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iCAHE International Centre for Allied Health Evidence

Evidence-Based Practice in Patient Care

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Aims of presentation

- To discuss evidence-based practice in 21st century health care
- To introduce the concept of evidence-practice gaps, including barriers and enablers to evidence-implementation
- To highlight opportunities and challenges that confront health care stakeholders

The need for change in health care

Health in Australia

- Growing consumption of health care in Australia
  - Increasingly ageing population 
  - Increasing co-morbidities
  - Increasing pressure on health care resources
    - Minimising wastage
  - Increasing need for quality in health care
    - Patient being an active participant
  - Chronic shortage of health professionals
    - Not just more but role redesign

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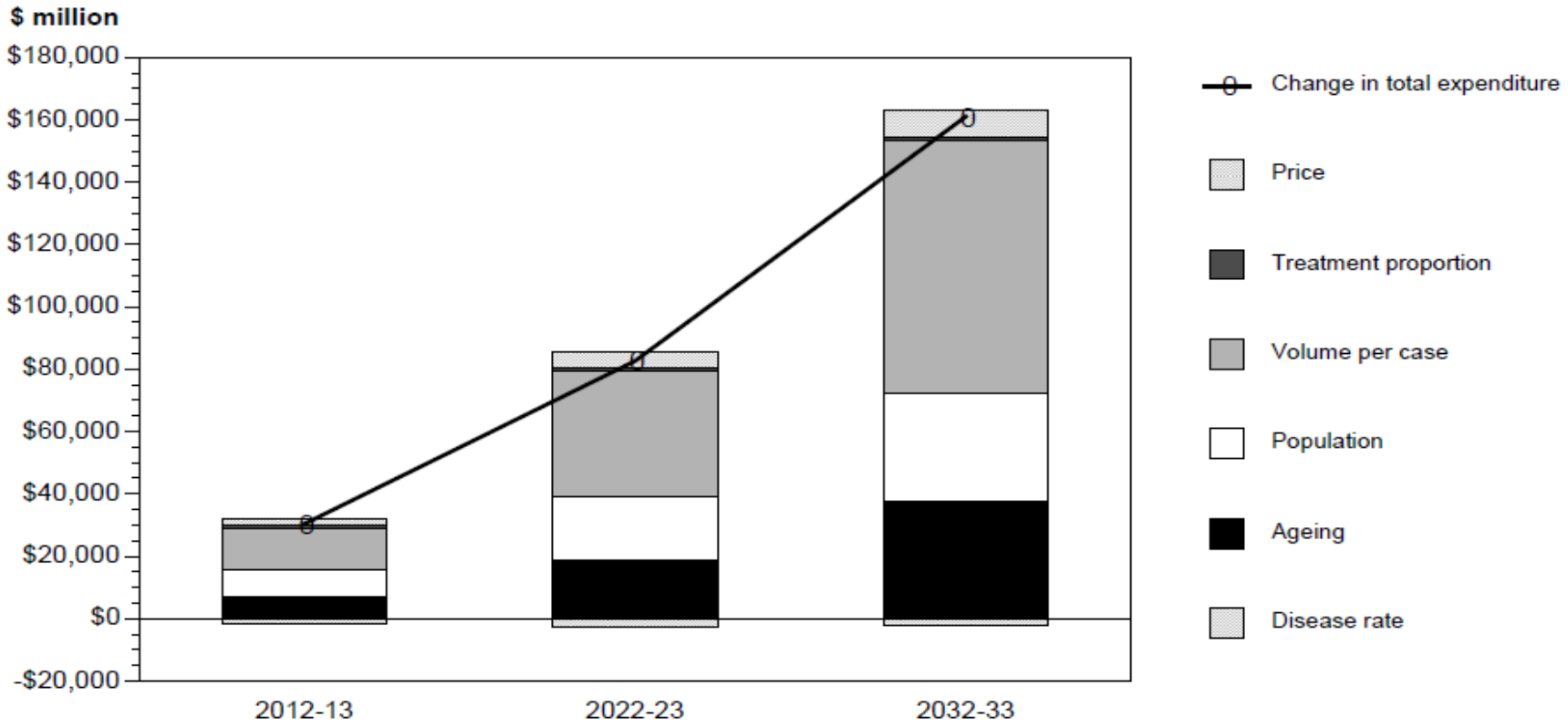
Projection of Australian health care expenditure by disease, 2003 to 2033



Source: AIHW Disease expenditure projection model.

