

## International Conference on Clinical Practice Guidelines

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Dr Jeremy Wyatt, Centre for Health Knowledge Management, University College, London:

## Pathways in the Implementation of Clinical Practice Guidelines: Experiences in the National Health System in the UK

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### Implementation of clinical practice guidelines

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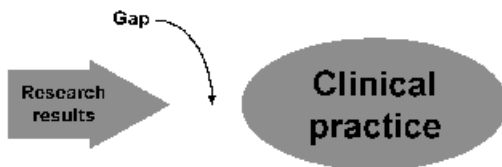
Medical actions are central to good quality health care and outcomes and are responsible for % of health care costs [1].

### Outline

- Knowledge management
- Role of practice guidelines
- Implementation theory & methods
- Some UK guideline implementation projects
- Conclusions

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### The research-practice gap

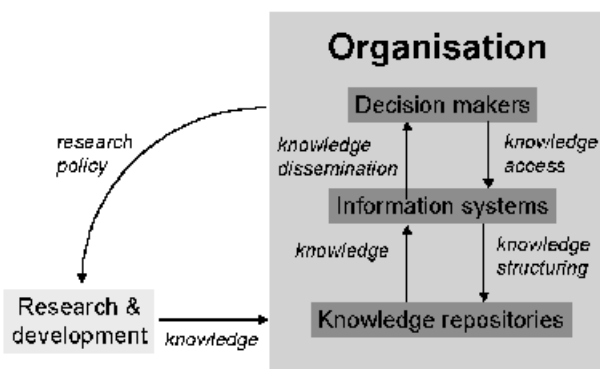


(after Brian Haynes, McMaster)

Thus, any gap between what the evidence from rigorous studies shows about the effectiveness of clinical procedures and what doctors do is a source of concern. However, there are many examples of such a gap, and practice guidelines have been advocated as a means to close it.

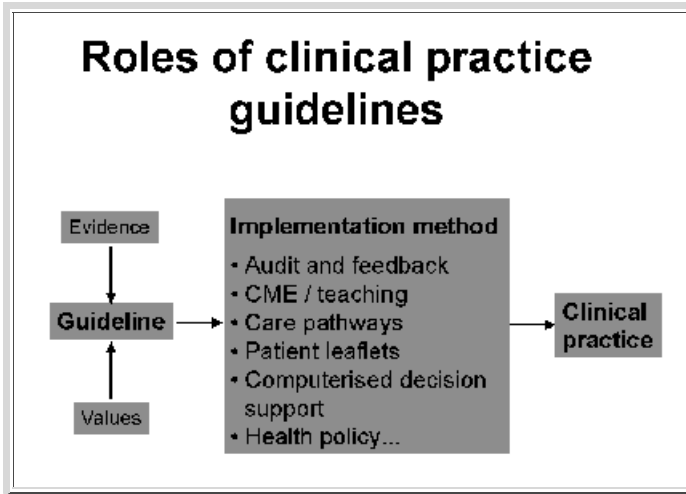
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### Knowledge management



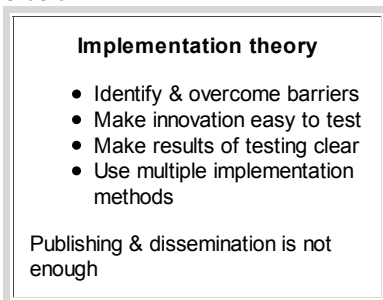
The need for guidelines comes from the realisation that the times are long past since any doctor could have expert knowledge relevant to all the patients they see. For example, Antman [2] compared the results of cumulative meta-analysis of all randomised trials conducted every year since 1955 of various agents on mortality in acute MI with contemporary statements made by cardiology experts writing review articles and textbooks chapters.

