

Queensland remote chemotherapy supervision guide (QReCS)

July 2014



Queensland remote chemotherapy supervision guide

The document has been developed on behalf of the statewide Rural and Remote and Cancer Clinical Networks by staff from the:

- Central Integrated Regional Cancer Service
- Townsville Cancer Centre

The following are also acknowledged for their support:

- Rural and Remote Network
- Statewide Cancer Clinical Network.

The consultation process has secured the input of a significant number of people and has improved the comprehensiveness of the document. Their time and expert opinion is greatly appreciated.

Queensland remote chemotherapy supervision guide

Published by the State of Queensland (Queensland Health), July 2014

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Refer to Page vii for Important disclaimer

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Foreword – Dr Michael Cleary

Improved access to healthcare for Queenslanders is a key element of the *Blueprint for better healthcare in Queensland*¹. People affected by cancer are often required to travel frequently for care. Cancer care is provided across public, private and non-government organisations, and includes services such as imaging, pathology, surgery, radiotherapy, chemotherapy and psychosocial and supportive care.

The challenges experienced by people with cancer are compounded when they have to travel away from their families, friends and support networks to receive care. The *Queensland remote chemotherapy supervision guide 2014* has been developed to support Hospital and Health Services to safely enable the provision of cancer care closer to home for rural and remote patients. A multidisciplinary steering committee with representatives from various regions in Queensland oversaw the development of the guide. The recommendations developed build on the experiences of Cancer Care Services at The Townsville Hospital and the Central Integrated Regional Cancer Service in facilitating the desire of patients and clinicians to have safe high-quality care available closer to home.

The expansion of Telehealth enables the safe transfer of care between facilities with an individual patient and family focus, enabling the expansion of knowledge and skills of the staff providing care in rural and remote locations.

Together, improved access to Telehealth and the publication of this guide will provide additional resources with which our Hospital and Health Services can support patients to access safe, high-quality cancer care closer to home and contribute to improving outcomes for patients living in regional, rural and remote areas of Queensland.

Dr Michael Cleary

Chief Operations Officer
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Foreword – David Currow

The way we think about delivering health services is evolving as new technologies and treatment choices create new opportunities for innovation. Given the geography of Australia, this generates exciting ways to pioneer generational changes in the way cancer care is delivered. Ultimately, we are faced with the ability to not only improve cancer outcomes overall, but to reduce disparities in outcomes that until now have been driven by the distances that patients have had to travel.

The challenge for the healthcare system in Australia has always been about how we can, as a community, deliver more equitable outcomes wherever people live. Sadly for many people in rural and remote Australia, health outcomes are worse. As a community, we need to address these discrepancies as a priority.

For cancer, every aspect of cancer control has a gradient of worsening outcomes the further away people live from large centres:

- lifestyle risk factors increase
- screening participation rates decrease
- tough decisions are made about treatment choices when cancer has been diagnosed.

Long term cancer outcomes reflect where there are differences between people living in rural and remote Australia, and the rest of the community.

New technologies hand-in-hand with new therapies offer an unprecedented opportunity to take the next logical step in delivering better cancer outcomes in Australia. If the majority of care can now be delivered safely and effectively in centres closer to home and we capitalise on new models of healthcare, we will see improvements in cancer outcomes as a direct result of such innovation. This is one of the most exciting and pressing opportunities to improve the way we deliver cancer care. Importantly, if we can do this in medical oncology where the issues of safety are paramount, then the findings can be adapted to other clinical disciplines. If we can deliver this care over the vast distances in Queensland, then such models can inform delivery of an increasing proportion of cancer care in remote communities around the world.

This guide allows much of the pioneering work done in Queensland to become more widely available. More proximate service delivery will be made possible by health professionals who are not afraid of technology and who are willing to upgrade their skills in oncology to deliver new services in partnership with motivated oncology services.

Outcomes, including survival, will improve and outcomes must be the yardstick that measures the success of these innovative and responsive models of care.

Professor David Currow B Med, MPH, FRACP
Chief Cancer Officer, New South Wales
Chief Executive Officer, Cancer Institute New South Wales

Summary of the Queensland remote chemotherapy supervision (QReCS) model and the guide

This guide has been developed to support the implementation of the QReCS model and is supported by evidence from several studies on Teleoncology. This guide is intended to support the safe and sustainable administration of chemotherapy closer to home for patients from rural and remote areas utilising Telehealth.

The initial steps when considering implementing the QReCS model include:

- Agreement between provider and recipient facilities management and clinical teams
- Allocate 3 - 6 months preparation time to implement the QReCS guide requirements

Queensland remote chemotherapy supervision (QReCS) model



CSCF = Clinical Services Capability Framework (Cancer Services)²

To implement this model, the following **10 requirements** are recommended.

1. Strategy and governance
2. Financial considerations
3. Workforce
4. Chemotherapy medication management
5. Telehealth readiness
6. Chemotherapy administration readiness
7. Information technology and support
8. Legislation and special considerations
9. Education and training
10. Documentation and discharge

Preface

This guide has been developed to support the implementation of the QReCS model across the state. The guide is intended to support the safe and sustainable administration of chemotherapy closer to home for patients from rural and remote areas using Telehealth technologies.

Most medical and nursing elements of the guide are based on published studies and abstracts. Primarily, the model has been developed to address the impracticality of having specialist cancer care nurses, haematologists and cancer care pharmacists available in rural and remote locations to deliver chemotherapy. Instead, the approach sees cancer care professionals across medical, nursing, pharmacy and allied health streams at larger centres harnessing Telehealth technology to supervise chemotherapy administration remotely. The model relies on rural and remote medical, nursing and pharmacy teams having a formally developed working knowledge of the critical safety and quality issues relating to patients undergoing chemotherapy. Along with safety and quality, other essential aspects of the model are outlined in this guide.

As training requirements are tailored, the model is responsive to the wide range of clinical services provided in rural and remote health facilities. The model also accommodates the sometimes high turnover of clinical staff in these locations. In short, the model maximises the potential for patients to receive cancer treatment closer to their homes where there is insufficient local demand for speciality cancer services.

‘Achieving health equality for all Australians, regardless of race, income and place of residence, has been identified as one of the greatest health challenges Australia faces. To address this challenge, the extent of health inequalities need to be quantified, as recommended by the *World Health Organization Commission on the Social Determinants of Health*. Specifically, an understanding of spatial patterns of cancer helps health planners, service providers, other health professionals and the general public to assess the current needs and understand the relative health burdens caused by each type of cancers’.³

The model is a viable approach that enables improved local access to services and secures the benefit of the oversight and patient care expertise of specialist cancer services at larger regional and metropolitan facilities.

Important disclaimer:

This guide does not mandate the model to be adopted since it will not be applicable to all settings. The guide is intended to provide health professionals and managers with general guidance in cases where the administration of chemotherapy medications is considered a valuable and feasible way to enhance the accessibility of treatment services among rural and remote residents affected by cancer. Alternative models may be considered if chemotherapy proficient nurses are located in rural facilities.

The guide does not, and is not intended to, address all operational requirements. Clinical and operational governance committees must ensure that any proposed services fit the local context and are affordable and safe.

The guide sets out suggested minimum requirements for the remote supervision of chemotherapy. It does not eliminate the need for a designated medical oncologist or haematologist to guide the care of the patient in conjunction with the local supervising medical practitioner. More rigorous or additional requirements may be applied by the relevant clinical or operational governance committee if desired.

The guide and any part thereof does not, and is not intended to, substitute the advice of a qualified health practitioner and the implementation of any guidance set out herein should not be relied upon to replace the same. It is the responsibility of the relevant qualified health practitioners, support staff and healthcare decision makers to implement any of the guidance set out herein in accordance with relevant legislation, regulation, standards, codes of practice, professional and clinical standards, protocols, administrative and procedural requirements, and government policies as applicable.

The guide does not, and is not intended to, provide an exhaustive set of relevant or applicable requirements (legislative, regulatory, professional, administrative, best practice or otherwise) for the implementation of the model.

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Contents

Introduction	10
Purpose.....	11
Context.....	12
Implementation requirements	13
1. Strategy and governance	14
2. Financial considerations	15
3. Workforce	15
4. Chemotherapy medication management.....	17
5. Telehealth readiness.....	20
6. Chemotherapy administration readiness.....	22
7. Information technology and support	24
8. Hazardous chemicals legislation and special considerations.....	27
9. Education and training	28
10. Documentation and discharge.....	34
Abbreviations	35
References	36



Introduction

The *Rural and Remote Health Services Framework 2013*² recognises the need to explore innovative ways to bring sustainable and equitable care to Queenslanders. The *Blueprint for better healthcare in Queensland*¹ also identifies the need for health services in rural and remote communities to be improved. The blueprint makes a commitment to eliminate longer waiting times for diagnosis and treatment for residents of these areas, by linking with the best hospitals in Queensland through Telehealth.

