



Why do we need guidelines?

(and the implications for guideline producing bodies and also for quality assessment programs)

**W. Van Biesen, chair of European Renal Best Practice
Renal Division, Ghent University Hospital**

Where are we coming from?



Eloquence based medicine



Emotion based medicine

Stu's Views

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The Problem With Juries



Eminence based medicine



Statistically-funny.blogspot.com

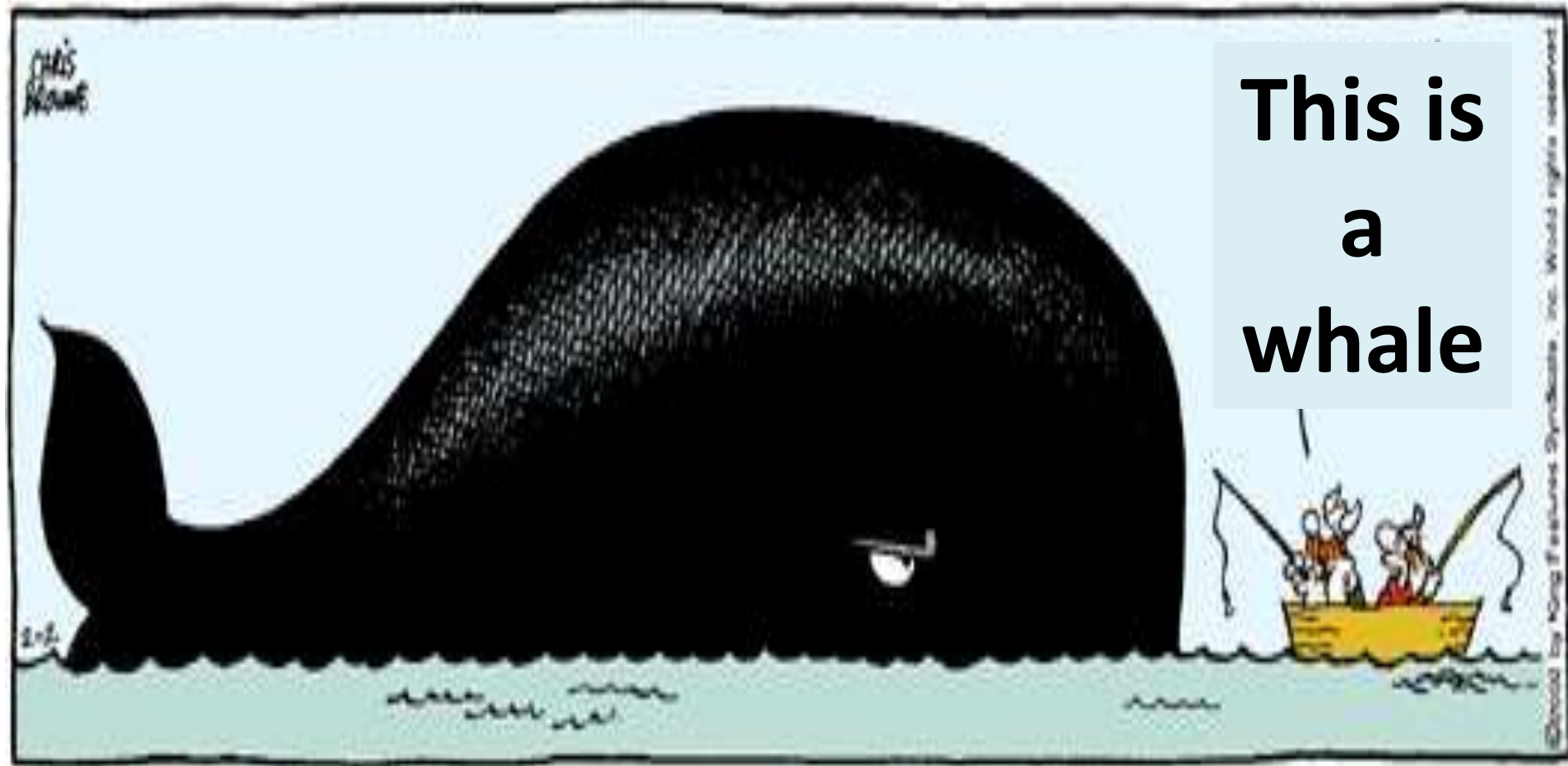
DOGMA BASED MEDICINE



One size fits all

Evidence Based Medicine (old school)

**This is
a
whale**



Evidence Based Medicine



A vibrant, multi-colored spiral galaxy with a bright blue core, set against a dark starry background. The galaxy's arms are composed of various colors including orange, yellow, green, and blue, suggesting different chemical compositions or stages of star formation. The core is a bright, glowing blue sphere.

Where are we coming from?

And where we should go to.....

Evidence Based Medicine

Decision making on (medical) actions, intentionally based on a transparent and systematic analysis of available evidence, and this applied to a real-life clinical context

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**With the goal to decrease the discrepancy between
medical actions
And
Medical knowledge**

**Evidence Based Medicine
is a way of thinking about
your everyday caring for
patients**

Evidence Based Medicine

1. Individual level

a) Individual patient individual physician

b) Individual physician and his patients with a specific problem
(systematic review)

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- a) Group of physicians and their patients with a specific problem
(Protocolized medicine, standing orders)
- b) Different groups of physicians and a patient
 - with one problem on the borderline of different specialties
 - With different comorbidities

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3. Society level

- Sustainability
 - Fairness/Equity
- (guidance/guidelines)



ERBP Mission

improve the outcome of patients with kidney disease in a sustainable way, through enhancing the accessibility of knowledge on patient care, in a format that stimulates its use in clinical practice.

