

# NCCP Hospital Pharmacy Cancer Services Workforce Planning Framework

Version	Date	Amendment	Approved By
1	Dec 2019		NCCP Executive

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## 1 Background

There are 26 publicly funded hospitals in Ireland which deliver Systemic Anti-Cancer Therapy (SACT) services as shown in Appendix 1. These are delivered on a hub and spoke model, with the majority of Consultant Medical Oncologists and Consultant Haemato-oncologists employed by and based at a designated cancer centre. Many Consultants also provide SACT services to satellite centres by travelling to the satellites on nominated days (1).

The SACT services delivered in these hospitals are supported by a multidisciplinary team including pharmacy services (1). The hospital pharmacy is an essential component of the cancer services to assure the safe and effective delivery of SACT for patients (2). Hospital Pharmacy Cancer Services are described in the 2014 NCCP Oncology Medication Safety Review Report (1) and the competencies necessary for pharmacists working in cancer services are detailed in the NCCP National Competency Framework for Pharmacists Working in Cancer Care (3). The NCCP recognise specialisation of hospital pharmacists as key to supporting the safe delivery of hospital pharmacy cancer services.

There are differences in staffing levels across the 26 hospitals providing pharmacy SACT services and consequently there can be differences in the services provided (4, 5). The implementation report of the NCCP Oncology Medication Safety review (5) highlighted that many Pharmacy Departments are currently unable to comply with the recommendations of the review due to limited staffing resources. Future increases<sup>1</sup> in demands due to increasing incidence, prevalence and treatment options for cancer would indicate that the need for increased staffing resources is expected to grow (6). Therefore, there is a requirement to address workforce planning in relation to Hospital Pharmacy Cancer services. This should be in line with the NCCP Oncology Medication Safety Review 2014 (5) and the National Cancer Strategy 2017 (7).

An agreed NCCP Workforce Planning Framework for Hospital Pharmacy Cancer Services should ensure a standardised approach to the resourcing of those services enabling standardised equitable provision of these services for all patients with cancer irrespective of the hospital attended. It will also ensure that

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<sup>1</sup> A report published by the National Cancer Registry in April 2019 estimates that the number of patients receiving SACT for the treatment of their cancer will increase by 58-81% (average of 70%) between 2015 and 2045.

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staffing levels will be maintained to ensure a safe and quality service as the total number of patients having chemotherapy increases in line with the projections of the 2019 NCRI report (6).

This framework considers the delivery of SACT services to patients. For the purposes of this document, SACT encompasses all drugs with direct anti-tumour activity and targeted therapies such as the monoclonal antibodies that are administered for the treatment of cancer. This includes SACT used in clinical trials and in compassionate use programmes. Cancer patients that are in hospital for other reasons will get their pharmacy services through the normal clinical pharmacy service e.g. surgical patients or cancer patients admitted for other procedures.

While this framework is broadly applicable to all services, paediatric services have some added components in their services that may need to be considered in addition to those included here.

## 2 Methodology

The NCCP convened a working group of pharmacists delivering Hospital Pharmacy Cancer Services as a sub-group of the SACT Resilience Group. The terms of reference and the membership of the working group are detailed in Appendix 2 and Appendix 3. The working group met three times in 2019.

The role of this group was to develop and agree a workforce plan for Hospital Pharmacy Cancer services which considers:

1. The required activities of a Pharmacy Department to deliver a cancer service, including but not limited to:
  - a. Recommendations from the NCCP Oncology Medication Safety Review Report (5)
  - b. Clinical pharmacy services to inpatients and outpatients in line with international best practice (2, 8-11)
  - c. Dispensing of SACT and supportive care
  - d. Aseptic compounding services (12, 13)
  - e. Clinical trials including compassionate use and expanded access programmes
2. Where oncology pharmacist clinical roles and aseptic production roles overlap

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Existing frameworks were identified through correspondence with similar services in other jurisdictions and information from the working group. The references of these frameworks were examined for relevant sources. The frameworks were adapted accordingly based on the expertise of the group considering pharmacy cancer services in Ireland.

### 3 Staff Titles and Staff Grades

This Workforce Planning Framework for Hospital Pharmacy Cancer Services includes recommendations on staff titles and grades<sup>2</sup> for the services being provided.

Only HSE recognised (14) staff titles and grades are used in this framework. These are detailed in Table 1.