In relation to cancer, Telehealth has the potential to bring both consultative and treatment services to small communities, significantly reducing the stress, disruption and economic consequences of having to travel away from home to access relevant expertise and treatment. The QReCS model will help address current low rates of chemotherapy use in rural and remote areas, and boost equity of access to safe, quality treatment for cancer in Queensland.

The QReCS guide provides a structure within which to develop remotely supervised chemotherapy services. It is intended to ensure issues affecting safety, sustainability and infrastructure are considered by Hospital and Health Services (HHSs), before they decide whether to implement such a service.

The guide is not intended to define all operational requirements or provide 'cookie cutter' responses to issues which vary substantially between facilities. A significant contribution is required by clinical and operational governance committees to ensure any proposed services fit the local context, and are affordable and safe. This includes the need to plan carefully for change, budget and activity consequences, implementation and logistics associated with a new service.

The QReCS guide recommends the minimum requirements for the remote supervision of chemotherapy. It does not eliminate the need for a designated medical oncologist or haematologist to guide the care of the patient in conjunction with the local supervising medical practitioner. More rigorous or additional requirements can be defined by the relevant clinical or operational governance committee if desired.

To meet the guide's requirements, it is expected a minimum lead time of three to six months would be needed.

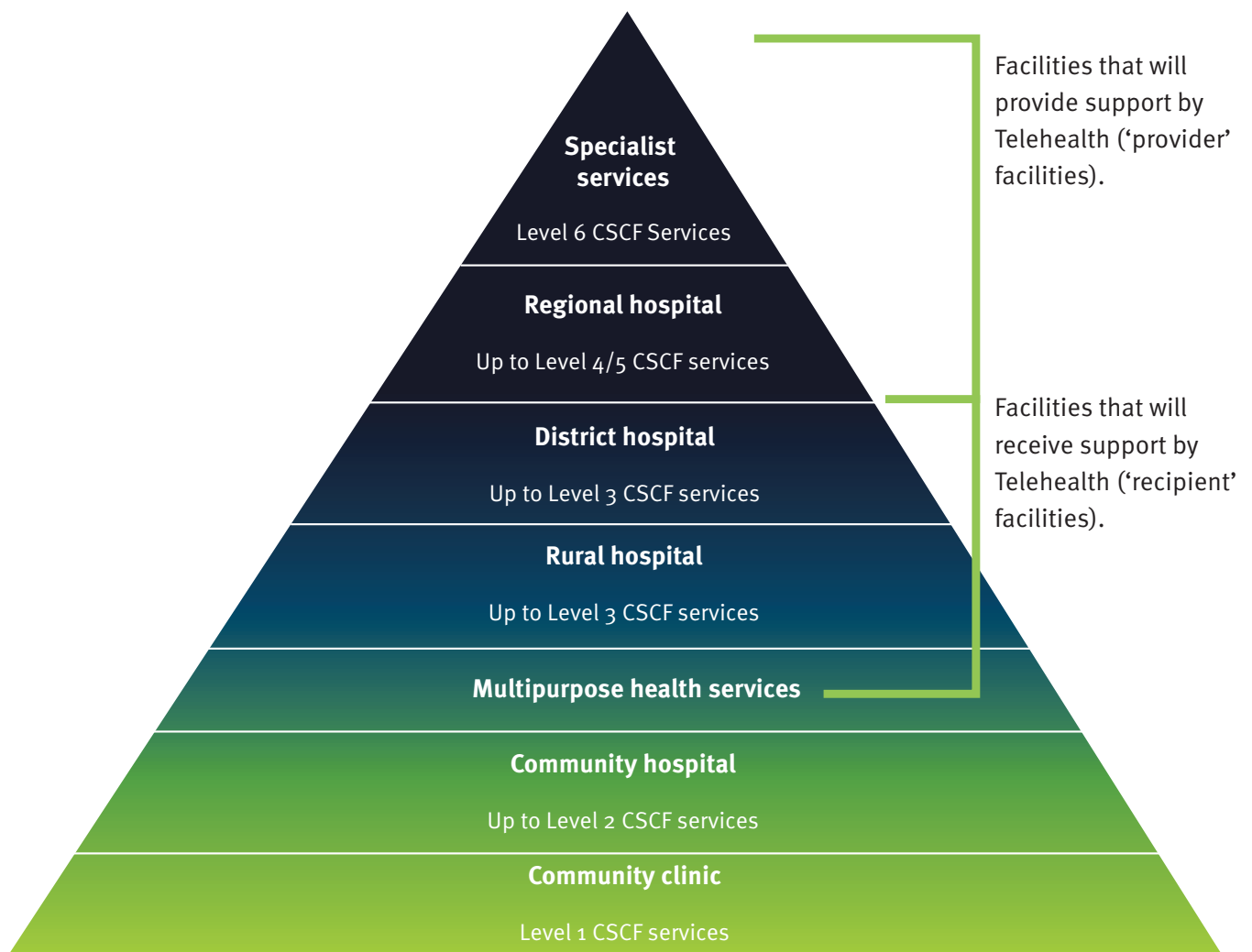
Purpose

The QReCS guide provides guidance on the minimum requirements for the administration of chemotherapy medications close to home for rural and remote people affected by cancer within an ambulatory care setting.

Adopting the approach set out in this guide is intended to maximise the scope and safety of the administration of parenteral chemotherapy medications at rural and remote facilities. It also aims to assist health service managers to identify prerequisite and associated procedures.

The guide assumes a service model where support and supervision for the administration of chemotherapy medications is provided to doctors, nurses and allied health staff in rural and remote facilities by cancer care specialists from facilities operating at Levels 4, 5 and 6 of the *Clinical Services Capability Framework (CSCF)*. The guide adopts the hierarchy of health services included in the *Rural and Remote Health Services Framework 2013*. The range of facilities to which this document applies is shown in Figure 1.

Figure 1 Health service network



Context

Current face-to-face and outreach models for cancer treatment, including the administration of chemotherapy medications, do not generally extend to hospitals that operate below Level 4 of the CSCF. Additionally, nurses involved in the administration of parenteral chemotherapy medications are currently required to undertake extensive education programs over many months. This investment in training is often considered too burdensome for generalist nurses, who provide a wide range of care in smaller or more remote facilities. The Clinical Oncology Society of Australia (COSA) has also identified that nurses capable of administering parenteral chemotherapy may live in rural areas, but do not practice their skills due to a lack of quality support infrastructure.⁴ As a result, there is currently limited potential for chemotherapy medications to be administered in rural or remote communities. Consequently, patients have to travel or temporarily relocate to larger centres to access the cancer services they need.

To increase access to safe, local cancer care services for patients living in less populated areas, these barriers need to be overcome. A different approach is needed to enable rural and remote nurses to administer chemotherapy medications in a supported arrangement that reflects the nature of their workload, low patient volumes and the needs of people affected by cancer. To prove this concept, the Townsville Cancer Centre has shown that it is feasible to establish an effective model of remote chemotherapy supervision.⁵

Various studies have evaluated the Townsville tele-oncology network⁶ and reported that:

- these medical models are acceptable to Indigenous and non-Indigenous patients and welcomed by rural health professionals^{7, 8, 9, 10}
- it is safe for medical oncologists to remotely supervise chemotherapy delivery at recipient sites
- the model saves the health system money.^{11, 12, 13}

An example of a Teleoncology consultation is illustrated in the YouTube video Royal Australasian College of Physicians (RACP) Introduction to Telehealth (linked via YouTube).