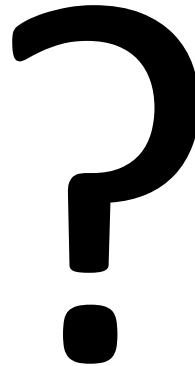
Do we need guidelines

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Why we need guidelines

1° Objective scientific reasons

(because science is not always scientific)

2° Asking the right question

(WYSIATI effects and anchoring effects)

3° Subjective reasons

(because we take emotional decisions)

4° Socio-economic

(because we want to make people healthy, not ill)

(because a Euro can only be spent once, even in Cyprus or Greece)



Why we need guidelines

Objective scientific reasons (because science is not always scientific)

1. too much information, but also too much information lacking

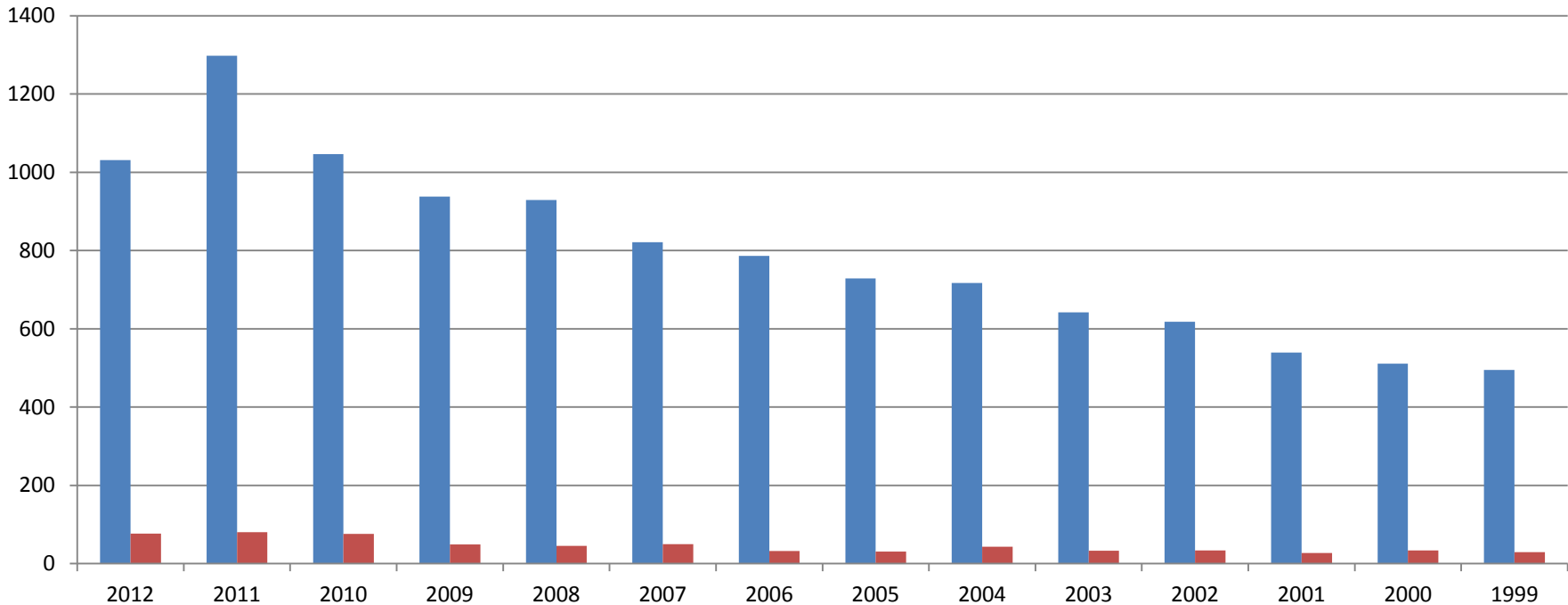


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Pubmed: Mesh term “acute kidney injury”: yield 30885 papers



