Bringing consistency to clinical practice

1996 - 2015

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Clinical Guideline Partnership
(BCGP)

Guidelines (GL)

- ‘systematically developed statements to assist practitioner..’
- Evidence based recommendations for optimal management
- GL required to validate training posts
- GL fulfill several policy requirements
- But do guidelines work?

ACSETS

- ACS emergency treatment strategy
- 1240 cases ACS before embedded guidelines and 1709 afterwards
- Improved evidence based treatment in first 24 hours and at 7 months
- No change in inpatient mortality
- 19% reduction in 1 year mortality in MI
- Significantly reduced length of stay

(American Heart Journal, 2009;157:61-8)

Pneumonia

- Retrospective review of 1443 cases prior to guideline implementation phase (GIP)
- Prospective review of 1404 cases after GIP
- Post GIP
  - More guideline compliant treatment
  - Reduced risk of failure of treatment (OR 0.83)
- Entire cohort, more compliant treatment
  - Less treatment failure (OR 0.74)
  - Reduced mortality (OR 0.77)

Eur Respir J 2008;32:902-10

Pneumonia Guidelines (GL)

- Prospective study of 271 CAP patients
- Mortality of GL adherent group was 10% & for non-adherent group was 14%
- Readmission in GL adherent group was 2% & for non-adherent group was 6%
- Median cost for GL adherent group was €1666 & for non-adherent group was € 1711
- Adherence to GL saved €1121 per patient cured

Eur Respir J 2007;29:751-756

Community Acquired Pneumonia (CAP) Guidelines

- BTS national audit of CAP
- Despite nationally available guidelines there was delay in treatment and inappropriate use of antibiotics (56% correct initial antibiotic)
- Non-adherence to CAP guidelines not associated with adverse 30-day in patient mortality

*Thorax 2011;**66**:548-549*

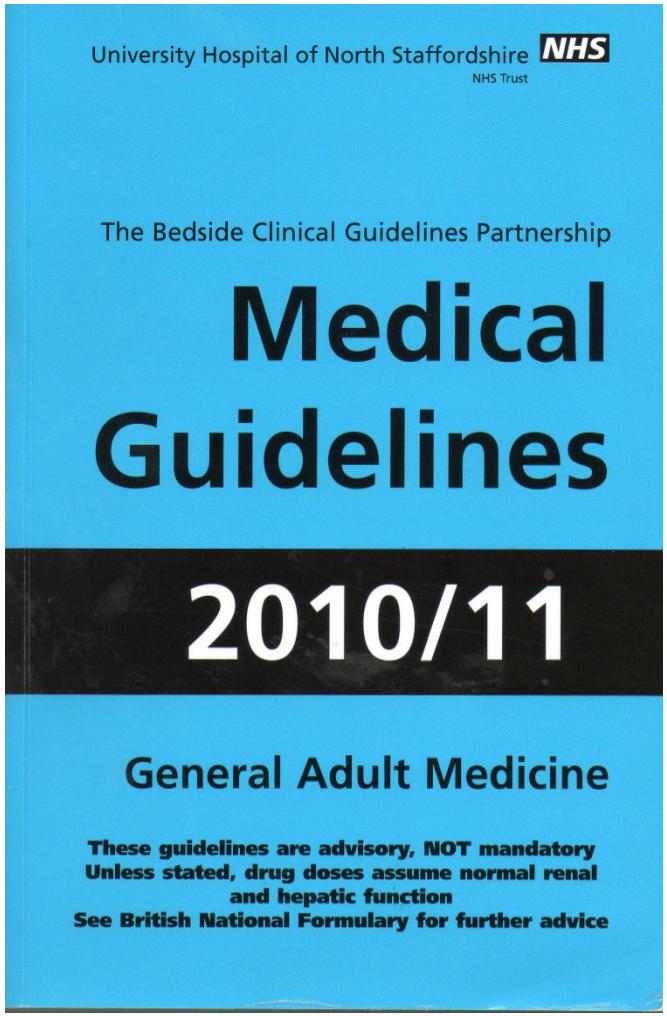
BTS pneumonia guidelines – why no positive impact?

