

# SHPA Standards of Practice for the Provision of Clinical Oncology Pharmacy Services

The Society of Hospital Pharmacists of Australia  
Committee of Specialty Practice in Oncology

*These are standards of professional practice and not standards prepared or endorsed by the Standards Association of Australia. They are not legally binding.*

## INTRODUCTION

These standards describe activities consistent with good practice for the provision of clinical pharmacy services to an oncology unit. An oncology unit is defined as any unit caring for patients with malignancy. An oncology unit includes oncology, haematology, bone marrow transplant, palliative care and radiation therapy. The pharmacist responsible for the overall service to an oncology unit is referred to as the oncology pharmacist.

These standards supersede previously published Society of Hospital Pharmacists of Australia (SHPA) 'Standards of Practice for the Oncology Pharmacist'.<sup>1</sup> They must be read in conjunction with developed standards of practice relating to clinical pharmacy services, and technical aspects involved in the safe handling of cytotoxic chemotherapy in pharmacy departments.<sup>2,3</sup>

The director of pharmacy services is responsible for ensuring the implementation of these standards within each institution.

## OBJECTIVES

These standards describe the minimum requirements for a clinical service to an oncology unit. The standards offer guidance for:

1. optimal pharmaceutical care to patients;
2. the minimum requirements for an oncology pharmacist;
3. staff, training, education and quality aspects of the service.

These standards can be considered the minimum accepted practice, which should be applied nationally.

## EXTENT AND OPERATION OF THE SERVICE

### Clinical Services

The pharmacy must offer the clinical service to all inpatients and outpatients of the oncology unit. The pharmacy department should make the service available seven days a week.

The pharmacist must work as a member of the health-care team. The establishment of a good working relationship with medical, allied health and nursing staff, as

well as community health professionals, patients and their carers is the basis of successful clinical practice. The oncology pharmacist should actively participate in all clinical activities such as ward rounds, ward meetings, case presentations, journal clubs and lectures.

The oncology pharmacist should review all patients' medications as set out in SHPA guidelines.<sup>2</sup> The oncology pharmacist should also liaise with the cytotoxic manufacturing service to coordinate the supply of cytotoxic chemotherapy.

The oncology pharmacist must collaborate with other health professionals in pursuing optimal drug therapy for patients with cancer. This requires that the oncology pharmacist collect and interpret pertinent clinical data, and assume professional responsibility for optimising drug therapy outcomes. Each patient of the service must have a defined pharmaceutical care plan. The oncology pharmacist must be able to:

- collect and assess current and past patient and family information necessary to design a pharmacotherapeutic plan;
- establish therapeutic goals in collaboration with the patient and other professionals;
- recommend, design and modify a therapeutic plan for identified patient-specific problem(s) through the integration of pathophysiological, pharmacotherapeutic, pharmacokinetic, pharmacodynamic, economic, and ethical considerations;
- recommend, design and implement a monitoring plan (e.g. follow-up assessment, adverse effect evaluation, physical assessment, laboratory assessment, rating instruments, frequency and duration of follow-up);
- assess outcomes relative to therapeutic goals (e.g. effectiveness, drug-related problems, compliance);
- predict and recommend ways to prevent potential drug-related problems, and identify and suggest ways to resolve actual drug-related problems;
- effectively document and communicate findings and recommendations regarding pharmacotherapeutic treatment with other professionals, patients and family.

The information in the care plan must be detailed, relevant and readily accessible. Pharmacists must have easy and ready access to patient demographics, height, weight, body surface area, treating physician, disease and stage, chemotherapy protocol drugs and doses, goal of treatment (i.e. adjuvant, neo-adjuvant, curative, palliative), relevant laboratory measurements, signs and

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symptoms of toxicity, preferred supportive care therapies (e.g. analgesics, antiemetics), allergies, adverse drug reactions, cumulative drug doses where appropriate (e.g. anthracyclines, bleomycin, carmustine), past and current medications. The information must be kept up to date and referred to prior to every dispensing of chemotherapy in order to integrate all treatment.

The oncology pharmacist must contribute to the design of chemotherapy and supportive care protocols. The use of well established chemotherapy protocols must be encouraged. Deviation from these standard protocols must only occur in consultation with the senior medical officer responsible for the patient.

The oncology pharmacist must be able to interpret, generate and/or disseminate knowledge in oncology as it applies to oncology pharmacy practice. In order to adequately fulfil this requirement the oncology pharmacist must be able to:

- retrieve and evaluate the relevant oncology literature;
- integrate new information with existing information to establish recommendations for clinical use;
- provide education and medication-related counselling to patients, families, and caregivers and assess the effectiveness of these activities;
- provide formal and informal education and consultation to the professional community and assess the effectiveness of these activities.

