

Opportunities for incorporation in government-funded prescribing improvement initiatives

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Disclosure Statement of Financial Interest

I, Neal Maskrey DO NOT have a financial interest/arrangement or affiliation with any healthcare related companies that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

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Evidence-informed decision-making

Supporting healthcare individuals

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MeReC Bulletin

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MeReC Publications

Making decisions better

Summary

- There is much variation in the implementation of the best available evidence into clinical practice. These gaps between evidence and practice are often a result of multiple individual decisions.
- Health care practitioners need to be good decision makers, yet decision making is rarely discussed during undergraduate or postgraduate training.
- When making a decision, there is so much potentially relevant information available, it is impossible to know or process it all (so called '**bounded rationality**'). Usually, a limited amount of information is selected to reach a sufficiently satisfactory decision, a process known as **satisficing**.
- There are two key processes used in decision making: **System 1** and **System 2**. System 1 involves fast, intuitive decisions; System 2 is a deliberate analytical approach, used to locate information which is not instantly recalled. Human beings prefer to use System 1 processing as it is less effortful than System 2.
- In clinical practice, gaps between evidence and practice can occur when a clinician develops a pattern of knowledge, which is then relied on for decisions using System 1 processing, without the activation of a System 2 check when needed.
- The ability to process information and make good decisions may be influenced by a number of cognitive biases, of which the decision maker may be unaware.
- Interventions to encourage appropriate use of System 1 and System 2 processing have been shown to improve clinical decision making.
- Increased understanding of decision making processes and common sources of error should help clinical decision makers to minimise avoidable mistakes, and increase the proportion of decisions that are better.

grip on
e of the

Suboptimal decision making processes can lead to under- and over-implementation of evidence into clinical practice

Getting a grip on research: the fact those who ignore his

The implementation of evidence into clinical practice is a complex process. It involves the selection of evidence, its interpretation, and its application to individual patients. This process is often hindered by a number of factors, including limited resources, time constraints, and a lack of understanding of the evidence. This article discusses the challenges of evidence implementation and offers strategies to improve the process.

The aim of evidence-based medicine (EBM) is to ensure that decision making in health care incorporates the best available evidence. However, evidence should be used judiciously, taking into account both clinical expertise and the needs and wishes of individual patients.¹

After more than twenty years, the EBM movement has well-developed systems and processes. There are high quality syntheses of evidence which cover many areas of clinical practice. The Cochrane Library, the National Institute for Health and Clinical Excellence (NICE) and many other guideline producers across the globe use methodological approaches specifically designed to minimise biases in the data. Worldwide, clinicians are taught about EBM at undergraduate and postgraduate levels.² However, even in the United Kingdom where the EBM culture is strong, its formal incorporation into the undergraduate curricula of medical schools is variable.³

Linked with the development of EBM has been a movement exploring implementation — how to better incorporate the findings from high quality research into routine clinical practice. Despite more than twenty years in care can be identified.^{4,5} Sometimes there is over-acting insulin analogues for people with type 2 diabetes mellitus when the clinical effectiveness and health

All information was correct at the time of publication (August 2011)

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InnovAiT: Autumn / Winter 2009-2010

Supporting adoption of evidence into practice

Everyone with an interest in healthcare – health professionals, patients, managers and the wider public – expects to see the findings of important research incorporated into clinical practice without undue delay. When it comes to promoting evidence-based, clinically effective practice, ‘guaranteed’ implementation approaches are often proposed¹. However, these solutions usually reflect professional disciplines or areas of expertise or interest; they seldom agree, and are more likely to be based on beliefs than on evidence². This MeReC bulletin highlights relevant evidence and ideas from educational theory, decision-making theory, information management and implementation reviews. It is not intended to be a systematic review of those disciplines. Rather, the intention is to provide insights from each of them together into a new synthesis, so as to provoke a debate and contribute to a review of current implementation strategies – perhaps bringing a fresh approach to difficult challenges. This MeReC bulletin builds on MeReC Bulletin 2011:22:1³, which discussed how people’s decisions and how decision-making might be done better.

Summary

...bureaucracy’ in which front-line clinical staff have a large measure of control... decision-making, which is greater than that of staff in... above’ can have limited impact and may...
...the...
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...re...

Special Article

Becoming a Medical Information Master: Feeling Good About *Not* Knowing Everything

David C. Slawson, MD; Allen F. Shaughnessy, PharmD; and Joshua H. Bennett, MD
*arrisburg, Pennsylvania

ly of knowledge in medicine is growing at a al pace. Clinicians rely on many sources of ormation—journal articles and reviews, text- gues, continuing medical education con- tapes and audiotapes, and pharmaceuti- es—although they probably have had ing in assessing the clinical usefulness obtained from each source. Excel- how to evaluate clinical trials and been published, but these tech-

niques are time-consuming and are rarely employed by busy clinicians. In this paper, we present a “user-friend- ly” method of managing new information in a practical and time-efficient manner. This approach allows clinicals to disregard most of the available medical information and focus on patient-oriented evidence that truly matters.

