

National Collaborating Centre Summer Institute
Knowledge Synthesis, Translation and Exchange
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Knowledge Management: The Most Important Health Technology?

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A C20th View

“There is nothing a government hates more than to be well-informed; it makes the process of arriving at decisions much more complicated and difficult”

John Maynard Keynes



A C21st View

“For the last two hundred years, neo-classical economics has recognised only two factors of production: labour and capital. This is now changing. Information and knowledge are replacing capital and energy as the primary wealth-creating assets, just as the latter two replaced land and labour 200 years ago.”

Thomas B Riley, Executive Director and Chair,
Commonwealth Centre for Electronic Governance

What is Knowledge?

Knowledge as an Object

Knowledge is factual information stored in books, journals, records, archives, databases, etc. It is what is known.



What is Knowledge?

The Donald Rumsfeld Principle

“That there are known knowns. There are things we know that we know. There are known unknowns. That is to say there are things that we now know we don't know. But there are also unknown unknowns. There are things we do not know we don't know. And each year we discover a few more of those unknown unknowns.”

(Donald Rumsfeld, Feb. 12, 2002, Department of Defense News Briefing)



What is Knowledge?

The logo for BBC News, featuring the letters "BBC" in a white box above the word "NEWS" in white text on a red background.

US Defence Secretary Donald Rumsfeld has won a "Foot in Mouth" award for one of his now legendary bizarre remarks. (BBC Website, 2 December 2003)



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What is Knowledge?

Knowledge as Socially Constructed

Knowledge is “the act of coming to know something [that] involves a *personal transformation*. The knower and the known are indissolubly linked and changed in a fundamental way.”

Pleat, F. D., *Lighting the Seventh Fire* (Carol Publishing, 1994)

If knowledge is seen as a *process* of accessing and applying expertise (largely tacit knowledge), then there is recognition that knowledge is closely tied to the person who develops it.” (Nutley, Walter and Davies, 2007:169)

What is Knowledge?

Explicit *versus* Tacit Knowledge

Explicit Knowledge:

- Knowledge that can be externalised, codified, stored and retrieved as an object. The ‘know that’ of social competence.

Tacit Knowledge:

- Knowledge that is closely tied to individuals and their experience, and resides ‘within’ them. The ‘know how’ knowledge of social competence

What is Knowledge Management?

“Any process or practice of creating, acquiring, capturing, sharing and using knowledge, wherever it resides, to enhance learning and performance in organisations.”

(Scarborough *et al.* 1999, Knowledge Management:A Literature Review. London, Institute of Personnel and Development)

“The way in which people can *create* new knowledge, *share* knowledge around the organisation, and *use* that knowledge to best effect.”

(NHS, 2006, Knowledge Management Specialist Library)



What is Knowledge Management?

“Knowledge management is about ensuring that people have the knowledge they need, where they need it, when they need it - the right knowledge, in the right place, at the right time.”

(NHS, 2006, Knowledge Management Specialist Library)



Why Do We Need Knowledge Management?

- There's a lot of it about
- The stock and flow: “exceeds the inherent limitations of the unaided human mind” (David Eddy, 2006)
- Not all of it is of equal value, including research evidence:
 - Unclear objectives
 - Poor research design
 - Methodological weaknesses
 - Inadequate data reporting
 - Selective use of data
 - Unsupported conclusions
- We need to establish the *balance* of QA'd evidence

Why Do We Need Knowledge Management?

- “It’s all on the internet”!

