

The National Inpatient Medication Chart: Has it worked? What are the issues?



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Overview

- Why did we do it?
- What did we do?
- Who did it?
- How did it happen?
- Has it worked?
- What are the issues?

NIMC – why did we do it?

In the beginning (BC).....

- different hospitals used different charts
- lack of understanding of the way that different roles of the nurses, doctors and pharmacists integrated within the medication management pathway
- errors occurred at all points within the pathway*
 - Ordering 49%
 - Transcription 11%
 - Dispensing 14%
 - Administration 26%
- no formalised process for audit and improvement of the chart
- lack of standardised integrated education

* Bates et al Incidence of adverse drug events and potential drug events: Implications for prevention JAMA 1995

In the beginning(BC)....



In the beginning(BC)....



Rationale (BC)...

“This is the way we do it here
This is the way we’ve always done it”

Moving to a new tribe (BC)



A new invention...the NIMC was born!

Potential benefits (AC)

- standardisation of best practice throughout the medication management pathway
- improved mutual understanding of respective roles in prescribing, administration and supply
- standardised, integrated education at post graduate and undergraduate level
- no need for major retraining as staff move between healthcare services
- improved documentation and therefore improved patient safety

How was it done?

Queensland

- audits of >15,000 prescriptions
- observations of > 2000 administrations
- review of > 2500 medication incidents
- review of literature
- focus groups with all levels of staff
- three revisions of the chart
- statewide baseline audit >12,000 orders

Establishment of National Multidisciplinary working group

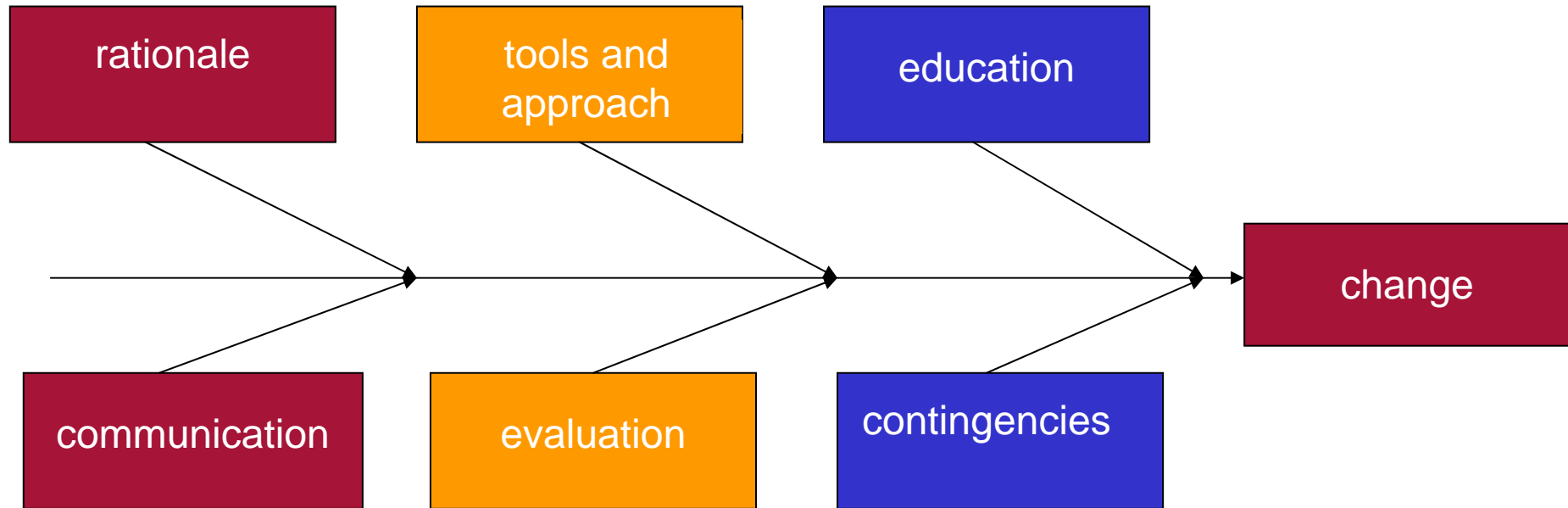
- learnt from existing work
- developed an implementation plan
- piloted the NIMC and amended it following feedback