- Format and presentation of guideline may be not suitable for or readily applied in the busy acute clinical setting?
- Suboptimal supportive and resuscitative treatments?
  - respiratory failure administered inappropriate oxygen
  - dehydration not managed with correct fluid maintenance
  - suboptimal treatment of existing co morbidities deteriorating in the presence of pneumonia (e.g. hyperglycaemia in an ill diabetic), COPD
- Efforts should be directed at improving specific processes of care including adherence to local CAP guidelines

National Guidelines and BCGP Guidelines

- National society guidelines all inclusive but specific series of 'ingredients'
- BCGP guidelines, based on national guidance but
  - 'recipe', more direct and relevant to point of care
  - cross referenced to other guidelines which may have national guidance e.g. oxygen and COPD or not e.g. IV fluids
  - 'recipe for all courses of a meal' rather than a 'single dish'
  - Jamie Oliver 30 minute approach
  - 'missing link' between national society guidelines and practical clinical care at the point of delivery

BCGP Guidelines



Bedside Clinical Guidelines Partnership

BCGP

- Seven specialities
- 462 guidelines
- One Clinical lead, 2 developer/co-ordinators, 1 clinical effectiveness librarian, 7 speciality editors, over 200 authors
- At UHNS, over 100 hits/day on Intranet plus consultations of printed versions
- 90% said effected their clinical practice
- 24 Trusts

Structure of the guidelines

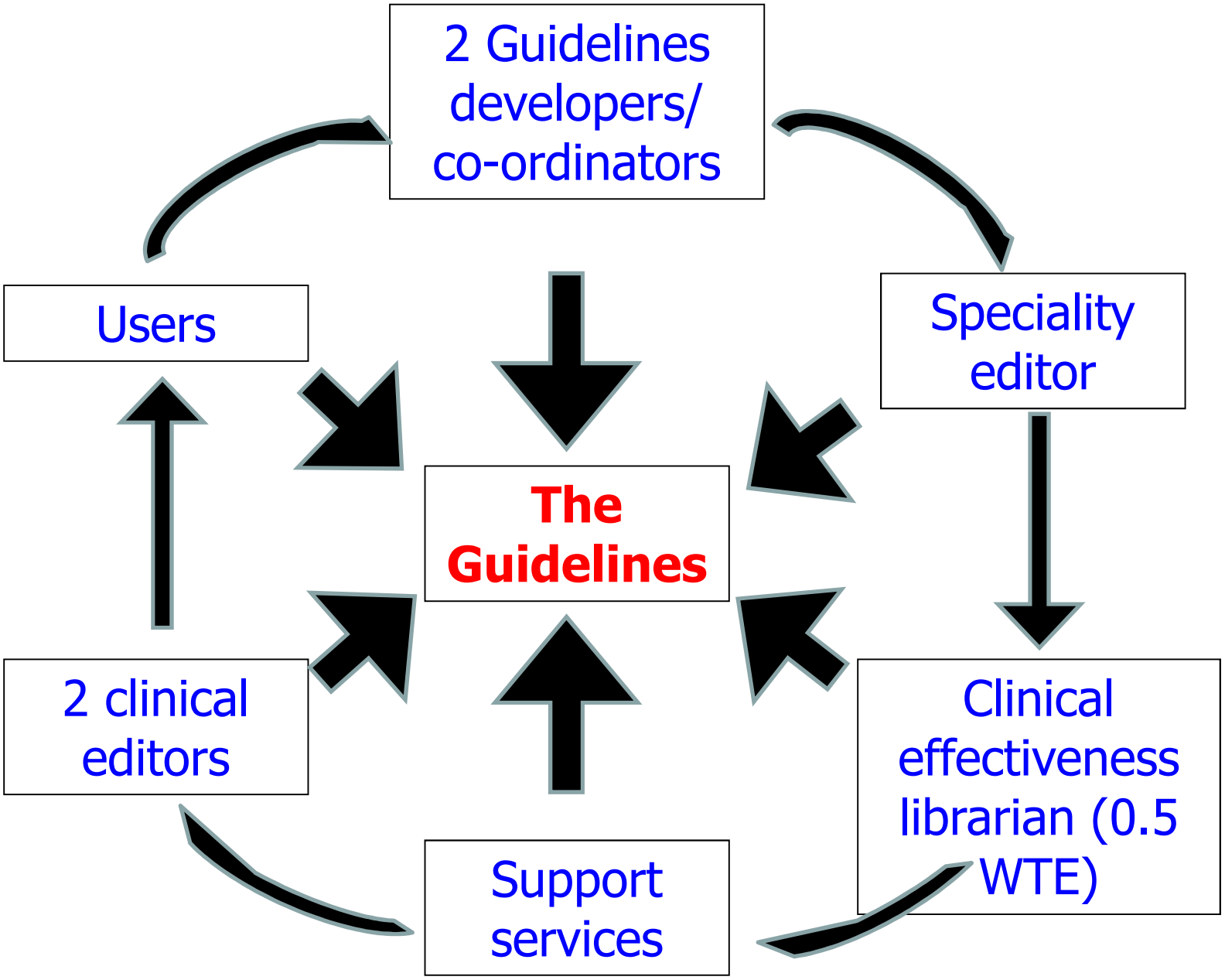
- Guidelines for specific clinical situations
- Prescribing Regimes and Nomograms
- Practical Procedures
- Supporting Information

