Pharmacist led clinics
Oral chemotherapy

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Oral therapies for cancer

- Many recommendations and guidelines have been produced to maximise the safe provision of oral cancer chemotherapy and targeted therapy to our patients.
- There is still a tendency for patients on oral therapies to bypass some of the cancer pharmacy expertise available due to ‘ease’ of availability and nature of administration.
- A variety of models of care are in existence to effectively manage patients on oral cancer chemotherapy & targeted therapy.
Discussion points for the session

• What role can the pharmacist have in managing patients on oral therapies to maximise the safe and efficient use of oral cancer therapies?
• Does putting pharmacists at the point of patient review and prescribing maximise our role?
• Should we be at the point of supply?
• Are pharmacist led clinics the answer?
What should the pharmacist do?

- Cancer therapy (per cycle)
  - See the patient
  - Medication history & assessment of current medication management
  - Clinical verification of the order (including chemo, targeted & supportive therapy) according to the protocol, treatment plan and patient parameters
  - Patient education/information on dosing, side effects & management
  - Review of symptom control with supportive medications
  - Medication adherence and compliance issues
  - Dispensing of chemo & targeted therapy plus supportive therapies
What should the pharmacist do?

- Cancer pharmacists are often underutilised in oral chemo/targeted therapies and non cancer therapy review
- What models of care can we apply to maximise the use of our expertise
Pharmacist led clinics

• There are various models that support the concept of a pharmacist led clinic/pharmacist led patient review

• Also other models that support the cancer pharmacist doing ‘cancer pharmacist work’
General concepts - pharmacist managed oral chemotherapy service models

- **Pharmacist led clinic.** Generally defined as
  
  ‘*one that conducts formal review in a consultation room before the decision to proceed and prescribe the next cycle of chemotherapy*’

  - Pharmacist sees the patient in a clinic to include review and education
  - May also take on some of the tasks usually performed by the prescriber and/or nurse, including prescribing

- **Pharmacist led review.**
  
  - Pharmacist takes responsibility for ‘pharmacist’ tasks, usually in a clinic setting
  - Pharmacists role is focused on clinical review of the order, monitoring & managing side effects, symptom control with meds, monitoring adherence and patient education
What does the Dr do?

- The oncologist/haematologist is still responsible for
  - The primary diagnosis
  - Disease management & treatment decisions in the context of diagnostic tests, laboratory parameters, side effects, performance status, organ function and other co-morbidities
  - Consenting the patient to treatment
  - Ordering lab/diagnostic tests
  - Physical examination
  - Maintaining clinical records including staging/outcome data
  - Communicating to the GP and other members of the MDT
  - Prescribing the treatment
Pharmacist prescribing

• Do we really need to be prescribing chemotherapy and supportive therapy?

• The use of electronic software to manage the complexity of protocols and the prescribing of cancer chemo has shifted some of the inherent problems/errors we used to face with chemo prescribing

• For many intuitions electronic prescribing/software has ‘lightened’ the prescribing burden on the medical officer
  – Providing the system has appropriate governance & validation in place
  – Protocol entry/validation are often performed by a pharmacist pre prescribing

• There are other models of ‘prescribing’ according to symptoms that can be used
Pharmacist led clinics

- Models from the literature
- PAH experience
- Measurements of success/impact
Oral vinorelbine (UK model)

- Provision of a standardised pre-treatment education session on cycle 1
  - C1D1 given in hospital
  - Day 8 self-administered
- Before the day 8 dose of vinorelbine a phone consultation was held to review blood counts & assess treatment toxicity before patient takes dose
- Enabled patients to receive oral chemo at home instead of the hospital
- Implemented to solve overcrowded and late running out-patient clinics.
Oral vinorelbine

- A time and motion study was completed to measure overall patient journey time and total pharmacy time.
- Demonstrated that if patients used the pharmacy led service, pharmacy could save approximately 44 minutes dispensing time per patient by dispensing Day 1 and day 8 drugs on day 1
- Assessed ‘recall’ of medication information

<table>
<thead>
<tr>
<th></th>
<th>Total pharmacy time</th>
<th>Patient journey time</th>
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</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>0.42 hours</td>
<td>2.54 hours</td>
</tr>
<tr>
<td>Day 8</td>
<td>0.51 hours</td>
<td>2.51 hours</td>
</tr>
<tr>
<td>Day 1 and Day 8</td>
<td>0.39 hours</td>
<td>2.51 hours</td>
</tr>
<tr>
<td>(pharmacy led education)</td>
<td></td>
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Average recall scores n=20

