


# Decision Support: The Need for Standards


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# Overview of session

One man's journey:



- An interest in antibiotic resistance.
- Studies of antibiotic prescribing.
- Evidence based, best practice guidelines.
- Drug audit and education.
- Medicinal drug policy: quality use of medicines (QUM).
- The impact and potential of information technology QUM<sup>II</sup>.
- Health information policy.
- The need for standards.


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# In the beginning:



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# Therapeutic Guidelines




- Best practice recommendations concerning the treatment of choice for common clinical problems.
- Written by national experts.
- Evidence based where possible, peer-consensus where not.
- Regularly updated.
- Endorsed by the RACGP, NPS, DoHA, etc.
- Used for medical education, problem look-up and drug audit.

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# Therapeutic Guidelines Evolution

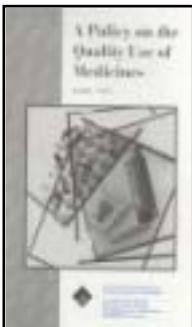


- Guidelines titles were expanded to cover all therapeutic groups
- Self-sufficiency was achieved.
- So was improved prescribing:
  - Harvey KJ, Seward R, Hemming M, Moulds R. Antibiotic use in a large teaching hospital - the impact of antibiotic guidelines. *Med J Aust* 1983; 2:217-221.
  - Harvey KJ. Quality assurance of therapeutic products and practice. *Med J Aust* 1987; 147:317.
  - De Santis G, Landge n FT, Harvey KJ, Mashford IM, et al. Changing antibiotic prescribing by educational marketing. *Med J Aust* 1988; 149:595-599.
  - Harvey KJ, Howland D et al. Improving the quality of antibiotic prescribing in general practice: the role of educational intervention. *Med J Aust* 1994; 160:502-5.
- But only when guidelines were augmented by drug audit, reflection and specific change strategies

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# Quality Use of Medicines Policy



- Policy development and implementation
- National facilitation and co-ordination
- Objective information
- Ethical promotion
- Education and training (NPS)
- Services and interventions (NPS)
- Evaluation (data collection)

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## QUM: Objective information



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## QUM: Ethical promotion

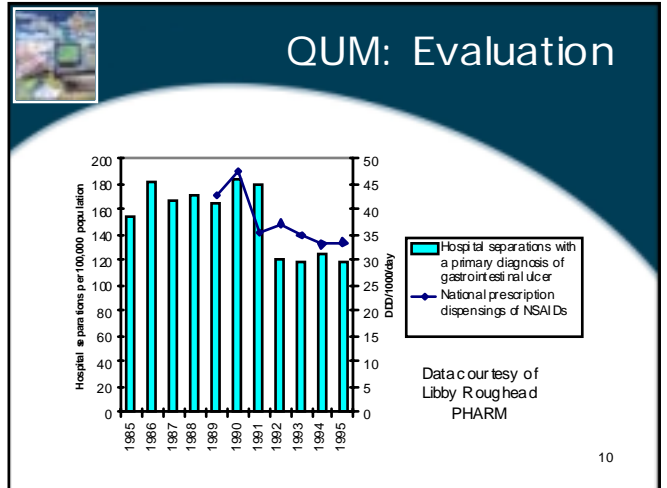


## QUM: Services and interventions

- Drug audits
- Case studies
- Academic detailing
- Advice and information
- Practice incentive payments (PIPs)