The screenshot shows a Microsoft Internet Explorer browser window. The title bar reads "POP! The First Human Male Pregnancy - Mr. Lee Mingwei - Microsoft Internet Explorer provided by CABWEB". The address bar shows "http://www.malepregnancy.com". The website content includes a header for "RYT Hospital DWAYNE MEDICAL CENTER" with navigation links like "ABOUT US", "PATIENT CARE", "EDUCATION", "RESEARCH", and "CONTACT US". The main headline is "POP! THE FIRST MALE PREGNANCY". Below this, there is a large image of a man's bare torso showing a pregnant belly. To the left of the image is a "TODAY | LIVE IMAGE" section with a small video player and an EKG waveform. To the right is a "media coverage" section featuring a "TIME" magazine cover titled "THE PREGNANT MR. LEE" and "MAN(?) of the YEAR". The Windows taskbar at the bottom shows the time as 9:40:49 on Monday, 21/11/2005, and several open applications including "Inbox - Microsoft...", "CabWeb Home Pa...", "POP! The First Hu...", and "harnessing_evide...".

What is Needed to ‘Aid the Human Mind’

- Reliable and valid sources of knowledge
- Quality assured knowledge →
- i.e. critically appraised and sifted knowledge
- Separating the wheat from the chaff
- Presented in comprehensible and useable formats →
- e.g. 1:3:25
- Different types of professionals
- And different types of public/citizens →
- Who can search, find, critically appraise, summarise and establish the *relevance* of knowledge for their purposes

UK Responses - Professional Skills for Government Policy Makers' Core Skills Analysis and Use of Evidence

- *Anticipate* and secure appropriate evidence
- *Test* for deliverability of policy/practice – and evaluate
- Use evidence to *challenge* decision making
- Identify ways to *improve* policy/practice
- Champion a *variety of tools* for collecting/using evidence
- Ensure use of evidence is *consistent* with wider policy/practice requirements
- Work in *partnership* with a wide range of experts/analysts

Available Resources to ‘Aid the Human Mind’

- Canadian Health Services Research Foundation
- Canadian Institutes for Health Research
- Canadian Association for Health Services and Policy Research
- National Collaborating Centers
- Cochrane Collaboration (especially EPOC)
- Campbell Collaboration
- UK National Knowledge Service
- UK National Library of Health
- Coalition for Better Evidence (global)

UK National Knowledge Service Knowledge Management and Health

“Knowledge is the enemy of disease. The application of what we know will have a bigger impact on health and disease than any drug or technology likely to be introduced in the next decade. The application of what we know from research, from data analysis, and from experience, can prevent and minimise healthcare problems”

(National Knowledge Service, 2006)

UK National Knowledge Service

Three Types of Knowledge

1. Knowledge derived from *research*, called evidence;
2. Knowledge derived from the analysis of routinely collected or audit *data*, called statistics;
3. Knowledge from *experience*, experience of both clinicians and patients.

UK National Knowledge Service

Three Work Streams

- The Best Current Knowledge Service
- The National Library for Health
- The National Decision Support Service



UK National Knowledge Service The Best Current Knowledge Service

Mission:

“To ensure that the knowledge produced and procured for professionals and patients meets their needs.”

Sources:

National agencies responsible for knowledge production.

UK National Knowledge Service

The Best Current Knowledge Service

- Department of Health:
 - Care Service Improvement Partnership
 - Public Health Observatories
- NHS Institute
- NHS R&D Programme
- NHS Direct New Media
- National Institute of Health and Clinical Excellence (NICE)
- Medicines and Healthcare Products Regulatory Agency
- Health Protection Agency
- Information Centre for Health and Social Care
- Health Care Commission
- Social Care Institute of Excellence



UK National Library for Health

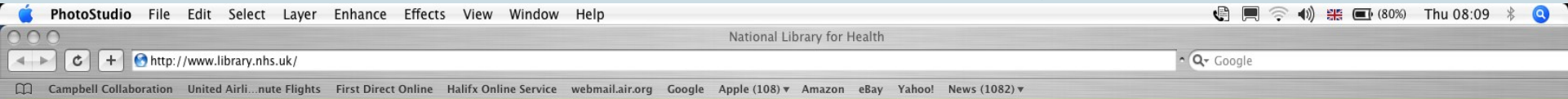
www.nlh.nhs.org

Mission:

- To *organise* and *mobilise* of knowledge to meet the needs of users
- To provide a *means of access* to quality assured knowledge where and when it is needed
- To draw attention to *new knowledge* that is essential to promoting good health and health care.
- Either by *searching* or by *messaging* to the clinician, patient or healthcare professional

UK National Library for Health

www.nlh.nhs.org



National Library for Health



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NLH HEALTH NEWS [RSS](#)

NLH - Hitting The Headlines - 09/08/07

Statin for children with familial hypercholesterolemia

Children as young as eight years old should be given statins, reported four newspapers (7 August 2007)

NLH - Document Of The Week - 09/08/07

Health professionals should search more than one database for comprehensive results.