Figure 7: Decomposition of projected change in total health and residential aged care expenditure

AIHW (2008)

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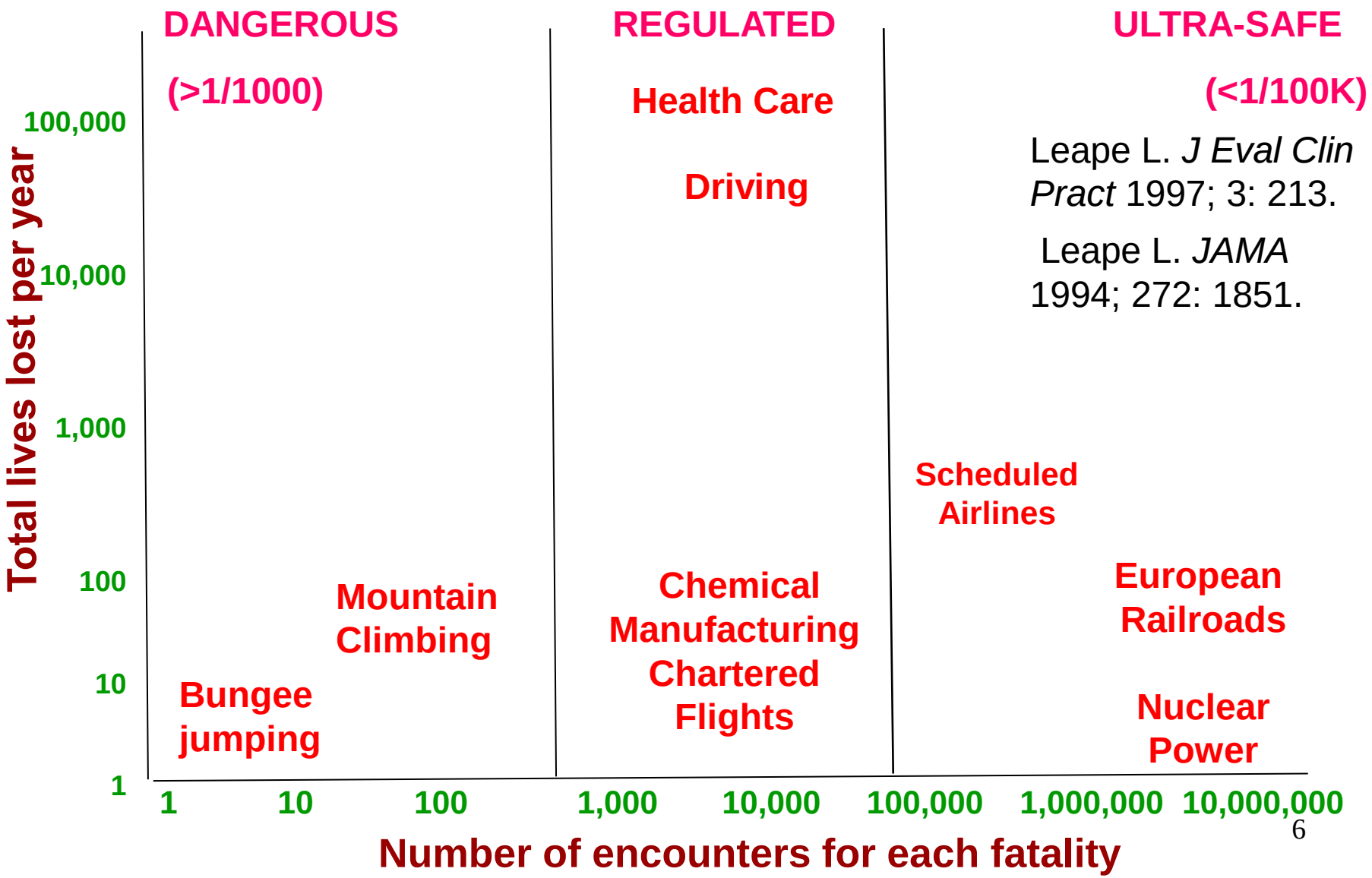
How Hazardous is Health Care?



Adverse hospital care events

- 17% in Australia (1995)
  - *complication of, or failure in, technical performance of an indicated procedure or operation (*34.6%)
  - *failure to synthesise, decide and/or act on available information (*15.8%)
  - *failure to request or arrange an investigation, procedure or consultation (*11.8%)
  - *lack of care and attention, or failure to attend the patient (*10.9%)

Wilson et al. The Quality in Australian Health Care Study. *Med J Aust* 1995; 163: 458

Runciman et al. CareTrack: assessing the appropriateness of health care delivery in Australia. *Med J Aust* 2012;197:2

CareTrack: assessing the appropriateness of health care delivery in Australia

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How appropriate is the health care delivered to Australians? A seminal study in the United States showed that American adults received "recommended care" only 55% of the time in the years 1999–2000.[1] Estimates of "appropriate care" — defined here as care in line with evidence-based or consensus-based guidelines[2] — are limited in most countries, including Australia, to small groups of conditions, often in particular settings.[3,4]

Despite some evidence of great variations in care and poor compliance with guidelines (Box 1), no comprehensive study of the appropriateness of the health care received by Australians has been undertaken. Without such information, we will be unable to create sustainable systems that have "the capacity to measure, monitor and act on health care performance data".[8] Financial considerations alone would suggest that maximising the rate at which patients receive appropriate care is a national priority.[9] The aim of the

Abstract

Objective: To determine the percentage of health care encounters at which a sample of adult Australians received appropriate care (ie, care in line with evidence-based or consensus-based guidelines).