**Table 1: HSE Staff Titles and Grades**

Title	Grades
Pharmacist	Basic grade Senior grade Chief 2 Chief 1
Pharmaceutical Technician	Basic grade Senior grade

#### 3.1.1 Emerging staff titles and grades

The staff titles and grades utilised in this Workforce Planning Framework may require review when the Report on the Review of Hospital Pharmacy, 2011 (15) is implemented in line with the HSE Service Plan (16) or with the introduction of relevant new HSE recognised staff titles and grades.

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<sup>2</sup> The NCCP Workforce Planning Framework for Hospital Pharmacy SACT Services gives an indication of, but does not prescribe, staffing ratios, absolute skill mix or clerical, administrative, portering, cleaning or other such support staff, as these are best determined locally, in accordance with relevant frameworks where available. All decisions on staffing grade needs to consider the overall activity of the SACT service in addition to the grade structure of the overall Pharmacy Department service.

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Hospitals currently employing staff at alternative staff titles and up-skilling staff, such as accreditation of Pharmaceutical Technicians for checking, should consider these staff in the context of the services being provided and the overall WTE as recommend by this framework.

### 3.1.2 Interns/ Students

Pharmacy interns/ Pharmaceutical technician students are not included in this framework.

## 4 Review of Existing Frameworks

Four main Hospital Pharmacy Cancer Services frameworks were identified as being relevant to the current and emerging Irish SACT Model of Care:

1. Scottish Trust Chief Pharmacists, The Development of a Capacity Planning Model for Pharmaceutical Services to Cancer Patients, 2003 (2)
2. BOPA Chemotherapy Service Specification. Medicines Optimisation, Safety and Clinical Pharmacy Workforce Plan, 2015 (9)
3. Society of Hospital Pharmacists of Australia Standards of Practice for clinical pharmacy services 2016 (11)
4. Cancer Care Ontario Systemic Therapy Task Force Report, 2000 (17)

These frameworks had a similar approach in terms of services, assumptions and limitations. In addition, each contained some different points concerning services or staffing ratios including;

1. Consideration of pharmacy services to include clinical services, aseptic services and dispensing services
2. The stratification of in-patients into low – high complexity to consider medical oncology, haematology and transplant patients

An overview of the international workforce planning models ratios for staffing levels (2, 9-11, 17) is provided in Appendix 4.

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#### 4.1 Conclusion

The working group agreed that the ratios for staffing levels detailed in the international workforce planning models would be used to inform this framework and would be adapted for applicability to the hospital pharmacy cancer services provided in Ireland. The group also considered additional areas that were not included in these frameworks and these are detailed further in section 5.3

### 5 Hospital Pharmacy Cancer Services Workforce Planning Framework

The NCCP Workforce Planning Framework is detailed in Table 2. This framework is intended to inform the staffing levels required to provide Hospital Pharmacy Cancer Services in line with the current and emerging Irish SACT Model of Care.

The framework has been agreed by the NCCP Hospital Pharmacy Cancer Services Workforce Planning Working Group and by the NCCP Parenteral SACT Resilience Group in Dec 2019.

There are a number of limitations and assumptions made in the development of the framework which may require additional business cases for staffing where these are identified as impacting on the local Hospital Pharmacy Cancer Service.

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Table 2 Workforce Planning Framework