Of these: only 211 are randomised controlled trials

Impact of non-published evidence: the reboxetine case

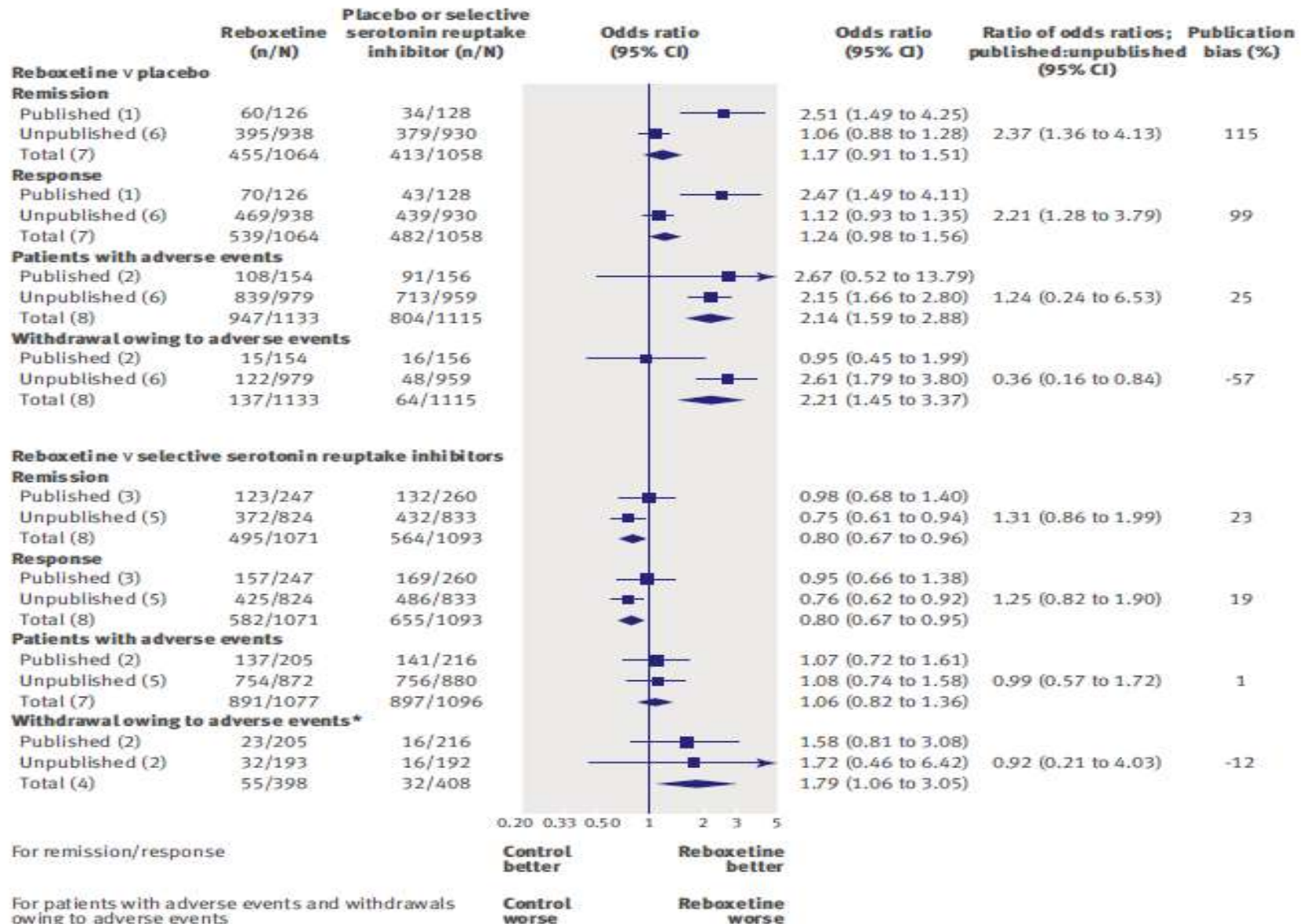


Fig 6 | Forest plot showing meta-analyses of published, unpublished, and all trials. Publication bias (right column) is presented as the ratio of odds ratios of published results versus overall results. The extent of publication bias is expressed as

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The incidence of hyponatremia is estimated to be as high as 30% in the hospitalized setting⁴ and 21% in ambulatory patients.⁵ Importantly, the incidence of hyponatremia increases with age and has been reported in up to 53% of elderly patients in chronic care settings.^{2,6-8} Hyponatremia is associated with complications of comorbid conditions,⁹ significantly greater length of hospital stay,¹⁰ and higher readmission rates.¹¹ Further, hyponatremia is a strong predictor of both in-hospital and postdischarge mortality. In-hospital mortality rates of 16% have been reported in patients >65 years of age with hyponatremia compared with 8% in those with normal sodium concentrations on admission.¹²

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Study of Heart and Renal Protection

Interpretation: Reduction of LDL cholesterol with simvastatin 20mg plus ezetimibe 10mg daily safely reduced the incidence of major atherosclerotic events in a wide range of patients with advanced kidney disease

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Number needed to treat: 50

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Number needed to treat: 50

So: you need to treat 50 patients during 5 years to avoid one event

No difference in mortality; 68 of 93 events were “revascularisation”

“there was no good evidence that the treatment effect was different in any of the subgroups”

HOWEVER: Palmer et al, Ann Int Medicine, 2012: SHARP data to assess interaction of subgroups on treatment effect were not available; conclusion of their meta-analysis: Moderate- to high-quality evidence indicated that statins had little or no effect on all-cause mortality (RR, 0.96 [CI, 0.88 to 1.04]), cardiovascular mortality (RR, 0.94 [CI, 0.82 to 1.07]), or cardiovascular events (RR, 0.95 [CI, 0.87 to 1.03]) in persons receiving dialysis.

Why we need guidelines

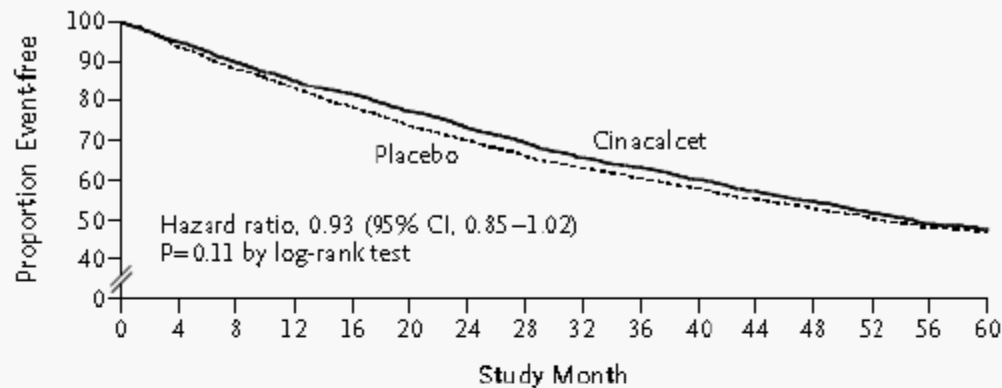
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3. Available information prejudiced based on “surrogate outcomes”(CKD-MBD, anaemia)