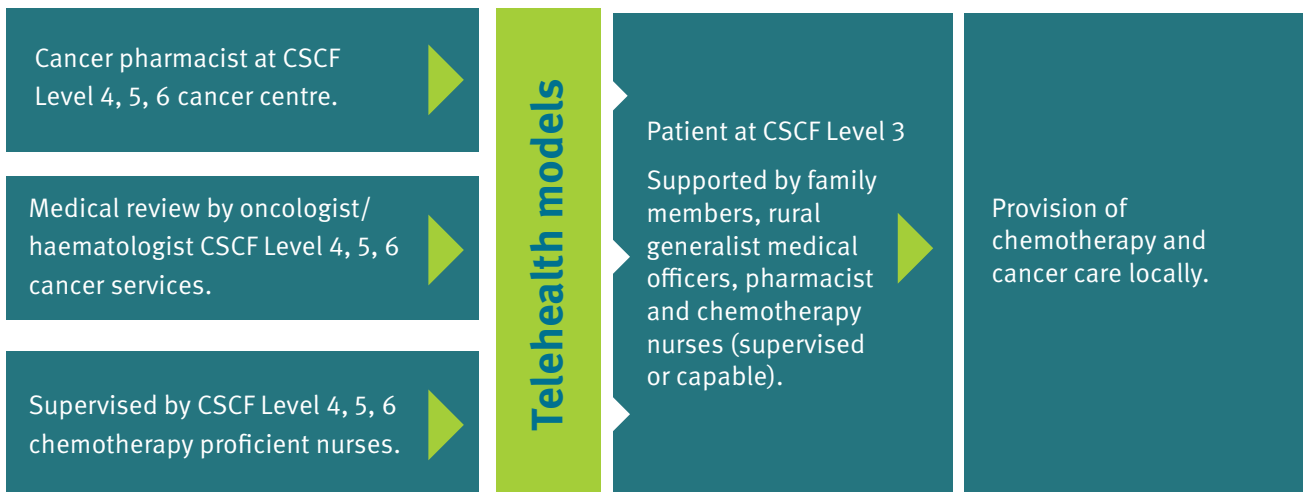
The enhanced use of Telehealth technology presents an enormous opportunity to harness the cancer clinical expertise which exists in regional and tertiary facilities to increase access to cancer services in rural and remote areas. Specifically, Telehealth can be more effectively used for:

- medical consultations
- supervision of nurses administering chemotherapy
- clinical support and education for doctors, nurses and allied health professionals
- allied health assessments and interventions
- clinical training, including the Antineoplastic Drug Administration Course (ADAC) developed by the Cancer Institute of New South Wales.

A key factor in the success of the QReCS model is the engagement of staff at both recipient and provider facilities to ensure they are committed to the process of enhancing health services through Telehealth. In addition, they understand the core factors that need to be considered to enable safe and sustainable access to chemotherapy medications at rural and remote facilities.



Queensland remote chemotherapy supervision model



Implementation requirements

There are 10 minimum implementation requirements that will ensure provider and recipient facilities are prepared for the safe and sustainable administration of chemotherapy medications in rural and remote locations. Hospitals enthusiastic about harnessing Telehealth to enhance cancer services in small communities should ensure they consider all the requirements below before committing to provide, or to support the provision of, chemotherapy. Some requirements will take significant time and effort to achieve. As such, allowing adequate time prior to the commencement of services is critical to ensuring safety and managing patient expectations.



1. Strategy and governance

Provider and recipient facilities need to ensure investment in Telehealth services is consistent with a coherent strategy for the development of cancer services in the relevant HHS or group of HHSs.

This will ensure:

- the investment contributes to achieving the service’s vision
- an analysis is undertaken of the financial impact of an increase in Telehealth services
- any location-specific risks are identified and mitigated
- the role of Telehealth is incorporated into the model for service integration.

Additionally, appropriate governance arrangements need to be established to ensure Telehealth is meeting its strategic objectives and that services are safe, effective, sustainable, supported and affordable. Governance should reinforce integration between Telehealth and ‘traditional’ parts of the service. As such, a separate governance committee is not recommended. Instead, it is recommended that senior officers responsible for Telehealth should be brought onto the appropriate existing management committee.

In cases where Telehealth services are provided by a different HHS than that receiving them, it would be prudent for the HHSs to negotiate a service level agreement, setting out the expectations and respective responsibilities of each.

This may include such considerations as:

- staff and equipment expectations
- financial arrangements, including sharing of Medicare Benefits Schedule (MBS) revenue, private patient billing and Pharmaceutical Benefits Scheme (PBS) claims
- performance metrics, monitoring and reporting
- the approach to resolving issues.

In relation to chemotherapy, a key element of governance relates to the agreement of medications for administration at recipient facilities. Initial agreement and subsequent changes need to be considered and approved by the relevant clinical governance committees at both provider and recipient facilities.



2. Financial considerations

In general, both provider and recipient facilities may claim MBS items for Telehealth consultations. MBS billing for chemotherapy administration is attributable to the cancer specialist who is responsible for that treatment. The capacity to claim MBS reimbursement for health services is contingent on meeting a range of conditions. As such, provider and recipient facilities will need to agree on measures that ensure all requirements of the relevant legislation, guidelines and Department of Health revenue policies are met. MBS rules can be found at www.mbs.gov.au

Recipient and provider facilities may both count Telehealth consultations as occasions of service under the activity based funding (ABF) model. Recipient facilities may additionally count chemotherapy administration as an ABF occasion of service.

Most chemotherapy medications are reimbursed by the PBS and therefore would not be expected to increase the overall cost of drugs incurred at recipient sites. Recipient facilities need to refer to www.pbs.gov.au to verify reimbursement can be claimed for the indication for which chemotherapy is prescribed.

A service level agreement between provider and recipient facilities will help clarify arrangements regarding funding, billing and sharing of revenue for services delivered.

3. Workforce

While it demands the same standards of safety and quality of care, the QReCS model requires different workforce arrangements than those which usually provide cancer care. This section outlines the key workforce needs in both provider and recipient facilities. In particular, recipient facilities are likely to need to support additional local education to meet these requirements, before QReCS-based services commence.

All staff involved in the handling of chemotherapy medications must have access to applicable information and education.

A single local registered medical practitioner must be identified as responsible for the overall care of the patient. A local registered medical practitioner must also be available 24 hours a day to manage any chemotherapy-related complications. During chemotherapy administration, a registered medical practitioner must also be present on site to deal with any chemotherapy administration issues, including local reactions as well as allergic reactions and anaphylaxis.

The minimum workforce required to support the QReCS model is shown in the table below.

	Medical	Nurse	Pharmacy	Allied health	Administration
Provider	Medical oncologist Haematologist	Chemotherapy administration proficient nurse	Cancer pharmacist with two years' cancer care experience	Allied health professional experienced in management of cancer patients	Administration officer for Telehealth coordination
Recipient	Identified medical officers	Chemotherapy administration supervised or capable nurse	Hospital or outreach pharmacist	Access to allied health professional	Administration officer for Telehealth coordination

It is recommended that pharmacists undertake the SHPA ClinCAT cancer competency. ClinCAT is the clinical competency assessment tool (ClinCAT), developed by the Society of Hospital Pharmacists of Australia (SHPA).¹⁴

The QReCS model does not displace the need for health professionals to comply with their obligations to maintain a training record, and to work within their skill set and defined scope of practice.

Various combinations of the workforce described above are required at various points during a patient's care. Further details can be found in Section 7.2. Fundamentally, however, there must at all times be identified health professionals within each profession who are responsible for, and understand their role in, supporting the delivery of cancer services at provider and recipient facilities.

A key enabler in the successful implementation of the QReCS model is the engagement of staff at both the provider and recipient facilities, whose Telehealth-related work is supported and understood by executive and senior administration staff.

A key contact for Telehealth coordination is essential at both the provider and recipient sites. This ensures minimum disruption of workflow and maximum confidence in the effectiveness of Telehealth by:

- coordinating bookings and clinician availability
- ensuring equipment is functioning properly
- advance testing the interoperability of provider/recipient Telehealth equipment.

4. Chemotherapy medication management

The QReCS model is limited to parenteral chemotherapy and monoclonal antibody (MAB) therapy medications where the likelihood or consequences of hypersensitivity, adverse drug reactions and extravasations are minimal or manageable. The shelf life of any prepared products also needs to be considered when identifying chemotherapy medications appropriate for administration in rural and remote facilities. The ability to meet refrigeration and safe transport requirements for chemotherapy medications and supportive therapies (some of which are classified as dangerous goods) needs to be considered before offering care in rural and remote facilities. Planning should take into consideration that at least the first dose will be given at the provider facility to assess adverse drug reaction risk and for demonstrating clinical activities to the remote site via Telehealth.

Only protocols with a relatively low risk of complications, including those not normally expected to produce prolonged bone marrow suppression or neutropenia (i.e. predicted grade two/three cytopenia neutropenia duration of < 48–72 hours) should be administered under the QReCS model. Protocols predicted to result in severe (Grade 4) and/or prolonged (> 72 hours) bone marrow suppression should not be delivered. There must also be documented procedures within the recipient HHS for overnight and/or emergency admission of patients if required.