Ian Coombes, Safe Medication Practice Unit, Queensland Health

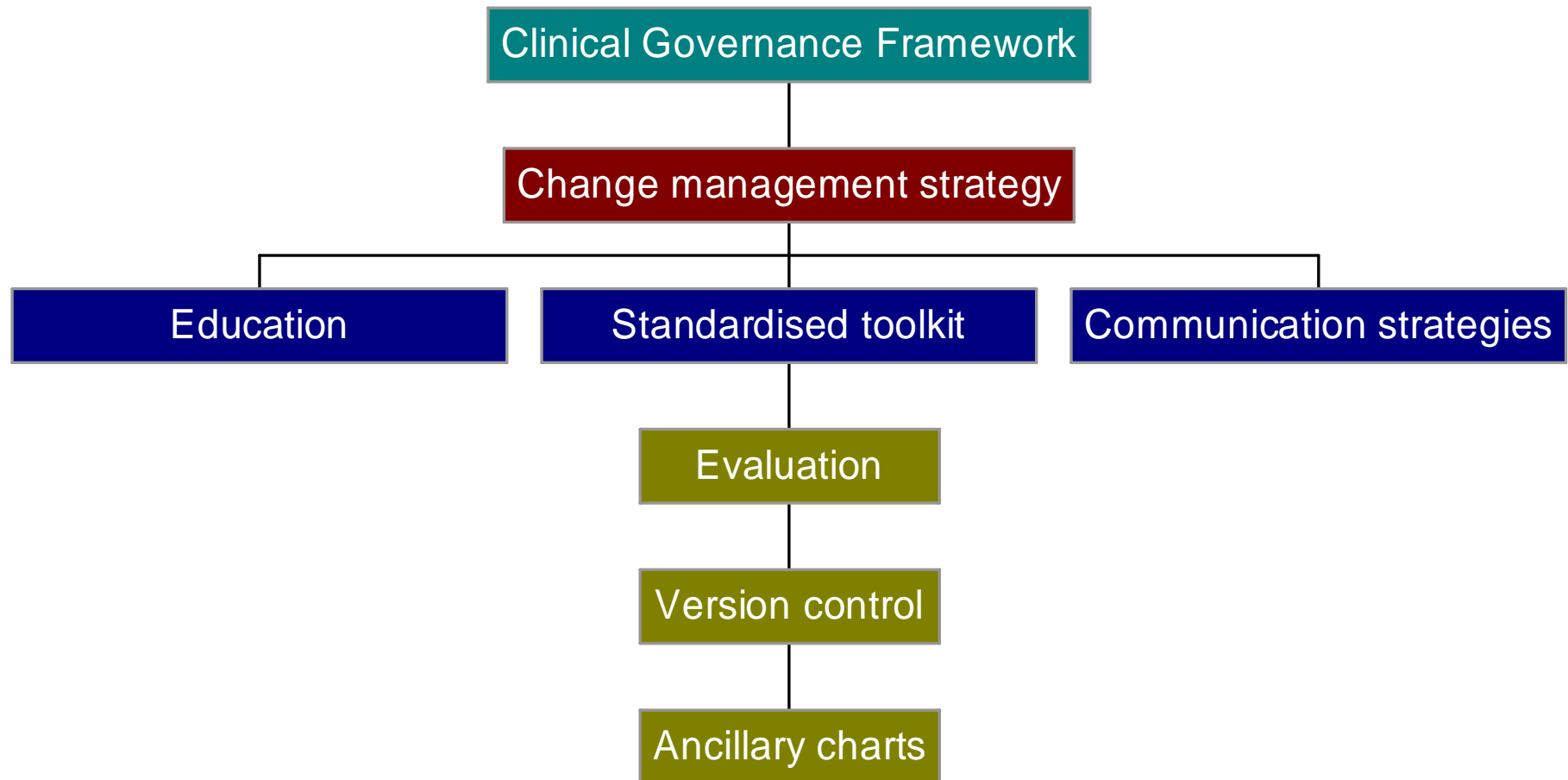
Who did it?