- Pharmacy educated
- Clinic educated

![Average recall scores](chart.png)
Sunitinib

- Pharmacist-led monitoring program in the ambulatory care setting in patients receiving sunitinib for RCC
- Pharmacist performed patient assessment in the oncology clinic on day 1 of a Sunitinib cycle followed with a call back on day 14.
  - 56 patients over 6 cycles included in the study
  - 52 (93%) started at the standard 50 mg dose,
  - 15 patients experienced hypertension requiring drug therapy adjustment or additional antihypertensive therapy
  - 2 patients required drug therapy for hypothyroidism
  - 39 occasions of dose reductions

Scott Edwards et al. J Clin Oncol 32, 2014 (suppl 4; abstr 479)
Nurse-/pharmacy-led clinic for capecitabine in MCRC

- Patients were seen by either the nurse or pharmacist and were given verbal and written information
- Aim of the clinic was early identification & treatment of side effects
  - emphasis was placed on educating patients to recognise and report grade 2 toxicities during therapy and the subsequent ability of nurse/ pharmacist to reduce side effects by recommending dose interruption or dose reduction
Assessment

- Adverse events were reported at similar rates to those observed in formal clinical trials with the exception of fatigue.

- Patients were excluded from the clinic if they
  - were suitable for current MCRC clinical studies,
  - had poor renal function (GFR<30 mL/min)
  - had poor liver function (bilirubin level >3x times ULN)
  - a WHO performance status of >1
PAH model

- All patients and chemotherapy orders for oral therapy (including chemo, targeted) are clinical reviewed by a cancer pharmacist and the majority (>99%) are dispensed by the cancer services pharmacy
PAH model

- ALL chemotherapy and targeted therapy (IV & oral) is prescribed electronically on the basis of preapproved protocol in CHARM® software
  - Only registrars and above can prescribe
- A supplement PBS script is also required but this is only used for reimbursement purposes and is not used as the clinical script
- CHARM® also prints the PBS script
This is the first time this chart has been printed

Princess Alexandra Hospital, Provider No. 0051080F
PBS/PB82

R_Patient_28205
UR NO 28205
386788 The Street
TARRAGINDI QLD 4121
Ph (H) 3615803
MC:
Exp: 07/2018

Consultant: Practitioner J. Practitioner 51
Diagnosis: Malignant neoplasm of kidney

Pathway:
Pazopanib
Cycle 2 of 2 Day 1
Refer to electronic treatment record for dose adjustment or protocol variance details

Height: 170.60cm
Weight: 70.26kgs
BMI: 26.9

WBC (x10^9/L) 5.2
Platelets (x10^9/L) 269
HB (g/L) 13 (normal 12-14)
Creatinine (mmol/L) 7.0

Neutrophils (x10^9/L) 5.3

Signatures

Date of results: 5/11/14

Notes: Pazopanib is non-LAM. PBS Authority prescription required - initial prescription MUST be sent to Medicare for prior approval, annotate prescription with diagnosis. Refer to dose modification section for details on modifying doses in liver impairment, when co-administered with CYP3A4 inhibitors and general principles.

MUCOSITIS MEDIATION

TREATMENT DURATION

NDC 04065655

Date: Nov 25 2014

DOSAGE:

800 mg Daily x 30 days

Special Instructions (as referred to from above)

This chart is valid only if hand written alterations or amendments have been made to prescription area.

Patients last review date: 09/07/14

Practitioner J. Practitioner 51
MDCCH, FRACGP

13700 211111

Authority required Items ONLY (refer to approved authority indicators in Schedule of Pharmaceutical Benefits) (Authority prescription applications 24 hour service PBS: 1800 883 333 RPB 1800 552 500)
PAH clinic pharmacist

- Patient is seen in clinic by med onc/haem
- All chemo/targeted therapy for day admissions/OP’s is prescribed in the clinic
- The chemo order (and PBS script) are printed in clinic and handed directly to the clinic pharmacist with med record chart. Also access to lab results, i.e. MR
- Pharmacist role is to clinically review chemo orders for OP’s and day therapy including oral chemo
- 2 pharmacists in attendance at every OP oncology/haematology clinic
Role of the other cancer pharmacists

• After clinical verification all meds are dispensed by tech & checked by a cancer pharmacists in cancer services dispensary

• Patient collects medication directly from pharmacy unless having day care treatment
  – The patient doesn’t see the order or script
  – We hold onto all repeats

• Medication history, education, compliance assessment performed by the disp cancer pharmacist/or the day care pharmacist