The QReCS model allows the supply of chemotherapy medications for parenteral administration to be undertaken by a pharmacist at either the provider or recipient facility. The sites supplying the medications must have Medicare approval to supply PBS subsidised medicine in accordance with section 90 of the *National Health Act 1953*.

Where the recipient hospital has a pharmacist onsite, the clinical screening, ordering and dispensing of chemotherapy medications and MABs may be undertaken by the pharmacist. The pharmacist should be responsible for ensuring all other medication reconciliation tasks including adverse drug reaction recording, medication history, issue of Consumer Medicines Information (CMI) and providing a supply of supportive medications to take at home are undertaken. They should refer to *eviQ guidelines* and be familiar with information sources and the following standards of practice.

- *Guidelines for the Safe Prescribing, Dispensing and Administration of Cancer Chemotherapy*¹⁵
- *SHPA Standards of Practice for the Provision of Clinical Oncology Pharmacy Services*¹⁶
- *SHPA Standards of Practice for the Transportation of Cytotoxic Drugs from Pharmacy Departments*¹⁷

Support and close liaison from a cancer pharmacist at the provider site is essential to help build the required competency in practice.

If a recipient facility does not have a pharmacist and is supplied using outreach services from provider hospitals, the supply of chemotherapy may be undertaken in accordance with existing arrangements, provided the above standards and relevant legal requirements are met.

For recipient sites without access to a pharmacist, chemotherapy medications and MABs may be managed as described below:

- A provider site pharmacist clinically validates orders and dispenses chemotherapy medications and all supportive medications.
- A pharmacist at the provider facility performs relevant medication reconciliation tasks.
- Chemotherapy is manufactured on site at the provider facility using a Cytotoxic Drug Safety Cabinet (CDSC) or Pharmaceutical Isolator.

- Chemotherapy is packaged in a dedicated container for that patient and sent by courier.
- Chemotherapy is received by the chemotherapy supervised or chemotherapy capable nurse at the recipient site and stored correctly until required for administration.

The chemotherapy must be obtained in a 'ready to administer' format from a TGA-registered provider. All Queensland Health facilities are required to purchase all manufactured chemotherapy from applicable SOA. The SOA includes an agreed pricing structure. The provider or recipient site should make arrangements with the chemotherapy supplier to supply the chemotherapy and agree processes for ordering and delivery including delivery schedules and costs. It is important to note that these suppliers act as manufacturers and not pharmacies and hence do not replace the need for clinical verification of chemotherapy by a registered pharmacist.

Funding arrangements for treatment should be agreed between provider and recipient. The dispensing site will be responsible for claiming PBS payment for medication used. The use of drugs not listed for PBS reimbursement needs to be agreed by the provider and recipient sites, as costs will be borne by the dispensing facility.

For medications subject to the *Efficient Funding of Chemotherapy (EFC) program*¹⁸, dispensing facilities that have onsite pharmacy services must be able to undertake paperless dispensing and online claiming through iPharmacy. The dispensing facility must also be licensed to supply PBS medication from a public hospital. Medications listed under the *Highly Specialised Drugs (HSD) program* or Section 85 drugs require written prescriptions and the ability to submit a PBS claim.¹⁹

Paper prescriptions are required for non-public hospital PBS dispensing of chemotherapy. It is the responsibility of the provider site medical officer to ensure the appropriate prescriptions are written to support the reimbursement process. Pharmacists at the site responsible for claiming the PBS reimbursement should liaise with the oncologist/haematologist to ensure appropriate authorities are obtained and prescriptions generated.

Rather than provision of numerous treatments upon adoption of the QReCS model the range of treatments provided at each recipient facility should increase gradually—medications can be added by way of a staged approach (refer to page 19 for example) as medical, nursing and pharmacy confidence and experience develops with the QReCS model. A process must be agreed between each provider and recipient site for increasing the range of available treatments by way of a staged approach, with final endorsement required from both sites. The process must be approved by the relevant clinical governance committees at each facility prior to being put into practice.

Factors influencing the ability to deliver chemotherapy medications include:

- resource requirements to administer treatments (e.g. equipment, staff, space etc.)
- requirements for cytotoxic waste management
- the ability to obtain supply of necessary medications
- medication stability and storage
- risk of infusion-related reaction and protocols for management of reactions
- competency and confidence, training, knowledge and skill of staff (medical, nursing and pharmacy)
- complexity of the patient and intent of treatment
- complexity of regimen.

As noted previously, decisions as to the appropriateness of administering chemotherapy medications at any stage need to be made jointly by the provider and recipient facilities, and require the agreement of the appropriate clinical governance committees. The factors outlined previously will influence the decision to move between the stages.

An example of a staged approach is below:

Stage	Medication/procedure	Frequency
Stage 1	Central Venous Access Device (CVAD) care	
	Disconnection of disposable infusion device	
	Gosorelin	
	Flurouracil (5FU)	Infusional
	Methotrexate	Weekly
	Bevacizumab	
	Trastuzumab	Three weekly
	Denosumab	
	Zoledronic acid	
	Gemcitabine	Weekly (day 1, 8, 15, of a 21 day cycle)
	Pemetrexed	
Stage 2	Irinotecan	Weekly
	Paclitaxel	Weekly
	Carboplatin	Weekly
	Nab-paclitaxel	Weekly
	Docetaxel	Weekly
Stage 3	Paclitaxel	
	combination of drugs in stage 1 and 2	

Arrangements will need to be agreed in relation to the shipment of medications between provider and recipient sites. Options include:

- having medications delivered directly to recipient facilities from external suppliers
- having the provider site pharmacist oversee clinical assessment/review and logistics for ordering and shipment of medication.

Appropriate arrangements need to be in place between the provider and recipient for claiming reimbursement through the PBS.



5. Telehealth readiness

5.1 Telehealth service processes

A number of organisations have produced detailed guidelines to help health providers ensure their facilities are well configured for the provision of Telehealth services.

The Australian College of Rural and Remote Medicine and the Royal Australasian College of Physicians have produced a practical set of resources that will assist in effectively planning for Telehealth consultations.^{20, 21}

The resources cover such planning as:

- connectivity and bandwidth
- lighting, sound and contrast
- eye contact and body language
- patient consent and privacy.

The Department of Health's Integrated Telecoms team have developed a range of useful resources.²²

The Royal Australian College of General Practitioners and the Nursing and Midwifery Telehealth Consortia have published Telehealth standards for their members.^{23, 24}

Provider and recipient facilities should review this material to ensure they understand the benefits and limits of Telehealth and how they can influence the success of services delivered through this model.



5.2 Videoconferencing equipment

Real-time videoconferencing technology is essential for the success of the QReCS model. Although the Department of Health prefers traditional videoconferencing technology, web-based systems offer alternatives. Decisions about the appropriate equipment and platforms for use in particular cases must be made collaboratively by the provider and recipient facilities.

Standard video equipment used for videoconferencing will generally be adequate for supporting the administration of chemotherapy. For assessing reactions, however, video or web cameras used at the recipient site need to have the capacity to zoom in while retaining good resolution. Equipment that is attached to small mobile trolleys or stands will greatly assist in achieving the ideal level of manoeuvrability.

Clinical staff should be able to operate videoconferencing equipment with reasonable skill. This is essential for the efficiency and safety of the QReCS model. It makes sense for staff who will be participating in Telehealth consultations or treatment to undertake basic training. Telehealth coordinators at provider and recipient sites could facilitate this. In addition, a good relationship with the IT support team at each facility will be useful for maintenance and major trouble shooting.

To ensure effective infection control, the videoconferencing equipment should be included in routine cleaning if it forms part of the patient environment. The equipment manufacturer should be consulted as to what products are safe to use.

5.3 Consent

The informed consent of patients to participate in Telehealth clinical consultations must be obtained prior to participation in care delivered under the QReCS model. This can be achieved by completing the relevant form and filing the completed form in the patient's medical records.²⁵



6. Chemotherapy administration readiness

6.1 Chemotherapy administration area

An area in which chemotherapy medications are administered needs to be clean, adequately ventilated and well lit. Day surgery recovery areas in rural and remote facilities may provide a suitable location for chemotherapy administration.

Other factors to consider when identifying whether an appropriate area exists are:

- The area is restricted to authorised personnel and is not used as a short cut to other parts of the facility.
- There is sufficient room to perform tasks safely.
- The area is tidy and free from obstacles.
- Telehealth equipment can be easily moved around the patient bed or chair without disproportionate risk of tripping or entanglement with other equipment.
- There is ready access to a shower in the event of personal contamination by chemotherapy medications.
- There is an appropriate storage area for chemotherapy medications, encompassing both non-refrigerated and refrigerated items (any fridges in which chemotherapy medications are stored need to be electronically monitored and alarmed, and have the capacity to separate chemotherapy from other medications in rigid walled containers).
- Staff eating and drinking, and the storage of food are restricted where chemotherapy medications are administered.