The oncology pharmacist must be involved in the preparation of any patient information leaflets which are given to patients to aid in counselling. Counselling with the provision of patient information leaflets should be provided to patients with regard to cytotoxic chemotherapy, supportive care and adverse effects. Advice on recognising and minimising potential delayed side effects is an essential component of this counselling process.

#### Administrative Services

The administrative duties of the oncology pharmacist are those activities required for the management, organisation and ongoing development of the clinical service. This includes:

- preparation and annual review of a written policy and procedure manual for the provision of a clinical service to oncology patients. Where possible this should be done in conjunction with the pharmacist responsible for the provision of clinical pharmacy services to the entire institute;
- development and maintenance of a quality assurance program for the provision of clinical services to the patients of the oncology unit. Quality indicators are included in Appendix 1;
- the supervision of unqualified staff as well as the provision of direction and education to pharmacy undergraduates, trainees, and pharmacists with less experience in the provision of pharmacy services to oncology patients;
- assessment of company-printed materials and patient aids to determine their applicability in oncology pharmacy practice;
- reporting to the director of pharmacy and the director of each specialist unit on the functioning of the service when requested. The information should include preparation of workload and drug usage

statistics, recommendations for the cost-effective use of drugs, and information on patient parameters, pharmacy interventions, and medication errors.

#### RESOURCES

The oncology pharmacist should be provided with sufficient staffing to run the service. Adequate support staff should also be made available to ensure that minimal non-clinical activities are performed by clinical pharmacists.

Adequate office and storage space must be made available for patient profiles, protocol books, and other references required by the oncology pharmacist. A library of reference and educational material should be collated and maintained. This must include the references listed in Appendix 2. The oncology pharmacist should also have easy access to appropriate oncology and haematology journals (Appendix 3), and should have direct access to both e-mail and the Internet (Appendix 4).

The oncology pharmacist should be provided with sufficient resources to obtain formalised accreditation and/or training.

#### STAFFING STRUCTURE AND LEVELS

There should be one individual responsible for the coordination of all aspects of the service. Continuity of personnel in the provision of the service is essential to facilitate the achievement of this objective. Notwithstanding the above, aspects of the service may be delegated to other pharmacists to ensure appropriate operation of the service.

The primary consideration for staffing structure and levels is the provision of patient-focused pharmaceutical care.<sup>2</sup> To maintain a comprehensive service for effective full-time pharmacist input (38-hour week), a suggested bed to pharmacist ratio is outlined in Table 1.

Table 1. Suggested staffing ratios

Ratio of beds per 1 EFT pharmacist	Bed description
75	Radiation Oncology
50	Palliative Care
20–25	Medical Oncology
10–15	Haematology/Bone Marrow Transplant Service

These ratios must consider other factors such as patients attending outpatient clinics and day therapy. Separate specialised oncology pharmacists for paediatric oncology, and bone marrow transplant services should be considered.

#### TRAINING AND EDUCATION OF STAFF

The oncology pharmacist must have adequate education and training in clinical oncology pharmacy practice. The oncology pharmacist should have postgraduate qualifications in clinical pharmacy. They must possess up-to-date clinical oncology knowledge and be capable of exercising independent, responsible clinical judgment. The oncology pharmacist must maintain a minimum of 20 hours of continuing education points per year (as

defined by SHPA) within the field of oncology pharmacy practice. The oncology pharmacist should be encouraged to obtain formalised accreditation, which is available through the US Board of Pharmaceutical Specialties. Pharmacists commencing practice in oncology should undertake a relevant orientation and training program. Specialised training may be obtained through SHPA, the American Society of Health-System Pharmacists, or the American College of Pharmacy Practice.

Regular attendance at specialist conferences and educational meetings must be undertaken to maintain and update specialist knowledge. The oncology pharmacist should attend and participate in relevant continuing education programs. This information must be disseminated to work colleagues. Liaison with special interest groups in oncology and the SHPA Committee of Specialty Practice in Oncology is recommended.

The oncology pharmacist must act as a resource for the dissemination of oncology-related drug information. This includes collaboration with other professionals and the public in addressing public health issues as they relate to oncology pharmacy practice. The dissemination of oncology-related drug information should also include the education of nursing, medical and allied health staff, as well as colleagues, pharmacy trainees, and pharmacy students.

### Clinical Trials

The oncology pharmacist must be familiar with all clinical aspects of trials that involve patients with cancer. They should liaise with the principal investigator, other research personnel and the clinical trials pharmacist to facilitate the smooth running of studies and to ensure adherence to study protocols. Participation in clinical trial start-up meetings is encouraged.

Where clinical trials are conducted within the institution and a clinical trials pharmacist is not employed, the oncology pharmacist is best placed to take on the responsibility for pharmacy aspects of the conduct of oncology-related clinical trials. The oncology pharmacist must be familiar with accepted codes of practice for clinical trials.<sup>4,6</sup> Where a pharmacist is employed to oversee clinical trials, the oncology pharmacist should act as a valuable resource for advice and information on oncology-related studies.