Impact of calcimimetics on outcome

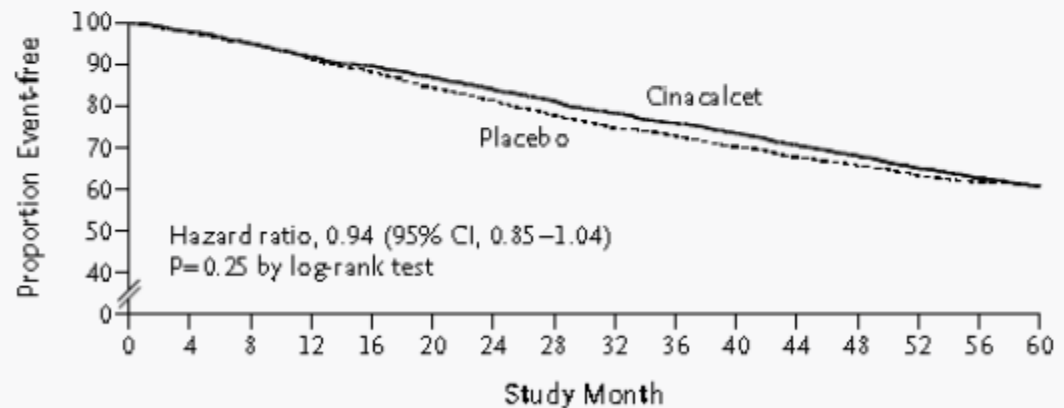
A Primary Composite End Point



No. at Risk

Placebo	1935	1804	1693	1579	1476	1384	1312	1224	1160	1109	1053	996	940	650	404	114
Cinacalcet	1948	1842	1739	1638	1556	1472	1384	1303	1230	1177	1115	1051	989	679	399	113

B Death



No. at Risk

Placebo	1935	1882	1828	1754	1694	1622	1559	1486	1426	1388	1334	1283	1232	886	537	162
Cinacalcet	1948	1903	1845	1779	1736	1680	1621	1565	1507	1462	1412	1354	1292	899	546	167

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1. too much information, but also too much information lacking
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3. Available information prejudiced based on “surrogate outcomes”(CKD-MBD, anaemia)
4. Available information Incomplete or not answering the right question
5. Problem of generalisibility



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Table 3 Percentage of individuals who potentially meet eligibility criteria for included asthma randomised controlled trials

RCT reference	Current asthma (%), n = 179	Current asthma on treatment (%), n = 127
13	5	7
14	7	10
15	6	9
16	6	8
17	0	0
18	4	6
19	2	3
20	1	1
21	7	9
22	8	11
23	7	9
24	36	43
25	2	2
26	1	0
27	1	2
28	2	3
29	3	5

RCT, randomised controlled trial.

Asking the right (clinical) question rigorously



1. Question : PICOM

P

- Patient
- Population

I

- Intervention

C

- Comparator

O

- Outcomes

M

- Methodology: question type, best feasible study design

Asking the right (clinical) question

1. Question : PICOM



P

- Patient
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Intervention

Safer DJ. Design and reporting modifications in industry-sponsored comparative psychopharmacology trials. *J Nerv Ment Dis* 2002;190:583-92.

Johansen HK, Gotzsche PC. Problems in the design and reporting of trials of antifungal agents encountered during meta-analysis. *JAMA* 1999;282:1752-9.

Comparator

Outcomes

M

- Methodology: question type, best feasible study design

2. Systematic Search



- Goal: to retrieve the relevant studies
 - Without bias \longleftrightarrow those you know/believe
 - Efficient : balance between
 - Sensitivity: avoids missing relevant studies
 - Specificity: avoids too many irrelevant studies: noise
 - Time-efficient
- World-wide accepted methodology:
 - Electronic database-search: Cochrane Library, Medline using PICOM

Why we need guidelines

3° Subjective reasons (because we take emotional decisions)



Why we need guidelines

3° Subjective reasons

(because objective information does not exist)

(because we take emotional decisions)



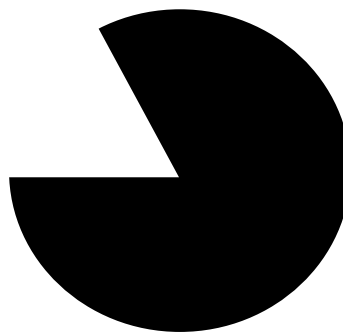
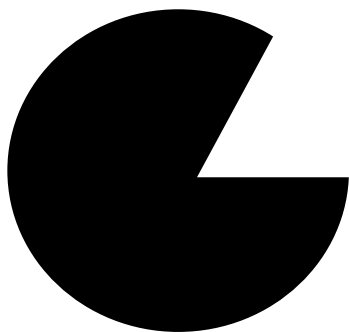
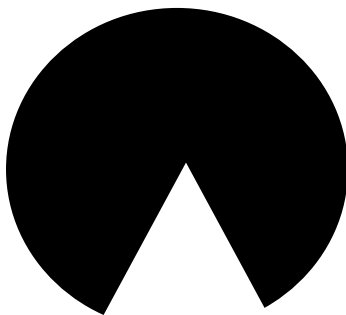
Question 1

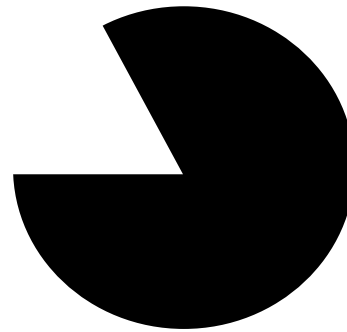
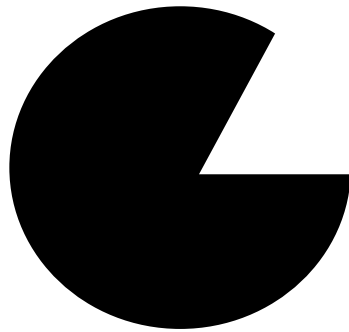
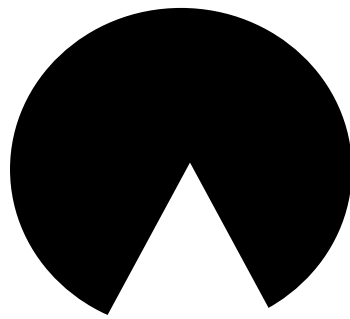
- **A 85 year old women with long standing diabetes and amputations, dialysis dependence, bilateral diabetic retinopathy, is hospitalised because of diarrhea.**
- **A last Chest X ray before dismissal shows an enlarged hilus, suspicious for a malignancy. What do you do?**
 - **A: you plan a CT thorax and a bronchoscopy to establish the diagnosis more certain.**
 - **B: you plan a CT thorax, a PET scan, a bone scintigraphy and a bronchoscopy for a complete staging.**
 - **C: you just dismiss the patient as planned**
 - **D: You ask the opinion of the patient and discuss the option of withdrawal of dialysis if things go worse**
 - **E: You ask the opinion of the family, but do not speak with the patient**