The *Australasian Health Facility Guidelines*, developed by NSW Health and the Australasian Health Infrastructure Alliance, provide further details of the ideal configuration for an ambulatory care unit.²⁶ While it is not expected that recipient facilities will meet every aspect of those guidelines, it is important the place chosen to administer chemotherapy medications does not expose the general public or health workers to unnecessary risk.

6.2 Personal protective equipment

Personal protective equipment (PPE) is essential for particular tasks associated with administering chemotherapy medications and waste management.²⁷

The following list is mandatory for use by any staff administering parenteral chemotherapy medications:

- impermeable long sleeved gown with knitted cuffs
- purpose-manufactured gloves or two pairs (double layer) of surgical latex powder free gloves
- protective eyewear
- respiratory protective equipment (N95).

A further list of essential equipment and consumables is accessible via Queensland Health intranet (<http://qheps.health.qld.gov.au/circs/>).

6.3 Supportive care

Chemotherapy must only be delivered if appropriate supportive care structures are in place to deal with predicted or common complications during or after chemotherapy administration. These supportive care requirements must be in line with those set out in the medical oncology and haematology malignancy services sections of the CSCF, including:

- documented processes for overnight and emergency admission of patients if required
- documentation (by standard operating procedures) of local policies and procedures for management of commonly expected chemotherapy-related complications, including (but not limited to) febrile neutropenia guidelines and transfusion guidelines
- access to Level 3 pathology services, such that routine haematology and biochemistry test results are available on the same day of collection (e.g. full blood count, coagulation studies and ELFT results), and that a same day transfusion service, including access to cross matched blood, is available locally.
- for treatment of some specific cancer types, including Hodgkin's lymphoma and chronic lymphocytic leukaemia (treated with fludarabine-based therapy), access to irradiated blood products must be available as part of the local transfusion service
- access to Level 2 medical imaging service, including availability of 24-hour X-ray services and non-complex ultrasound investigations.

6.4 Medical staff requirements

Ideally a single local registered medical practitioner must be identified as responsible for the overall continuity of care of the patient. A local registered medical practitioner must also be available 24 hours for management of any chemotherapy-related complications. During chemotherapy administration, a registered medical practitioner must also be present onsite to deal with any chemotherapy administration issues, including local reactions as well as allergic reactions and anaphylaxis.

6.5 Other equipment

As noted above, a list of essential equipment and consumables to enable the safe administration of chemotherapy medications is accessible internally only via Queensland Health intranet (<http://qheps.health.qld.gov.au/circs/>).



7. Information technology and support

7.1 Patient information management system

As the QReCS model will generally form part of a larger network of cancer treatment services within or between HHSs, it is ideal that provider and recipient sites share the same oncology patient information management system (OIMS) for managing prescription, administration and documentation.

If each facility operates using a different OIMS, patient information will need to be manually transferred between them in accordance with existing policies. Sufficient lead time will need to be allowed to ensure all relevant patient information is available at the respective sites before consultations are conducted or chemotherapy medications are administered. A single OIMS is the cornerstone to the Townsville Cancer Centre Telehealth Service. In Townsville's case, the OIMS in use is MOSAIQ.

The OIMS used should have the relevant functionality needed to ensure safe and appropriate prescribing, supply and administration of chemotherapy medications. This should include entry and retrieval of patient information from Queensland Health systems, such as Hospital Based Corporate Information System (including patient Unit Record), and adverse drug alerts. Clinical information (e.g. medications, protocols) and calculations (e.g. Body Surface Area, dosages) should be supported, validated and subject to a regular review process. This is of particular importance where staff in recipient sites may not have the expertise to identify errors that may occur as part of a system error (e.g. dose miscalculation, prescribing of medication to which a patient has a known adverse drug reaction).

7.2 Logistics and administration support

Given the need to coordinate medical and nursing staff across at least two different sites, clinical and administration officers need to fully consider the logistical and support needs for the remote provision of medical consultations and supervision of chemotherapy.

This section provides a list of core requirements for each of the HHS's services that are within the scope of the QReCS model. It is intended this will help identify potential hurdles that need to be addressed before a facility is ready to provide a safe and sustainable chemotherapy administration service.



Medical consultations

- Clinic room or office (at both provider and recipient sites), access to compatible videoconferencing equipment.
- Concurrent availability of oncology/haematology specialist (provider) and general medical officer (recipient), plus a time allowance for overrunning (for staff and facilities) at both provider and recipient sites.
- Access in both locations to patient chart, inclusive of all pathology and radiology investigations and results (ideally through single OIMS).
- Attendance of patient.

Nurse consultations

- Clinic room or office (at both provider site and recipient sites), access to compatible videoconferencing equipment.
- Concurrent availability of chemotherapy proficient nurse at provider and chemotherapy capable or supervised nurse at recipient facilities, plus a time allowance for overrunning (for staff and facilities) at provider and recipient sites.
- Access in both locations to patient chart, inclusive of all pathology and radiology investigations and results (ideally through single OIMS).
- Attendance of patient.

Pharmacist discussion

- Telephone or videoconferencing equipment.
- Access to chemotherapy and supportive care prescriptions.
- Access to patient medical records or summary including through integrated electronic medical record.
- Access to laboratory results.
- Access to iPharmacy with online PBS system or equivalent.
- Concurrent availability of cancer pharmacist (provider) and pharmacist (recipient).
- A time allowance for overrunning (for staff and facilities) at provider and recipient sites.

Note: In some situations, the pharmacist supporting the recipient site is the outreach pharmacist that is located at the provider site. In these situations the outreach pharmacist (who is located at the provider site) may support the recipient site via Telehealth.

Chemotherapy administration²⁸

- Videoconferencing equipment (ideally on a small, mobile stand at recipient facility).
- Access at both locations to all equipment and consumables (list accessible at <http://qheps.health.qld.gov.au/circs/> (internal access only via Queensland Health intranet).
- Access in both locations to patient chart, inclusive of all pathology and radiology investigations, and results (ideally through single OIMS).

- Chemotherapy proficient nurse at provider facility appropriately scheduled (i.e. one chair booked in provider facility day oncology unit to account for remote direct supervision activity).
- Chemotherapy capable or supervised nurse at recipient facility appropriately scheduled.
- Access to appropriate space at recipient facility for administration of chemotherapy.
- A time allowance for overrunning (for staff and facilities) at both ends.
- Medical and nursing consultations have occurred before chemotherapy administration.
- Documented pharmacy handover, including adverse drug reaction (ADR) checking and medication reconciliation/history has occurred before chemotherapy administration.
- Medical officer available at recipient site during chemotherapy administration.
- Attendance of patient.

Allied health consultation or treatment

- Clinic room or office (consultations) or treatment room (treatment) in both locations, with access to compatible videoconferencing equipment.
- Concurrent availability of specialist oncology allied health (provider) and general allied health (recipient) professionals.
- A time allowance for overrunning (for staff and facilities) at both ends.
- Access in both locations to patient chart, inclusive of all pathology and radiology investigations, and results (ideally through single OIMS).
- Attendance of patient.



8. Hazardous chemicals legislation and special considerations

Legislation related to the management of hazardous chemicals, including chemotherapy medications, imposes obligations on healthcare providers to ensure workers, visitors and the environment are not exposed to health and safety risks. The relevant legislation requires procedures to be developed that comply with legislation and best practice, and for those procedures to be readily accessible to all workers.²⁹

All staff who handle chemotherapy or chemotherapy-related waste must have access to appropriate education and reference documents to reduce the risk of exposure for workers, visitors and the environment.

Facilities must identify and coordinate relevant training that is individualised to the chemotherapy-related responsibilities of particular groups of workers. Educational content and delivery methods will differ depending on the role of each worker. The completion of a structured risk assessment will assist to identify staff who should undertake relevant training.

For further advice on the cytotoxic safety training requirements for common roles, please contact the Central Integrated Regional Cancer Service by email circs@health.qld.gov.au.

Comprehensive records of cytotoxic safety training must be kept. Records must include:

- session date
- session topic
- name of person who conducted the session
- names of participants.