How did they do it?

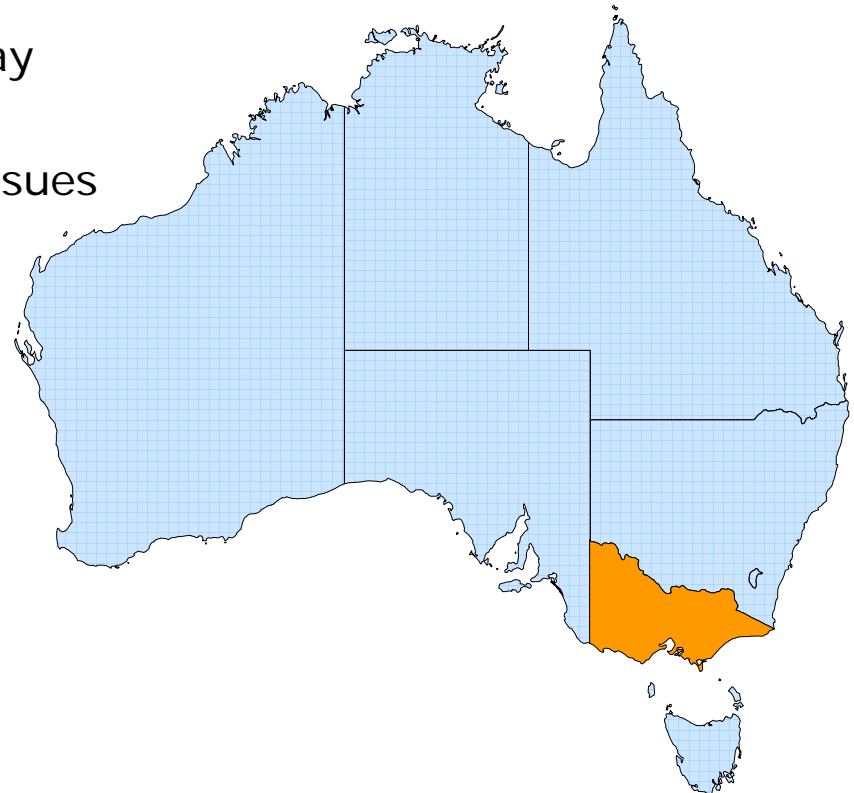


What were the outcomes?



The National Inpatient Medication Chart: Has it worked? What are the issues? (VIC)

- implemented in over 100 hospitals statewide
- version control – transparent and responsive process required
- ancillary chart development – insulin
- audit and evaluation – variable
- electronic medication management underway
- national coordination invaluable
- increased awareness of medication safety issues
- communication is key to the success
- model for change management established

