

The role of Pharmacists in supporting the delivery of novel therapies in haematology and oncology outpatient care

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Medication risk in Haematology and Oncology patients

- Complex polypharmacy across all treatment phases
- Narrow therapeutic index drugs
- High-risk drug interactions and adverse drug reactions (ADRs)
- Newer biological therapies have significant side effects e.g. CRS/ICANS/Infections
- Increasing proportion of older patients with comorbidities
- Known failure points at transitions of care: admission, discharge, handover gaps, and different electronic systems.
- Significant readmission risk if medication issues undetected

ASTCT: American Society for Transplantation and Cellular Therapy
ANZTCT: Australia and NZ Transplant and Cellular Therapies

FACT-JACIE Standard

Integration of pharmacy services is a recommendation for all high-functioning bone marrow transplant programs in both inpatient and outpatient settings.

ASTCT & ANZTCT Recognition

Pharmacists defined as **essential for medication therapy management** in HSCT with core responsibilities spanning reconciliation, therapeutic drug monitoring (TDM), patient education, protocol development, and quality improvement.

Evidence: Pharmacist-led TDM in HSCT was associated with improved trough accuracy, reduced time to stable immunosuppressant levels, and decreased drug-induced nephrotoxicity and neurotoxicity ($P=0.03$).

Gawedzki & Collins, J Oncol Pharm Pract. 2021

Art by Lola-Anne Davis

Impact of ADRs

- Adverse drug reactions significantly impair treatment adherence, clinical outcomes, quality of life, and healthcare cost.
- Among hospitalised patients, ADRs markedly increase mortality and length of stay.
- CAR-T and bispecific antibodies (BsAb) are moving earlier into outpatient pathways but CRS and ICANS still define the first weeks of treatment.
- Infection risk can be significant due to prolonged duration of treatment with BsAb.
- Incorporating oncology and haematology-trained pharmacists into MDT care teams is an effective strategy for reducing ADR rates and enhancing medication safety.

Impact of Pharmacists-ambulatory care Haem/Onc Setting

Single-centre RCT, 182 hematology (lymphoma, multiple myeloma) patients, designated pharmacist v standard care

47.3% → 23.1%

patients with ≥ 1 ADR
($P < .001$)

19.8% → 5.5%

patients with ≥ 1 moderate/
severe ADR ($P = .006$)

588

pharmacist recommendations
95% accepted by physicians

16.2% v 1.6%

potentially serious errors
detected ($P = .003$)

A dedicated pharmacist in the MDT strengthens medications safety, reduces ADRs and administration errors*

* Notable reductions were seen in gastrointestinal, neurological, and hematological toxicities.

Alabbasi AK et al. JCO Oncol Pract. 2025

The Pharmacist's Role: A Multidisciplinary Outpatient Model

One year of a pharmacist-led BMT ambulatory clinic at St Vincent's Hospital Sydney

153

clinic visits

97

patients seen

183

pharmacist interventions

88%

recommendations
accepted

~252

bed days saved

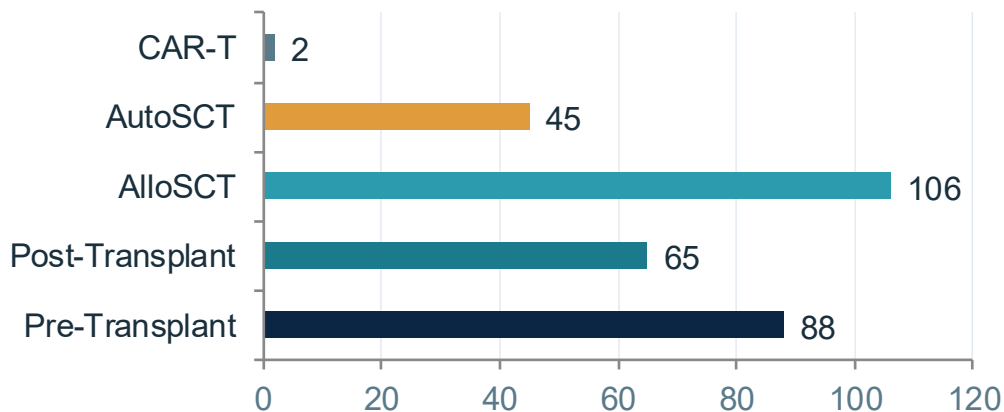
Medication review, drug interactions screening, comprehensive medication reconciliation, patient and carer education, dosing optimisation, management of adverse events and vaccination support.

