

# EBM



# The Value Century

1948-1971 Free

1980's Effectiveness & Evidence based

- all effective treatments should be free
- all ineffective treatments are of low value
- some effective treatments are of low value

1990's Cost-effectiveness

2000's Quality and Safety

2010 and for the rest of the century

# VALUE

# The Aim is triple value & greater equity

- Allocative, determined by how the assets are distributed to different sub groups in the population
  - Between programme
  - Between system
  - Within system
- Technical, determined by how well resources are used for all the people in need in the population
- Personalised value, determined by how well the decisions relate to the values of each individual

ACADEMY OF  
MEDICAL ROYAL  
COLLEGES

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Protecting resources,  
promoting value:  
a doctor's guide  
to cutting waste in  
clinical care

**waste is anything that does not add value**

Knowledge is  
the enemy of  
disease





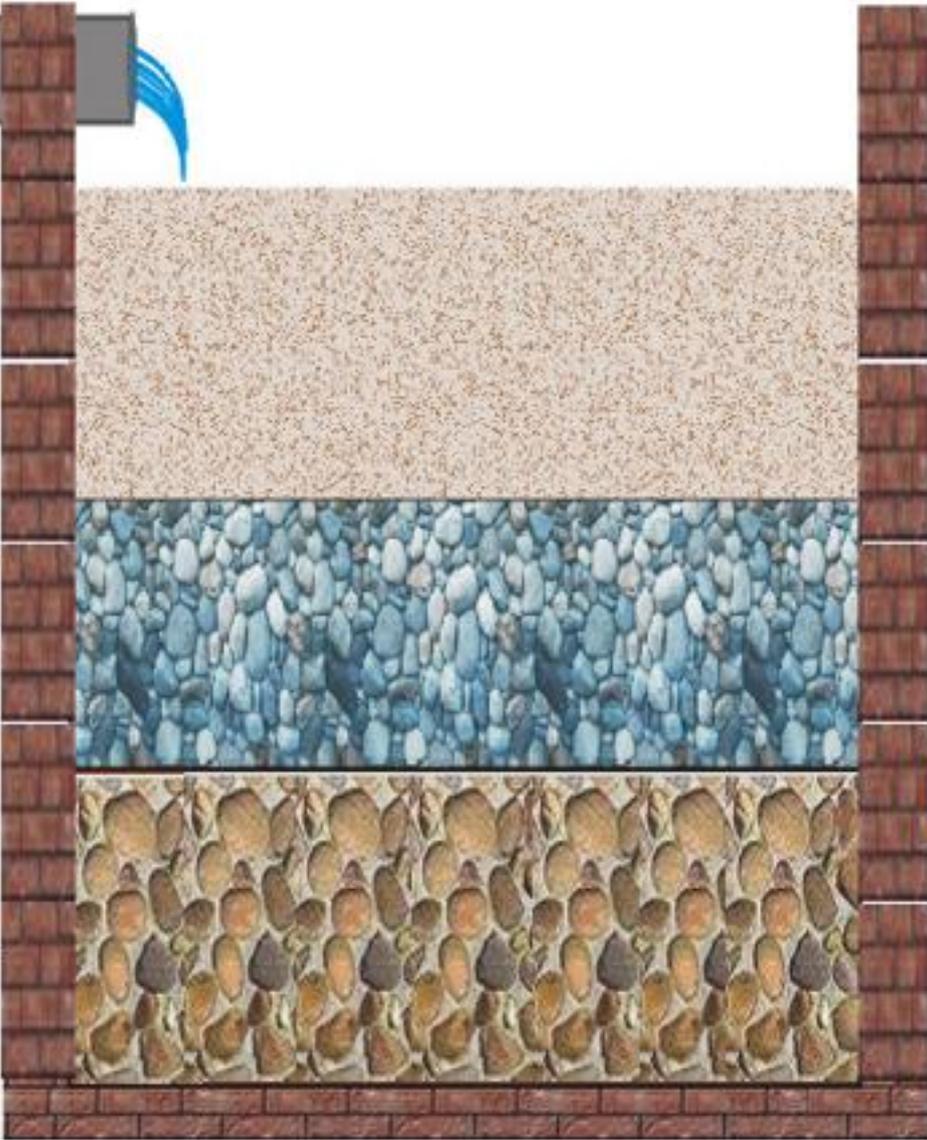
# Research Reports

Rainwater In →

Sand →

Aggrigates →

Pebbles →



NICE  
Guidance  
Filtered Rainwater Out

# The Hodder and Thirlmere Aqueduct Access Gates

Compiled & Researched by the Nutters Mobile Surveillance Unit

[bridge crossings](#) | [other crossings](#)