Standard headings

- Recognition and assessment/investigations
- Immediate treatment
- Subsequent treatment
- Monitoring treatment
- Discharge policy

Look and feel

- Plain English Campaign
- Active, not passive verbs
- Short, digestible chunks
- No choices
- Typeface
- Algorithms
- Tables


2 Guidelines developers/ co-ordinators
Users
Speciality editor
The Guidelines
2 clinical editors
Clinical effectiveness librarian (0.5 WTE)
Support services

Evidence searching

- Evidence searches performed at the beginning of each guideline review process.
- NICE Evidence Search and MEDLINE searched as standard. Relevant subject specific databases may also be searched.
- Validated filters used in search strategy (e.g. for specific patient types or evidence levels).

Evidence search example – Acute Renal Failure

NICE Evidence Search:
1. acute renal failure [limited to guidelines]

MEDLINE:
1. exp *ACUTE KIDNEY INJURY/
2. (Acute AND (Kidney OR Renal) AND (Failure OR Injur* OR Insufficiency)).ti
3. 1 OR 2
4. adult.af
5. MIDDLE AGED/
6. age*.af
7. 4 OR 5 OR 6
8. MEDLINE.ti,ab
9. (systematic AND review).ti,ab
10. meta-analysis.pt
11. specificity.ti,ab
12. "randomized controlled trial".pt
13. "randomized controlled trial".af
14. 8 OR 9 OR 10 OR 11 OR 12 OR 13
15. 3 AND 7 AND 14
16. 15 [Limit to: (Language English) and Humans]

Monthly evidence alerts

- Evidence search strategies are used to set up monthly alerts.
- Librarian flags up any important new evidence (e.g. NICE guideline or Cochrane review) with BCGP editors who can then decide whether to initiate an “early review”.
- Monthly alerts also allow the librarian to spread the workload when updating the supporting information documents ….

Supporting information

- States what national and international guidance we have based our guideline on.
- Records questions raised by guideline authors regarding the evidence on specific questions.
- The librarian will retrieve and summarise the best evidence to answer the question.
- Evidence graded according to Muir Gray's five levels of evidence*.

