

# Drug interaction alerts in clinical software

*What do GPs want?*

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**GP11 Conference – 6 October 2011**

## What's the problem??



Rx: Ibuprofen 200 mg Tablet  
Dose: 2 tablets as directed  
Qty: 1 pack of [24]

Warnings:

Concomitant use of allopurinol increases toxicity of Mercaptopurine.

Concomitant use of allopurinol with oral Mercaptopurine and azathioprine may increase toxicity.

Prescribe Cancel

The alerts read like garbage! Unclear and unhelpful!


Keep it brief and to the point. I don't have time to read large amounts of information!

## Aim

To explore Australian GPs' preferences in relation to the **content**, **format** and **usability** of drug interaction alerts in prescribing software.

# Methods

- ▶ Literature review
- ▶ Ethics approval (from RACGP NREEC)
- ▶ Developed and piloted survey
- ▶ 1000 GPs
- ▶ Mail out in June 2010 + 1 reminder in July 2010



National Prescribing Service Limited

## Survey – Drug interaction alerts in software

*What do GPs want?*


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Drug interaction alerts in prescribing systems vary in terms of their content, format and the amount of information they provide. This survey seeks your views on the drug interaction alerts in your prescribing system and how they could be improved. Your responses will be treated confidentially.

Please return your completed survey to NPS in the envelope provided by 22 July 2010.

Mark with a cross (X) using black or blue pen in the appropriate box beside your response.

National Prescribing Service  
Drug interaction study  
Reply Paid 1980  
Strawberry Hills NSW 2012




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1. Are you currently working as a general practitioner?
  - Yes
  - No (*No further questions, please return survey.*)
2. Do you prescribe using computer generated prescriptions?
  - Yes
  - No (*No further questions, please return survey.*)
3. Which software do you use most frequently for prescribing?
  - Best Practice
  - Medical Director 2 or 3
  - Genie
  - MedTech 32
  - Zedmed
  - Other (specify): \_\_\_\_\_
4. Do drug interaction alert 'pop-up' messages appear in your prescribing software?
  - Yes
  - No / Not sure (*No further questions, please return survey.*)

In the prescribing system you use most frequently:
5. For what percentage of the alerts you prescribe, do drug interaction 'pop-up' messages appear?
 

\_\_\_\_\_ % (approximately)
6. For the drug interaction messages that appear, what percentage do you 'skip over' (i.e. don't read at all)?
 

\_\_\_\_\_ % (approximately)
7. For the drug interaction messages that appear, what percentage have an effect on your practice? (e.g. monitor patient, change dose, prescribe alternative medication)
 

\_\_\_\_\_ % (approximately)

Please turn over...