Thickholme Bridge OS Grid ref : NY 40774 01570 near Troutbeck, Cumbria

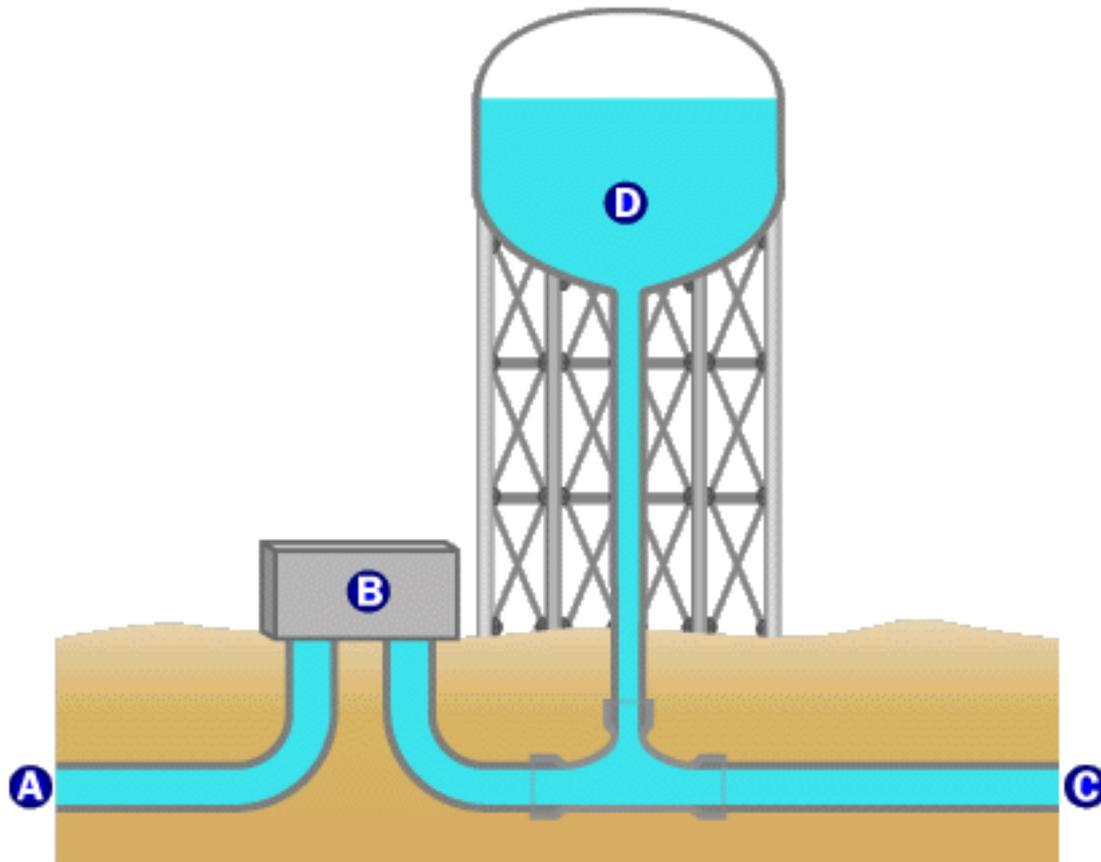
We think the original cast iron pipes have been replaced as these are welded

This crossing point gets a mention in Harwoods book " History & Description Of The Thirlmere Water Scheme" .

In 1893 - Aug 9th The last section was completed at Thickholme, Troutbeck Valley after 3 years. Initially the pipes but the workings were washed away, then a stone viaduct was built which had to be abandoned