Minimum Hospital Staffing Levels (These staff are to be included in the overall staff complement)		Recommended Staff Grade
<b>All hospitals providing SACT services should have the following minimum staff where the services are provided:</b>		
Lead Pharmacist	<ul style="list-style-type: none"> <li>Cancer centres – 1 WTE lead pharmacist</li> <li>All other hospitals – 0.5 WTE lead pharmacist</li> </ul>	Chief 2 Senior/ Chief 2 (See 5.3.2)
Order management and ancillary technician roles in pharmacy cancer services	<ul style="list-style-type: none"> <li>0.5 WTE Pharmaceutical Technician</li> </ul>	Senior
<b>All hospitals with an in-house aseptic compounding unit, including QA functions and supplying SACT</b>		
Quality Assurance	0.5 WTE Pharmacist 0.5 WTE Pharmaceutical Technician	Senior Senior
<b>Activity Based Staffing Levels</b>		
Clinical Pharmacy Service - Day ward services / Outpatients, Community Infusion Clinics	1 WTE Pharmacist per 21 SACT patients per day	1 <sup>st</sup> staff: Senior Other staff: Basic grade with direct report to Senior
Clinical Pharmacy Service - Inpatients	1 WTE Pharmacist per: <ul style="list-style-type: none"> <li>25 SACT inpatients (low-medium complexity) per day</li> <li>15 SACT inpatients (high complexity) per day</li> </ul>	1 <sup>st</sup> staff: Chief 2/ Senior Other staff: Senior/ Basic grade with direct report to Chief 2/ Senior
Aseptic compounding services	1 WTE Pharmacist per 6700 compounded items per annum 1 WTE Pharmaceutical Technician per 3480 compounded items per annum	ACU Manager: Chief 2/ Senior Other staff: Senior/ Basic grade with direct report to chief 2/ Senior ACU Manager
Outsourced SACT Additional non-compounded items for dispensing e.g. Oral medication and supportive care	1 WTE Pharmacist per 25000 dispensing episodes per annum 1 WTE Pharmaceutical Technician per <ul style="list-style-type: none"> <li>6000 outsourced SACT</li> <li>10000 dispensing episodes per annum (oral, supportive care)</li> </ul>	1 <sup>st</sup> staff: Senior Other staff: Basic grade with direct report to Senior
Order management and ancillary technician roles	10% uplift on the number of technicians required as per the other activity based staffing levels for pharmaceutical technicians	Senior/ Basic grade
<b>All hospitals providing Clinical trials, Compassionate Access Schemes / Expanded Access Schemes involving SACT</b>		
Clinical Trials	1 WTE pharmacist/ pharmaceutical technician for every 15 clinical trials opening per annum	Senior
Compassionate use/ Expanded access schemes	1 WTE pharmacist/ pharmaceutical technician for every 20 compassionate access/ expanded access scheme opening per annum	Senior

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## 5.1 Activity:Staffing Ratios

The NCCP Workforce Planning Framework for Hospital Pharmacy SACT Services staffing ratios are summarised in Table 2.

Dependent on the activity and services provided the Hospital Pharmacy Cancer Services; staff may operate across more than one of the services provided<sup>3</sup>. The grades of these staff should reflect the recommendations for those services, as detailed in Table 2 and later sections, considering the overall grades within each service. Each hospital should consider how to operate their WTE staff resources locally considering the skill mix and the requirements of the service.

These activity:staffing ratios include a 15 - 20%<sup>4</sup> allowance for staff annual leave. They do not consider absences such as sick leave or other planned/ unplanned leave.

## 5.2 Training

Staff members should not be considered as a full WTE complement while they are in the process of being trained to work in the pharmacy cancer service. While staff are in the process of being trained, they should be considered a 0.4 WTE for three months and a 0.8 WTE for the next three months (6 months in total). This can be noted for consideration in any business cases being prepared using this framework.

## 5.3 Services included in Framework

The cancer services included in this framework are listed below and elaborated on in the later sections. These have been informed by the international existing frameworks reviewed by the working group and the NCCP National Competency Framework for Pharmacists working in cancer care (2, 3, 9, 11).. These include:

1. Governance of Hospital Pharmacy Cancer Services

<sup>3</sup> In hospitals with low cancer services activity in particular, Hospital Pharmacy Cancer Services staff may have responsibilities for more than one of the cancer services provided by the hospital.

<sup>4</sup> A range was utilised to calculate whole numbers in rounding.

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2. Lead Pharmacist
3. Clinical pharmacy services to
  - a. Outpatients<sup>5</sup>, day ward patients and patients receiving their treatment in community infusion clinics
  - b. Inpatients including:
    - Low-medium complexity (e.g. patients with solid tumour)
    - High complexity (e.g. complex haematology and bone marrow transplant patients)
4. Aseptic compounding services
  - a. The number of SACT items compounded
  - b. Quality assurance where there is an aseptic compounding unit (ACU) in operation
5. Dispensing including
  - a. outsourced SACT
  - b. non-compounded items for dispensing e.g. oral medication and supportive care<sup>6</sup>
6. Order management and ancillary technician roles
7. Clinical trials
8. Compassionate use and expanded access programmes

### 5.3.1 Governance

All hospitals providing SACT services should have a nominated lead pharmacist for their Hospital Pharmacy Cancer Service. This pharmacist will report to the Hospital’s Chief Pharmacist and work collaboratively with the Hospital’s Cancer Services Clinical Lead, or equivalent, and other key stakeholders. This Lead Pharmacist may be primarily dedicated to one area of the pharmacy’s cancer service (e.g. aseptic compounding service) while having responsibility for the overall service. There may be other pharmacists in the pharmacy’s cancer service who are of equivalent grade and the lead pharmacist role may be rotated between these staff.