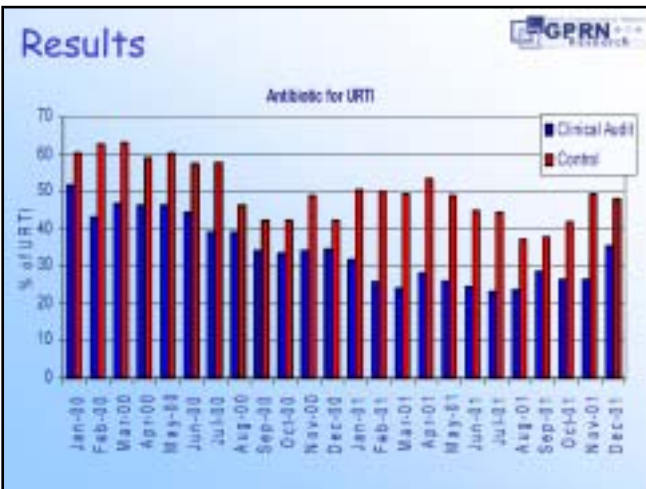
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## QUM: Evaluation



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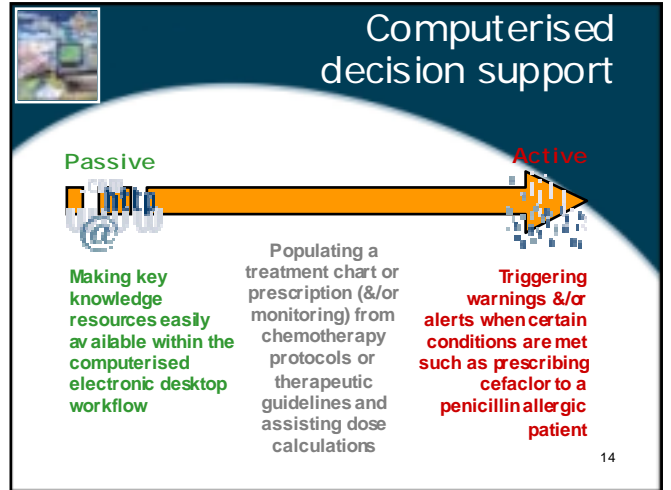
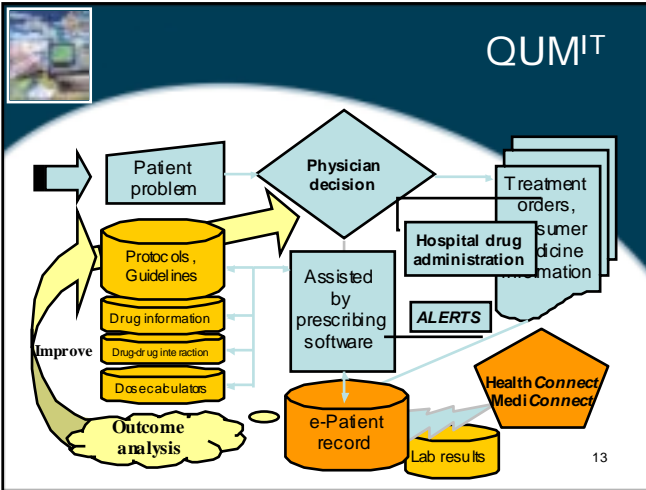
## Results



## Current strategy

To make best-practice Guidelines, medication review and other proven QUM techniques more accessible via physician's computers

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### Computerised decision support

A hand-held computer with communication capabilities can alert a busy (and mobile) clinician about an important laboratory result (in this case, a potassium level of 2.5 mg per decilitre) and advise remedial action.<sup>[1]</sup>

[1] Bates DW, Gawron AA. Improving Safety with Information Technology. NEJM 2003; 348: 252-6-25 34

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### Computerised decision support

Hi Ken,  
Based on my analysis of your prescribing last month I suggest the following 5 minute update on UTI .  
It's worth 10 CME points!  
Click [here](#) to get going.  
Cheers, Edbot (Your personal educational software agent).

