The interface between evidence-based care and quality in health care

Evidence-based care in emergency departments forum

Chris Baggoley

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Putting Evidence into Practice

Christopher Baggooley

ACEM 2002 ASM
“The principle of applying the best evidence available must remain uncontested”

Kelly, A-M
MJA:174:346-7
Consumers and EBM

- Consumers
  - Expect best practice
  - EBM involves participation
  - Want more applicable research
Australian Framework for Safety and Quality in Health Care
“Isn’t it interesting that while there has been such a push towards evidence-based practice, there has been far less emphasis on evidence-based service delivery and management?”

Dixon

Impact: via website
Healthcare: Management and Policy and EBM

- No evidence base for management
- Management keen for EBM

Stoelwinder
MJA:174:644-7
EBM in practice

- **Australian Physicians**
  - Insufficient time (74%)
  - Limited search skills (41%)
  - Limited access to evidence (43%)

Scott
Aust NZJ Med:30:319-26
EBM in Practice

“The most realistic and efficient use of EBM by clinicians at the point of care involves accessing and applying valid and relevant summaries of research evidence (evidence – based guidelines and systematic reviews)”

Craig
MJA:174:248-53
EBM and Emergency Medicine

- Multiple inter-related decisions
- Operation in systems
- Little evidence based research

Kelly
MJA:174:346-7
EBM and Emergency Medicine

- Incorporating evidence
  - Topic reviews
  - Cooperate with Cochrane
  - Computer based decisions
  - Pathways

Kelly
MJA:174:346-7
EBM and Aged Care

- Trials exclude elderly
- Inappropriate outcome measures
- Lot of evidence, inadequate application

Cameron
MJA:175:37-8
EBM and Internal Medicine

- Lot of research, evidence
- Lack of information support systems
- Clinical practice guidelines

Phillips
MJA:174:401-2
EBM and Surgery

- Surgeons individualistic
- Lack of evidence
- ASERNIP-S

Maddern
MJA:174:528-9
EBM and Intensive Care

- Simultaneous, multiple interventions
- Consent issues
- Theory, experience, evidence

Scheinkestel
MJA:174:526-7
Delays in introduction

- Steroids for women in premature labour
- Thrombolysis for acute myocardial infarction
- Warfarin for patients with atrial fibrillation
- Anticoagulants for patients undergoing orthopedic surgery
- Recognition & management of hypertension
Delays in withdrawal

- Bloodletting
- Routine episiotomy
- Prolonged bed rest
- Routine late pregnancy ultrasound
Hospital-acquired infection

- 7-10% hospitalised patients
- Hospital stay increase 4-10 days
- Mortality
- Morbidity
- Cost
Hand Hygiene!
Semmelweis (1818-1865)
Obstacles

Care provider

- Doesn’t believe the evidence
- Rarely sees complications
- Importance underestimated
- Believes performance better than it is
- Habit
Handwashing

“If, as the authors claim, there is such compelling evidence for the need to wash hands between each patient contact then why do I and the vast majority of my colleagues not do it…”
Handwashing

“I have never seen any convincing evidence that washing between each patient contact reduces infection rates. Washing hands between each contact would take on average 1-2 hours. Where will it come from & who will fund it?”

Specialist O&G Registrar
BMJ 1999 319:518 (letter)
Handwashing - doctors

- Self estimated rate: 73% (50-95%)
- Unobtrusive observed rate: 10% (0-33%)
Obstacles

Social context

- Habits of peers
- Lack of management interest
- No guidelines
Obstacles

Organisational context

- Damage to hands
- Equipment inadequate
- Workload & time constraints
Plan

- Brochure with evidence/formal protocol
- Group/unit meeting to discuss guideline implementation problems
- Commitment to management/clinical leaders
- New soap/tissues
- Reminders, observations by heads of units
- Performance feedback – individual/group
- Patient mediated interventions
National Hand Hygiene Initiative

Appropriate for:

- Public Sector Hospitals
- Private Hospitals
- General Practice
- Consumers
- Aged care facilities

All states and territories now submitting compliance data
Acute Abdominal Pain

- Early administration of opioids with acute abdomen
  - Does not reduce detection rate of serious pathology
  - May facilitate detection (ii)
Bronchodilators in Children

- Introduction of Puffer and Spacer
  - 94% uptake
  - Obstacles overcome
  - PDSA cycles

Gibson
MJA:174:377-8
Improving Emergency Department care

- Improving time to pain relief
- Improving time to antibiotics
- Improving time to thrombolysis
- Use of X-ray protocols
Publications in Smoking. Comparison over time

- Measurement
- Descriptive
- Intervention

The cumulative number of adopters of hybrid seed corn approaches an S-shaped curve over time, while the frequency distribution of the number of mean adopters per year approaches a normal, bell-shaped curve.