Key words. Information services; education, medical; models, educational. (*J Fam Pract* 1994; 38:505-513)

How clinical decisions are made

Louise Bate,¹ Andrew Hutchinson,¹ Jonathan Underhill¹ & Neal Maskrey^{1,2}

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Neal Maskrey: Medical maths

9 Apr, 14 | by BMJ



Most of us end up with a handful of people who remember us. Teachers have thousands of people who remember them for the rest of their lives. I've been lucky to have had dozens of memorable teachers, and one of the first was Miss Molineux. Miss Molineux was young, enthusiastic, and kind. We were not just the seven year olds she taught, but her devoted fan club. She drilled us in multiplication, encouraged our developing reading, and stayed late to play cricket with us after school. To this day if I have to multiply 8 by 7, a whiff of Miss Molineux's perfume and 56 simultaneous events...
...models, theoretical





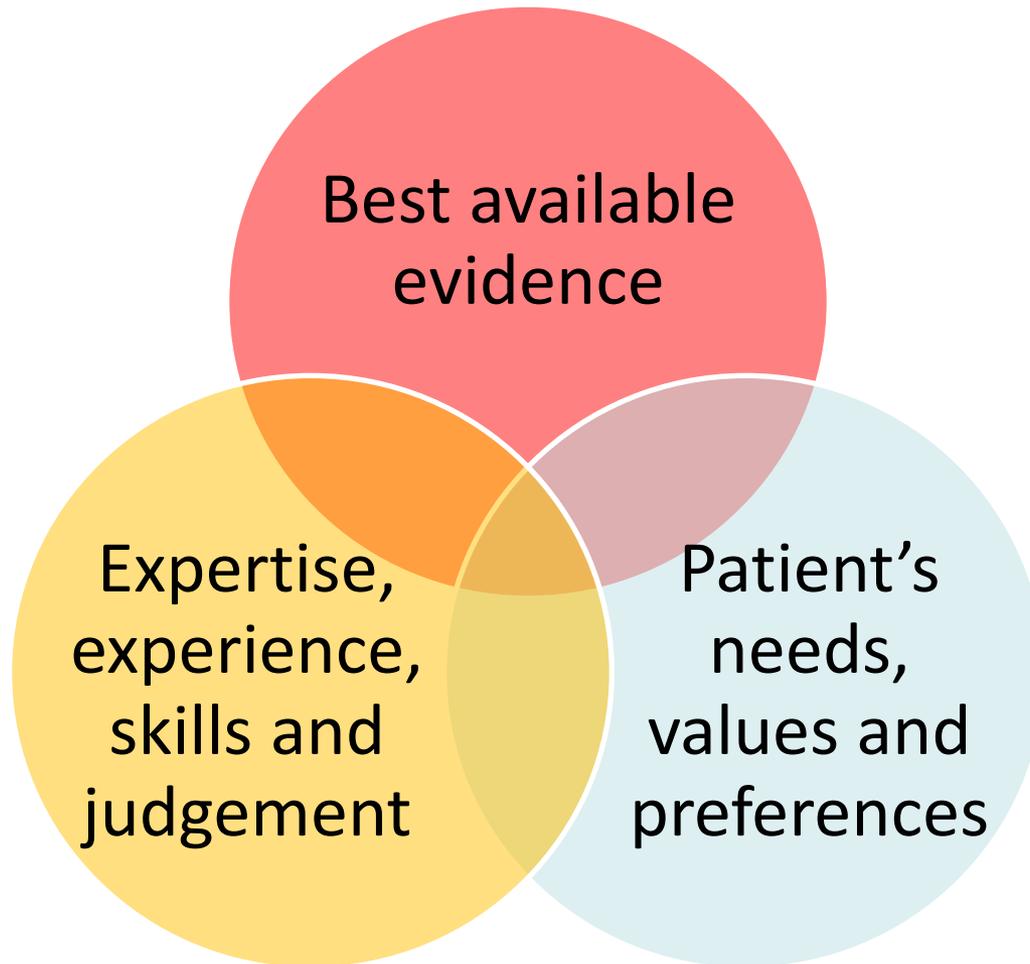
What is evidence-based medicine?

EBP is "the conscientious, explicit and judicious use of current best evidence in **making decisions** about the care of the **individual patient**. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research."