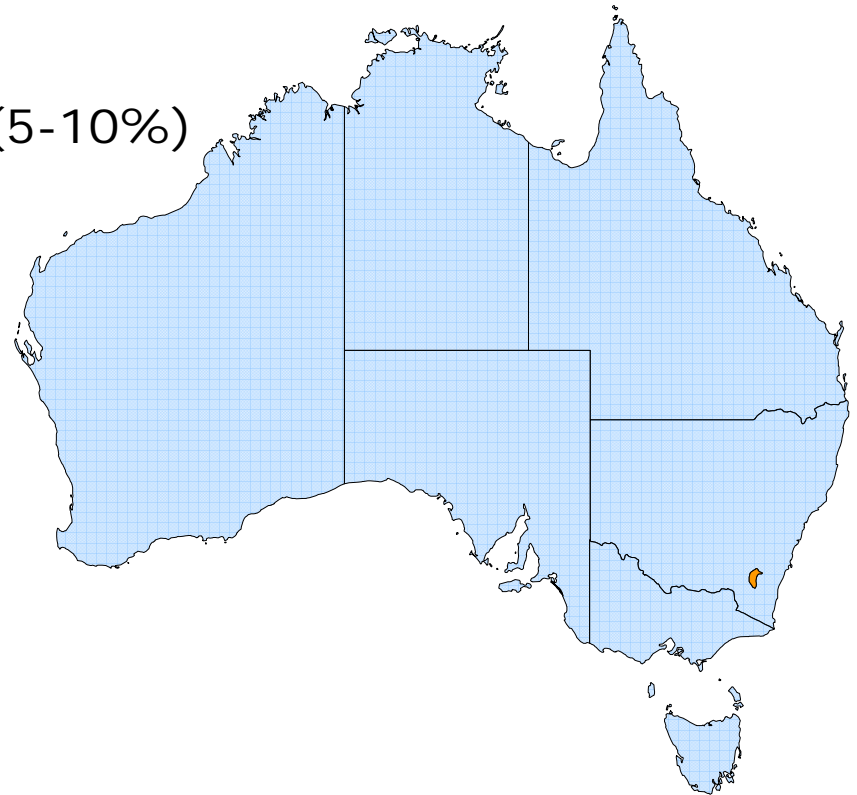


The National Inpatient Medication Chart: Has it worked? What are the issues? (VIC)

Parameter	Change (metropolitan)	Change (regional/rural)
Patient identification	1%	-18%
Charts in use	3%	-24%
Weight	0%	-8%
ADR documentation	37%	6%
ADR drug	7%	-1%
ADR reaction	15%	1%
ADR signature	42%	34%
Trade name only used	-1%	-1%
Name	2%	-2%
SR ticked	23%	32%
Duplicated orders	1%	-20%
Route	2%	6%
Dose	4%	35%
Frequency	1%	31%
Indication	35%	17%
Prn	*	*
Administration times – dr	20%	48%
Admin. Times = frequency	8%	-1%
Warfarin indication	26%	22%
Warfarin target range	36%	49%

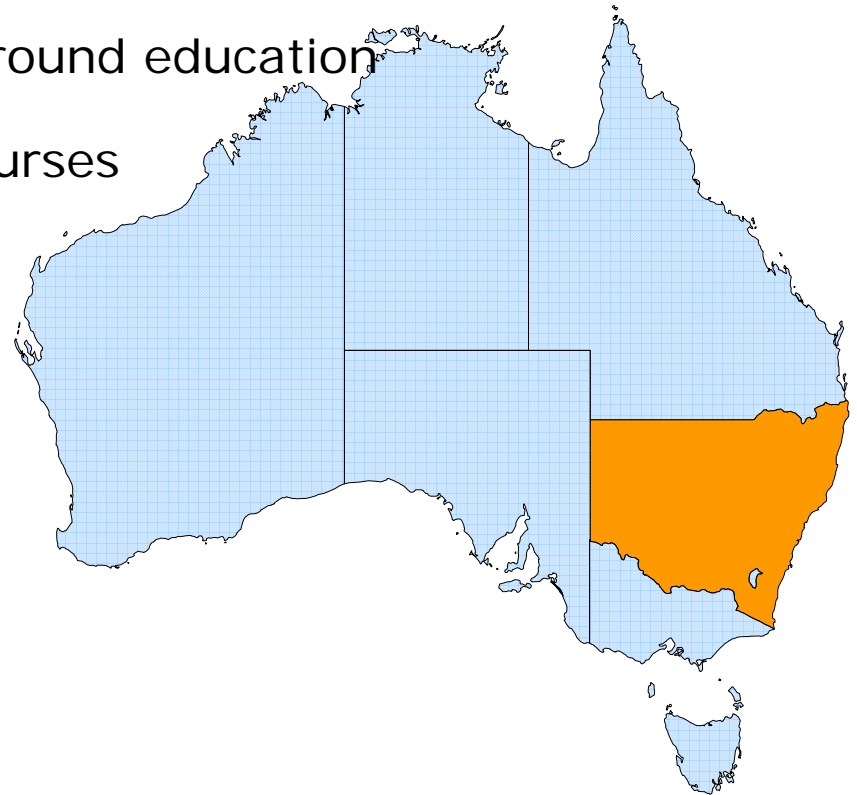
The National Inpatient Medication Chart: Has it worked? What are the issues? (ACT)