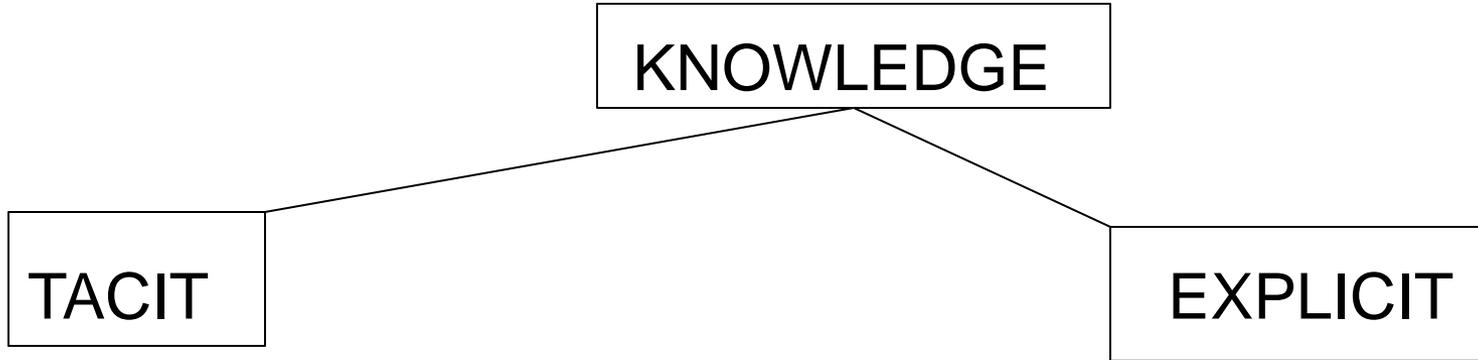
© 2000 How Stuff Works

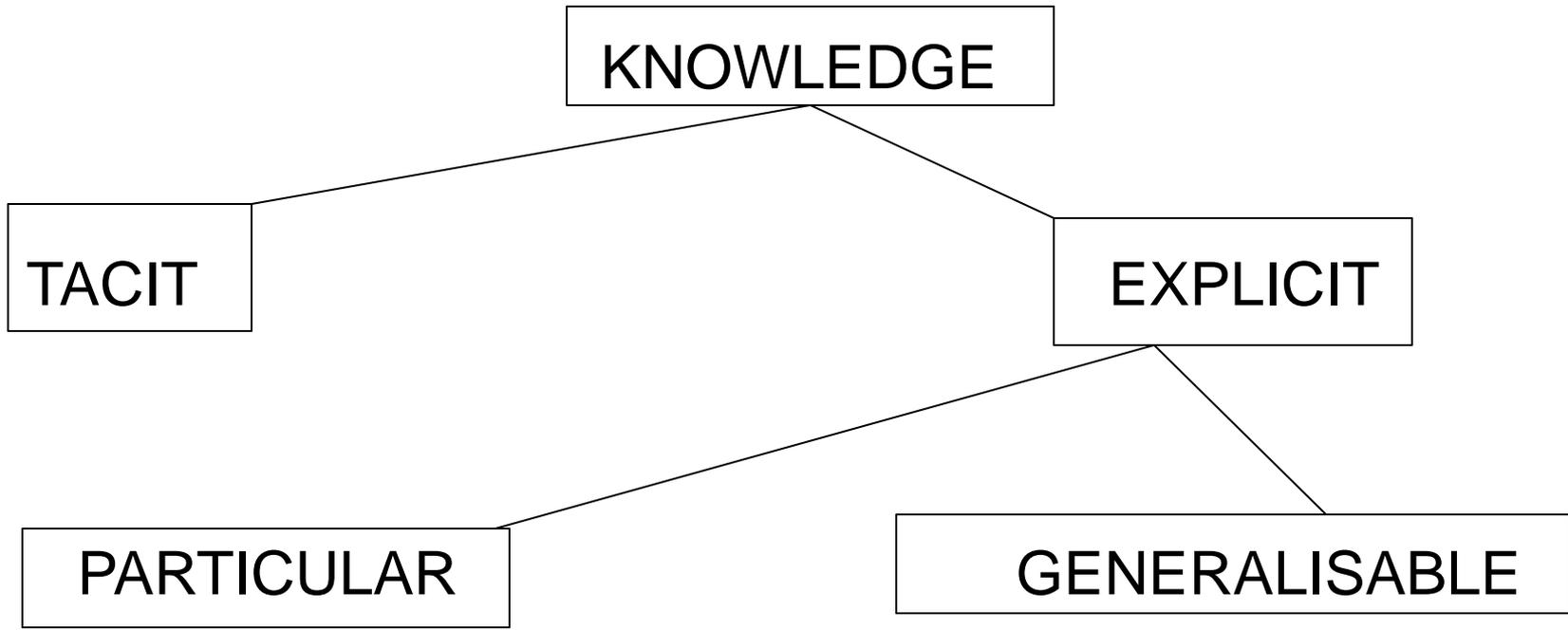
**A** From the  
treatment plant

**B** Pump

**C** To primary  
feeders and customers

**D** Water





## **Knowledge, particular**

Today it is almost heresy to suggest that scientific knowledge is not the sum of all knowledge. But a little reflection will show that there is beyond question a body of very important but unorganized knowledge which cannot possibly be called scientific in the sense of knowledge of general rules: the knowledge of the particular circumstances of time and place. It is with respect to this that practically every individual has some advantage over all others because he possesses unique information of which beneficial use might be made, but of which use can be made only if the decisions depending on it are left to him or are made with his active cooperation.