Sackett D, 1996

Evidence-based medicine

Sackett D, et al. BMJ 1996;312:71-2

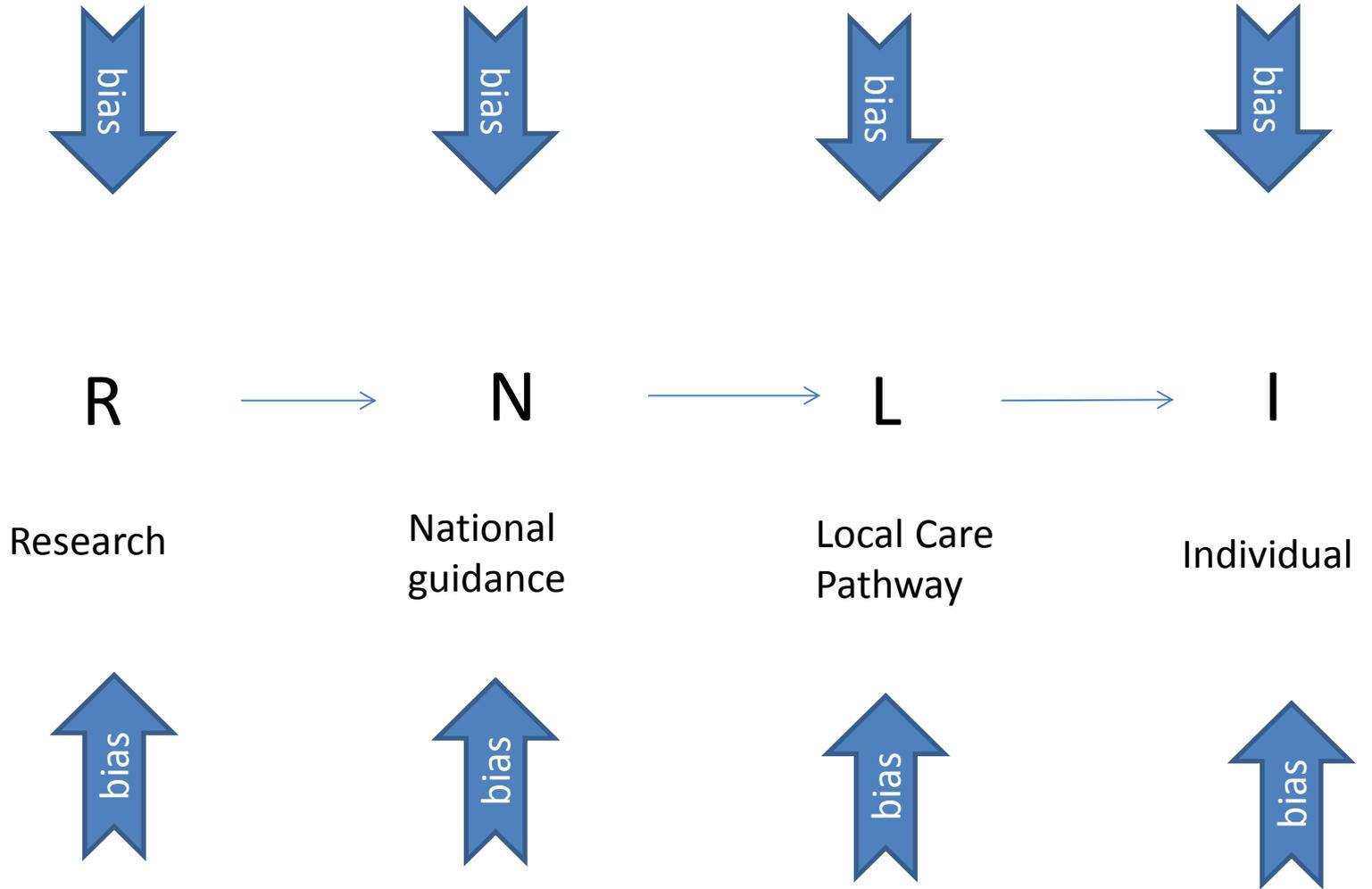


- To raise awareness and knowledge of **evidence-based decision-making** and systematic reviews

UK Cochrane Centre 2020 strategy

- Helping doctors **make better decisions**

BMJ



Information

"Thinking about the fact that we don't have a lot of time, and this is the thing I feel really ashamed about, I'm in a job where people's lives depend on the fact that I make the right decision, and sometimes I feel completely overwhelmed with the fact that I don't know enough information about some critical decisions that I make every day"

GPST West Yorkshire 2010

Critical appraisal?

“I certainly don’t do any of it, you know – don’t remember the last time I really looked at a paper. I have a pile of BMJs at home this high [*gesture*] but I don’t ever read them. I sometimes carry them around in my bag in case I kind of osmotically get the information [*ironic expression*] but you know, time-wise it’s easier to look on GP Notebook.”

GPST West Yorkshire 2010





BIBLIOTHE

PROFESSOR REGIUS

DE SACRA THEOLOGIA





Herbert Simon
1978
Economics

Bounded rationality
Satisficing

Mindlines

“Clinicians rarely accessed, appraised, and used explicit evidence directly from research or other formal sources; rare exceptions were where they might consult such sources after dealing with a case that had particularly challenged them.”