Question 1

- ***Your 85 year old grandmother with long standing diabetes and amputations, dialysis dependence, bilateral diabetic retinopathy, is hospitalised because of diarrhea.***
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Thinking errors

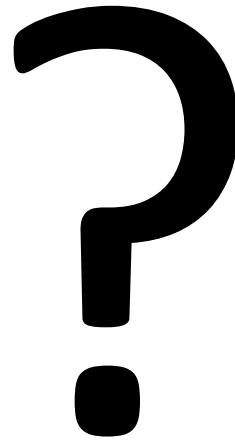




Anchoring (Halo effect)
Attribution
Availability

METFORMIN

in advanced CKD:



METFORMIN

in advanced CKD:

LACTIC ACIDOSIS

A cocktail of risk aversion and WYSIATI effects

Table 1 Predicted absolute number of deaths caused by the life-threatening complications of metformin and sulphonylureas

	Metformin-associated lactic acidosis	
Incidence of lactic acidosis or severe hypoglycaemia in type 2 DM (number per 100,000 patient years)	6.3 [4]	
Mortality (percentage; most pessimistic available figure)	50% [22]	
Predicted absolute no. of deaths (number per 100,000 pt years)	3	

ARGUMENTS AGAINST-



ARGUMENTS AGAINST-

NUCLEAR



OIL



COAL



IT'S
IN MY
BACKYARD!



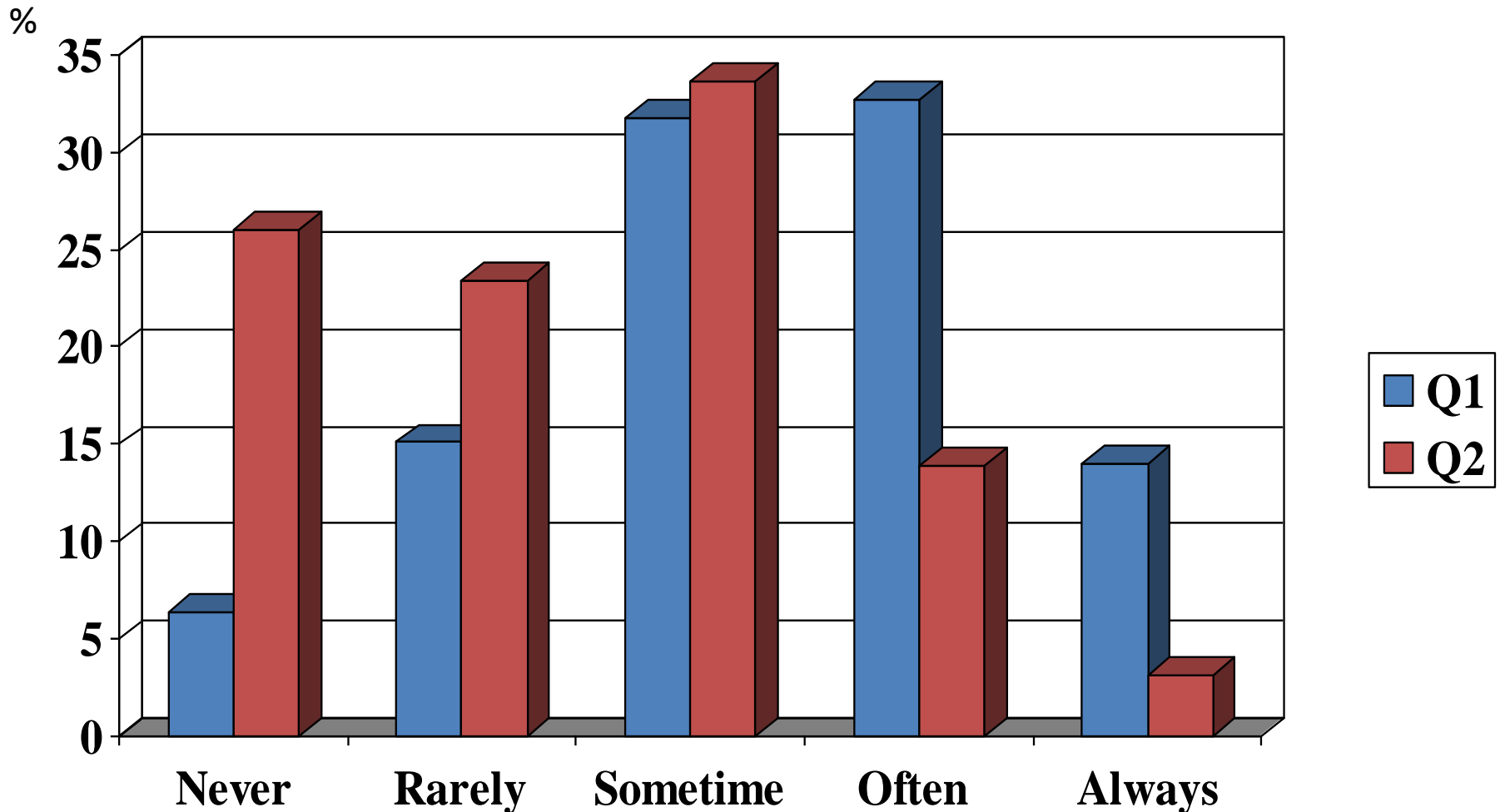
JOEY R. CARPENTIERA

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Incidence of lactic acidosis or severe hypoglycaemia in type 2 DM (number per 100,000 patient years)	6.3 [4]	1,000 [2]	1,800 [2]
Mortality (percentage; most pessimistic available figure)	50% [22]	4.3% [21]	4.3% [21]
Predicted absolute no. of deaths (number per 100,000 pt years)	3	43	77.4