*Source*: Based on Ryan and Gross (1943).
Diffusion of innovation

“The part of the diffusion curve from about 10% to 20% adoption is the heart of the diffusion process. After that point, it is often impossible to stop the diffusion of a new idea, even if one wished to do so.”

Everett Rogers
The Challenge of Implementation

Putting Evidence Into Practice

Unsound Research

Sound Research

Evidence-Based Medicine
- Questioning
- Skills in EBM
- Evidence Resources
- Time (substitution)

Patient Choice
- Decision Aides
- Education
- Compliance Aids

(1)

Aware
Accepted
Applicable
Able
Acted on
Agreed
Adhered to

(3)

Systems
(Bottomline +/- ref)
Synopses
(user summary of research)
Systematic Reviews and CATs
(search, appraise, synthesis)

Quality Improvement
- Skills
- Systems

(4)

Paul Glazier OXFORD Sept 2004
Quality Improvement in the Emergency Department

**Essential elements**

- Leadership
- Commitment of staff
- Data collection, analysis, feedback
- Improvement strategies
- Reanalysis

*D. King: Textbook of Emergency Medicine 2000*
Quality Improvement in the Emergency Department

- **Current perspectives on measures:**
  - Patient experience
    - Structured approach
    - Qualitative data
    - Interviews two weeks after discharge
    - Learnt about waiting experience
  - Patient satisfaction
    - Not useful

D. King: 31 July 2010
Quality Improvement in the Emergency Department

Current perspectives on essential elements:

- Emphasis on standardisation
  - Protocols
  - Clinical pathways
- Emphasis on patient flows
- Overcrowding major issue

D. King: 31 July 2010
"The most difficult phase of redesign is not identifying issues or designing new solutions; it is implementing those solutions and embedding the redesigned model into core business processes”

Source: O’Connell, T, Ben-Tovim, D., McCaughan B, and McGrath, K
“Health services under siege: the case for clinical process redesign” MJC 2008, 188, S9-S13
Literature Review

86 cases of hospital process redesign that have not led to consistent improvements in either patient outcomes or system performance

LITERATURE REVIEW

Disincentives to clinician involvement in sustained quality improvement and practice change.

- Lack of sustained and visible support from senior management and clinical leaders
- Inadequate resources allocated for change implementation
- Insufficient staff time for participation and retraining
- Failure to develop robust measurement and data feedback systems
- Misalignment of incentives structures
- Resistance to change from professional and/or organisational cultures

Source: Scott, I and Phelps, G “Measurement for Improvement: Getting one to follow the other” IMJ 2009, 39, 347-351
LITERATURE REVIEW

Risks of performance targets

- “Hitting the target but missing the point”, ie quantity not quality
- Alienation of key stakeholders where there is a lack of consultation, planning and communication
- “Gaming” including cherry picking of patients and manipulating data

Literature Review

Emergency Department Targets

- Strong evidence linking ED overcrowding and access block to poorer patient outcomes in Australia
- Similar association in Canada, USA and UK
- ED overcrowding and access block contribute to 20 - 30% excess mortality rate
- Also contribute to prolonged inpatient length of stay

Guiding Philosophy of the Panel

“We are fundamentally of the view that strong and public leadership is required at all levels – from Ministers, Commonwealth and State and Territory Health Departments, key stakeholders, Local Hospital Networks and Medicare Locals, Lead Clinicians Groups, hospital managers and clinicians. If the onus on achieving the benefits that can arise from the process and system redesign falls only to clinicians, they will fail. Achieving success must be a top priority and responsibility for those in charge of our health system. The risk we face is that without common support and engagement for whole-of-hospital reform, there is little chance for the necessary system change to be achieved”

H1–H3 are tertiary hospitals. H4–H6 are secondary hospitals. * Percentage of patients requiring admission who wait more than 8 hours from presentation for an inpatient bed.

Source: MJA 196 (2) 6 February 2012
Monthly access block* at three Perth tertiary hospitals, July 2009 to June 2011

* Percentage of patients requiring admission who wait more than 8 hours from presentation for an inpatient bed.

Source: MJA 196 (2) 6 February 2012