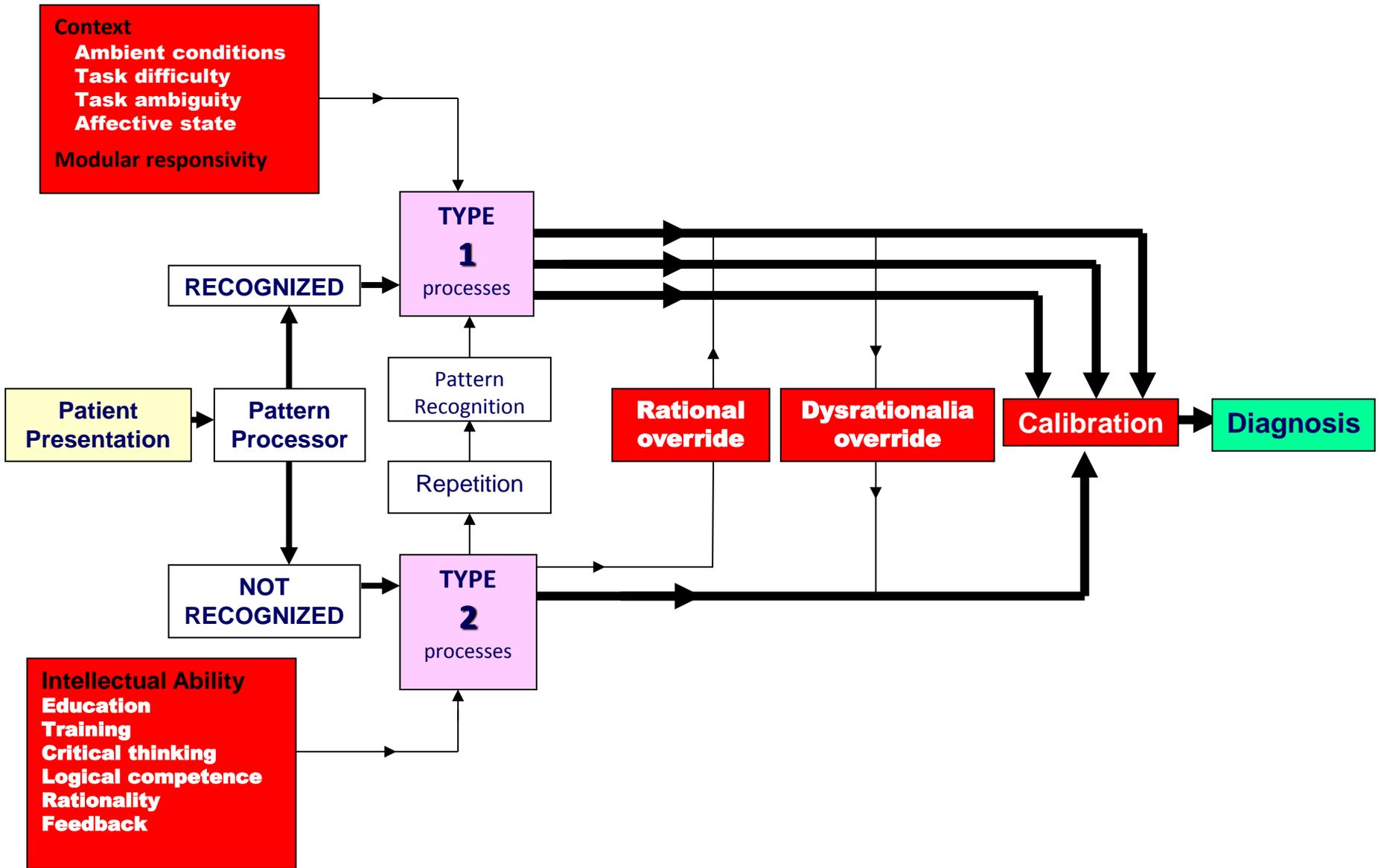
Gabbay and le May. BMJ 2004; 329: 1013–1016

“Instead, they relied on what we have called "mindlines," collectively reinforced, internalised tacit guidelines, which were informed by brief reading, but mainly by their interactions with each other and with opinion leaders, patients, and pharmaceutical representatives and by other sources of largely tacit knowledge that built on their early training and their own and their colleagues' experience.”



Daniel Kahneman
Economics
2002

Dual Process theory



All together, big breath in.....

What is the answer to this sum?

$$2 + 2 =$$

All together, big breath in.....