Journal Info - tool for identifying journals for publication.

Decision aids could help women decide on a preferred delivery method.

BBC News | Health | UK Edition - 09/08/07

GP out-of-hours complaints soar

SEARCH RESOURCES

Title Title and text

[SEARCH](#)

All Evidence Based Reviews Guidance Specialist Libraries Books and Journals Images For Patients

[Advanced Search](#) | [Help](#)

RESOURCES

Evidence Based Reviews

Bandolier, Clinical Knowledge Summaries (incorporating PRODIGY), Cochrane Library, NHS Economic Evaluation Database ...

Guidance

Guidelines Finder, NICE Guidance, NLH Protocols & Care Pathways ...

Specialist Libraries

Collections of the best available evidence for particular specialties...

Books, Journals and Bibliographic Databases

AMED, BioMed Central, British Nursing Index, e-books, Embase, Medline, My Journals, Psycinfo, ...

Images

A collection of licenced and also freely available medical images including Images MD

For Patients

Over 100 sites accredited by NHS Direct Online

Drugs

British National Formulary, British National Formulary for Children, National Electronic Library for Medicines ...

SEARCH MEDICAL DICTIONARIES

[SEARCH](#)

WHATS NEW [RSS](#)

09/08/07

National Knowledge Week for Foundation Doctors: 30th July - 5th August 2007

Online resource to support patient and public involvement in healthcare

EVIDENCE UPDATE [RSS](#)

Health Management Specialist Library - 07/08/07

07/07/07 Publication of progress report on NHS dentistry

06/08/07 - New Health Management Specialist Library - Hot Topics

06/08/07 National Dementia strategy project announced

NICE | Published clinical guidelines - 09/08/07

CG52: Drug misuse: opioid detoxification

CG51: Drug misuse: psychosocial interventions

CG50: Acutely ill patients in hospital

NeLM Headline News - 08/08/07

VitiGam granted orphan drug designation in the US for melanoma

FDA accepts supplemental biologics license application for Orenicia (abatacept) for juvenile idiopathic arthritis

Preliminary research suggests vitamin B1 deficiency common in individuals with diabetes

Centre for Reviews and Dissemination (CRD) - 09/08/07

Hormone therapy for prostate cancer

Deep brain stimulation for a patient in a minimally conscious state

"Diabetes drugs 'double heart risk'"

The Cochrane Collaboration - Editor's picks - select news in evidence-based health care - 09/08/07

Evidence & Policy - new issue now available

CRD receives new funding

4th Annual Conference - Guidelines International Network - Toronto, ON, Canada

The National Decision Support Service

Mission:

- To provide knowledge support to human memory
- To provide computer-based decision support which reproduce or supplement the clinician's powers of inference
- To provide patient decision aids which help the patient reflect on their values, taking into account the evidence and their own unique clinical situation

Coalition for Better Evidence

- Bridges the demand and supply sides of evidence for policy and practice - globally
- Helps decision makers clarify their evidence needs
- Provides quality assured evidence in a timely and concise manner - including what is already known
- Provides a range of evidence products - *evidence maps, rapid evidence assessments, evidence briefings, policy and practice guidelines, full-blown systematic reviews, consensus statements*
- Uses understandable and usable formats (e.g. 1:3:25)
- Contextualizes evidence for social and cultural relevance

Davies' Theorem[©]

Evidence-Based policy is no substitute for
thinking-based policy



Davies' Second Theorem[©]

Knowledge Management is no substitute for
thinking management



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