* JA Muir-Gray from Evidence Based Healthcare, Churchill Livingstone London 1997

Supporting information – DVT/PE example

DEEP VENOUS THROMBOSIS/PULMONARY EMBOLISM - Supporting information

This guideline has been prepared with reference to the following:

Konstantinides S, Torbicki A, Agnelli G et al. 2014 Guidelines on the diagnosis and management of acute pulmonary embolism. The Task Force for the Diagnosis and Management of Acute Pulmonary Embolism of the European Society of Cardiology (ESC). Eur Heart J 2014; 35: 3033–80. http://eurheartj.oxfordjournals.org/content/ehj/35/43/3033.full.pdf

National Institute for Health and Clinical Guidance. Venous thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing. London, NICE, 2012 http://www.nice.org.uk/guidance/CG144

National Institute for Health and Clinical Guidance. Venous thromboembolism: reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital: Methods, evidence & guidance. London, NICE, 2010 http://www.nice.org.uk/guidance/cg92

Should ambulation be encouraged following a DVT?

A meta-analysis of 5 studies in a total of 3048 patients (Aissaoui, 2009) found that early ambulation was not associated with a higher incidence of a new PE (RR 1.03; 95% CI 0.65-1.63; p=0.90). Furthermore, early ambulation was associated with a trend toward a lower incidence of new PE and new or progression of DVT than bed rest (RR 0.79; 95% CI 0.55-1.14; p=0.21) and lower incidence of new PE and overall mortality (RR 0.79; 95% CI 0.402-1.56; p=0.50).

A subsequent 2015 meta-analysis (Liu, 2015) which included 13 experimental and observational studies (3269 patients) similarly concluded that compared to bed resr, early ambulation was not associated with a higher risk of PE, progression of DVT or DVT related deaths (risk difference -0.03; 95% CI -0.05 to -0.02). Early ambulation was also associated with better outcomes with regard to the remission of acute pain in those patients who suffered initial moderate or severe pain (standard mean difference: 0.42 95% CI 0.09 to 0.74).

Aissaoui N, Martins E, Mouly S, et al. A meta-analysis of bed rest versus early ambulation in the management of pulmonary embolism, deep vein thrombosis, or both. Int J Cardiol 2009;137:37-41

Liu Z, Tao X, Chen Y et al. Bed Rest versus Early Ambulation with Standard Anticoagulation in The Management of Deep Vein Thrombosis: A Meta-Analysis. PLOS. 2015 10

NICE accreditation application

- Recommended comprehensive method of grading
  - appraising and grading strength of all guidelines, reviews or clinical trials
- Currently only grade the strength of evidence to answer specific questions raised author
  - BCGP many more guidelines (pneumonia, oxygen, fluids) – every aspect
  - BCGP fare fewer librarians

Availability

- A5 copy chained to each notes trolley
- A5 copies on every nursing station
- A5 copies available to every doctor
- Available on the Intranet

Encouraging use

- Broad clinical use encouraged
- Consultant reminders: “What do the guidelines say?”
- Introduced in induction programme
- Included in training programmes
- Grand Round audit reports
- “Guidelines Challenge”
- Questions of the week

Are the guidelines used and useful?

Are they useful?

Survey every 2 years

- 100% awareness, availability, usage
- All say they are helpful
- 93% say easy to use
- 90% say affected their clinical practice

Intranet

- 8056 hits from 20th July to 30th December 2010

Are they followed?