What is the answer to this sum?

$$75 \times 56 =$$



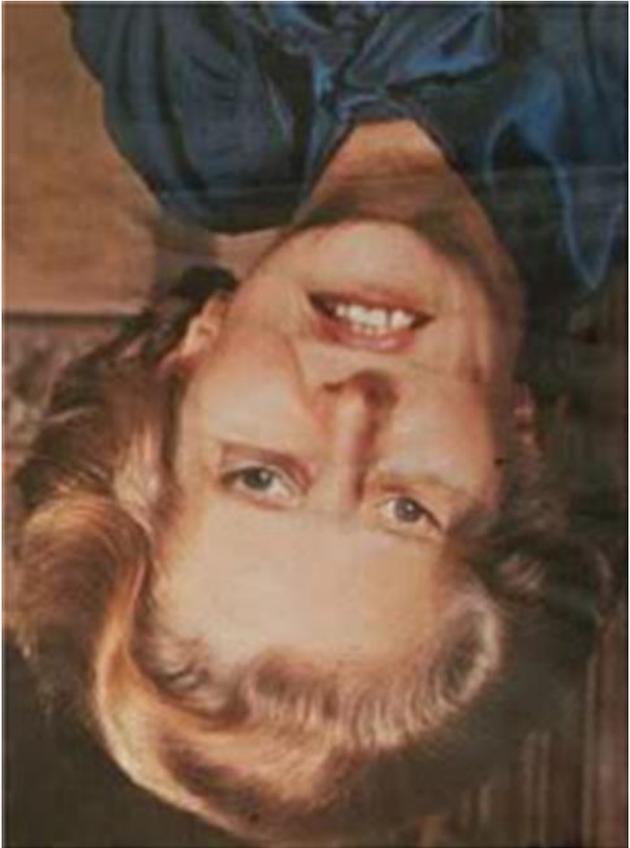


Say OUT LOUD what you
see on the next slide

WITHOUT STANDING ON YOUR
HEAD 😊

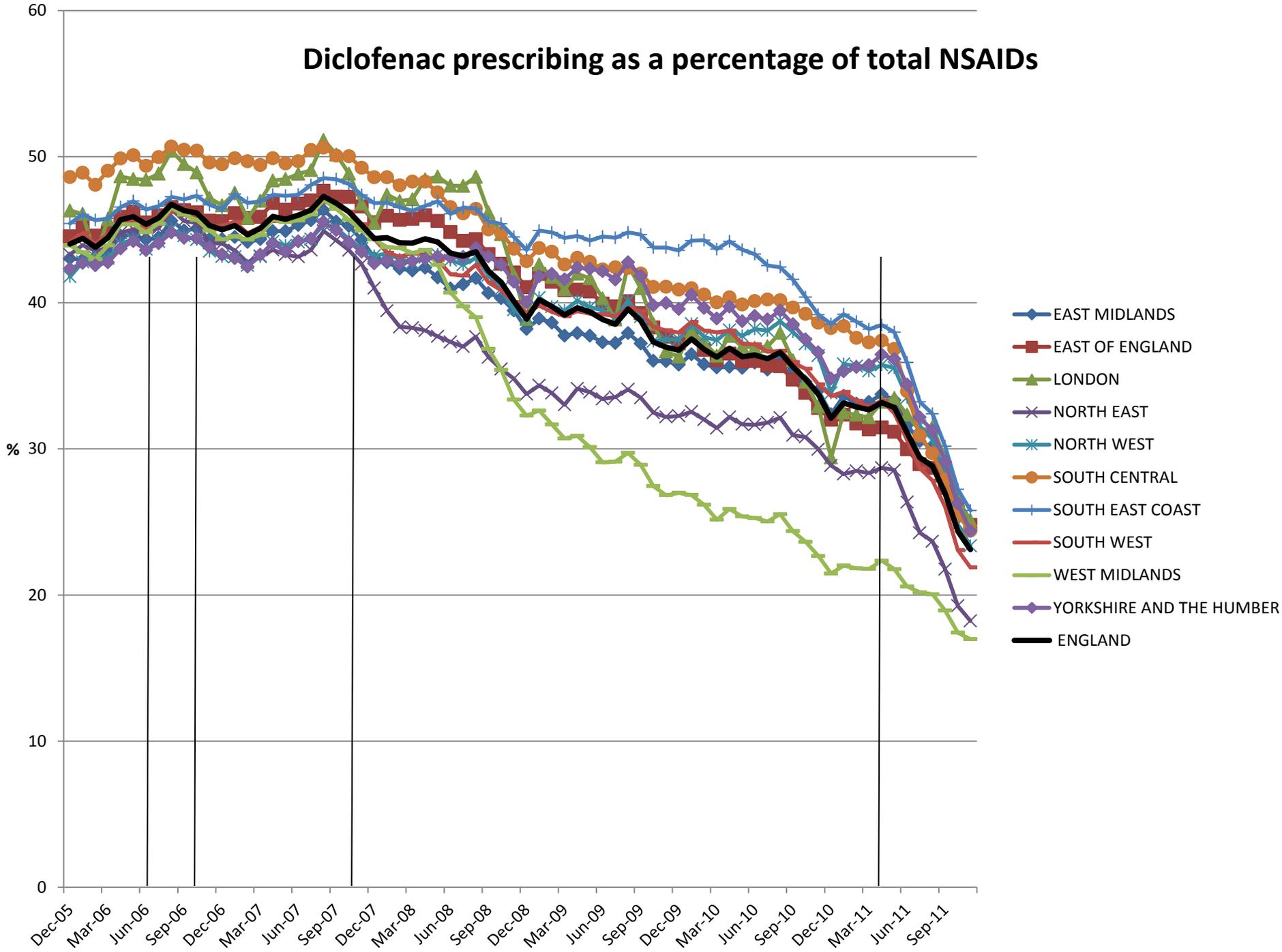
I MEAN IT!

