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**High Risk Medication Alert Project - Change Management Case Study**  
*Learning from the experience of others to assist your project.....*

From Mater Health Services, Queensland  
November 2005



**QUESTIONS**

**Why was vincristine administration selected for the “change initiative”?**  
**Who “drove” the initiative and how were clinicians and managers involved?**  
**What data was used - overseas data, local data?**

Vincristine was identified as a high-risk medication with most cases of inadvertent intrathecal administration resulting in almost certain death. The Mater Hospitals already had some procedures in place aimed at reducing the risks of such an error, including warning labelling on all vinca alkaloids and use of 20ml volume in a syringe, however there was no approved, documented, multi-disciplinary hospital policy.

Both national and international published data were used to support the risks and actual outcomes of inadvertent intrathecal injection. The UK National Guidance on the Safe Administration of Intrathecal Chemotherapy document and overseas policy was also used to support the changes in practice.

For paediatrics we utilised the policy document from the Royal Marsden Hospital in the UK (Prescribing, Dispensing, Supply and Administration of Cytotoxic Chemotherapy including Intrathecal Chemotherapy).

The change process was driven by pharmacy with a working party set up to put the policy together.

**QUESTIONS**

**How was the team put together?**  
**Who was on the team?**  
**What was the importance of “driving the project” and giving it credibility?**

The team was put together by putting out an expression of interest to be involved to potential key members who could join or nominate a representative. The team included:

- A Pharmacist
- Clinicians (paediatric and adult)
- Nursing staff (paediatric and adult)
- Safety and Quality team member
- Legal advice (sought on content and implications of policy)

Having all the key stakeholders involved in the multi-disciplinary working party with the support of safety and quality team was important. Also critical was the involvement of key clinicians from both paediatric and adult practice.

**QUESTIONS**

**What were the project aims and how were they communicated?**  
**What education strategies and tools were developed?**  
**Were the same strategies applied to all vinca alkaloids?**

Campus wide, approved policy (see attached) for ‘Administration of Intrathecal Chemotherapy’ was implemented that encompassed both public and private

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hospitals, and adult and paediatric patients. The policy covers risk management strategies for all vinca alkaloids.

The policy addresses multiple aspects including:

- Competency assessment requirement for medical, nursing and pharmacy staff.
- Registers of competent staff to be maintained.
- New pharmacy procedures for delivering chemotherapy and intrathecal medicines, whereby doses of intrathecal medicines are only released from pharmacy at the time of administration.
- Use of minibags for administration to adults and older paediatric patients.
- Use of 20ml syringes for paediatric patients.
- Rigorous checking procedures for administration of intrathecal chemotherapy.

The Cancer Services Pharmacist presented the policy to the Safety and Quality Group, which includes executive directors, clinical support managers, a lawyer, and the Medication Safety Officer as a final step to gaining approval.

Once the policy was agreed and approved it was put into docu cube (the hospital format for policy and procedure in PDF format).

The responsibility for communicating the details of the new policy was given to the Director of Cancer Services (paediatric and adult) to ensure it received high profile acknowledgment.

All clinicians, nursing staff and pharmacists were alerted to its existence and content via email. It has been written into the induction policy that doctors, nurses and pharmacists receive training on the policy and achieve competency where appropriate.

Tools developed to support the educational requirements of the policy included:

- A competency tool for doctors was developed as the policy requires that they must achieve competency before giving intrathecal doses (see attached).
- A mandatory education session for pharmacy staff on risks associated with vincristine and the policy.
- Educational material for inclusion in the nurse's chemotherapy competency course.

### QUESTIONS

**What barriers were encountered?**

**There was concern regarding ....**

There were a number of barriers and challenges encountered in achieving agreement on the policy and its implementation:

- Barriers for doctors as they don't generally administer chemotherapy except for intrathecal doses and therefore currently receive no training in chemotherapy.
- There was also the challenge of determining who should assess the medical staff for competency. It was agreed that the consultants who were practising and giving intrathecal injections prior to policy could be deemed competent.
- Ensuring radiology staff (who give some intrathecal doses) are educated and assessed as competent. Radiology (Part of Queensland X-Ray) did not join the working party but are bound by the policy.

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- The ongoing potential barriers to ensure ALL staff are educated due to the number of staff involved and also use of VMO's (Visiting Medical Officers) and agency staff.
- Barriers to use of minibags due to the perceived risk of extravasation and extra time required to administer vincristine and other vinca alkaloids in this form.

### QUESTIONS

**How were the barriers overcome?**

**Are some still unresolved?**

**What about paediatrics?**

- We initially implemented the change to minibags as a three month 'trial' to monitor potential problems. The nursing staff, as key stakeholders, then had the option to review if increased risk of extravasation or excessive impact on workload. There were no problems encountered.
- The policy included that nursing staff need to be aware that vinca alkaloids are vesicants and of the need to monitor patients appropriately and be aware of the procedures for preventing and managing extravasation.
- The policy stipulated that the minibags were to be given over the same time as a bolus in a syringe would be given i.e. over 5-10 minutes.
- Minibags are currently not used in paediatrics due to several practical issues in young children. Thus far, risk reduction in this group has been progressed by achieving agreement to review the risk of inadvertent administration of intrathecal doses following implementation of the policy taking into account all other parts of policy. This includes that the intrathecal medicine may only be dispensed from pharmacy to the nurse on their way to theatre. The pharmacist must view the chemotherapy chart to confirm that the vinca alkaloid has already been given.
- A new policy is in place that stipulates that NO chemotherapy can accompany patients to theatre except methotrexate and cytarabine as intrathecal doses. Only competent pharmacists can issue the dose to the nurse or doctor and it must be a chemotherapy competent registered nurse who signs for the dose when it is handed over.

### QUESTIONS

**Was any monitoring implemented?**

**Any increased reporting of vincristine extravasation?**

The incidence of extravasation was monitored as part of the hospital wide incident reporting. There was no increase encountered during the three month trial period or since implementation (now one year on).

### QUESTIONS

**What were the short term wins?**

**What strategies worked best? What would you change?**

- Increased safety and awareness of the risks.
- Good uptake – a QUM student carried out a risk assessment on the policy, which showed excellent compliance.

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- Multidisciplinary involvement and commitment achieved via the working group and involvement of the safety and quality team.
- A faster response time from key stakeholders would be optimal.

### QUESTIONS

**What next?**

**What is still to be done, and what is the plan to do it?**

- A risk assessment in relation to paediatric services to determine if any there are any 'gaps' in the policy that may contribute to inadvertent intrathecal administrations.
- Need to review the paediatric policy whereby vesicants are not given through Port-a-caths.
- Doctor's competence - ensuring the register is kept up to date.
- A competency tool for pharmacists is being developed for chemotherapy.
- An assessment of near misses in the process of administering vinca alkaloids.

### KEY HINTS

**Engage all the key stakeholders in a multi-disciplinary working party.**

**Include the safety and quality team.**

**Engage key clinicians from both paediatric and adult practice and ensure credibility via a clinical champion.**

**Recognise gains and acknowledge that ongoing work may be required.**

### ACKNOWLEDGEMENTS



*Exceptional People. Exceptional Care.*

Mater Health Services are acknowledged for sharing their learning experiences via the notes provided in this Change Management Case Study.

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