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### Challenges: E-conversion

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### Challenges: E-Integration: MD™

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## Making guidelines machine readable

Guideline and formulary information can be atomized into machine readable components using XML tags (but displayed in HTML via XSL)

e.g. amoxicillin (child 15 mg/kg up to) 500 mg, 8 hourly, orally can be represented in machine readable form as:

```
<REGIMEN>
<ATC>J01CA04</ATC>
<DRUG>amoxicillin</DRUG>
<DOSE>
<CHILDREN>15<UNIT>mg/kg</UNIT></CHILDREN>
<ADULT>500<UNIT>mg</UNIT></ADULT>
</DOSE>
<FREQ>8 hourly</FREQ>
<ROUTE>oral</ROUTE>
</REGIMEN>
```



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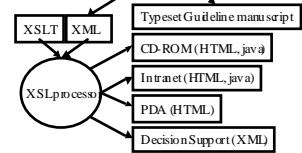


## Making guidelines machine readable

Manuscript (guidelines/protocols)  
(Well formatted Microsoft Word document)  
-Prepared by an editor and multiple authors

Parsed by computer  
Guidelines DB

Single input source,  
multiple outputs  
(SISMO)  
editing support  
indexing support  
navigation assistance  
output styling, etc.  
(Dr. Bryn Lewis)<sup>1</sup>



1. Strategic Partnership with Industry for Research & Training (ARC grant)

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## Current status of E-integration



- The electronic version of Therapeutic Guidelines will no longer be available in Medical Director® from May 2003.
- The integration of Antibiotic Guidelines had been well received by the users of Medical Director®.
- However, there is significant development work required by HCN to enable access to eTG complete in a similar fashion.
- After a review of HCN's development priorities it has been decided that this work cannot be scheduled at this stage.

[http://www.australiandoctor.com.au/downloads/md/newsletters/2003\\_May.pdf](http://www.australiandoctor.com.au/downloads/md/newsletters/2003_May.pdf)

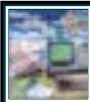


## QUM<sup>T</sup> policy conclusion



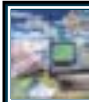
If you leave the integration of best-practice guidelines into clinical software to market forces you will not always get the desired result.

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## GP IT Policy

Activity	Annual payment per full-time-equivalent GP
Agreement, in principle, to provide data to the HIC (all practices currently qualify)	\$3000 (\$3500 in 1999-2000 only)
Use of prescribing software for the majority of scripts	\$2000 (\$4000 in 1999-2000 only)
Capacity to send and receive data, via modem and e-mail account	\$2000 (\$2500 in 1999-2000 only)



## GP IT Policy: Outcome



- PIP incentives increased the use of computers in general practice dramatically;
  - currently about 90% of all GPs use computers to write (now legible) scripts.



But:

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The package with the leading market share contains prominent advertisements for expensive brand name drugs.

## GP IT Policy: Outcome

- A study in Newcastle, NSW<sup>1</sup>, found a higher rate of repeat prescribing with computer generated original prescriptions compared with hand-written prescriptions for many antibiotics.
- Computer-generated prescriptions were over three times more likely to result in a repeat being issued.
- This was allegedly due to default settings of the MD<sup>®</sup> software.

1. Newby DA, et al. Med J Aust 2003;178:210-13.

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## GP IT Policy: Outcome

An NPS study of 4 most commonly used software packages showed considerable variation on the drug interaction alerts given (27 tested).

Category	Package 1	Package 2	Package 3	Package 4
All relevant	12	1	9	14
Mixed Info	8	3	12	7
Irrelevant	2	11	2	2

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## GP IT Policy: Conclusion

Providing GPs with incentives to acquire computers without laying down standards as to the quality of the software and databases provided has produced mixed results:

- More legible scripts.
- Some useful warnings and prompts (but disturbing variations between vendors).
- New opportunities for the pharmaceutical industry to influence prescribing inappropriately.