BIG BREATH IN....and.....





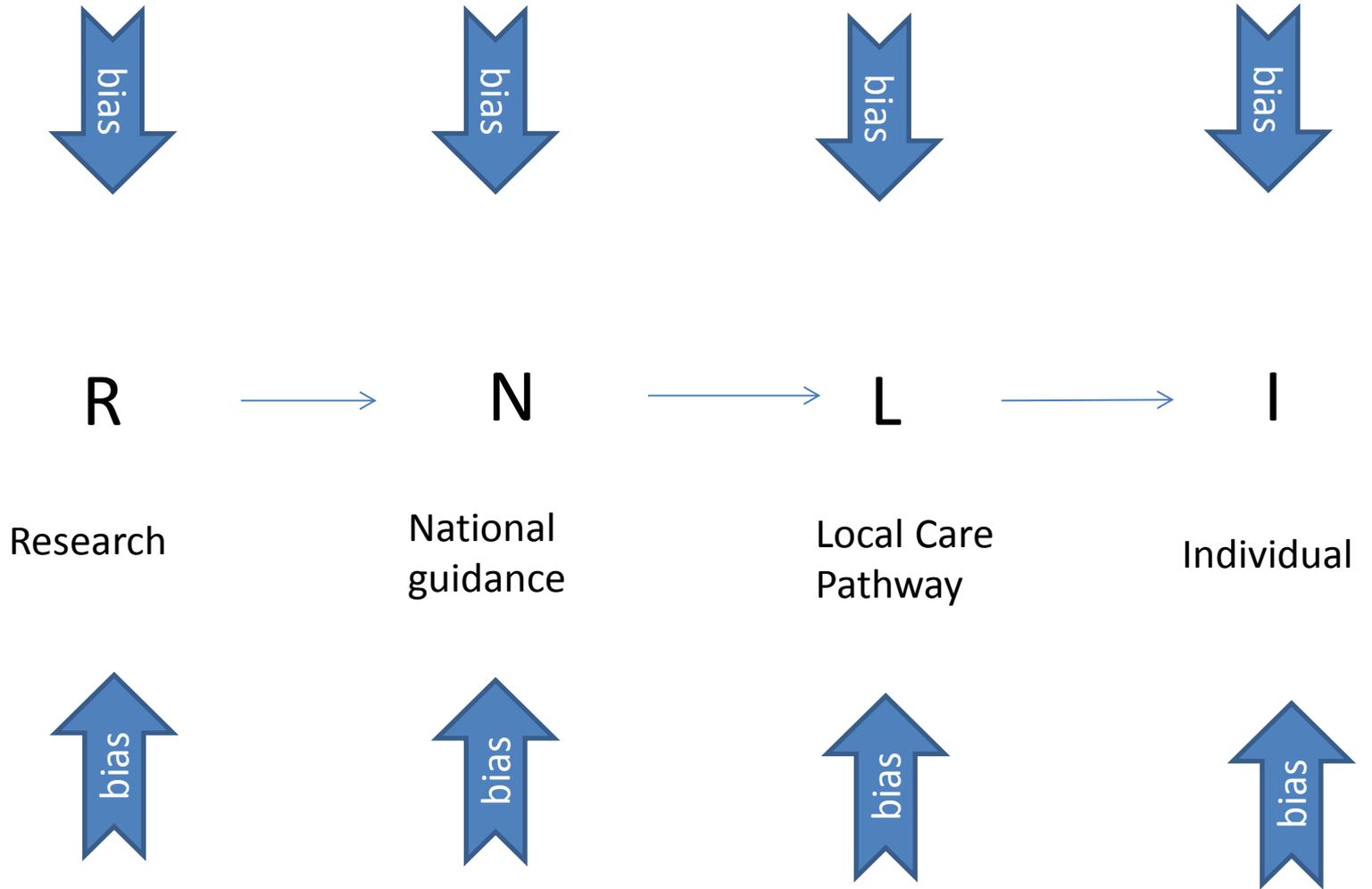
Diclofenac prescribing as a percentage of total NSAIDs



“So.....what am I to DO!”