Design, setting and participants: Computer-assisted telephone interviews and retrospective review of the medical records (for 2009–2010) of a sample of at least 1000 Australian adults to measure compliance with 522 expert consensus indicators representing appropriate care for 22 common conditions. Participants were selected from households in areas of South Australia and New South Wales chosen to be representative of the socioeconomic profile of Australians. Health care encounters occurred in health care practices and hospitals with general practitioners, specialists, physiotherapists, chiropractors, psychologists and counsellors.

Main outcome measure: Percentage of health care encounters at which the sample received appropriate care.

Results: From 15 292 households contacted by telephone, 7649 individuals agreed to participate, 3567 consented, 2638 proved eligible, and 1154 were included after gaining the consent of their health care providers. The adult Australians in this sample received appropriate care at 57% (95% CI, 54%–60%) of 35 573 eligible health care encounters. Compliance with indicators of appropriate care at condition level ranged from 13% (95% CI, 1%–43%) for alcohol dependence to 90% (95% CI, 85%–93%) for coronary artery disease. For health care providers with more than 300 eligible encounters each, overall compliance ranged from 32% to 86%.

Conclusions: Although there were pockets of excellence and some aspects of care were well managed across health care providers, the consistent delivery of appropriate care needs improvement, and gaps in care should be addressed. There is a need for national agreement on clinical standards and better structuring of medical records to facilitate the delivery of more appropriate care.

Drastic changes to health care

- Quality in health care
  - Increasing need for accountability
  - Institute of Medicine
    - To Err is Human and The Quality Chasm
    - Health care to be underpinned by safe, effective, efficient, patient-centred, timely and equitable processes (IOM 2001)
- Evidence Based Practice
  - Increasingly mandated by all health care stakeholders

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The need for evidence-based practice

- There must be “evidence” to what you, as a health care practitioner, do
- In all other aspects of life we demand “evidence” (Justice, social welfare)
- In health care, this is seen to be implicit rather than explicit
  - Avoiding overuse, underuse and misuse