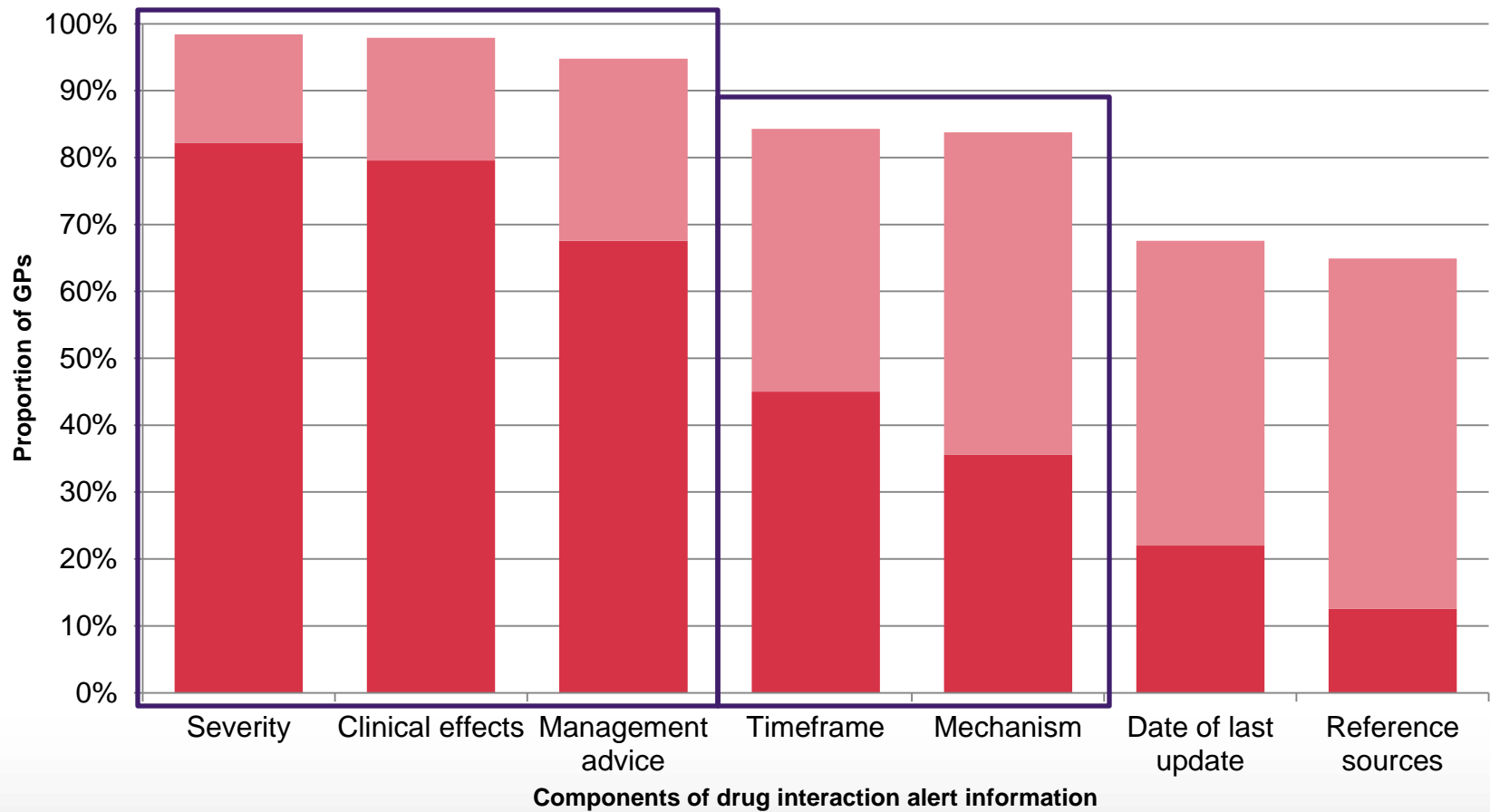
NPS is an independent, not-for-profit organisation for quality use of medicines.  
Funded by the Australian Government, Department of Health and Ageing.

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# Content of drug interaction alerts

n=191



■ Somewhat useful

■ Mostly useful

# Format of drug interaction alerts

## Example: Methotrexate and Trimethoprim

### ‘Headings + bullets’

#### Effects

- Combination may cause life-threatening bone marrow suppression.

#### Timeframe

- Weeks to months.

#### Management

- Avoid combination if possible.
- If concurrent use is necessary, monitor blood count closely.

#### Mechanism

- Unclear; may be additive antifolate effects or decreased renal clearance of methotrexate.

69%

### ‘Bullets’

- Combination may cause life-threatening bone marrow suppression (in weeks to months).
- Avoid combination if possible.
- If concurrent use is necessary, monitor blood count closely.
- Mechanism is unclear; may be additive antifolate effects or decreased renal clearance of methotrexate.

