



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

ACCESSING EVIDENCE FROM THE INTERNET

DR ASH PAUL

Deputy Medical Director

Health Commission Wales

FUZZY LOGIC

“Fuzzy Logic is basically a multivalued logic that allows intermediate values to be defined between conventional evaluations like yes/no, true/false, black/white, etc. Notions like rather warm or pretty cold can be formulated mathematically and processed by computers.”

- Bauer et al



Epimenides the Cretan, a philosopher of the 6th century BC, is said to have uttered the sentence, 'All Cretans are liars'. As he himself was a Cretan, this gave rise to a paradox—if he were telling the truth, then he would be a liar. Depending on how one defines a liar, the paradox is resolvable; he could have been a habitual liar who was telling the truth in this one instance. However, a stronger version of the paradox, known as the Liar paradox -- 'this sentence is false' -- is not resolvable in conventional logic systems. Indeed, the circular loop that the sentence induces -- if it is false, it must be true, and if true, false -- has been used more than once in science-fiction movies to cause marauding computers to lose their sanity and explode.

Kostis Vezerides of the American College of Thessaloniki, and Athanasios Kehagias of the Aristotle University of Thessaloniki, in Greece, show that, in almost all cases, paradoxes such as the Liar are resolvable with the use of 'fuzzy logic' (2003)

In the 1960s, Lotfi Zadeh of the University of California at Berkeley came up with the catchy innovation of 'fuzzy logic'

Modern Internet search engines use variations of fuzzy logic

- www.google.com
- www.mooter.com
- www.teoma.com
- www.scirrus.com

What does one look for if one is doing a very quick Internet search?

- **Systematic reviews**
- **Cochrane Review**
- **NICE**
- **Health Technology Assessment**
- **National Electronic Library of Medicine (NELM)**
- **Bandolier**
- **TRIP Database**
- **Horizon Scanning**

Need to recognise the HTA sites:

http://www.inahta.org/inahta_web/index.asp

What does one do quickly when one is faced with a medicines query?

- **NICE**
- **Scottish Medicines Consortium**
- **PBAC Australia**
- **PTAC New Zealand**
- **PHARMAC New Zealand**
- **CADTH Canada**
- **European Medicines Agency**

Where does one look for policies?

- Oxfordshire Priorities Forum
- Cambridge Priorities Forum
- www.aetna.com
- www.cigna.com
- www.bcbsnc.com
- www.regence.com

Where does one look for guidelines?

- **NICE**
- **www.nzgg.org.nz**
- **www.sign.ac.uk**
- **www.guidelines.gov**
- **www.library.nhs.uk/guidelinesFinder/**

Important Articles

Health Technology Assessment on the Net

<http://www.ahfmr.ab.ca/download.php/0a4970e0b01488d8b66b2d1c9c0460>

Open Access and Research Update

www.ahfmr.ab.ca/download.php/bbd90bad3d70d245a6fb0ad0d6869a01

A Simplified Search Strategy for Identifying Randomised Controlled Trials for Systematic Reviews of Healthcare Interventions: a Comparison with More Extensive Strategies

<http://www.biomedcentral.com/cpcontent/pdf/1471-2288-5-23.pdf>