Faith Versus Facts

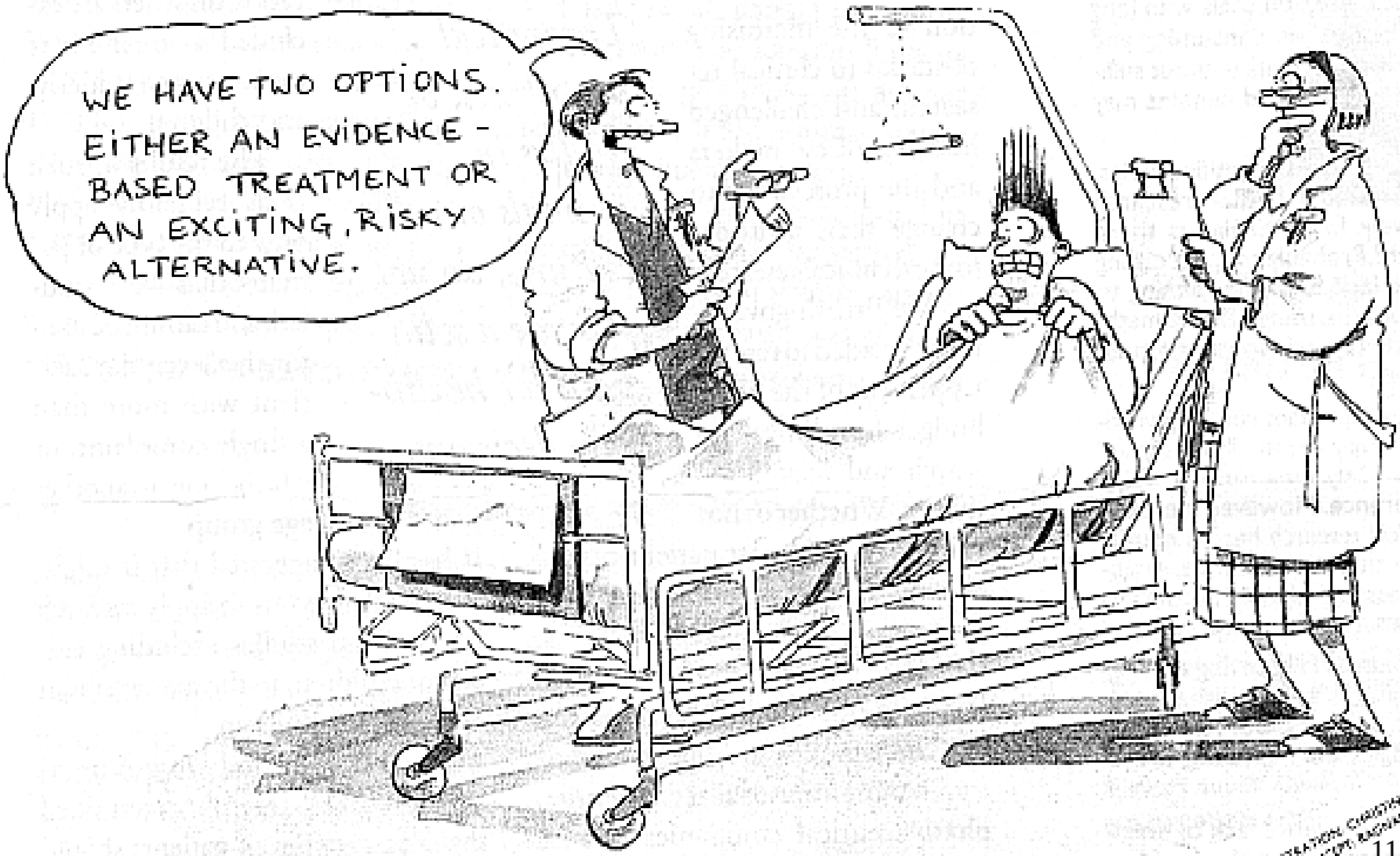

ILLUSTRATION: CHRISTINA ALTHER
CONCEPT: RACHNA LEVY

History of EBP

1700

Chinese emperor Quainlong

1800

Founding father of medical statistics Pierre Louis

1900

British Epidemiologist Archie Cochrane

2000

Development of modern terminology Gordon Guyatt and David Sackett

EBP definition

The explicit, conscientious, and judicious use of the ***current best evidence*** in making decisions about the care of individual patients (and populations)

Sackett et al (1996)

Problems 1,2,3,4…….

- Cookbook approach
- Cost cutting tool
- Unrealistic
- Impossible and impractical

Van Durme (2004)

Where does the best evidence come from?

- "……very well designed randomized placebo-controlled double-blinded studies and meta-analyses (or systematic review) of all of the world's ***literature*** on a given topic"

Van Durme (2004)

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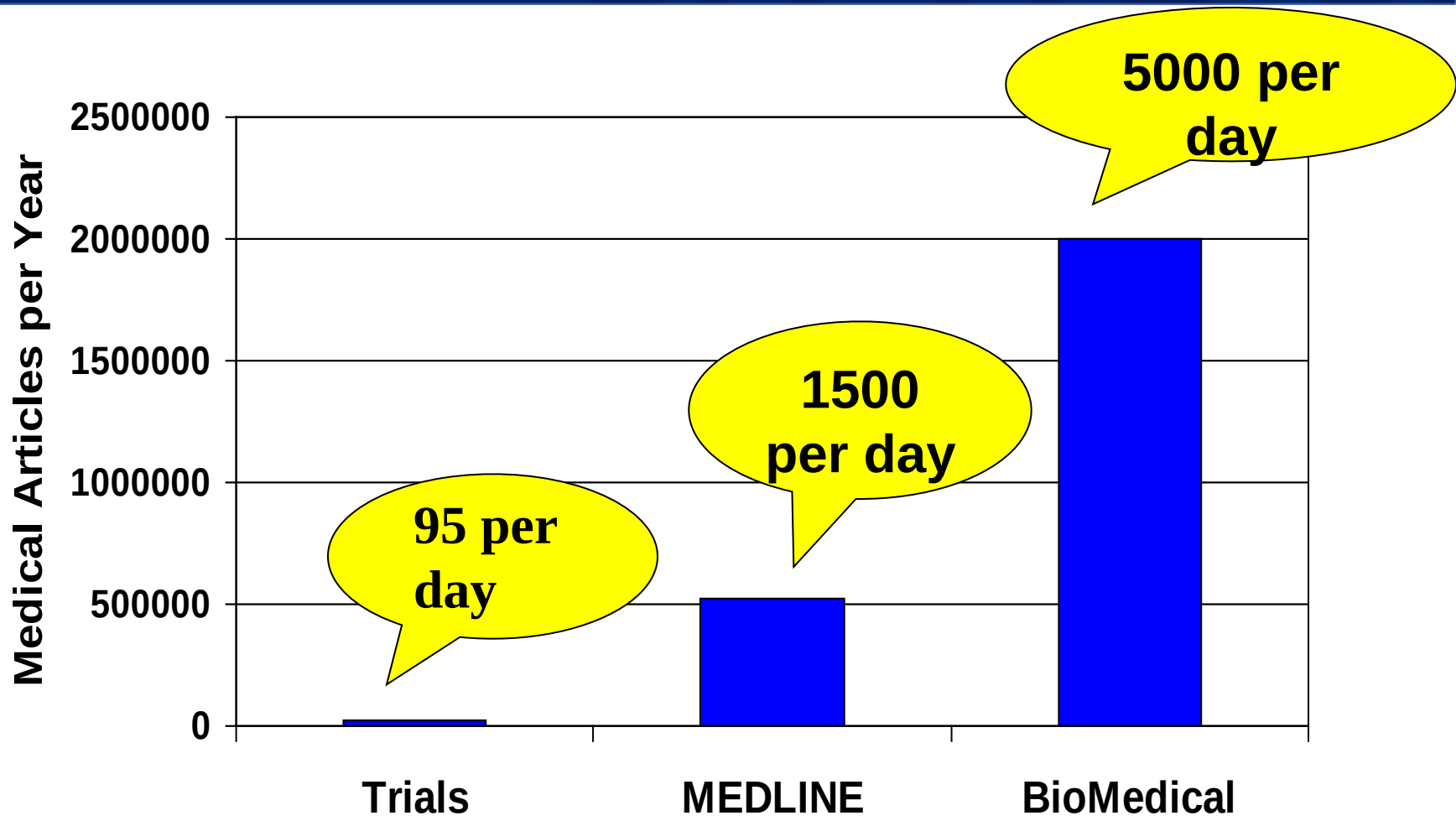
Wealth of information