When planning implementation, IN ADDITION TO “MAKING IT HAPPEN” take into account how people make decisions

- Behavioural economics and cognitive psychology:
 - Bounded rationality (Herbert Simon 1978)
 - Dual process theory (Daniel Kahneman 2002)
 - Most decisions are informed by brief reading and talking to other people



1. Information Management

- Brief reading & talking to other people

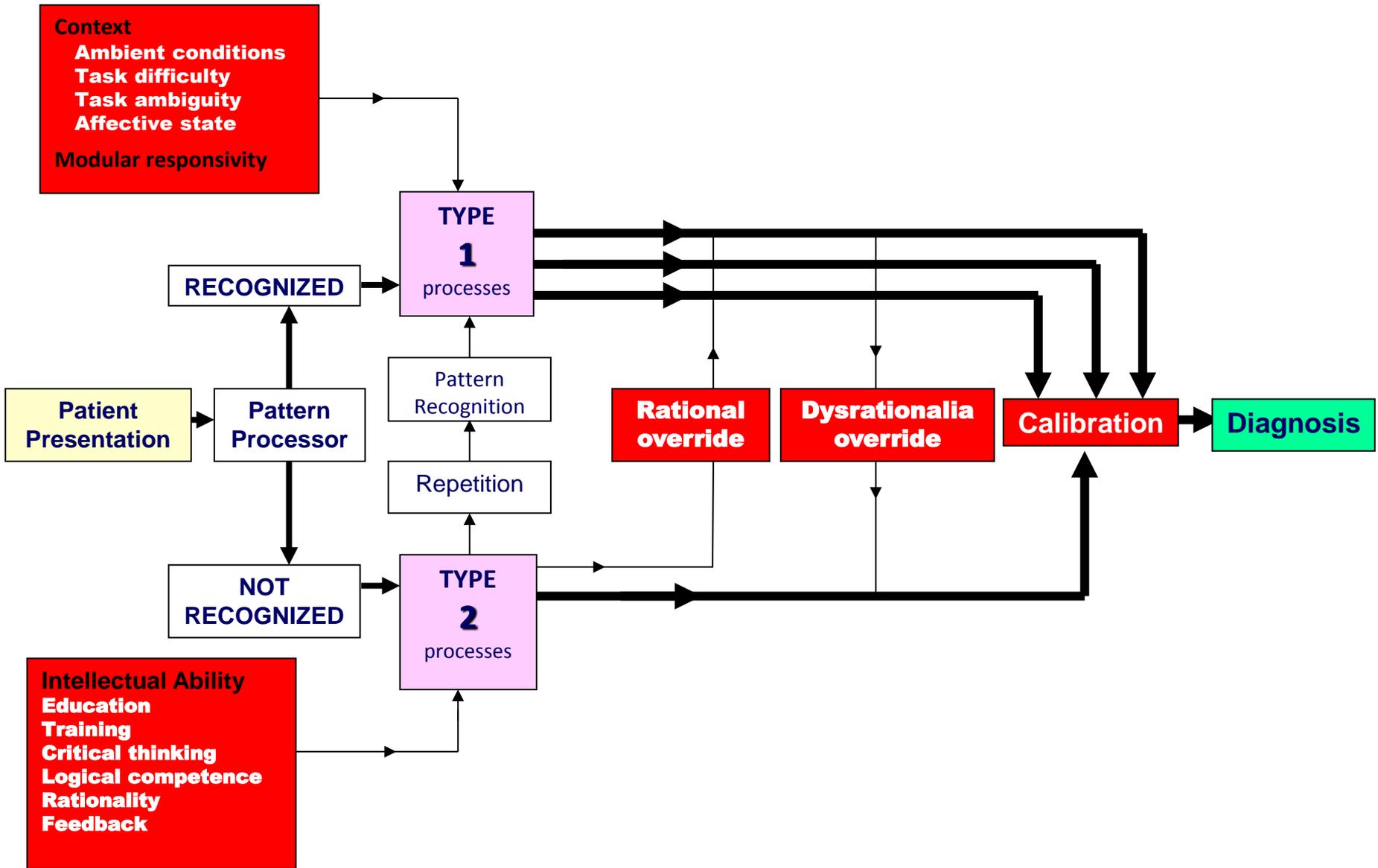
Supporting local implementation of NICE guidance on use of the novel (non-Vitamin K antagonist) oral anticoagulants in non-valvular atrial fibrillation

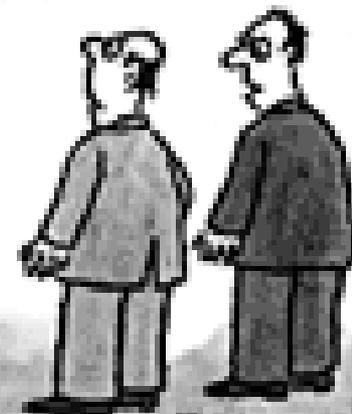
This consensus report was developed at a meeting on October 15, 2013, at which health care professionals and patient group representatives discussed barriers to use of the novel (non-Vitamin K antagonist) oral anticoagulants (NOACs) for reducing stroke risk in non-valvular atrial fibrillation and how these barriers might be overcome locally to facilitate appropriate use of the drugs. The meeting was held on behalf of the NICE Implementation Collaborative, which provides support to the NHS to implement NICE technology appraisals.