There should be clear reporting roles for all staff to ensure access to experienced staff for junior staff working in the cancer service.

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<sup>5</sup> Outpatients refer to those outpatients on SACT requiring pharmacist intervention/ review.

<sup>6</sup> Dispensing refers to the number of dispensing episodes and the dispensing role only as the clinical checking is included in the clinical pharmacy services.

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### 5.3.2 Lead Pharmacist

A minimum staffing requirement of 1.0 WTE in designated cancer service centres and 0.5 WTE in all other hospitals is required to support the role of the Hospital Pharmacy Cancer Services Lead Pharmacist. This is recommended to be at Chief 2 Pharmacist grade in designated cancer centres and at Senior Pharmacist grade in other hospitals<sup>7</sup>. This WTE is separate from the overall WTE recommended by this framework. This minimum requirement will ensure that there is sufficient staffing to provide a quality service in those hospitals whose cancer services activity does not support the appointment of WTEs based on this framework.

### 5.3.3 Clinical Pharmacy Services (Outpatients and Inpatients)

All hospitals providing SACT services should have a Hospital Pharmacy Cancer Services Clinical Pharmacy<sup>8</sup> Lead. This is recommended to be at Chief 2 Pharmacist grade in designated cancer centres and Senior Pharmacist grade in other hospitals.

It should be noted that although there are some clinical pharmacy standards detailed in the 2014 Oncology Medication Safety Review(5) and the NCCP Oral Anti-Cancer Medicine Model of Care Recommendations (18), there is no current nationally agreed strategy on standards outlining requirements for providing clinical pharmacy services in Ireland(19).

### 5.3.4 Aseptic Compounding Services (SACT)

All hospitals providing SACT aseptic compounding services should have a Hospital Pharmacy Cancer Services Aseptic Compounding Lead. This is recommended to be at Chief 2 Pharmacist grade in all hospitals operating an ACU, including quality assurance (QA) functions and providing SACT.

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<sup>7</sup> In other hospitals where the service includes a chief II pharmacist running the ACU, they should be considered for the lead pharmacist role, considering the overall grades within each service

<sup>8</sup> Clinical pharmacy services include outpatients, day patients, inpatients and patients receiving their treatment in community infusion clinics.

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### 5.3.4.1 Staffing for Aseptic Compounding Services Quality Assurance Functions

All hospital Pharmacy Departments providing an in-house aseptic compounding service must ensure that appropriate quality control measures are in place. This framework recommends that there is a minimum staffing recommendation to support the QA functions associated with provision of SACT aseptic compounding. This is recommended to be a 0.5 WTE Pharmacist and 0.5 WTE Pharmaceutical Technician. These WTE are separate from the overall WTE recommended by this framework so as to ensure that there is sufficient staffing to provide a QA function in those hospitals with an ACU.

A Senior Pharmacist grade is recommended as the pharmacist grade and a Senior Pharmaceutical Technician grade is recommended as the Pharmaceutical Technician grade working to locally agreed standard operating procedures.

### 5.3.5 Dispensing of outsourced SACT and non-compounded items

The dispensing of outsourced SACT and non-aseptically compounded items e.g. oral medication and supportive care should be overseen by the SACT Clinical Service or the SACT aseptic compounding service staff. The staff managing this dispensing should be in line with the recommended grade for the overall Hospital Pharmacy Cancer Services as described in Section 5.3.3 and 5.3.4.

These have been further divided into outsourced SACT and non- compounded items for dispensing e.g. oral medicines or supportive care. A different ratio has been included for these functions as the group acknowledged the additional workload associated with outsourcing of SACT.

### 5.3.6 Order management and ancillary technician roles

The working group acknowledged the growing involvement of technicians in roles such as order management and other ancillary areas that support pharmacy cancer services. As this is not included in other frameworks, the following was recommended by the group; a minimum of 0.5 WTE pharmaceutical technicians and 10% uplift on the predicted pharmaceutical technician requirement once the activity based staffing levels have been considered.