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JASPA*

(Journal associated score for personal angst)

J: Are you ambivalent about renewing your **JOURNAL** subscriptions?

A: Do you feel **ANGER** towards prolific authors?

S: Do you ever use journals to help you **SLEEP**?

P: Are you surrounded by **PILES of PERIODICALS**?

A: Do you feel **ANXIOUS** when journals arrive?

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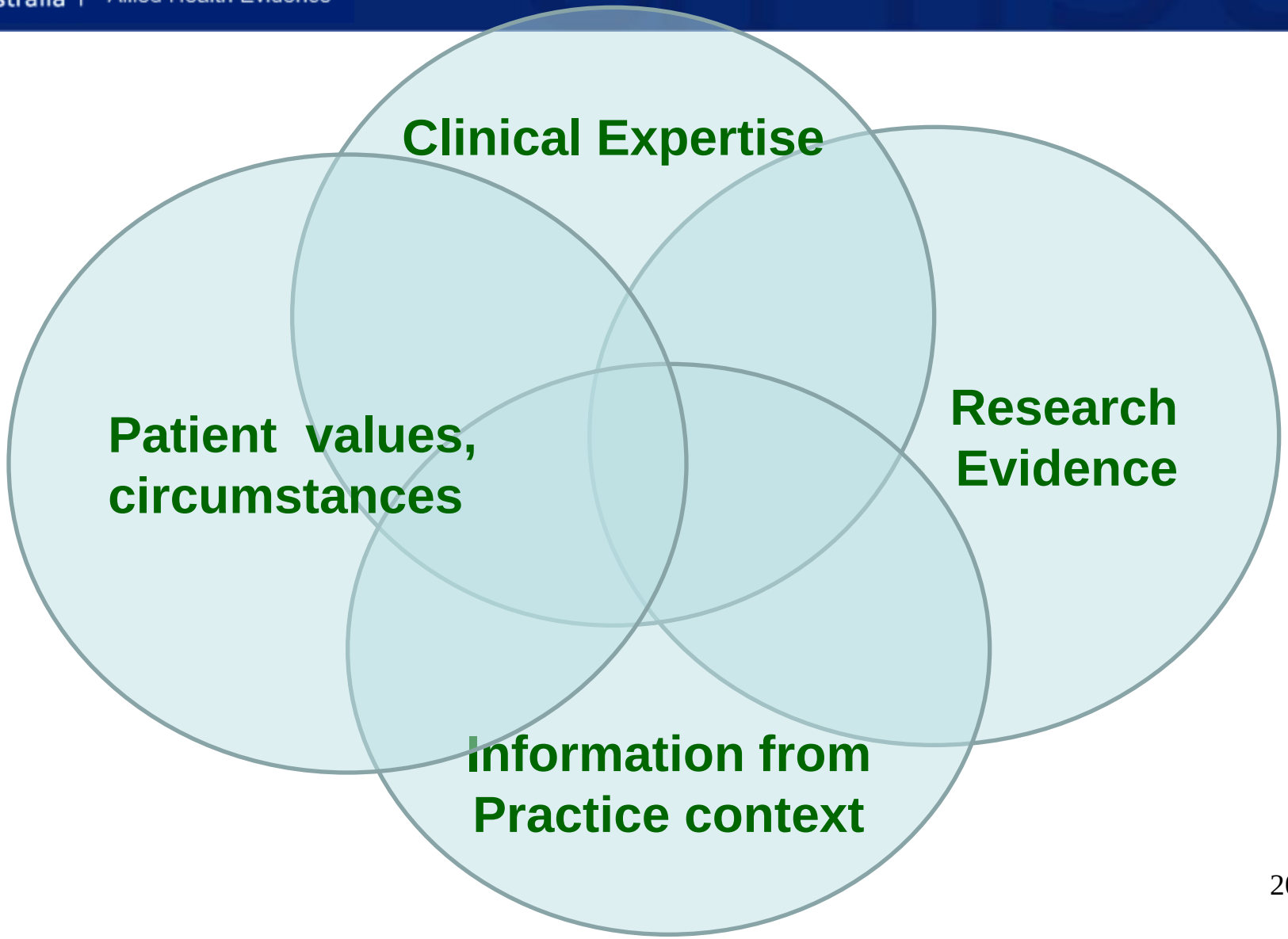
Philosophy of EBP