Additional detail is provided at <http://qheps.health.qld.gov.au/circs/> (internal access via Queensland Health intranet)

9. Education and training

9.1 Medical staff

The QReCS guide recommends no specific formal chemotherapy-specific education requirements for medical officers at the recipient facility. The medical oncologist or haematologist at the provider facility should provide the recipient facility medical officer with an overview of the prescribed chemotherapy regimen and side effects during the Telehealth consultation. Ideally, the same medical officer should provide support to the recipient facility medical officers to ensure training is maintained.

The local medical practitioner responsible for the overall continuity of care of the patient is recommended to undertake basic specialty and chemotherapy-specific training. This may include completion of the Australian College of Rural and Remote Medicine in collaboration with the Medical Oncology Group Of Australia's cancer education module for general practitioners (EPICC)³⁰, including (but not limited to) febrile neutropenia and transfusion guidelines. Additionally, the local medical practitioner may undertake specific education sessions delivered by the provider Telehealth facility (i.e. the facility at CSCF Level 4, 5 or 6) with respect to local diagnostic, management and treatment pathways for the cancer types being managed.

Furthermore, the local medical practitioner must have access to a multi-disciplinary consultation group, including registered specialists with credentials in medical oncology, clinical haematology, radiation oncology and medical radiology and ideally, anatomical pathology for appropriate development of individual patient management strategies.

It is recommended that further knowledge is also attained by the local medical practitioner from various websites, including *Guidelines for the Safe Prescribing, Dispensing and Administration of Cancer Chemotherapy*¹⁵ and procedure manuals of provider sites. Australian College of Rural and Remote Medicine in collaboration with the Medical Oncology Group of Australia hosts a cancer education module for general practitioners (EPICC) on their website.³¹

9.2 Nurses administering chemotherapy^{32, 33}

Nurses administering chemotherapy must complete the education requirements outlined below. At a minimum, nurses must:

- be, or have access to a clinician who is, proficient in intravenous (IV) cannulation
- have completed an appropriate central venous access device (CVAD) learning package
- have completed the appropriate components of the Antineoplastic Drug Administration Course (ADAC).

9.2.1 IV cannulation

As chemotherapy administration will regularly require the cannulation of patients who do not have CVADs, it is essential that all nurses delivering chemotherapy are proficient in IV cannulation or have access to clinical staff who are (e.g. anaesthetist or anaesthetic nurse). Local training may be available in the recipient or provider HHSs.

9.2.2 Central venous access device

Nurses administering chemotherapy at recipient facilities must have completed an appropriate learning package on the management of CVADs or have attended a CVAD workshop underpinned by current evidence such as the CHRISP I-Care guidelines.³⁴ These workshops may be available locally in some HHSs or staff may access the CIRCS CVAD Workshop that is conducted regularly throughout the calendar year. Ideally, recipient facilities will encourage nursing staff to demonstrate CVAD competency via an approved assessment tool. Provider site nurses supervising chemotherapy at recipient facilities must be able to demonstrate that they are CVAD proficient.

9.2.3 Antineoplastic drug administration course

The main education resource which supports the QReCS model is the ADAC, developed by the Cancer Institute of NSW and endorsed for use in Queensland. ADAC comprises both theoretical and practical elements, all of which are assessed on a modular basis before progress to the next stage is possible.

ADAC is accessible through iLearn.³⁵ Nurse managers and educators at rural and remote facilities may consult with CIRCS (circs@health.qld.gov.au) to coordinate the best approach for nurses to complete practical aspects of ADAC. In many cases, it will be appropriate for some competency-based assessments to be undertaken by video-conference.

Finally, it is expected that nurses administering chemotherapy will have completed their annual mandatory requisites, such as Basic Life Support (BLS).

9.3 Nursing skill taxonomy

9.3.1 Central venous access devices

Category	Description	QReCS alignment
Supervised	Completed a CVAD learning package/ workshop and working towards being deemed competent, as determined by provider site.	Minimum requirement for recipient facilities.
Capable	Deemed competent using a competency assessment tool (local site tool or refer to Competency Assessment Tool for Management of CVADs). ³⁶	Recommended requirement for recipient facilities.
Proficient	Deemed competent with a minimum of three years' experience.	Deemed competent with a minimum of three years' experience.

9.3.2 Antineoplastic drug administration course

Category	Description	QReCS alignment
Supervised	Completed select ADAC modules (see below) and delivers anti-cancer therapies (including chemotherapy) under direct supervision only.	Minimum requirement for recipient facilities.
Capable	Completed ADAC in full and regularly delivers anti-cancer therapies (including chemotherapy).	Recommended requirement for recipient facilities.
Proficient	Completed ADAC in full and has three years' experience regularly delivering anti-cancer therapies (including chemotherapy).	Deemed competent with a minimum of three years' experience.

9.4 Recipient site requirements

A chemotherapy supervised or chemotherapy capable nurse is required to administer chemotherapy medications to patients at recipient facilities.

A **chemotherapy supervised** nurse is defined as a nurse who has completed the following:

1. Proficient in IV cannulation (if nurse is not proficient, access to a clinician proficient in IV cannulation is sufficient).
2. Completed a CVAD learning package/workshop and working towards being deemed competent, as determined by provider site (note CVAD workshops may be offered through videoconferencing).
3. Successfully complete all ADAC e-quizzes and related competencies as per below:

Module title	Learning hours
Handling antineoplastic drugs and related waste	1
Administering oral antineoplastic drugs	1
Assessing patients	2
Administering intravenous antineoplastic drugs	1.5
Preventing and managing extravasation of antineoplastic drugs	1

The competencies for '*Handling antineoplastic drugs and related waste*' and '*Administering oral antineoplastic drugs*' can be undertaken through simulation via videoconferencing. This service may be provided by the provider site or CIRCS (with consultation).

4. Attend a minimum three day **supervised clinical practice placement** at the provider facility.

Arrangements for supervised clinical practice will need to be negotiated between the relevant facilities. Provider and recipient facility nurse managers should request a copy of a participant’s ADAC certificates of completion before scheduling clinical practice attendance by nurses from recipient sites.

A **chemotherapy capable** nurse is defined as a nurse who has completed the following:

1. Proficient in IV cannulation (if nurse is not proficient, access to a clinician proficient in IV cannulation is sufficient).
2. Completed a CVAD learning package/workshop as determined by provider site and has been deemed competent via successful completion of a relevant assessment tool (note CVAD workshops may be offered within local HHS or through videoconferencing).
3. Successfully complete all ADAC e-quizzes and related competencies for:

Module title	Learning hours
Handling antineoplastic drugs and related waste	1
Administering oral antineoplastic drugs	1
Understanding how antineoplastic drugs work	1
Reviewing prescriptions and protocols	2
Assessing patients	2
Educating patient and carer	1.5
Administering intravenous antineoplastic drugs	1.5
Preventing and managing extravasation of antineoplastic drugs	1
Completed skills workshop	7

The competencies for ‘*Handling antineoplastic drugs and related waste*’ and ‘*Administering oral antineoplastic drugs*’ can be undertaken through simulation via videoconferencing. This service may be provided by the provider site or CIRCS (with consultation).

4. Attend a minimum three day **supervised clinical practice placement** at the provider facility

Arrangements for supervised clinical practice will need to be negotiated between the relevant facilities. Provider and recipient facility nurse managers should request a copy of a participant’s ADAC certificates of completion before scheduling clinical practice attendance by nurses from recipient sites.

9.5 Provider site requirements

A chemotherapy proficient nurse is required at the provider site to supervise the administration of chemotherapy medications to patients at recipient facilities.

A **chemotherapy proficient** nurse is defined as a nurse who has completed the following:

1. Proficient in IV cannulation (if nurse is not proficient, access to a clinician proficient in IV cannulation is sufficient).
2. Completed a CVAD learning package/workshop as determined by provider site **and** has been deemed competent via successful completion of a relevant assessment tool and has a minimum of three years' experience (note CVAD workshops may be offered within the local HHS or through videoconferencing).
3. Successfully complete all e-quizzes and competencies for:

Module title	Learning hours
Handling antineoplastic drugs and related waste	1
Administering oral antineoplastic drugs	1
Understanding how antineoplastic drugs work	1
Reviewing prescriptions and protocols	2
Assessing patients	2
Educating patient and carer	1.5
Administering intravenous antineoplastic drugs	1.5
Preventing and managing extravasation of antineoplastic drugs	1
Completed skills workshop	7


The competencies for '*Handling antineoplastic drugs and related waste*' and '*Administering oral antineoplastic drugs*' can be undertaken through simulation via videoconferencing. This service can be provided by the provider site or CIRCS (with consultation).