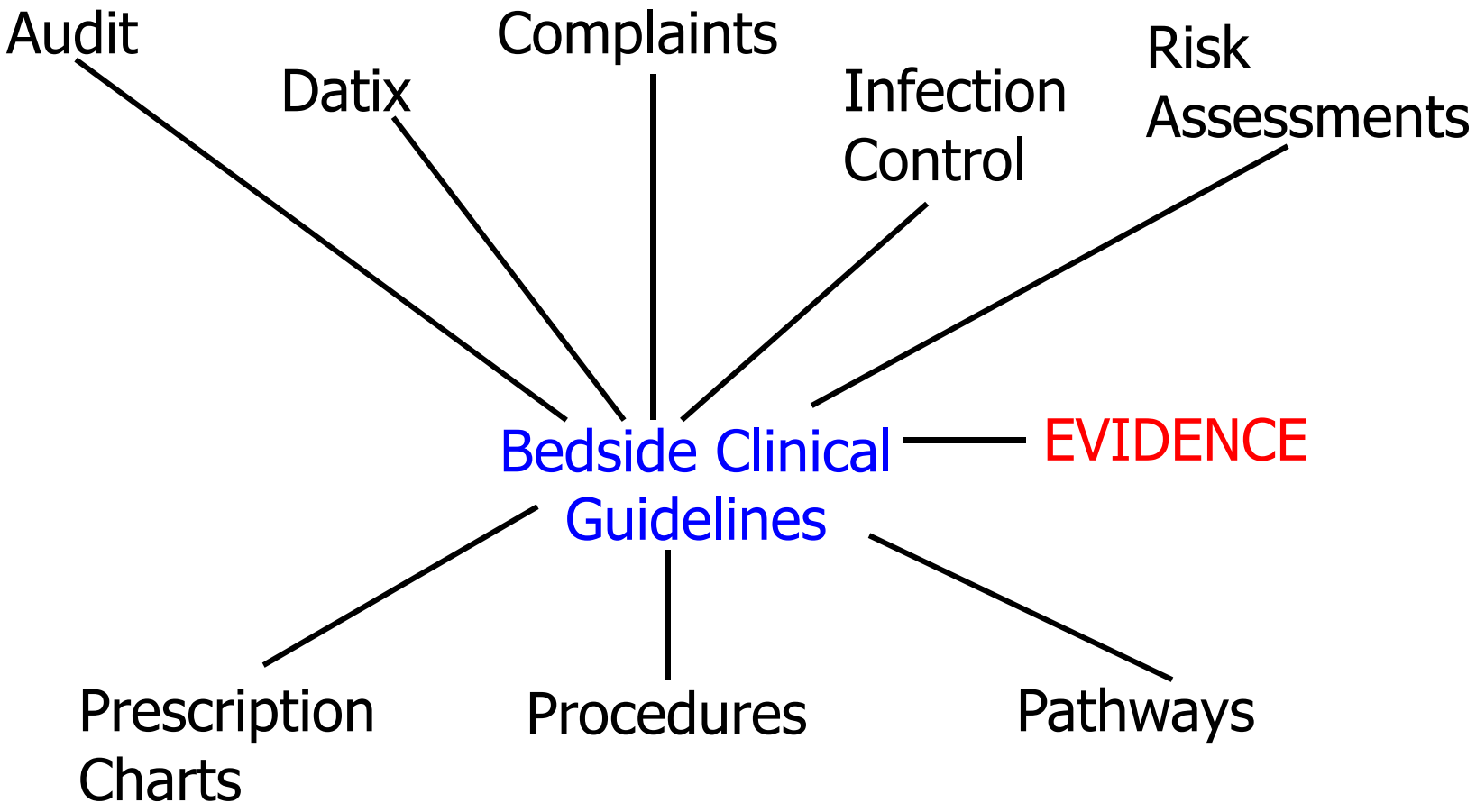
40 + audits since 1997

Growth of the guidelines

Adding specialities

1996 General Adult Medicine
2002 General Adult Surgery
2004 Child Health
2005 Neonatal
2006 Nursing
2011 Obstetrics
2011 Emergency Medicine

Bedside Clinical Guidelines
– part of a system and culture



Others recognise their value too

"The Bedside Clinical Guidelines are used throughout the Trust. They are comprehensive and clear."

West Midlands Quality Review, July 2010

"I congratulate all of you working in trusts wise enough to subscribe to the Bedside Clinical Guidelines . . . having doctors who know where to find immediate, comprehensive, regularly-reviewed guidance on any condition they are likely to encounter."