The **integration** of **best research evidence** with **clinical expertise** and **patient values**

Sackett et al (2000)

Evidence Based Practice


Clinical Expertise
Patient values, circumstances
Research Evidence
Information from Practice context

Purpose of EBP

- Improve quality, effectiveness and appropriateness of clinical practice
- Improve patient outcomes and shares decision-making with patients
- Substantiates the care provided to patients
- Reduce variations in practice
- Efficient use and minimise wastage of meagre resources

Cormack (2002)

Misconceptions of EBP

- Decisions made solely from research data
  - Denigrates clinical experience
  - Promotes a cookbook approach to patient management
- Cost cutting tool
- Clinical practice guidelines and RCTs are EBP
- Absence of research evidence equals to evidence of absence

Limitations of EBP

- Historical reliance on quantitative research
- Need time to develop new skills
- Limited time and resources
- Shortage of coherent, consistent scientific evidence
  - Rapidly growing evidence base
- Difficulties applying evidence to the care of individual patients
  - Complexities of clinical practice

Straus and McAlister (2000)

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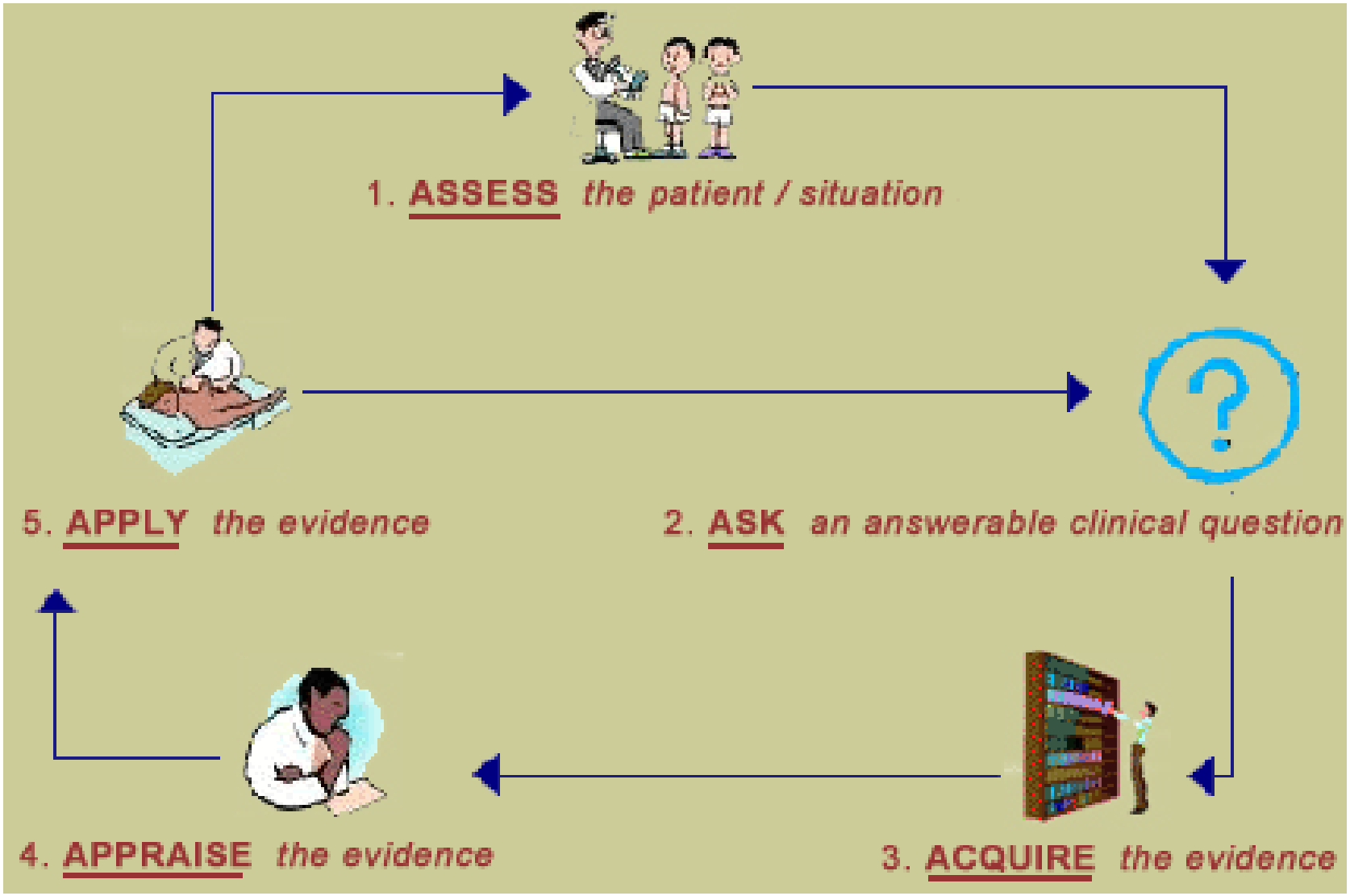
EBP process