Impact of “evidence based medicine”



Q1: change to “newer” treatment if shown to be superior

Q2: change to “older” treatment if shown to be equally effective but less expensive than “newer”

Why we need guidelines

3° Subjective reasons (because we take emotional decisions)

1° Physicians

2° Patients



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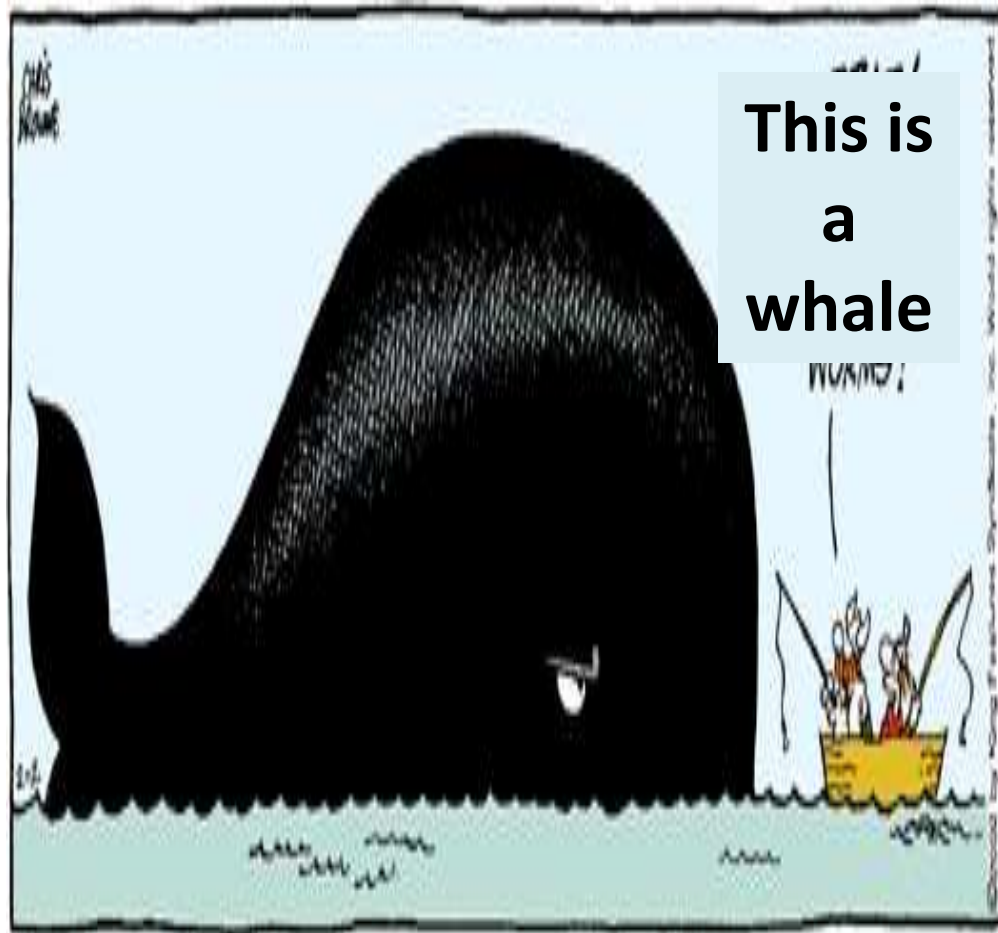
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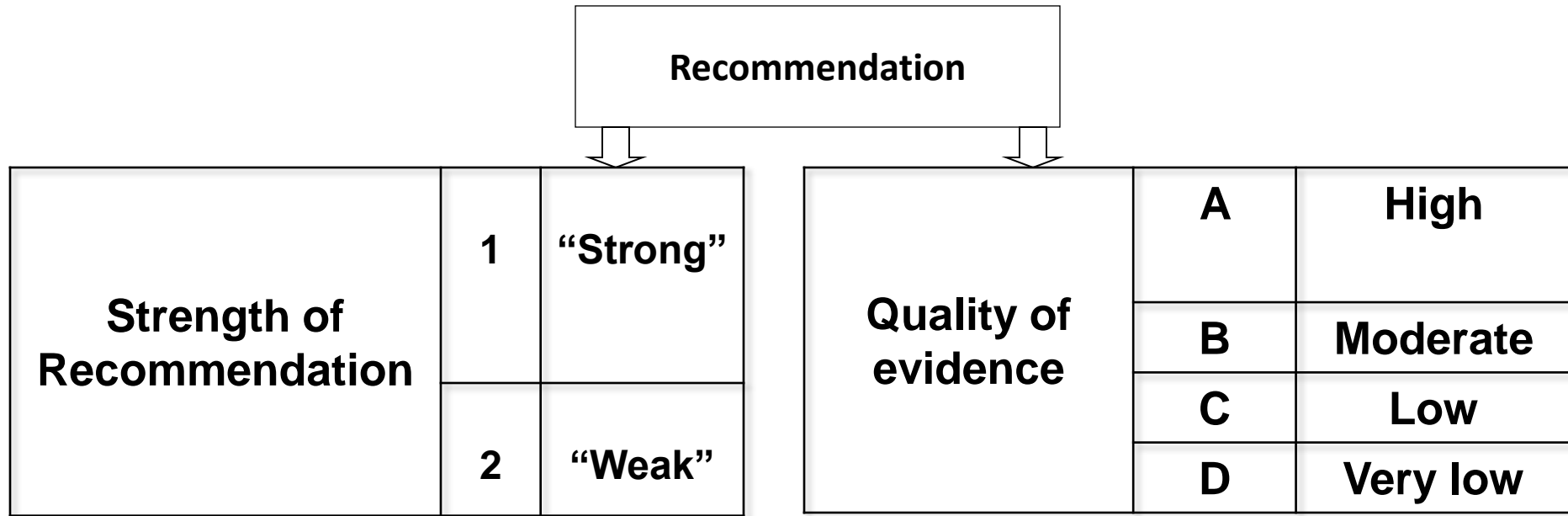
- Buridan's donkey
- Immediate vs anticipated emotions
- Hyperbolic distorsion
- Harm vs benefit