24%

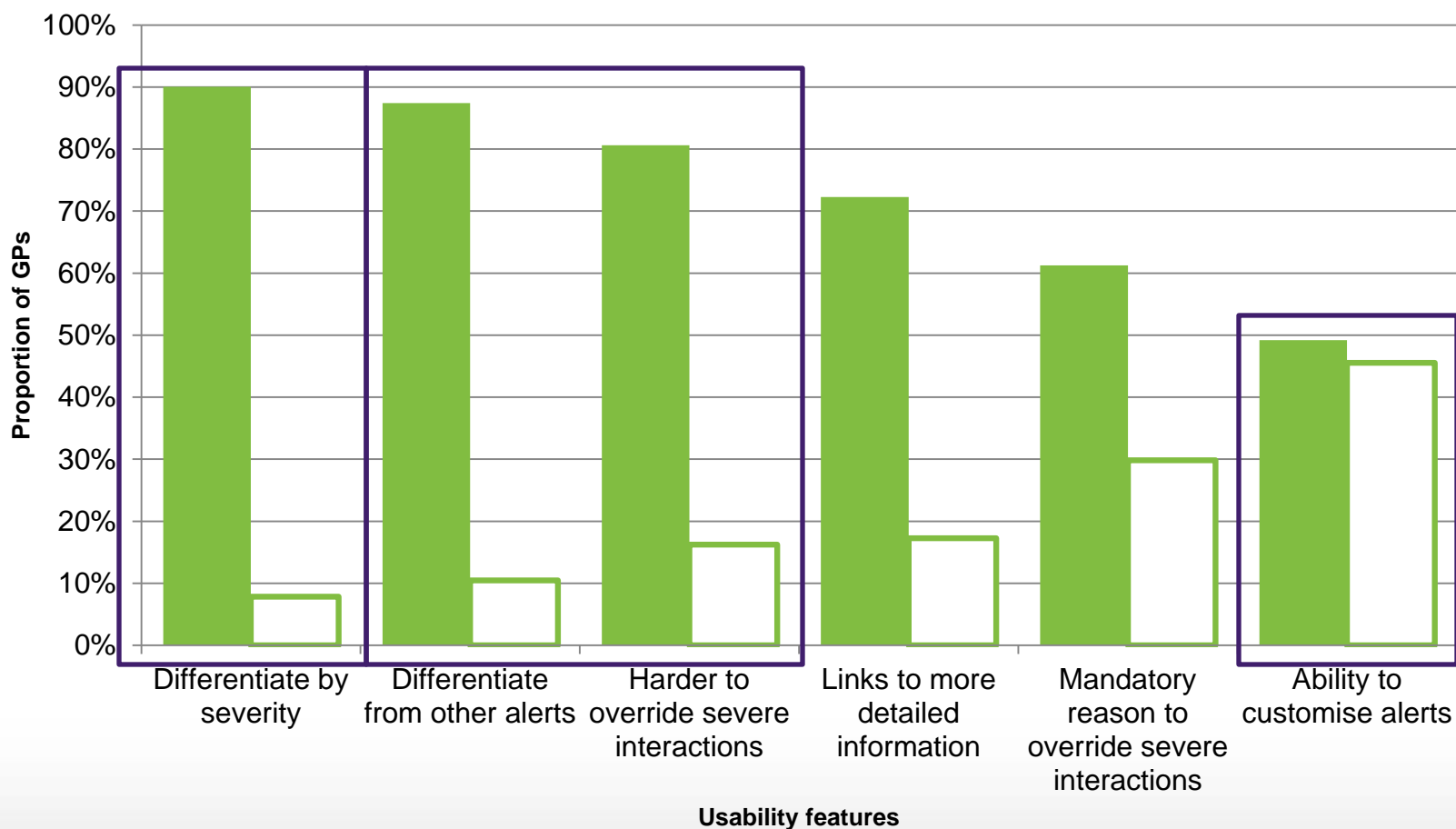
### ‘Paragraph’

Combination may cause life-threatening bone marrow suppression (in weeks to months). Avoid combination if possible, or if concurrent use is necessary, monitor blood count closely. Mechanism is unclear; may be additive antifolate effects or decreased renal clearance of methotrexate.