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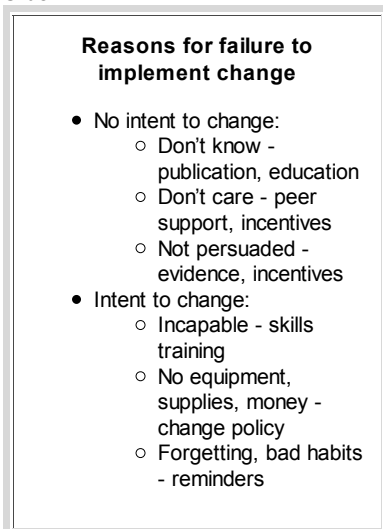
The delay between the accumulating evidence that it saved lives crossed the  $p < 0.01$  boundary and the first recommendation that streptokinase might be clinically useful was 8 years, and it was 13 years after clear evidence was available before the majority of expert authors recommended routine use of streptokinase.

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We should not criticise experts for this, as it is a simple problem of the exponential growth in the volume of the medical literature, with a doubling time of 19 years [3]. Fortunately, the Cochrane Collaboration has been founded with the express goal of finding, critically appraising and synthesising the results of all randomised trials, a huge job since there are around 1 million such studies.

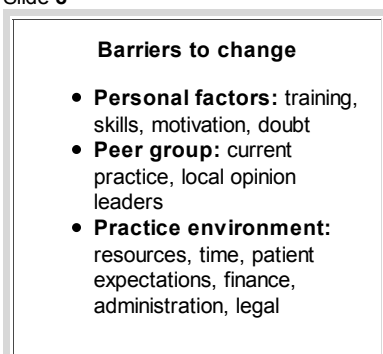
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Thus, developers of clinical practice guidelines seeking evidence on which to base their recommendations can turn first to the Cochrane Library to browse the following resources:

- The Cochrane Database of Systematic Reviews: 300+ reviews of a wide range of interventions, with many more being added every issue
- The Database of Abstracts of Reviews of Effectiveness: titles and abstracts as well as comments on over 1500 systematic reviews catalogued by the NHS Centre for Reviews and Dissemination, York.
- The Cochrane Controlled Trials Register: a growing list of the controlled trials in all areas identified through either specific Medline searches or hand searching of high yield journals to identify poorly indexed trials.

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The work of the Cochrane Collaboration is an excellent example of practical knowledge management: improving the use of clinical knowledge by indexing, structuring and disseminating it in formats which are useful to decision makers.

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However, it is hard for clinicians to use Cochrane systematic reviews in their everyday clinical practice [4], as they are bulky and, by design, do not take account of local circumstances, society's

### Implementation stages

1. **Predispose:** raise awareness, change attitudes (national body or opinion leader)
2. **Enable:** identify & reduce local barriers; provide innovation in testable form
3. **Reinforce:** provide specific feedback; adjust incentives to promote change

(after Jonathan Lomas, McMaster)

values and many other issues relevant to individual patient care. Practice guidelines do incorporate this additional information, so are more suitable for informing patient care. However, simply publishing guidelines rarely leads to changes in clinical practice or patient outcomes. We need to go further, to identify the barriers which stop clinicians from improving their clinical practice, to overcome these barriers and reinforce the clinicians who do change.

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### Predisposing people to change

- **Aim:** to raise awareness, change culture
- **Methods:**
  - Publication in national journal
  - Educational activities and outreach visits
  - Local opinion leaders - Lomas '92
  - Need for credible sponsor: ACP vs. drug company

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### Enabling change

- **Aim:** to reduce innovation barrier
- **Methods:**
  - Provide innovation in easily tested form
  - Identify barriers: peer group, lack of supplies or time, perverse incentives, lack of training...

A range of implementation methods are available to support clinicians through these 3 stages - predisposing, enabling and reinforcing change - and have been systematically reviewed by Davies et al [5]. They found that multiple implementation methods were better than individual ones, that some methods (such as education and audit programmes) were quite ineffective, and that identifying barriers to change first was indeed a useful strategy. Hunt et al have recently produced an updated systematic review of computer decision support systems, with further informative results [6].