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## Other National & State initiatives

National Institute Clinical Studies (NICS)

- \$3.5 m per year to "turn evidence into action".
- NICS-NHIMAC established a National Electronic Decision Support Taskforce.
- Produced a useful report titled, *Electronic Decision Support for Australia's Health Sector* in November 2002.
  - Foster research, development and best-practice in the implementation of electronic decision support.
  - Enhance the quality and safety of electronic decision support systems.
  - Establish a national standards framework
  - Encourage an evaluation culture.
  - Encourage uptake and use of electronic decisions support systems.
  - Establish national coordination and governance arrangements.
- The DoHA held a strategy meeting on July 3, 2003 to, "progress the high priority recommendations of the NEDST by developing an agreed program of work". This report is not yet available.

## Other National & State initiatives

Australian Council Quality & Safety in Health Care (ACQSHC)

- \$10.0 m per year.
- Second National Report on Patient Safety: *Improving Medication Safety*, July 2002.
- National Medication Safety Breakthrough Collaborative, 2003
- National E-prescribing and decision support workshop (in association with NPS), scheduled August 26 2003.

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## Other National & State initiatives

- National Prescribing Service (NPS)
  - Now \$16.0 million per year.
  - Now responsible for *Australian Prescriber*.
  - Have an electronic prescribing & decision support group (Teng Liaw, Chair).
  - Contract with DoHA to integrate PBS “new drug listing information” into GP prescribing software.
  - National E-prescribing workshop with ACSQHC, scheduled August 26 2003.

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## Other National & State initiatives



- Additional funding of \$138.5 million is provided in the 2003–04 State budget for a Health (ICT) Strategy covering hospital administration systems, clinical systems and *electronic medication ordering*.
- This brings the total funding allocated to Health ICT to \$324 million.
- Minister for Health, John Thwaites, said **E-Prescribing** was an exciting innovation in Victorian health care and one that would save lives.

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## Cooperation - States and Commonwealth?

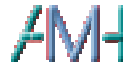


- A national therapeutic guideline database with:
  - The ability to enter a clinical problem and quickly find best-practice recommendations (in varied formats including PDAs).
  - Tools to add specialized hospital guidelines and trial protocols (e.g. chemotherapy care plans, febrile neutropenia guidelines).
  - *Guidelines Central*: a shared repository of best-practice guidelines in a common format.
  - The ability to populate and modify an electronic treatment chart with drugs recommended by guidelines or protocols &/or track prescribing against recommendations in the background (machine readable guidelines).

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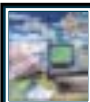


## Cooperation - States and Commonwealth?

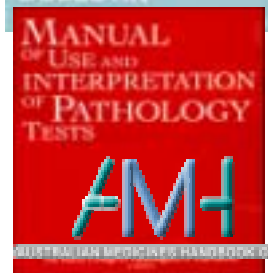
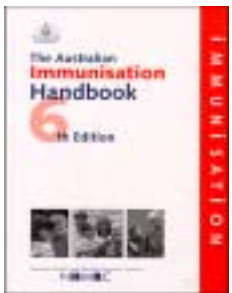


- A national drug database including
  - a drug-drug interaction database (clinically significant interactions only).
  - standard dose ranges (to check potential overdose).
  - the ability to indicate what drugs are on a particular hospital formulary (and restrictions to specialized units).
  - PBS, New drug information, Authority to prescribe, RPBS availability and price information.
  - consumer medicines information, and
  - tools to allow hospital drug information pharmacists to add investigational drugs and localise &/or add to the core drug information.

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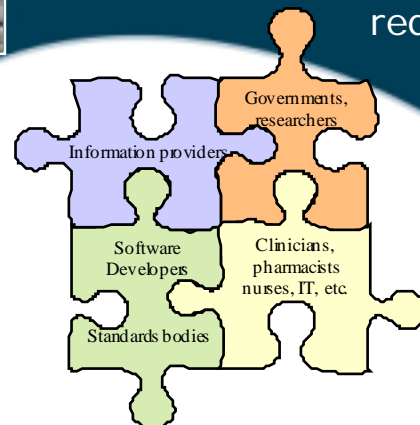
## GPCG “National Treasures”



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## Standards are required



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# Coda



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