- No pre implementation audit. Areas for improvement highlighted included:
 - patient identification, patient weight and number of charts in use
 - medication history documentation
 - ADR, ADR stickers, ADR bands
 - incomplete dose, route, frequency (5-10%)
 - administration times absent (10%)
 - SR box ticked
 - indication documented
 - generic prescribing
 - prn orders
 - dose omitted codes
 - warfarin education documentation
 - clinical pharmacist review



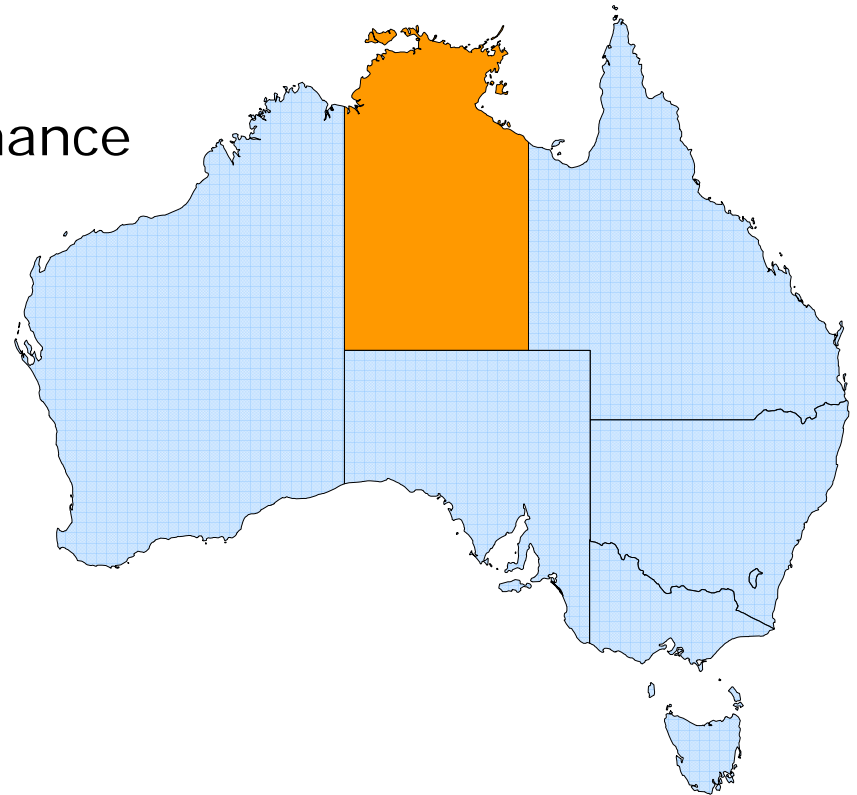
The National Inpatient Medication Chart: Has it worked? What are the issues? (NSW)

- implementation of the NIMC has provided a focus on medication safety more broadly. Implemented in 192 of 216 facilities.
- chart identification, ADR documentation, dose info, admin times by dr, target INR all improved between 1-10%
- there is a higher level of consistency around education and training of staff re prescribing and administration and some undergrad courses now include this in their curriculum
- in conjunction with the NSW Incident Information Management System (IIMS) which allows some quantitative and qualitative assessment of actual and near miss medication incidents, medication safety awareness is increasingly prominent



The National Inpatient Medication Chart: Has it worked? What are the issues? (NT)

- NIMC now implemented across all 5 hospital in the NT
- generally working well
- space for endorsements of pharmacy supply insufficient especially on discharge
- additional charts still an issue
- version control and national governance still a problem
- Royal Darwin Hospital moving to the implementation of a paperless system – have tried to include safety features form the NIMC into the virtual world