Key points

- The three currently licensed novel oral anticoagulants (NOACs) — dabigatran, rivaroxaban and apixaban — have been approved by NICE as options for the prevention of stroke and systemic embolism in patients with non-valvular atrial fibrillation
- The drugs must therefore be made available for prescribing within their licensed indications,

2. Teach calibration (routinely)





S. GROSS

"It sort of makes you stop and think, doesn't it."

- **Consider alternatives**

Routinely think: “if I am wrong what else might this be”

ROWcS

- **Seek incongruent data**

Don't be afraid to try and prove you are wrong

- **Reframe when recording**

Mentally reconsider meaning

Reassess the associations YOU have created

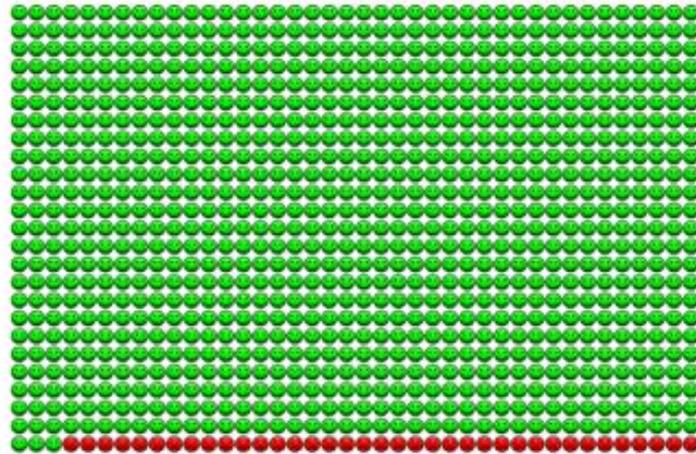
- **Reconsider dissonant facts**

Take a step back from the problem

3. Truly embrace shared decision making

CHA₂DS₂-VAsC score 3

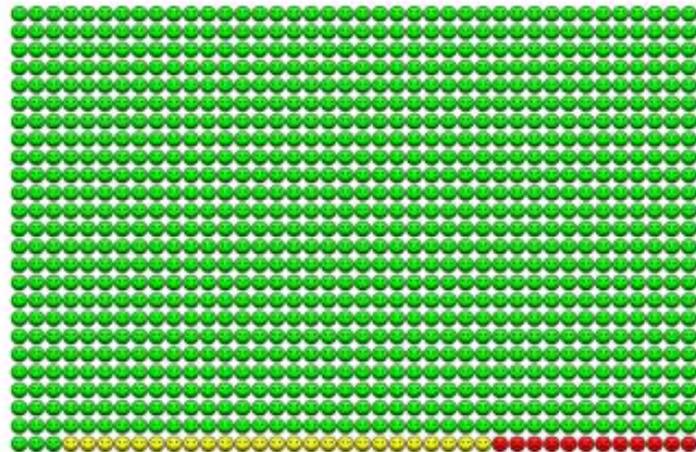
No treatment: CHA₂DS₂-VAsC score 3



If 1000 people with AF and a CHA₂DS₂-VAsC score of 3 take no anticoagulant, over 1 year on average

- 963 people will not have an ischaemic stroke (the green faces)
- 37 people will have an ischaemic stroke (the red faces)

Anticoagulant: CHA₂DS₂-VAsC score 3



If 1000 people with AF and a CHA₂DS₂-VAsC score of 3 take an anticoagulant, over 1 year on average

- 963 people will not have an ischaemic stroke (the green faces), but would not have done anyway
- 25 people will be saved from having an ischaemic stroke (the yellow faces)
- 12 people will still have an ischaemic stroke (the red faces)

How I feel about the options

You can use the table to help you think about how important the questions covered by this decision aid are to you

Question	How important is this to me?			
	Very important	Important	Unimportant	Very unimportant
What does the option involve? What will I have to do?				
By how much will it reduce my chance of having a stroke?				
By how much will it increase my chance of having major bleeding?				
What are the other main side effects?				
Will I need any regular blood tests?				
Will I have to change what I eat or drink?				
What happens if I forget to take a dose?				
What happens if the effects need to be reversed in an emergency?				

Do you have any other questions you would like to ask?

Yes:

4. Work on our own and others metacognition

Personal strategies for improved performance

- **Thinking about thinking (whilst its happening)**

 - Right system at the right time

 - Reflect on the affective process

 - When do I need to slow down / be very careful

- **Decrease reliance on memory**

 - Use cognitive aids (but use them wisely):

 - Decision support, mnemonics, guidelines, algorithms etc.

- **Try to make tasks easier**

 - e.g. Calculate drug doses on paper (not in your head)

5. Locally:

Team dynamics and group decision making

Thank you

Comments and questions welcome

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