Royal College of Physicians West Midlands Newsletter

Others recognise their value too

- I recently came across the paper version of clinical guideline. I was really impressed. I absolutely fell in love with it and I wanted to get a copy but I couldn't. That particular copy belonged to one of our F1. He then gave me the web site so that I can request you guys to see if I can get a copy of the clinical guideline. I am a staff grade at Birmingham heartlands hospital, department of respiratory medicine.

Sadiq Maseed
Staff Grade Heart of England Trust 2013

Additional Tools

- Prescription charts
- Drug calculators
- Smart phone application

ADULT INPATIENT SUPPLEMENTARY PRESCRIPTION CHART

DIABETIC KETOACIDOSIS (INSULIN AND FLUID MANAGEMENT)

Please read medical guidelines

for DKA printed overleaf

IMPLEMENTATION

INTRAVENOUS VANCOMYCIN INITIATION DOSE CALCULATOR FOR ADULT PATIENTS

Type in the data shown in blue and press <calculate>		Recommended doses and dosage intervals are shown in red	
Creatinine Clearance (ml/min)		**VANCOMYCIN INFUSION**	
Age (years)		**Loading Dose**	
Height (cm)			
OR Height (feet)			
(inches)		**Time after loading to start of maintenance infusion (hours)**	
Actual* Body Weight (kg)			
Gender (m/f)			
Creatinine (mmol/L)		**Maintenance Dose (mg)**	
Height (cm)			
Ideal body weight (kg)	Not available	**Interval (hours)**	
Weight for creatinine clearance (kg)			
Creatinine CL (ml/min)		**Please ensure data is entered in required cells, cursor is moved away from each cell and macros are enabled using the option button above prior to pressing calculate**	

Bedside Clinical Guidelines Partnership

Dissemination & Implementation

- Educational Material
  - Printed or electronic
  - Alone has modest effect
  - Need to be seen to be used and expected to be used-culture change
- Educational Meetings
  - Teach around guidelines
  - Induction for distribution and introduction
  - Medical school teaching (given to Keele medical students)

Educational Material

Electronic

- Updated
- Download to PDA
- Access computer dependent
- Search easier
- Print relevant section
- Not space limited

Printed

- Personal copy
- Annotate
- Not computer access dependent
- Attached to clinical area
- Use on ward rounds

Local Consensus and Opinion Leaders

- Inclusion of healthcare providers
- “Influential” colleagues
- Example: recent antibiotic policy guideline changes considerably different to established UHNS policy but consensus attempted and clinicians involved

Patient Mediation

- Empowering patients e.g. influenza vaccination
- Awareness of guidelines may introduce expectation of standard of care
- Moderate effect in USA
- We have not made guidelines accessible to public but society guidelines are mostly freely available

Audit and Feedback

- Summary of performance
- Recommendations
- Modest-moderate impact
- May engage interest, especially if possibility of an abstract
- Audit use of guidelines

Reminders

- Information designed to prompt a response
- Can be e mailed, intranet based, or on ward rounds
- Moderate effect

Other Techniques

- Prescription Charts
  - Information e.g. anticoagulation
  - Prepared infusion charts e.g. insulin
  - Specific sections e.g. blood
- Care pathways
- Harmonize with formulary
- Pharmacist and nursing promotion

Conclusion

- Several methods available
- No single strategy most effective
- Multifaceted approach to make guideline use integral to care

FAQ

- Accessible to public
  - Not open access
  - Written guidelines can be seen
  - Society guidelines which these are based on are available to public
- Archiving
  - UHNS keeps printed and electronic versions with dates
  - Medico legally relevant to historical practice

FAQ

- Localising guidelines
  - Some partners have referred reader to local antibiotic guidelines
  - Some have put UHNS guidelines on unaltered
  - Some have referred to switch board instead of UHNS numbers
  - Required to accommodate locally agreed pathways e.g. thrombolysis for MI or primary angioplasty
  - Needs dedicated time
  - We are considering more generic guidelines