT.	• 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. • Ensures consistent and correct application of CSTDs in all relevant SACT handling procedures within their area of practice and provide guidance to others.	• 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. • Leads the evaluation, selection, and implementation of new administration technologies, including CSTDs, across the institution.

*May not be applicable to all community pharmacists

Monitoring & Management of Common Toxicities of Cancer Treatment

Generalist	Specialist	Expert
• Knowledge of (within scope of practice): ○ Monitoring and management of regimen toxicities (including those that are dose limiting). ○ Monitoring blood counts with SACT. ○ Treatment and prevention of common toxicities. ○ Dose reductions or delays for neutropenia and other toxicities for regimens. ○ Dose reductions in renal and hepatic impairment. ○ Documentation of toxicities. ○ Monitoring organ function tests with drugs that may cause organ toxicities. ○ Identification of patients at increased risk of toxicity due to additional risk factors, e.g., paediatric, adolescent, pregnant / lactating and older patients.	• Knowledge of: ○ Monitoring and management of toxicities of regimens used within treating hospital. ○ Monitoring effectiveness of antiemetic therapy. ○ Dose modification strategies. ○ 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. • Identifies and manages long-term and late-onset toxicities of common cancer treatments and contributes to patient survivorship care information.	• Knowledge of: ○ 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. • Leads the development of institutional guidelines for managing toxicities of complex / novel therapies (e.g., advanced cellular therapies, specific immunotherapies, multiple targeted agents) where none in place by NCCP.

Use of Supportive Care and Symptom Management Treatments		
Generalist	Specialist	Expert
• Awareness of symptoms and management of side effects and adverse effects such as: ○ Mucositis ○ Infection and neutropenia ○ Pain ○ Extravasation ○ Hypercalcaemia ○ Diarrhoea ○ Nausea and vomiting ○ Constipation ○ Palmar-plantar erythrodysesthesia ○ Hypersensitivity reactions ○ Tumour lysis syndrome • Knowledge of common symptom control drugs including analgesics and adjuvant therapy for pain management and treatments for constipation, diarrhoea, dyspnoea, cough, etc), seen within scope of practice. • Knowledge of antibiotic regimens and growth factors for infection prevention and febrile neutropenia. • Awareness and knowledge of the use of rescue medicines and antidotes in cancer treatment, e.g. mesna and folinic acid.	• Understands and makes recommendations for the management of symptoms, for example: ○ Electrolyte disturbances ○ Infections ○ Dyspnoea ○ Bleeding ○ Obstruction ○ Ifosfamide encephalopathy ○ Alkalinisation of urine ○ Hydration regimes and management of fluid balance ○ CRS/ICANS • Knowledge of: ○ 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. • Understands and makes recommendations for the management of oncological emergencies, e.g. ○ Superior vena cava obstruction ○ Spinal cord compression ○ Hypersensitivity reactions ○ Anaemia and the role of epoetin/blood • Develops and evaluates local drug related policies.	• 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. • Knowledge of: ○ Integration of pharmacologic interventions with other treatments.

Advice on Complementary and Alternative Medicine (CAM) in Relation to SACT		
Generalist	Specialist	Expert
Knowledge of resources to support queries on the effectiveness, safety and potential for interactions of medicines with complementary and alternative medicine within scope of practice.	- 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. - Ability to access information on complementary and alternate therapies used within oncology/haematology. - Ability to advise on contra-indications to alternative therapies within scope of practice.	- Ability to critically appraise evidence for alternative medicines and therapies used within network. - Develops and disseminates evidence-based resources and guidelines on Complementary and Alternative Medicine (CAM) use in patients with cancer for both healthcare professionals and patients.
Documentation ⁵ relating to Prescriptions and Systemic Treatment Orders		
Generalist	Specialist	Expert
Documents pharmaceutical care activities and outcomes including those specific to oncology.	Documents treatment outcomes, pharmaceutical interventions and advice related to SACT on health records.	

⁵ Documentation includes both paper and electronic systems where in place.