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### 5.3.7 Clinical trials for SACT services

All hospital Pharmacy Departments supporting SACT clinical trials<sup>9</sup> should have a Hospital Pharmacy Cancer Services Clinical Trials Lead. This is recommended to be at Senior Pharmacist grade. The recommended WTE to support this function is based on the number of clinical trials opening per annum in that hospital. The activity based ratio was agreed by the group considering the current workload associated with the initiation and ongoing management of clinical trials. The group considered that 15 trials opening per annum would require 1 WTE.

It is acknowledged that the work associated with clinical trials is on-going for the duration of the trial and this has been considered in the WTE recommendation. This WTE may be split between a pharmacist and a pharmaceutical technician as determined locally.

### 5.3.8 Compassionate access/ Expanded access schemes for SACT services

The recommended Pharmacy Department WTE to support provision of Compassionate Access/ Expanded Access Programmes (CAPs/ EAPs) for SACT services is based on the number of CAPs/ EAPs opening per annum in that hospital. The activity based ratio was agreed by the group considering the current workload associated with the initiation and ongoing management of CAPs/ EAPs. The group considered that 20 CAPs/ EAPs opening per annum would require 1 WTE.

It is acknowledged that the work associated with CAPs/ EAPs is on-going for the duration of the CAPs/ EAP and this has been considered in the WTE recommendation. This WTE may be split between a pharmacist and a pharmaceutical technician as determined locally.

## 5.4 Assumptions/ Limitations of Framework

The NCCP Workforce Planning Framework for Hospital Pharmacy Cancer Services developed includes the following assumptions and has a number of limitations as detailed below:

### 5.4.1 Assumptions

- Patients receiving SACT treatment, requiring admission, will be admitted into a SACT service assigned bed which is included in the activity ratio. Where the number of beds in use includes

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<sup>9</sup> The Pharmacy Department should be supporting a minimum average opening of 10 SACT clinical trials per annum.

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beds not included in this complement, consideration should be given to adjusting the number of inpatient beds to reflect this (although they are not formally assigned to the SACT service)

- All staff is fully trained and working to 100% capacity. Considerations for staff undergoing training are detailed in 5.2
- All SACT items take the same time to prepare. This is known not to be the case but as most ACUs prepare a variety of regimens of differing complexity, the framework is based on a mixed complexity model as per Appendix 5
  - The staffing ratio may be further informed locally by the use of the NCCP Capacity Planning tool for parenteral SACT (13). This tool may provide a more granular view of ACU requirements. This is subject to a maximum time commitment of 20% standard time functions, which includes time for quality management systems.
- All solid tumour inpatients require the same degree of pharmaceutical input (low-moderate complexity)
- All haematology and stem cell transplant inpatients require the same degree of pharmaceutical input (high complexity)
- All clinical pharmacists provide the same services
- The workload is consistent throughout a five- day week

### 5.4.2 Limitations

The following are limitations to this framework:

- Staff experience
- Clinical trials for SACT services
  - The workload associated with clinical trials is on-going for the duration of the trial. This workload can vary depending on the number of patients recruited to the trials as well as the trial specific requirements

**Note** that large volumes of compounding and dispensing activity resulting from clinical trials will be captured in the activity based staffing levels
- CAPs/ EAPs for SACT services

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- The workload associated with CAPs/ EAPS is on-going for the duration of the programme. This workload can vary depending on the number of patients recruited to the CAPs/ EAPS as well as the programme specific requirements

**Note** that large volumes of compounding and dispensing activity resulting from CAPs/ EAPS will be captured in the activity based staffing levels

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## Appendix 1. Hospitals offering Pharmacy Cancer Services in Ireland

This is a list of HSE funded hospitals involved in the prescribing and administration of SACT

Hospital	Hospital Group	Designated cancer centre
CHI at Crumlin	Children's Health Ireland	Y
Connolly Hospital	RCSI	
Beaumont Hospital	RCSI	Y
Our Lady of Lourdes Hospital, Drogheda	RCSI	
Cavan General Hospital	RCSI	
Mater Misericordiae University Hospital	Ireland East	Y
St Vincent's University Hospital	Ireland East	Y
St Luke's General Hospital, Kilkenny	Ireland East	
Wexford General Hospital	Ireland East	
Naas General Hospital	Dublin Midlands	
Tallaght University Hospital	Dublin Midlands	
St James's Hospital	Dublin Midlands	Y
Midlands Regional Hospital, Tullamore	Dublin Midlands	
St Luke's Hospital Rathgar	Dublin Midlands	
University Hospital, Limerick	University of Limerick	Y
University Hospital Waterford	South/South West	Y
South Tipperary General Hospital	South/South West	
Mercy University Hospital	South/South West	
South Infirmary Victoria University Hospital	South/South West	
Cork University Hospital	South/South West	Y
University Hospital Kerry	South/South West	
Portiuncula University Hospital	Saolta	
University Hospital Galway	Saolta	Y
Mayo University Hospital	Saolta	
Letterkenny University Hospital <sup>10</sup>	Saolta	
Sligo University Hospital	Saolta	