© http://web.hku.hk/~hkebp/content/intro_2.htm

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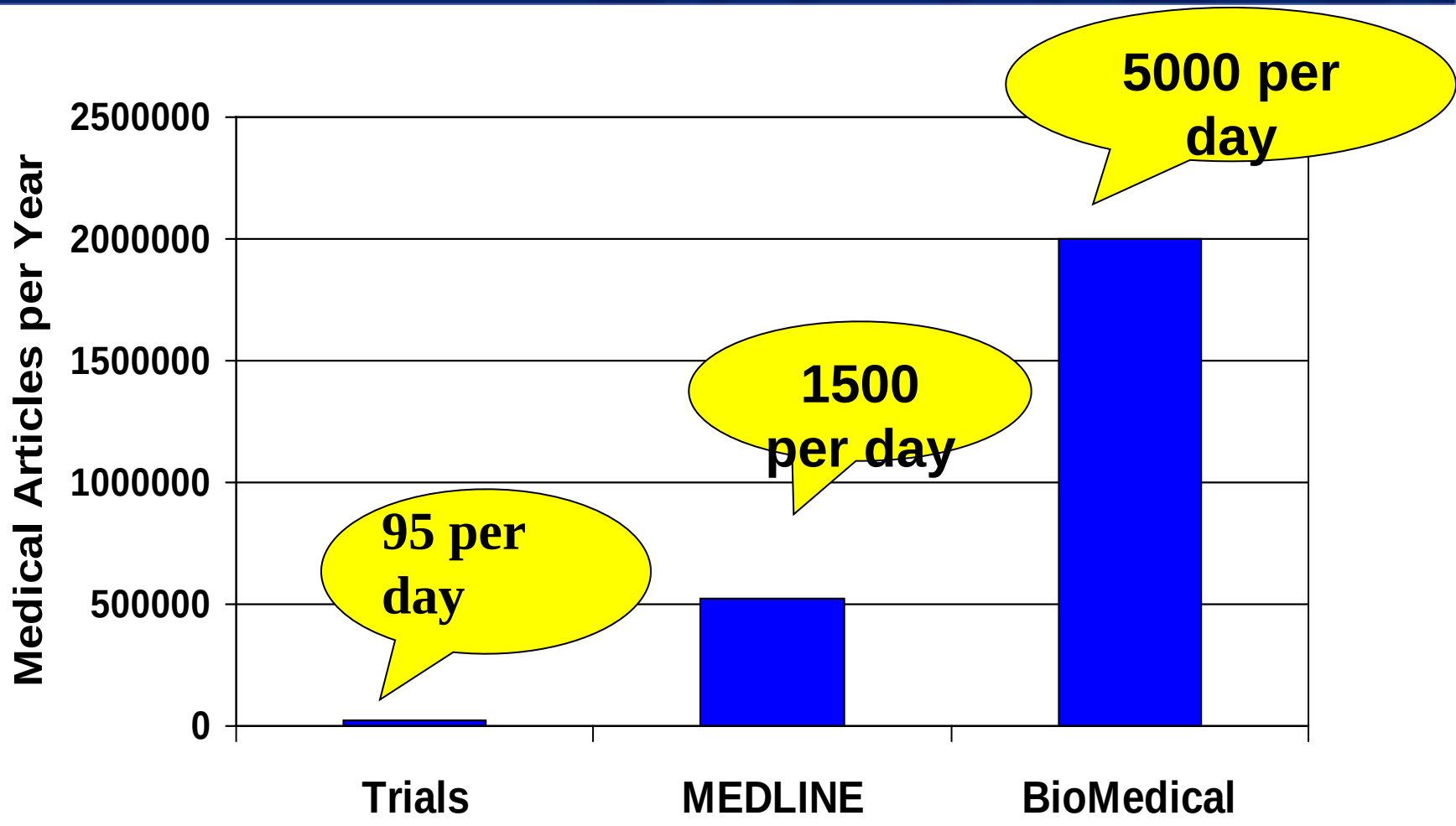
Implementing evidence in clinical practice

Growing body of research evidence

Wealth of information



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Access to highly synthesised evidence

Sources of synthesised evidence

- Guidelines
  - NHMRC
  - NICE
  - NZGG
  - NGC
- Systematic reviews
  - The Cochrane Library
  - Joanna Briggs Institute
  - The Centre for Reviews and Dissemination

The widening gap

- Does production of evidence means effective transfer into clinical practice?
- Does access to evidence means effective translation into clinical practice?