Successful completion of all ADAC requirements, including skills development workshop and minimum of three years' experience in the delivery of chemotherapy drugs, will lead to a nurse being deemed chemotherapy proficient. This is the minimum education and experience level required to supervise the administration of chemotherapy.³⁷

The link <http://qheps.health.qld.gov.au/circs/> (Queensland Health intranet site) contains a full list of clinical practice pre-requisites, including those acquired through ADAC. This link also provides the suggested program for the three days of supervised clinical practice required for the achievement of chemotherapy competence.

9.5.1 Nurses required to prepare monoclonal antibodies

Nurses required to prepare monoclonal antibodies (MABs) must complete a formal education program related to the preparation and associated safe handling practices. The precise content of such education will depend on the context in which a nurse will work with MABs and must be in line with the *Australian Consensus Guidelines for the Safe Handling of Monoclonal Antibodies for Cancer Treatment for Healthcare Personnel*.³⁸



Training may be provided by a local nurse educator, pharmacist or experienced workplace health and safety educator. Sites can discuss their needs and processes in relation to nurses preparing MABs with CIRCS (circs@health.qld.gov.au).

9.6 Pharmacy staff

In the QReCS model, a hospital pharmacist or community pharmacist from the recipient facility is supported by a cancer pharmacist from the provider facility on a patient by patient basis.^{39, 40, 41} The QReCS model does not specify formal education requirements for the pharmacist at the recipient facility; however, the pharmacist may choose to undertake more comprehensive oncology pharmacy education.

It is recommended that further knowledge is also attained from various websites, including *Guidelines for the Safe Prescribing, Dispensing and Administration of Cancer Chemotherapy*¹⁵ and procedure manuals of the providing sites.

Pharmacists at the provider facility may undertake professional courses and programmes such as below or equivalent:

- Clinical Skills for Cancer Pharmacy Practitioners course – COSA Cancer Pharmacists Group⁴²
- COSA Cancer Pharmacists Group workshops⁴³
- SHPA Cancer Services Seminars:⁴⁴
 - ▷ Foundation seminar
 - ▷ Haematology/oncology – intermediate seminar
 - ▷ Clinical haematology – advanced seminar
 - ▷ Clinical oncology – advanced seminar.

The pharmacists at the provider facility may undertake a competency performance assessment with a trained evaluator using a tool such as the SHPA ClinCAT competency assessment tool.⁴⁵

9.7 Allied health professionals

Generalist allied health staff may provide supportive care to chemotherapy patients. Allied health professionals may be at risk of being exposed to cytotoxic waste, via body fluids, and therefore are required to attend appropriate training. There are no formalised training pathways in cancer care for allied health clinicians. Interested staff may access further training using ADAC, *Queensland-Cancer Education Program* and the cancer care learning and development page.⁴⁶

Access to experienced allied health clinicians for support and supervision is via the provider site.

10. Documentation and discharge

Documentation, management of post-chemotherapy side effects and discharge planning under the QReCS model will be the same as for the current face-to-face and Telehealth models.

Chemotherapy proficient nurses at the provider site must support chemotherapy supervised or chemotherapy capable nurses at rural and remote facilities in relation to side effect and discharge management.

It is likely that nurses at the recipient facility will become the default contact person for rural or remote patients. This will need to be taken into consideration by nursing and facility managers when evaluating the workload arising from the QReCS model.

All supportive post-chemotherapy medication (e.g. anti-emetics, anti-diarrhoeal) must be available to the patient to take at home. The patient should be given sufficient supply or instructions on how to obtain further supply.

Written information or access to information on the treatment administered, including expected side effects, precautions to be taken and what to do in the event of adverse effects (e.g. uncontrolled nausea and vomiting, a febrile episode or severe diarrhoea) must be provided.

Once a patient has received their final dose of prescribed chemotherapy medication, the specialist oncologist/haematologist should determine the appropriate frequency of follow-up consultations. In most cases where the patient has coped well with their treatment, follow-up consultations may be provided by Telehealth. However, arrangements for each patient must be determined jointly by the oncology/haematology specialist, patient and recipient facility medical officer.

Abbreviations

Abbreviation	Description
ABF	Activity based funding
ADAC	Antineoplastic drug administration course
ADR	Adverse Drug Reaction
ANMAC	Australian Nursing and Midwifery Accreditation Council
BLS	Basic Life Support
BMT	Bone Marrow Transplant
BSA	Body Surface Area
CHRISP	Centre for Healthcare Related Infection Surveillance and Protection
CIRCS	Central Integrated Regional Cancer Services
CMI	Consumer medicines information
COSA	Clinical Oncology Society of Australia
CSCF	Clinical services capability framework
CVAD	Central venous access devices
EdCaN	The national cancer nursing education project
EFC	Efficient funding of chemotherapy
ELFT	Electrolytes liver function test
eviQ	Cancer Treatments Online
FBC	Full blood count
HBCIS	The Hospital Based Corporate Information System
HHS	Hospital and Health Service
HSD	Highly Specialised Drugs
ieMR	Integrated electronic medical record
IV	Intravenous
MAB	Monoclonal antibody
MBS	Medicare benefits schedule
NSW	New South Wales
OIMS	Oncology information management system
PBS	Pharmaceutical benefits scheme
PPE	Personal protective equipment
Q-CEP	Queensland – Cancer Education Program
QReCS	Queensland remote chemotherapy supervision
RACGP	The Royal Australian College of General Practitioners
RACP	The Royal Australasian College of Physicians
RBWH	Royal Brisbane and Womens Hospital
SHPA ClinCAT	Society of Hospital and Pharmacist of Australia clinical competency assessment tool
SOA	Standing offer arrangement
TCC	Townsville Cancer Centre
UR	Unit Record

References

- ¹State of Queensland (Queensland Health) *The Blueprint for better healthcare in Queensland 2013*. www.health.qld.gov.au/blueprint
- ²State of Queensland (Queensland Health), *Rural and Remote Health Services Framework 2013*. www.health.qld.gov.au/publications/documents/randr_hsp_framework.pdf
- ³Cramb SM, Mengersen KL, Baade PD. *Atlas of Cancer in Queensland: geographical variation in incidence and survival, 1998 to 2007*. Viertel Centre for Research in Cancer Control, Cancer Council Queensland. Brisbane, Queensland: 2011.
- ⁴Underhill, Craig, Bartel, Rebecca, Goldstein, David, Snodgrass, Helen, Begbie, Stephen, Yates, Patsy, White, Kate, Jong, Kathy, & Grogan, Paul (2009) *Mapping oncology services in regional and rural Australia*. *Australian Journal of Rural Health*, 17(6), pp. 321–329.
- ⁵Price, S., Roberts, S., Bloomfield, A., 2013. *A pilot project to improve access to chemotherapy/biotherapy for rural patients: The Townsville Tele Nursing Model*. Paper presented to Annual Scientific Meeting; Cancer Nursing Society of Australia, Brisbane. (accessed 7th Feb 2014) <https://www.cnsa.org.au/content/documents/reports/Handbook%202013.pdf>
- ⁶RACP Introduction to Telehealth, youtube, 29 May 2013, retrieved 14 May 2014, <http://www.youtube.com/watch?v=N5l7UexKcTU>
- ⁷Doolittle GC, Spaulding A. *Providing Access to Oncology Care for Rural Patients via Telemedicine*. *J Oncol Pract* 2006;2(5), pp. 228–230
- ⁸Sabesan, S., Simcox, K. and Marr, I., 2012. *Medical oncology clinics through videoconferencing: an acceptable model for rural patients and health workers*. *Internal Medicine Journal*. Vol 42, No 7, pp780-785.
- ⁹Mooi, JK, Whop, LJ, Valery PC, Sabesan SS. (2012) *Teleoncology for Indigenous patients: The responses of patients and health workers*. *Australian Journal of Rural Health*, 20, pp. 265-269.
- ¹⁰Sabesan, S. (et al). 2012. „Telemedicine for cancer care in NQ: bringing cancer care home.” *Australian Journal of Rural Health*. Vol 20, pp259-264. Sabesan, S. (et al). 2012. “Videoconferencing for medical oncology: acceptable model for patients and health workers.” *Internal Medicine Journal*. Vol 42, No 7, pp780–785.
- ¹¹Chan, B. and Sabesan, S. 2012. *Safety of tele-oncology and chemotherapy delivery in rural centres*. Abstract 2677. Annual Scientific Meeting; Clinical Oncological Society of Australia (COSA), Brisbane. Accessible at: <http://cosa-ipos-2012.m.asnevents.com.au/event/abstract/2677> (accessed 7th Feb 2014)
- ¹²Doolittle GC, Spaulding A. *Providing Access to Oncology Care for Rural Patients via Telemedicine*. *J Oncol Pract* 2006;2(5), pp. 228–230
- ¹³Thaker, D. (et al). 2013. „Cost savings from a telemedicine model of care in northern Queensland, Australia”. *Medical Journal of Australia*, Vol 199, pp414–417.
- ¹⁴Society of Hospital Pharmacists of Australia (SHPA) ‘SHPA Clinical Competency Assessment Tool (ClinCAT) retrieved 9 May 2014 <http://cpd.shpa.org.au/scripts/cgiip.exe/WService=SHPACP/ccms.r?PageId=10036>.
- ¹⁵Clinical Oncological Society of Australia (COSA) 2008, *Guidelines for the safe prescribing, dispensing and administration of cancer chemotherapy*. Retrieved 9 May 2014, www.cosa.org.au/media/1093/cosa_guidelines_safeprescribingchemo2008.pdf