Evidence Based Medicine



7. Recommendations/GRADE



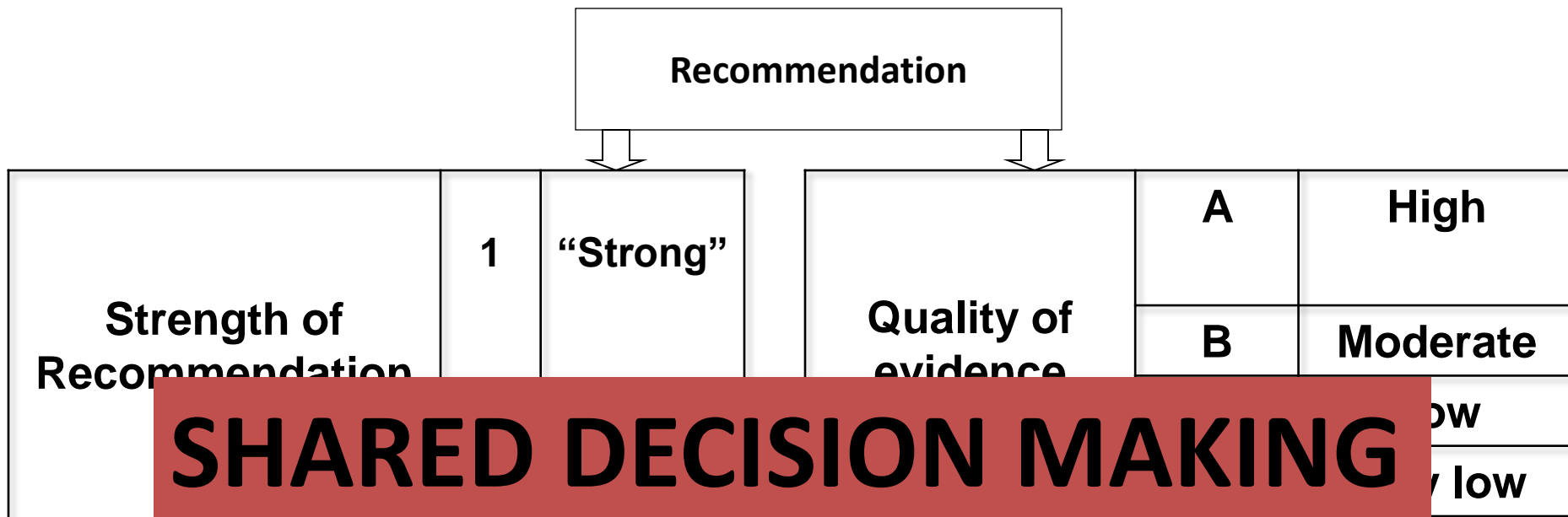
Strong

- most patients would want the treatment, most clinicians would want to provide it: “We recommend...”
- most patients would not want the treatment, most clinicians would not want to provide it: “We do not recommend...”

Weak

- Some patients would want the treatment, some clinicians would want to provide it, but others might not, dependent on their values and preferences: “We suggest...”

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Differing Levels of Clinical Evidence : Exploring Communication Challenges in Shared Decision Making

Quentin W. Smith, Richard L. Street, Jr., Robert J. Volk and Michael Fordis
Med Care Res Rev 2013 70: 3S originally published online 6 December 2012
DOI: 10.1177/1077558712468491