• Follow up on cycle 2, 3 etc.
Education & counselling

• If the patient is also having IV therapy they will be seen by the day care pharmacist during treatment

• Patients commencing chemo also attend a ‘chemotherapy awareness’ education session run jointly by pharmacy and nursing staff on a daily basis
Alternative arrangements

• Some patients, who are deemed responsible, do obtain supplies from community pharmacy for ongoing cycles of some targeted therapy

• These patients are still reviewed in OP clinics and a CHARM® order is still verified by clinic pharmacist before patient takes PBS script to ‘outside’ pharmacy
Supportive therapy

- Supportive therapy e.g. anti emetics, that is an agreed part of the protocol is prescribed with chemo/targeted therapy using CHARM® at every visit
  - Use paperless EFC option or non PBS so no PBS script needed
  - Regular anti emetics etc. always supplied at every cycle
  - PRN is supplied by pharmacy on cycle 1
- On future cycles the pharmacist reviews patient and assesses need for metoclopramide, loperamide, etc.
Incentive for prescribers to use CHARM for oral chemo

• Strict policy!
• CHARM® software support cancer services as a prescribing program plus it is a source of information/data collection/KPI’s
  – Protocol info
  – Patient treatment history
  – Staging information
  – Activity
  – Used as a scheduler for day care appointments
  – Store and monitor scanned consent forms
  – Clinical trial info/data
How do we measure benefits of our service

• The clinic pharmacist role was implemented 4-5 years ago with the main aim of reducing turnaround time (TAT) from order printed to patient getting therapy (IV and oral)
  – Prior to this clinical verification took place in pharmacy
  – No increase in FTE’s, process had always been for PAH pharm to manage oral chemo
  – Implementing clinic pharmacist produced a 69% drop in ‘time taken ‘ for clinical check and a 27% drop in pharmacy TAT to 1.12 hours (oral and parenteral) in 2011
  – Now have 2 FTE’s due to increased activity
Patient satisfaction survey

• 100% (n=32) of participants reported that the pharmacist discussed their medications with them
• 90% (28/31) of participants believed they learnt something new by speaking with the pharmacist
• 84% (27/32) of participants would like to meet and discuss their medications with a pharmacist in the future

Was the time spent with the pharmacist worthwhile? (n=32)
Results

Patient-Pharmacist Interaction

Did the pharmacist help you understand how to correctly take your medications? (n=31*)

* 1 participant did not answer this question
Results

Patient-Pharmacist Interaction

How satisfied were you of the pharmacist's ability to answer your questions? (n=31*)

- **Very Satisfied**: 28 responses
- **Satisfied**: 3 responses
- **Neutral**: 0 responses
- **Dissatisfied**: 0 responses
- **Very Dissatisfied**: 0 responses

* 1 participant did not answer this question
How do we measure the service impact?

• Hard to measure the impact of a healthcare intervention esp. in team environment
• Important to measure a measurable outcome, not the process that is being done
• 4 main measurements that are often looked at in any cancer study
  – Survival/outcomes
  – Toxicities/side effects
  – Quality of life for the patient
  – Cost benefits of the service/intervention
Activity Based Funding (ABF)

- Hospitals get paid for the number and mix of patients they treat
- More patients = more funding
- Takes into account patient complexity

The National Health Reform Agreement, signed by all Australian governments in August 2011, commits to funding public hospitals using ABF where practicable.
Tier 2 OP clinic definitions

• Non-admitted care for OP clinics is funded on tier 2 OP clinic definitions

• Tier 2 categorises a hospital’s non-admitted services into classes based on the nature of the service provided and the type of clinician providing the service.

• The major categories are:
  – Procedures
  – Medical consultation services
  – Stand-alone diagnostic services
  – Allied health and/or clinical nurse specialist intervention services.
Allied Health clinics

• Potential to claim for pharmacist services through ABF if there is a therapeutic/clinical content of the interaction including
  – review of medication orders for clinical appropriateness
  – identification and resolution of medication related problems
  – counselling of patients/carers & provision of consumer medicine information

And IF the service is NOT being claimed for in another clinic e.g. combined med clinic may include allied health

• A booking system must be administered and patient care records must be maintained to document patient attendances and care provided

• Suggested fee is $233.67 for pharmacists
Summary

• There has been a steady increase in the availability of oral agents to treat cancer and particularly a rapid rise of targeted agents with novel side effects.

• Patients can obtain supply from a variety of sources.

• Cancer pharmacists need to put themselves at the point of prescribing/care to maximise patient safety and ensure we support the patients.

• Cancer pharmacists need to take a holistic approach to the patients' health care and not just focus on the cancer.