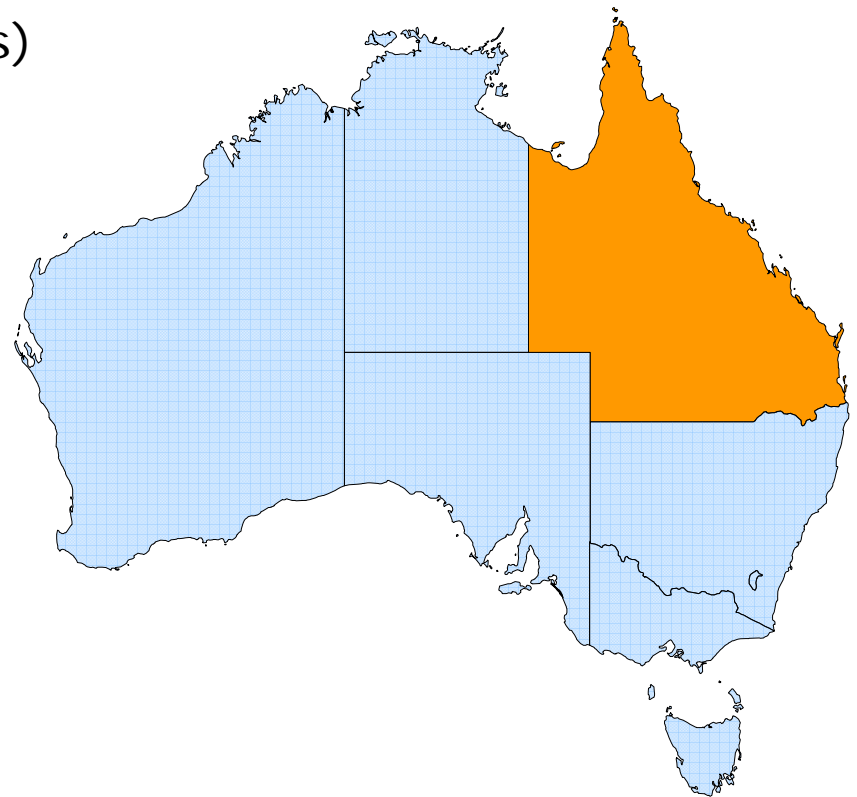
The National Inpatient Medication Chart: Has it worked? What are the issues? (QLD)

Has it worked:

- lead state: introduced by Safe Medication Practice Unit in 2003 as state-wide chart
- used as template for NIMC
- in 98% of all acute health facilities (except 2 long stay Mental Health Units)
- ongoing review

Issues:

- long stay facilities including RACFs
- emergency departments & critical care
- constant reinforcement to workforce of rationale
- compliance



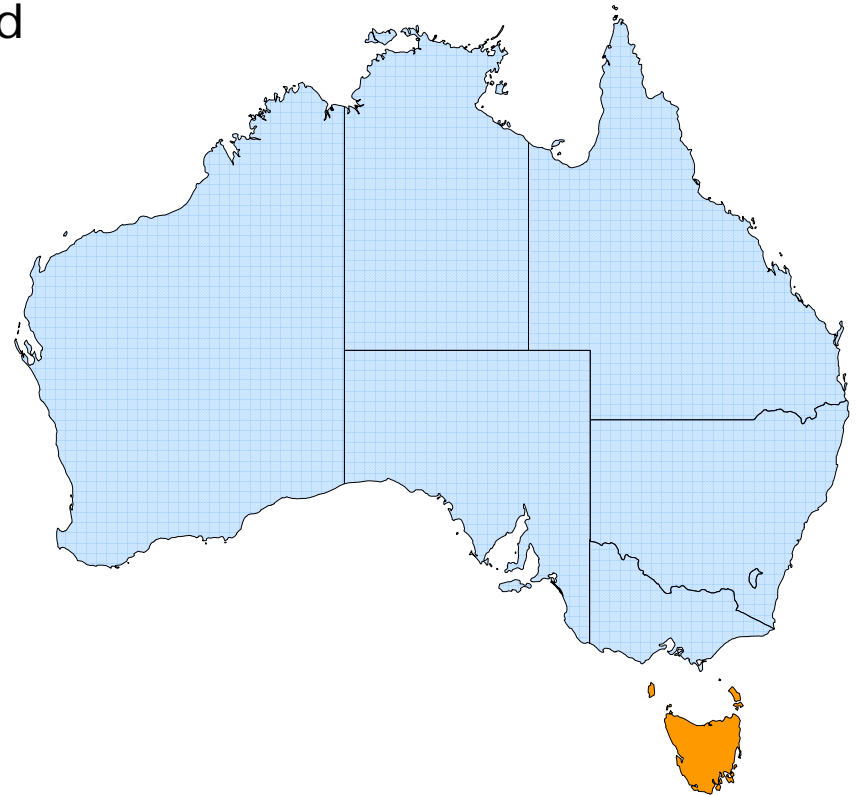
The National Inpatient Medication Chart: Has it worked? What are the issues? (SA)