4%

# Usability of drug interaction decision support

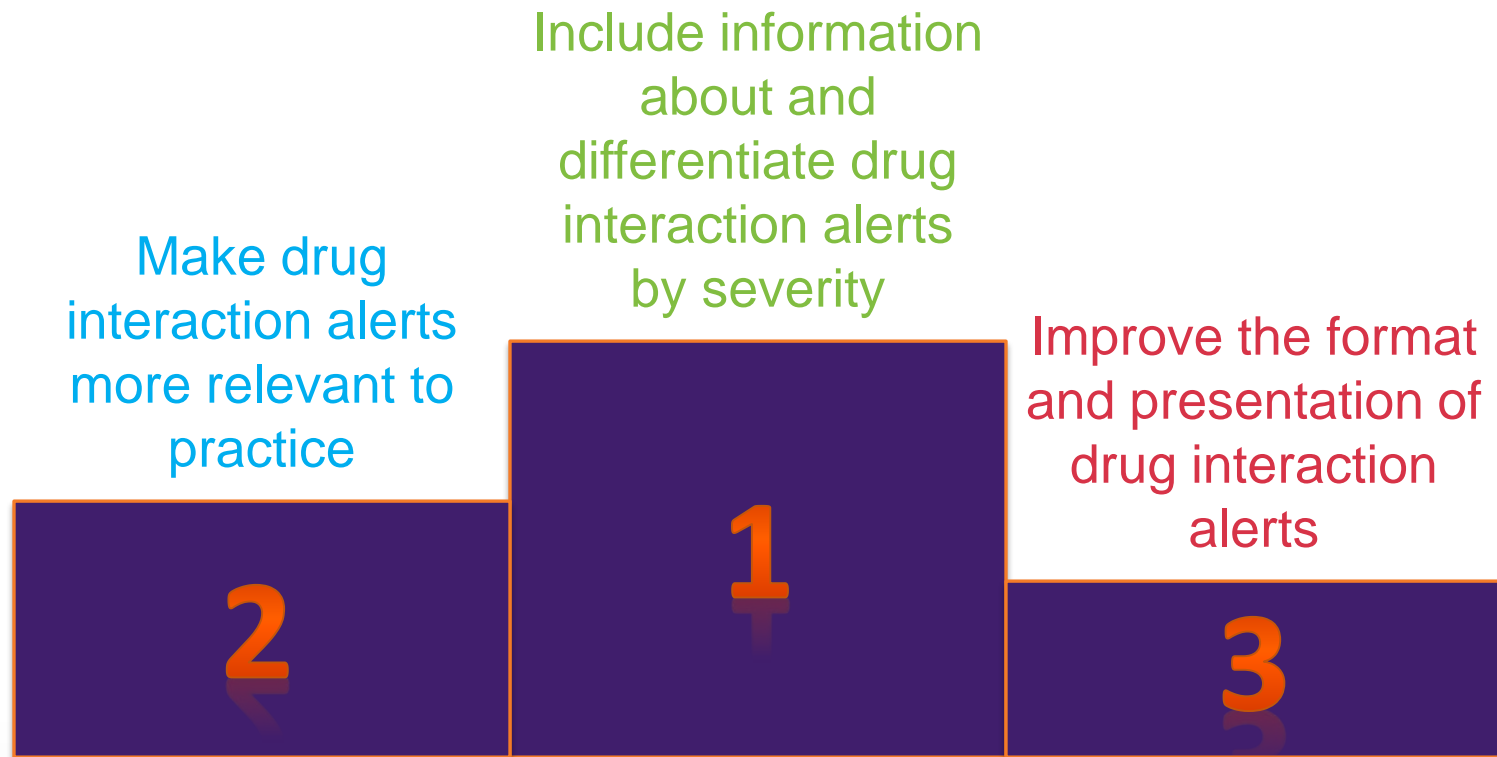
n=191



■ Agree or strongly agree that feature would be valuable

□ Disagree or strongly disagree that feature would be valuable

# ‘What are the 3 things you would most like to change about the drug interaction alerts in your software?’



# Summary

## Content of drug interaction alerts

- Most GPs considered information on the **severity** of the interaction, **clinical effects** and **management advice** useful

## Format of drug interaction alerts

- Most GPs wanted drug interaction alert messages presented in an **easy to read** format that includes **headings** and **bullet points**

## Usability of drug interaction alerts

- Almost all GPs considered the **ability to differentiate alerts by severity** to be valuable
- Mixed opinions about the ability to **customise alerts**

## Bottom line?

Most GPs agreed on what they wanted in their software in terms of drug interaction decision support

**BUT**

Many software systems don't have the drug interaction decision support users said they want

### What's needed?

- High quality, up-to-date drug interaction knowledge bases
- Guidance for software vendors
- Evaluation and certification of decision support systems and knowledge bases