Domain 5: Public Health

• Participates in population health initiatives • Engages in health promotion activities		
Epidemiology of Cancer		
Generalist	Specialist	Expert
• Knowledge of incidence and prevalence of common cancers (breast, lung and colorectal) and those within their scope of practice.	• Knowledge of incidence and prevalence of cancers treated within their hospital.	• 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	Expert
• Knowledge of cancers within scope of practice, including: ○ Characteristics. ○ Common metastatic presentations. ○ Associated symptoms. • Awareness of cohorts at increased risk of developing cancer e.g. smokers, those using sunbeds, etc.	• Knowledge of anatomic characteristics of cancers and their metastatic presentations encountered within their hospital. • Knowledge of symptoms associated with these cancers. • Knowledge of relevant genes and awareness that they are not necessarily cancer specific, e.g. HER2.	• Knowledge of 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 Patients with Cancer		
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	Expert
- Ability to conduct brief interventions for smoking cessation. - Ability to conduct counselling regarding cancer risk factors and / or methods of reducing cancer risk, e.g. nutrition/weight management, appropriate alcohol consumption, vaccination, sexual health, skin protection. - Demonstrates awareness of: - The causes and prevention of cancer. - Evidence-based chemoprevention strategies for cancer, including their possible risks and benefits. - Health education and promotion issues. - Resources available for health promotion. - Knowledge of how to access referral centres.	- Understands the principles of health promotion and the causes of cancer and how to apply these within their practice. - Actively participates in promotion of healthy lifestyles to foster cancer prevention.	- Understands the principles of health promotion in relation to cancers within the network. - Leads or significantly contributes to the development of cancer prevention and health promotion campaigns, targeting specific populations or risk factors. - Involved in the education and promotion of healthy lifestyles, including the implementation of health promotion campaigns for patients with cancer, their families, staff and the general public. - Advocates for public health policies that support cancer prevention, early detection, and equitable access to care at a local, regional or national level.
Screening		
Generalist	Specialist	Expert
Awareness and promotion of the national cancer screening programs.	Knowledge of the referral pathways for other screening services, e.g. genetic screening.	Demonstrates an understanding of the impact screening programs may have on service delivery and patients with cancer and their families.

Clinical Trials		
Generalist	Specialist	Expert
• Knowledge of: ○ The 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.* ○ 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.*	• 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 MRC/CRC/EORTC/ICORG. • Knowledge of how to set up clinical trials. • Identifies areas where research or audit could improve. • Ability to undertake and supervise dispensing of clinical trials within scope of practice.	• Understands clinical trial design and application at the local site and across the country (especially nationally funded/badged trials). • Awareness 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). • Awareness 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. • Leads the pharmaceutical aspects of clinical trial management within the institution, ensuring robust governance, adherence to ethical principles, and efficient trial conduct. • Designs and conducts practice-based research projects and actively disseminates findings through peer-reviewed publications and conference presentations.
*May not be applicable to all community pharmacists		

Abbreviations

- **BOPA** British Oncology Pharmacy Association
- **BMT** Bone Marrow Transplant
- **BSA** Body Surface Area
- **CAM** Complementary and Alternative Medicine
- **CAR-T** Chimeric Antigen Receptor T-cell
- **CRC** Clinical Research Centre
- **CRS** Cytokine Release Syndrome
- **CSTD** Closed System Transfer Device
- **EORTC** European Organisation for Research and Treatment of Cancer
- **EU** European Union
- **FIP** International Pharmaceutical Federation
- **GVHD** Graft-Versus-Host Disease
- **HER2** Human Epidermal Growth Factor Receptor 2
- **HPRA** Health Products Regulatory Authority
- **HR** Human Resources
- **HSE** Health Service Executive
- **HTA** Health Technology Assessment
- **ICANS** Immune Effector Cell-Associated Neurotoxicity Syndrome
- **ICH-GCP** International Conference on Harmonisation – Good Clinical Practice

- **ICORG** All Ireland Cooperative Oncology Research Group
- **IIOF** Irish Institute of Pharmacy
- **IPU** Irish Pharmaceutical Union
- **IT** Information Technology
- **MDT** Multidisciplinary Team
- **MRC** Medical Research Council
- **NCCN** National Comprehensive Cancer Network
- **NCCP** National Cancer Control Programme
- **NCIS** National Cancer Information System
- **NCPE** National Centre for Pharmacoeconomics
- **NCRN** National Cancer Research Network
- **NICE** National Institute of Clinical Excellence
- **OAM** Oral Anticancer Medicines
- **ODMS** Oncology Drugs Management System
- **PCRS** Primary Care Reimbursement Service
- **PSI** Pharmaceutical Society of Ireland
- **RPS** Royal Pharmaceutical Society
- **SACT** Systemic Anti-Cancer Therapy
- **SIGN** Scottish Intercollegiate Guidelines Network

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