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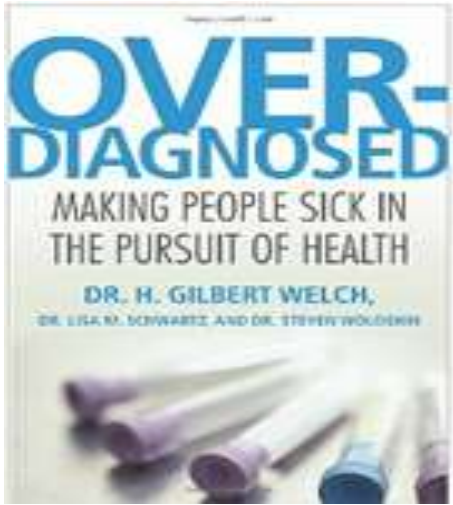
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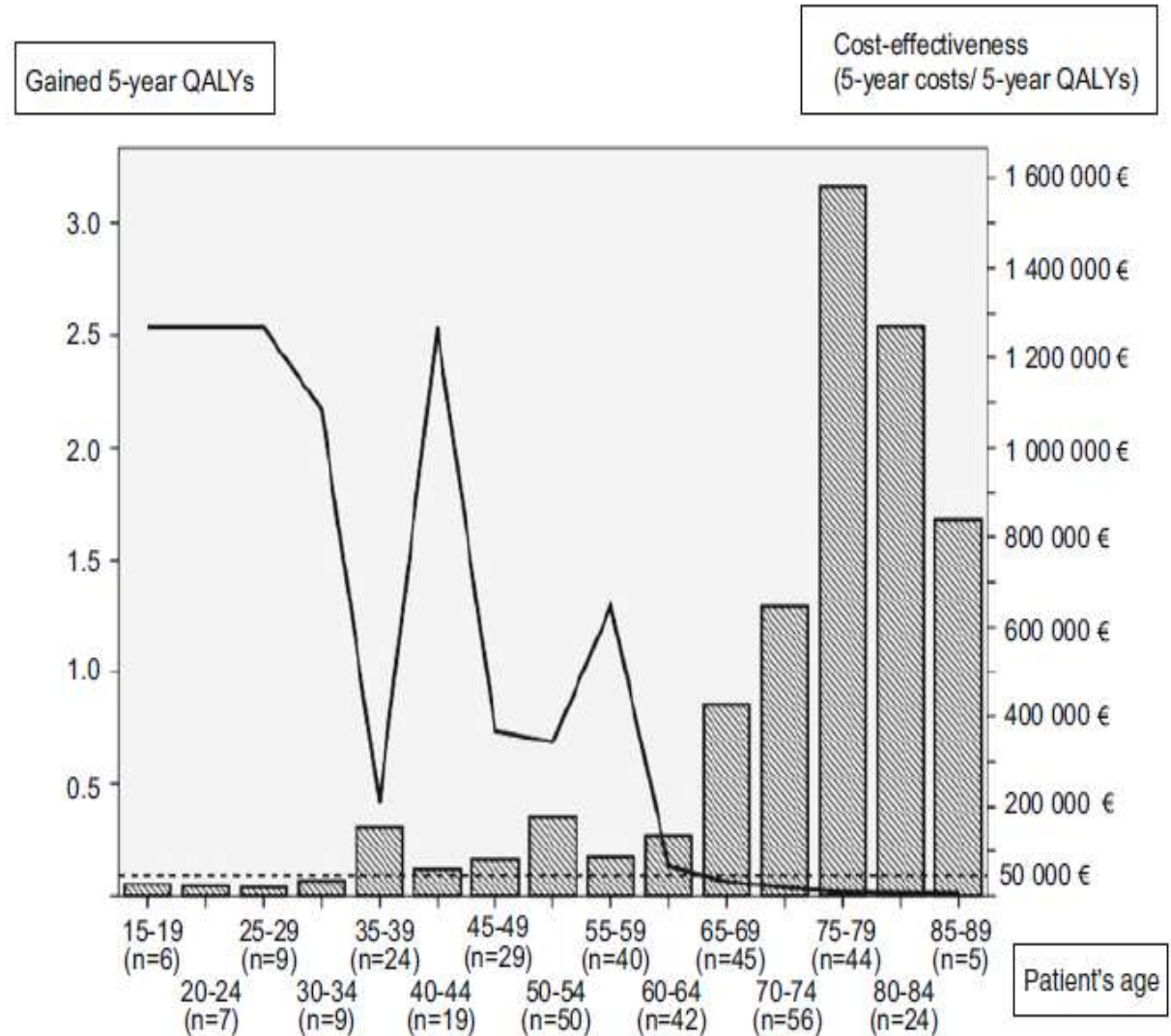


Knowing they did not need definitive research, an accurate test or effective treatment made developing new conditions for DSM-6 so much easier

Statistically-funny.blogspot.com

RRT at ICU: a cost utility analysis

Fig. 2 Five-year cost utility and gained 5-year quality-adjusted life years (QALYs) for acute renal replacement therapy stratified according to age. *Bars* mark cost utility and *solid line* gained QALYs in different age groups. *Dotted line* marks the limit for cost-effective treatment (50,000 €/QALY)





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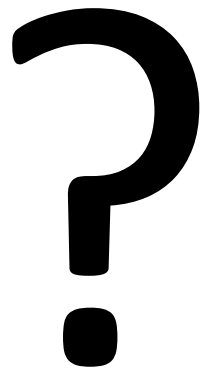
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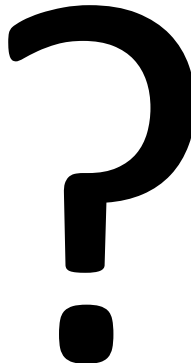
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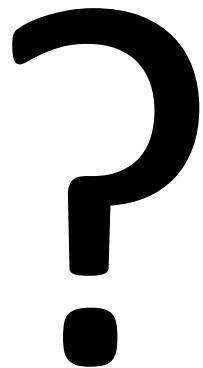
What to do when there is no evidence?

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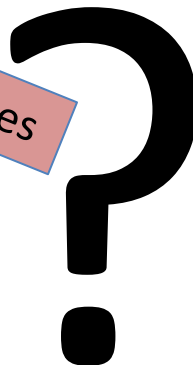
What to do when there is no evidence?

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What are patient important outcomes

How do we get everybody on board



How do we improve available evidence

How far and how should health economics be involved?

This is an easy job



What to do when there is no evidence?

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**If we have guidelines,
how will we measure/monitor the adherence to
them?**



How do we improve adherence?

How far and how should health economics be involved?

This is an easy job

Do we need guidelines

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Measuring quality

* Measures vs indicators

Some representation that reflects another entity

Direct measuring of a physical concept eg body weight

* Structures vs procedures vs outcomes

How many nurses, is there a CT scan etc

Hepatitis B vaccination
Hand washing etc
% of patients having a bone densitometry
How many patients receive a statin

Number of bacteraemias in the HD unit
Cardiovascular deaths/year

Type of outcomes:

- clinical outcomes
- Clinical correlates
- surrogate markers

Measuring quality

* Aim of the quality measurement

- Performance monitoring (eg registries; cave confounding, cave cherry picking)
- Formative monitoring: to improve quality
- Summative monitoring
 - evidence based
 - measurable in a reliable way
 - direct relation with hard outcome
 - no negative/undesired influence on behavior (eg the fistula first debacle)

Quis custodiet
ipsos custodies?