## Appendix 2. Terms of reference for group

### NCCP Workforce Planning Working Group for Hospital Pharmacy Cancer Services

<sup>10</sup> Letterkenny University Hospital is a designated satellite of the cancer centre in Galway for the symptomatic breast disease service.

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## Terms of Reference

### Background

There is a requirement to address workforce planning in relation to Hospital Pharmacy Cancer services in line with the NCCP Oncology Medication Safety Review 2014 (1) and the National Cancer Strategy 2017 (2). This will ensure a standardised approach to future service planning and the allocation of Hospital Pharmacy Cancer services. This will also underpin the workforce planning framework on the emerging Systemic Anti-Cancer Therapy (SACT) Model of Care.

The implementation report of the NCCP Oncology Medication Safety review(1) highlighted that many Pharmacy Departments are currently unable to comply with the recommendations of the review due to staffing resources. Future increases in demands due to increasing incidence, prevalence and treatment options would indicate that the need for increased staffing resources is expected to grow. A report published by the National Cancer Registry in April 2019(3) estimates that the number of patients receiving SACT for the treatment of their cancer will increase by 58-81% (average of 70%) between 2015 and 2045.

### Scope

This workforce planning framework should consider staffing requirements in order to deliver Hospital Pharmacy Cancer Services including clinical and aseptic production roles.

This workforce planning does not include:

- Education of pharmacists
- Spatial/ building/ geographical resources required.
- On-call arrangements

### Role

This is a working group, acting as a sub-group of the parenteral SACT Resilience Project working group. The aim of the working group will be to develop and agree a workforce plan for Hospital Pharmacy Cancer Services based on Pharmacy Department activities.

The agreed decision making process for this group is:

1. Consensus from the group where possible
2. Majority vote
3. Chair decision

The role of this group is to develop and agree a workforce plan for Hospital Pharmacy Cancer services which considers:

1. The required activities of a Pharmacy Department to deliver a cancer service, including but not limited to:
  - a. Recommendations from the NCCP Oncology Medication Safety Review Report (1)
  - b. Clinical pharmacy services to inpatients and outpatients in line with best international practice (4-7)

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- c. Dispensing of SACT and supportive care
- d. Aseptic compounding services (8, 9)
- e. Clinical trials including compassionate use and expanded access programmes

2. Where oncology pharmacist clinical roles and aseptic production roles overlap

### **Chairmanship**

The Chair of the Group is appointed by the group and reports to the Parenteral SACT Resilience Project working group.

### **Membership**

Membership will be for the duration of the project.

Additional members may be co-opted to the group from time to time

- NCCP Chief Pharmacist and Assistant National Director
- NCCP Chief 2 Pharmacist
- Pharmacist representation from designated cancer centres and non-designated cancer centres – to include hospitals with full Aseptic Compounding Units, standalone isolators/Vertical Laminar Flow Cabinets (or similar) and those with no local parenteral SACT compounding facility

### **Invited Experts**

Experts in a particular area, who are not members of the committee, may be invited to contribute to specific meetings or for specific items at a meeting, as appropriate.

### **Duration of membership**

Current membership of the group is for three years and may be further extended.

### **Quorum**

Minimum of four members, including at least three hospital based representatives.

### **Planned review of terms of reference**

The TOR will be reviewed annually.

### **Support**

Meeting rooms/secretariat support will be provided by the NCCP.

### **Meeting Frequency**

It is expected that the group will meet for 4-6 meetings over a period of 6 months. Meetings will ordinarily be held at the NCCP Offices and teleconference facilities will be made available as appropriate.

### **Documentation:**

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Documentation for meetings will ordinarily be circulated to members in advance of meetings. Notes of meetings will be circulated to members within a reasonable period after the meeting. Transmission of documentation will ordinarily be by e-mail.