Oral abstracts session: Friday 28 August (9:30-10:30am)
Ibrahim K et al. ANZTCT ASM 2026

12-Month activity of BMT Pharmacy at SVH Sydney

30 May 2025 – 30 May 2026

Clinic Visits by Category



Quality Indicator	Rate
Medication history & reconciliation	100%
Allergy documentation & clarification	100%
Patient education re: transplant protocol	100%

1.65 interventions/patient 1.2 interventions/visit

Average intervention rates

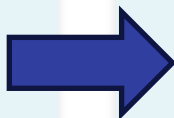
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Transitioning CAR T-cell and Bispecific Therapies to the outpatient setting

Rapidly evolving lymphoma landscape: newer agents e.g. epcoritamab, glofitamab, and tafasitamab now available in Australia, with CAR T-cell therapy moving into earlier lines of treatment

Current Challenges

- Inpatient administration of CAR T-cell and bispecific therapies is operationally intensive
- Patient access to treatment depends on inpatient bed availability
- Safe outpatient delivery is limited by local capability to administer these therapies



The Path Forward

- Building outpatient capacity will improve patient access and outcomes — timely access is critical
- Established CAR T-cell infrastructure (CRS/ICANS pathways, trained personnel) can be extended to bispecifics
- Enabling safe outpatient delivery for selected patients under agreed selection criteria
- Admission capacity still required for CRS > grade 1 or CNS toxicity/ICANS

Operationalising Cellular & Bispecific Therapies

The pharmacist's role in building system capacity for ambulatory care

1

Systems & Policy

- CRS management policy & pathways
- Drug protocols (tocilizumab / anakinra)
- EMR build for lymphodepletion & supportive care
- Procurement, storage, handling & administration

2

Prophylaxis & Toxicity Management

- Antimicrobial / infection prophylaxis
- Seizure prophylaxis
- Tumour lysis prophylaxis & treatment
- ADR/toxicity management, incl. infusion reactions
- Vaccination support

3

Medication Safety & Education

- Medication history, reconciliation & DDI screening
- Staff education on CRS/ICANS
- Patient & carer education, help develop patient wallet cards
- Rescue readiness: tocilizumab and corticosteroid availability in the outpatients setting
- Adverse events reporting

Booth JP, J Oncol Pharm Pract. 2020

Drug interactions to consider

● Tocilizumab & CYP450

High IL-6 suppresses CYP450 activity during CRS. Once tocilizumab is given, that blockade can normalize CYP-450 enzyme activity which can theoretically affect levels of calcineurin inhibitors, azoles and DOACs

● Steroids and azole prophylaxis

Azole antifungals prophylaxis inhibits CYP3A4 metabolism of corticosteroids

● Seizure prophylaxis choice

Levetiracetam is favoured over enzyme-inducing anti-epileptics to avoid adding another interactions during ICANS risk.

● QT-prolongation risk

Antiemetics and antimicrobials e.g., azoles can increase QT prolongation risk when clinic review is less frequent than on the ward.

Conclusions

- HSCT and haematology/oncology trained clinical pharmacists already possess the skills and training in complex medication management, policy development , and quality improvement needed to help establish CAR T cell programs.
- Dedicated outpatient pharmacist roles for CAR T cell therapies and HSCT is an effective strategy to improve medication safety and transitions of care, and to help facilitate delivery of outpatient novel therapies.
- This represents a clear opportunity for pharmacy involvement in this promising paradigm shift in cancer care.

Thank you