¹⁶Society of Hospital Pharmacists of Australia Committee of Specialty Practice in Oncology 2002. *SHPA Standards of Practice for the provision of Clinical Oncology Pharmacy Services*. Retrieved 9 May 2014 www.shpa.org.au/lib/pdf/practice_standards/clinical_oncology_ro.pdf

¹⁷Society of Hospital Pharmacists of Australia Committee of Specialty Practice in Cancer Services 2007. 'SHPA Standards of Practice for the Transportation of Cytotoxic Drugs from Pharmacy Departments', www.shpa.org.au/lib/pdf/practice_standards/cyto_transport_ro.pdf

¹⁸Australian Government, Department of Health, Pharmaceutical Benefits Scheme, *Efficient Funding of Chemotherapy* (EFC) schedule. <http://www.pbs.gov.au/publication/schedule/2014/06/2014-06-01-efc-schedule.pdf>

¹⁹*National Health Act 1953*, section 85 http://www.austlii.edu.au/au/legis/cth/consol_act/nha1953147/s85.html

²⁰The Australian College of Rural and Remote Medicine, www.ehealth.acrrm.org.au

²¹Royal Australasian college of physicians 2013, 'Telehealth Guidelines and Practical Tips' www.racptelehealth.com.au/wp-content/uploads/2013/02/Telehealth-Guidelines-and-Practical-Tips.pdf

²²State of Queensland (Queensland Health) Integrated Telecoms 2014, *Clinical Use*, <http://qheps.health.qld.gov.au/Telehealth/html/clinical-use.htm>.

²³**General practitioners:** The Royal Australian College of General Practitioners, *Standards for general practices offering video consultations* www.racgp.org.au/your-practice/e-health/Telehealth/gettingstarted/standards/
Royal Australian College of General Practitioners (RACGP): *Implementation guidelines for video consultations in general practice. A telehealth initiative* 3rd Edition Sept 2012 http://www.racgp.org.au/download/Documents/Telehealth/telehealth_implementation_guidelinesv6.pdf (accessed 7th Feb 2014)

²⁴**Nurses and midwives:** Australian Nursing Federation. 2013. *Telehealth Standards: Registered Nurses*'. Australian Nursing Federation. Australia. https://crana.org.au/files/pdfs/Telehealth_Standards_Registered_Nurses.pdf

²⁵State of Queensland (Queensland Health), Patient consent for telehealth clinical consultation form, www.health.qld.gov.au/telehealth/docs/pat_consent_form.pdf

²⁶Australasian Health Infrastructure Alliance. *The Australasian Health Facility Guidelines* <http://healthfacilityguidelines.com.au/default.aspx>

²⁷Safe Work Australia. (2012). *Managing Risk of Hazardous Chemicals in the Workplace: Code of Practice*. <http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/managing-risks-of-hazardous-chemicals-in-the-workplace> (accessed 7th Feb 2014)

²⁸Cancer Nurses Society of Australia (CSNA): *Position statement on the minimum safety requirements for nurses involved in the administration of anti-cancer drugs within the oncology and non-oncology setting. 2010*. <http://www.cnsa.org.au>. Viewed 9 November 2010

²⁹Department of Health and Ageing, Government of South Australia, *Safe Handling of Cytotoxic Drugs and Related Wastes: Guidelines for South Australian Health Services* 2012.

www.sahealth.sa.gov.au/wps/wcm/connect/f8aa68004b3f6cf6a340afe79043faf0/SafeHandlingOfCytotoxicDrugsRelatedWastesGuideline-PHCS-120515.pdf?MOD=AJPERES NB: (The State of Queensland -Department of Industrial Relations: 2005) Guide for handling cytotoxic drugs and related waste is being reviewed in line with updated legislation therefore is currently unavailable. As an interim measure please refer to the equivalent South Australian guidelines.

³⁰Australian College of Rural and Remote Medicine, Cancer education module for general practitioners (EPICC), retrieved 14 May 2014 www.acrrm.org.au/files/uploads/images/newsletters/bmp/RRMEO%20Modules%20Available%20as%20at%20OCT2012.pdf

³¹Australian College of Rural and Remote Medicine, Cancer education module for general practitioners (EPICC), retrieved 14 May 2014
www.acrrm.org.au/files/uploads/images/newsletters/bmp/RRMEO%20Modules%20Available%20as%20at%20OCT2012.pdf

³²Australian Nursing and Midwifery Accreditation Council (ANMAC) *National Competency Standards for the Registered Nurse*. Accessible at: <http://www.anmac.org.au/> (accessed 7th Feb 2014)

³³Royal College of Nursing. Cytotoxic Competencies: an integrated competency framework for training programmes in the safe administration of chemotherapy to children and young people. 2005.
<http://www.rcn.org.uk> Viewed 9 November 2010.

³⁴State of Queensland (Queensland Health), Centre for Healthcare Related Infection Surveillance and Prevention & Tuberculosis Control ,CHRISP I-Care guidelines
www.health.qld.gov.au/chrisp/icare/about.asp

³⁵State of Queensland (Queensland Health), Queensland Health's flexible education and training portal. (<https://ilearn.health.qld.gov.au/login/index.php>)

³⁶The National Cancer Nursing Education Project (EdCaN), Competency Assessment Tool for Management of Central Venous Access Devices (CVADs) 2009, www.cancerlearning.gov.au/edcan_resources/documents/pdf/EdCan_CAT_CVAD.pdf

³⁷Cancer Institute NSW, Antineoplastic Drug Administration Course Competency Framework, page 7, www.eviq.org.au/LinkClick.aspx?fileticket=RHM4M85L6oM%3D&tabid=291

³⁸Western and Central Melbourne Integrated Cancer Service: 2014, 'Australian consensus guidelines for the safe handling of monoclonal antibodies for cancer treatment by healthcare personnel'
www.wcmics.org/guidelines/20140415_MABs_Guidelines.pdf

³⁹State of Queensland, Queensland Health, Occupational Health and Safety, Hazardous Chemicals Management Policy Standards and Guidelines.
QH-IMP-275-3:2012 Hazardous chemicals safety management Implementation Standard
QH--275-3-3:2012 Conducting a Hazardous chemical task risk assessment Protocol
QH-IMP-275-3-2:2012 Cytotoxic spills and waste management
http://qhps.health.qld.gov.au/safety/hazards/key_documents.htm (accessed 7th Feb 2014)



⁴⁰State of Queensland, *Work Health and Safety Act 2011*

<https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/W/WorkHSA11.pdf> (accessed 7th Feb 2014)

⁴¹State of Queensland, *Work Health and Safety Regulation 2011*

<https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/W/WorkHSR11.pdf> (accessed 7th Feb 2014)

⁴²Clinical Oncology Society of Australia (COSA), Cancer Pharmacists Group, 7th Clinical Skills for Cancer Pharmacy Practitioners course, <https://www.cosa.org.au/groups/cancer-pharmacists/activities.aspx>

⁴³Clinical Oncology Society of Australia (COSA), Cancer Pharmacists Group, 7th Clinical Skills for Cancer Pharmacy Practitioners workshop www.cpg2014.org.au/program-20/

⁴⁴ Society of Hospital Pharmacists of Australia (SHPA), Cancer Service Seminars,


<http://cpd.shpa.org.au/Seminars-and-Symposiums/Cancer-Services-Seminars>

⁴⁵Society of Hospital Pharmacists of Australia (SHPA), ClinCAT competency assessment tool,

<http://cpd.shpa.org.au/scripts/cgiip.exe/WService=SHPACP/ccms.r?Pageld=10036>

⁴⁶State of Queensland (Queensland Health), Cancer care learning and development page

<http://qheps.health.qld.gov.au/cclld/home.htm>



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