- highlighted administrator's awareness of medication safety issues
- created an opportunity to drive home med safety within one's hospital
- showed that pharmacists are organised and can get things done
- produced some degree of consensus about what is important and provided a forum for folk to discuss such
- probably too much control.....the control freaks would have loved this process
- anecdotally has improved quality of prescribing here at WCH



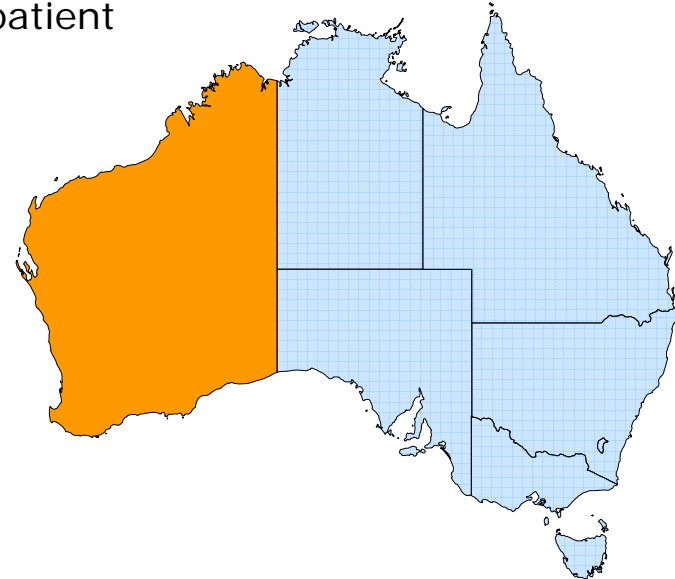
The National Inpatient Medication Chart: Has it worked? What are the issues? (TAS)

- rolled out in three major hospitals
- warfarin chart and syringe driver charts have also been implemented
- pre and post implementation audits have shown improvement
- mental health, correctional facilities and primary health divisions of the health department are using the NIMC with minor modifications



The National Inpatient Medication Chart: Has it worked? What are the issues? (WA)

- NIMC implemented in all public hospitals by July 2006 (except mental health and paediatric facilities awaiting specialised charts)
- post-implementation audit conducted in February 2007
 - 1751 patients and 2376 medication charts audited
 - areas of the chart representing new feature or practice often observed low performance rate e.g. 1st prescriber to print patient name below ID label
 - other areas of the chart complied with appropriately
 - additional education and training needed to ensure the correct practices are adapted as the standard practice, by every clinician, for every patient
- success factors:
 - implementation champions at each site
 - dedicated website and resources
- challenges:
 - clinician resistance and scepticism
- overall very positive initiative –
able to engage clinicians in medication safety issues
in general through debate about value of NIMC to
improve patient safety



Summary lessons learned...

- clinical governance framework established locally and nationally
- structured standardised change management
- standardised education, further education required
- comprehensive communication strategies are vital
- planned evaluation is important to generate comprehensive and accurate information
- transparent version control process needed and developed
- unified approach to ancillary chart development required – perhaps earlier?
- increased awareness of medication safety
- provides a standardised baseline for electronic medication management

What next?

Ancillary chart development

- insulin and BGL, both iv and subcut (QLD, **VIC**)
- Graseby /palliative care (QLD, **TAS**)
- IV fluids & electrolyte guidelines (QLD)
- community mental health (QLD)
- rural & remote supply (QLD, SA)
- medication action plan (QLD)
- heparin, warfarin (QLD) anticoagulants (**WA**)
- long stay (NSW, **SA**)
- pain (QLD)
- paediatrics (NSW, **SA**)

What's in it for me?

No matter which tribe you belong to, or who you are in the tribe,
you know the steps and how they fit into the overall dance
....even if it takes a little more time to learn the dance at first

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