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### Reinforcing change

- **Aim:** reassure innovators that risk was justified
- **Methods:**
  - Provide immediate feedback on benefits
  - Provide peer support
  - Continue to monitor & remove barriers
  - Publicise successes

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### Educational activities

- **Include:**
  - Workshops & conferences

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### Implementation methods

- **Davis D, JAMA '95:** systematic review of 99 RCTs of 160 implementation methods

- Audit and feedback
- Small group meetings eg. quality circle
- Outreach visits (academic detailing)
- **More effective when:**
  - Brief & focused
  - Use locally relevant scenarios
  - Participants set agenda, make "commitment for change"

- **Results:** 70% of the studies showed improved clinical practice; 48% improved patient outcome
- **No. of methods used:** 1, 60%; 2, 64%; > 2, 79%
- **Barriers explored:** no, 42%; lit. only, 53%; local consensus, 58%; national guidelines, 61%; local gap analysis, 89%
- **Method:** formal CME, 14%; mailed material, 36%; audit & feedback, 42%; patient mediated, 78%; reminders, 85%; outreach / opinion leader, 100%

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#### Decision support systems

- **Hunt D, JAMA '98:** systematic review of 53 RCTs of computer decision support, 1974-'97
- **Results:**
  - Clinical performance improved in 63%, outcomes in 25%
  - By targeted behaviour: diagnosis 17%, preventive care 65%, drug dosing 66%, active care 77%

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#### Other methods

- **Branded goods:** coffee mugs, pens...
- **Paper reminders:** wall posters; test order forms, prescription charts, data collection forms, care pathways
- **Patient focused / mediated:** social marketing (posters, newspapers, TV, Web...), shared decision making (leaflets, decision analysis, interactive videodisk...)

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#### UK implementation projects

- **King's Fund PACE** - involve purchasers
- **DoH Patient-focused care** - care pathways, cross-training
- **North Thames Front line** - logistics
- **Oxford GRiPP** - critical appraisal skills
- **Sheffield FACTS** - annual focus
- **NHS R & D programme** - importance of context, local setting, health system

A range of projects in the UK and elsewhere (eg. 7) have sought to narrow the gap between research results and clinical practice, and tend to support the finding of Davies et al. In particular, they confirm that writing and publishing guidelines is the beginning, not the end, of the process of changing practice [8]. Like information technology, practice guidelines are an enabling technology, not a solution in their own right.

1. Tierney WM, Miller ME, Overhage JM, McDonald CJ. Physician order writing on microcomputer workstations. JAMA 1993; 269: 379-383
2. Antman EM, Lau J, Kupelnick B, Mosteller F, Chalmers TC. A comparison of results of meta-analyses of randomized control trials and recommendations of clinical experts. JAMA 1992;268:240-8.
3. Wyatt J. Use and sources of medical knowledge. The Lancet 1991; 338: 1368-1373
4. Paterson-Brown S, Wyatt J, Fisk N. Are clinicians interested in up-to-date reviews of effective care? Brit Med J 1993; 307: 1464
5. Davis DA, Thomson MA, Oxman AD, Haynes RB. Evidence for the effectiveness of CME. A review of 50 randomized controlled trials. JAMA. 1992;268:1111-7.
6. Hunt DL, Haynes RB, Hanna SE, Smith K. Effects of computer-based clinical decision support systems on physician performance and patient outcomes: a systematic review. JAMA 1998; 280: 1339-46
7. Wyatt J, Paterson-Brown S, Johanson R, Altman DG, Bradburn M, Fisk N. Trial of outreach visits to use of systematic reviews in 25 obstetric units. BMJ 1998; 317: 1041-6
8. Haines A, Donald A (eds). Getting research findings into practice. London: BMJ Publishing 1998

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#### Conclusions

- **Guidelines:** are the beginning, not the end; publication is not enough
- **R & D on implementation:** more is needed, but generalising results is hard
- **Implementation:** multiple methods are more successful; reduce local barriers

**Predispose, enable, reinforce**

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