### Research

The oncology pharmacist should become involved in practice research. To facilitate this requirement the oncology pharmacist must possess knowledge in the areas of epidemiology, statistical analysis, and research protocol development. The oncology pharmacist must possess knowledge in the areas of:

- oncology literature and information retrieval systems;
- study design and methodology;
- common study end points (e.g. response, adverse events, economics, quality of life, pharmacokinetics, pharmacodynamics);
- selective strengths and limitations of different study designs;
- statistical methods used for data analysis;
- clinical versus statistical significance;
- educational and counselling methodology;

- regulatory guidelines and information resources for education and counselling;
- regulatory and ethical issues related to research in patients with cancer (including confidentiality, informed consent and patient rights), and
- the entire oncology drug development process.

The oncology pharmacist must also understand established clinical practice guidelines for:

- the treatment of patients with cancer;
- established methodology for developing clinical practice guidelines;
- professional practice standards and guidelines that apply to oncology pharmacy practice;
- quality improvement strategies to avoid medication misadventures;
- methods for handling cytotoxic drugs and related materials;
- investigational drug management; and
- drug usage evaluation (DUE) processes.

Presentation of research at relevant conferences and seminars such as those organised by SHPA, Clinical Oncological Society of Australia (COSA), American Society of Clinical Oncology (ASCO), and the International Society of Oncology Pharmacy Practitioners (ISOPP) is highly recommended.

### QUALITY

A quality assurance program for the provision of clinical services to the patients of the oncology unit must be developed and maintained. The program should be based on the accepted standards.<sup>2</sup> The program should include a number of quality indicators. The suggested minimum quality indicators are outlined in Appendix 1.

#### Appendix 1. Quality indicators for provision of clinical oncology pharmacy services

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##### 1. Checking relevant laboratory measurements

The number of occasions (%) that the serum creatinine or creatinine clearance, or liver function tests (serum bilirubin and alkaline phosphatases) are checked and recorded prior to chemotherapy.

##### 2. Referenced protocols

The number of occasions (%) that a cytotoxic chemotherapy protocol is used and its validity has not been verified by the clinical pharmacist. Validity refers to a referenced protocol (published in peer-reviewed journals and based on well-designed clinical trials).

##### 3. Dose recalculation

The number of occasions (%) that the clinical pharmacist recalculates the dose of chemotherapy ordered. This may be through recalculation of body surface area, or glomerular filtration rate where AUC is used to calculate carboplatin dosage.

##### 4. Counselling

The number of occasions (%) where chemotherapy protocol progress sheets are given to patients to aid the counselling process.

##### 5. Clinical services

The number of occasions (%) where pharmaceutical care plans are prepared and maintained.

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## Appendix 2. Reference texts

Reference library must include the following texts and their latest update. These texts may be available as either a hard copy or an electronic copy.

- Dorr RT, von Hoff DD. Cancer chemotherapy handbook. 2nd edition. Connecticut: Appleton & Lange; 1994.
- De Vita VT, Hellman S, Rosenberg SA, editors. Cancer: principles and practice of oncology. 6th edition. Philadelphia: Lippincott-Raven; 2000.
- Finlay R, editor. Concepts in oncology therapeutics. 2nd edition. Bethesda: American Society of Health-System Pharmacists; 1998.
- Doyle D, Hanks GWC, MacDonald N. Oxford textbook of palliative medicine. Oxford: Oxford University Press; 1993.

## Appendix 3. Reference journals

Journal	Publisher
Annals of Oncology	Kluwer Academic Publishers
Blood	American Society of Hematology
British Journal of Cancer	Harcourt International
Cancer	J Wiley and Sons for the American Cancer Society
Journal of the National Cancer Institute	Oxford University Press
Journal of Pain and Symptom Management	Elsevier Science
Journal of Clinical Oncology	Lippincott, Williams & Wilkins
Seminars in Oncology	WB Saunders Company

## Appendix 4. Web sites

The following web sites are considered appropriate at publication. The oncology pharmacist must critically review all information obtained from the Internet.

Web address	Description
cancer.org	American Society of Cancer
cancerbacup.org.uk	UK-based cancer information service
nci.nih.gov	National Cancer Institute (NCI)
oncolink.upenn.edu	University of Pennsylvania Cancer Centre
cancernet.nci.nih.gov	Cancer Information (provided by the NCI)
asco.org	American Society of Clinical Oncology
nccn.org	National Comprehensive Cancer Network

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6. Therapeutic Goods Administration. Clinical trials (chapter 4). In: Access to unapproved therapeutic goods in Australia. Commonwealth Department of Health and Aged Care; May 2001. p. 54-127. Available from: [www.health.gov.au/tga/docs/pdf/unapproved/unapp.pdf](http://www.health.gov.au/tga/docs/pdf/unapproved/unapp.pdf)

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