Evidence-practice gap

- Many patients (up to 45%) do not receive recommended care
- Many patients (20-25%) receive diagnostic tests or medications which are not evidence based, unnecessary and potentially harmful
- Poor safety and quality of health care services partly due to lack of using evidence based guidelines

Grol (2004)

Example one – Soft collar for whiplash

- Whiplash
  - A common condition with high cost (financial and health)
  - Poorly managed with great deal of variability
- Soft collar (cervical collar)
  - 1986, 1989 – RCTs advocated avoidance of soft collars
  - Since then, several high level evidence advocating avoidance of soft collars
  - Poor outcomes, prolonged symptoms

Example one – Soft collar for whiplash

- A survey of emergency doctors in UK conducted in 2003,
  - 50% used soft collar in the management of WAD
- Why?
  - Historical practices
  - Patient expectations
  - “Take something home”
  - Visibility of injury?

Even Sue Sylvester…..

Example two - Hand washing

- Hand hygiene is an important
  - Recognised since 1800
  - Treatment effect of hand hygiene is so effective "if hand hygiene were a new drug it would be used by all" (Stone 2001, pg 280).
- Even so, compliance is very poor
  - Physicians over estimate their own hand hygiene
  - Other barriers (such as patients)

Grol et al (2007)

Example two - Hand washing

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Evidence implementation requires more than just good intentions

Traditional implementation methods……

- Of course, with a modern twist….

Traditional implementation

The "change" problem

- Implementing evidence and changing behaviour and practice is difficult
- Current ideas about implementing and sustaining change draws on questionable assumptions about human behaviour
  - For example, health professionals are sensitive to "evidence" for and against treatment
  - This statement is only true for some, and in only in specific instances

The Gap

- "Intention-behaviour gap"
  - The evidence that human beings normally carry out their intentions is a myth (Marks 2002)

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What are the drivers for change for you?

- Evidence?
- Tangible benefit (money, awards)?
- Intangible benefit (recognition)?
- Support for change?
- Fear (litigation, being left behind)?
- Financial disincentive
- Pressures for others?

Grol (2007)

Barriers to EBP

- **Characteristics of the practitioner**
  - Research values, skills and awareness
- **Characteristics of the setting**
  - Barriers and limitations at the work setting
    - Resources, team issues, time, care processes
- **Characteristics of the research**
  - Access to research
  - Methodological soundness and appropriate conclusions

Barriers to evidence implementation

Factor	Potential barrier(s)
Patient	Patients expectations
EBP process	Identification and implementing EBP is a difficult process
Team Issues	Multidisciplinary teams, uniformity of approach
Care process	Lack of uniformity, range of service delivery models
Management Support	Changes in leadership
Time/facilities/cost	Time pressures, cost effectiveness, structural limitations
Health System	All stakeholders having similar expectations

Increasing research

- Implementation as a science
  - Several theories which overlap
  - Rogers (Diffusion of Innovation), Procheska, Ishikawa, Greenhalgh, Grol and Wensing, Graham, PARIHS, Ajzen (TPB)

Kitson et al (2009)

New philosophies on behaviour change

- Michie S, Johnston M (2005) British Psychology Society domains: Making psychological theory useful for implementing evidence-based practice: a consensus approach *Qual Saf Health Care*
- Psychological Theory of Behaviour Change
- *12 domains to inform implementation of evidence*
  - Knowledge
  - Skills
  - Social/ professional role/ identity
  - Beliefs about capabilities and consequences
  - Motivation and goals
  - Memory, attention and decisions
  - Environmental context and resources
  - Social influences
  - Emotion
  - Behavioural regulation
  - Nature of the behaviour

What works?

- Several reviews have been undertaken
  - Consistently effective
    - Educational outreach visits, decision support systems, reminders, interactive educational meetings, multifaceted
  - Variably effective
    - Audit and feedback, local opinion leaders, patient directed
  - Little or no effect
    - Educational materials alone, didactic educational meetings
  - Unknown effectiveness
    - *Financial* incentives, administrative interventions

Grimshaw, Grol et al (2002, 2003, 2004)

Key message

No one strategy is effective on its own

Implementing change

Challenges

- Current health care practices are not aligned with evidence
- The need to underpin evidence in policy and practice is well recognized
  - Will be increasingly become more explicit
- Educating tomorrow's health professional
  - Rhetoric vs reality in clinical practice
- Developing a life long learner
  - How best to keep up to date with evidence?
  - Cost and access?
  - Does access relate to translation?
  - Is knowledge enough without application?
- The changing health care context
  - Technological advancements
    - Is it appropriate for everyone?

Opportunities

- EBP can be a vehicle to achieve quality and safe health care
  - Widely accepted by a range of health care stakeholders
- Developing a critical mass of future health care professionals
  - Knowledge, skills and positive attitudes to EBP
- System-wide focus
  - Sustainable change requires a systems approach
  - Can EBP inform new models of care?
- Partnering with other health care stakeholders
  - Consumers can be an important ally
- Recognising that there is no one size fits all
  - Tailoring strategies to meet individual needs
  - What works for who, when, why and how

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