**TOR References**

1. Heckmann P, McCarthy T, Walsh O, Hanan T. NCCP Oncology Medication Safety Review Report. HSE; 2014.
2. DOHC. National Cancer Strategy 2017-2026. 2017.
3. NCRI. Cancer Incidence Projections for Ireland 2020-2045. www.ncri.ie; 2019.
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6. Low J, Macintyre J, McIver L, Lannigan N. The Development of a Capacity Planning Model for Pharmaceutical Services to Cancer Patients. The Pharmaceutical Journal. 2003;270.
7. Society of Hospital Pharmacists of Australia. SHPA Standards of Practice for the provision of clinical oncology pharmacy services. J Pharm Pract Res. 2002.
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9. NCCP. NCCP Capacity Planning for Parenteral SACT. 2017.

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### Appendix 3. Membership of group

Organisation/ Hospital	Member
<b>NCCP</b>	Patricia Heckmann, (Chair) AND & Chief Pharmacist AnneMarie De Frein, Chief 2 Pharmacist
<b>St. James's Hospital</b>	Martin Flattery, Chief II Pharmacist - ACU Sinead Smith, Chief II Pharmacist
<b>University Hospital Waterford</b>	Eimear McGowan, Chief II Pharmacist - ACU Darren Walsh, Senior Oncology/ Haematology Pharmacist
<b>Kerry University Hospital</b>	Pat O'Dowd, Senior Oncology/ Haematology Pharmacist
<b>CHI at Crumlin</b>	Eileen Butler, Chief II Pharmacist - ACU
<b>Mercy University Hospital</b>	Ciaran Halleran, Chief Pharmacist
<b>Tallaght University Hospital</b>	Louise Byrne, Chief II Pharmacist - ACU Seamus Dunne, Senior Oncology/ Haematology Pharmacist
<b>University Hospital Limerick</b>	Anne Harnett, Chief Pharmacist Susan Stack, Deputy Chief Pharmacist
<b>University Hospital Galway</b>	John Given, Chief Pharmacist Harold Lewis, Chief II Pharmacist - ACU
<b>Cork University Hospital</b>	Lorraine Griffin, Chief II Pharmacist - ACU
<b>St. Luke's Kilkenny</b>	Donal Carroll, Chief Pharmacist

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**Appendix 4. Overview of international WFP models**

Type	UK (BOPA(9))	Scotland(2)	Australia(10, 11)/ New Zealand	Canada(17)
Day patient	1.2 WTE per 30 (solid tumour)	1 WTE per 20 outpatients per day		1 WTE per 25-33 patients
	1.2 WTE per 25 (haematology)			
Inpatients – low/medium complexity	1.2 WTE per 25 inpatient (oncology) beds	1 WTE per 30 inpatients per day	1 WTE per 20-25 oncology beds	1 WTE per 25-33 patients
Inpatients –high complexity	1.2 WTE per 15 inpatient (haematology) beds		1 WTE per 10-15 haematology beds	1 WTE per 25-33 patients
Dispensing – Non-sterile		1 WTE Pharmacist per 30,000 items per year 1 WTE Ph. Technician per 12,000 items per year		
Patient education to include patient counselling	1.2 WTE pharmacy technicians per 30 ambulatory SACT attendances			
Other recommendation – Aseptic compounding		1 WTE Pharmacist per 8000 items compounded/year (+0.28 WTE per 100 additional patients) 1 WTE Ph. Technician per 5000 items compounded/year (+0.43 WTE per 100 additional patients)		
Other recommendation – Quality Assurance		0.5 pharmacist and 0.5 Pharmacy technician per aseptic dispensing facility		

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## Appendix 5. Complexity associated with SACT aseptic compounding

The working group considered that the average complexity of items compounded by pharmaceutical technicians in the aseptic compounding unit has increased since the publication of the international hospital pharmacy SACT services workforce planning framework in 2003 (2). This increased complexity was considered in the staffing ratio that was assigned in the framework.

The activity levels and the associated complexity of seven the designated cancer centres was analysed to identify the average complexity. This was found to be as follows;

**Table 3 Complexity average**

Complexity	% overall activity
1	13.87%
2	63.00%
3	19.33%
4	2.48%
5	1.32%
	100%

Considering this average complexity, the NCCP capacity planning tool was used to identify the number of items with this complexity mix that 1 WTE pharmaceutical technician would compound. This was identified as 290 items per month or 3480 items per annum.

Further detail is available on request from the NCCP.

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