**Source:** Hayek FA. The Use of Knowledge in Society.

*Library of Economics and*

*Liberty.*[www.econlog.econlib.org/cgi-](http://www.econlog.econlib.org/cgi-bin/printarticle.pl)

[bin/printarticle.pl](http://www.econlog.econlib.org/cgi-bin/printarticle.pl) sourced on 10/11/2009

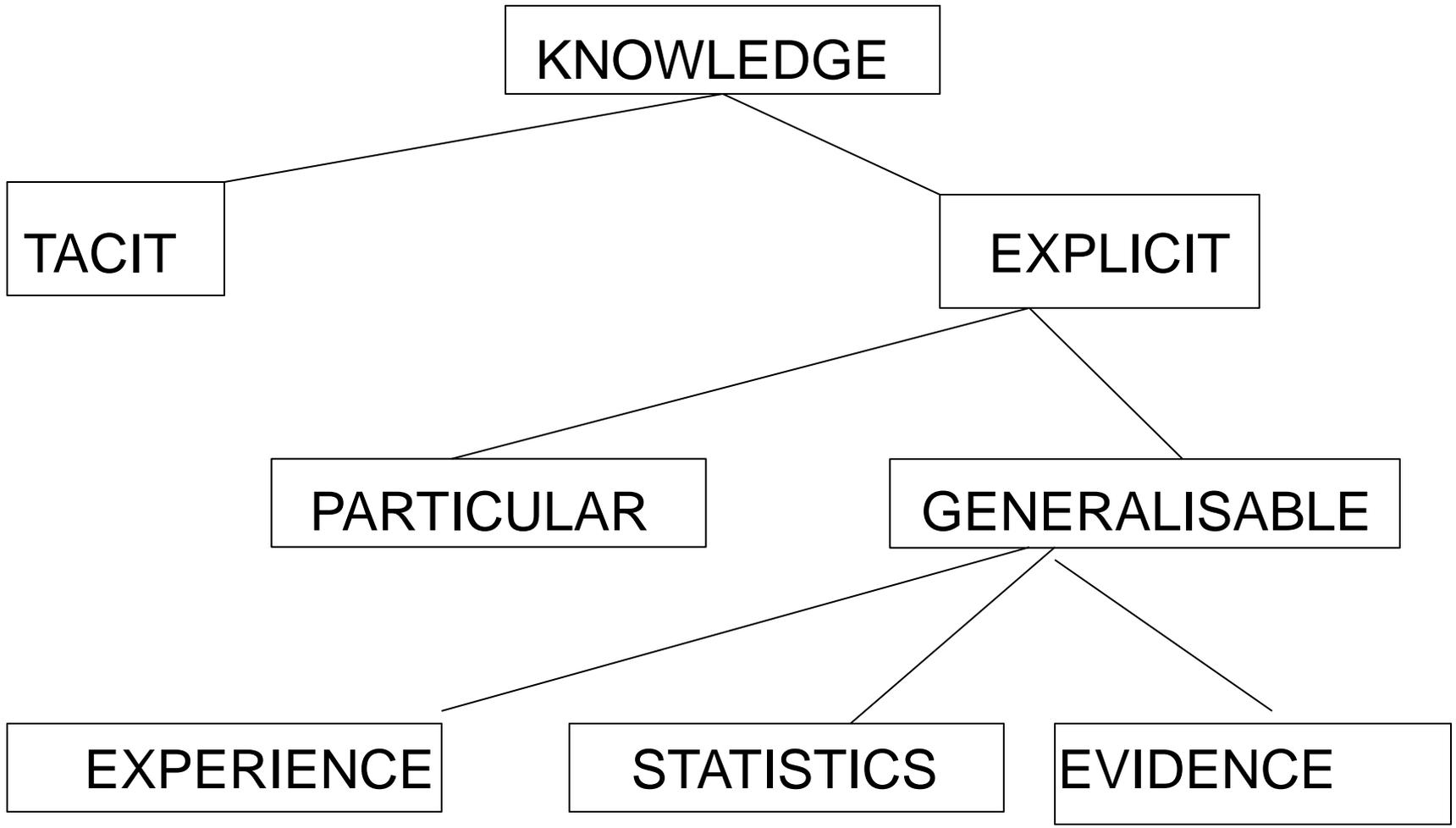
# What we know -

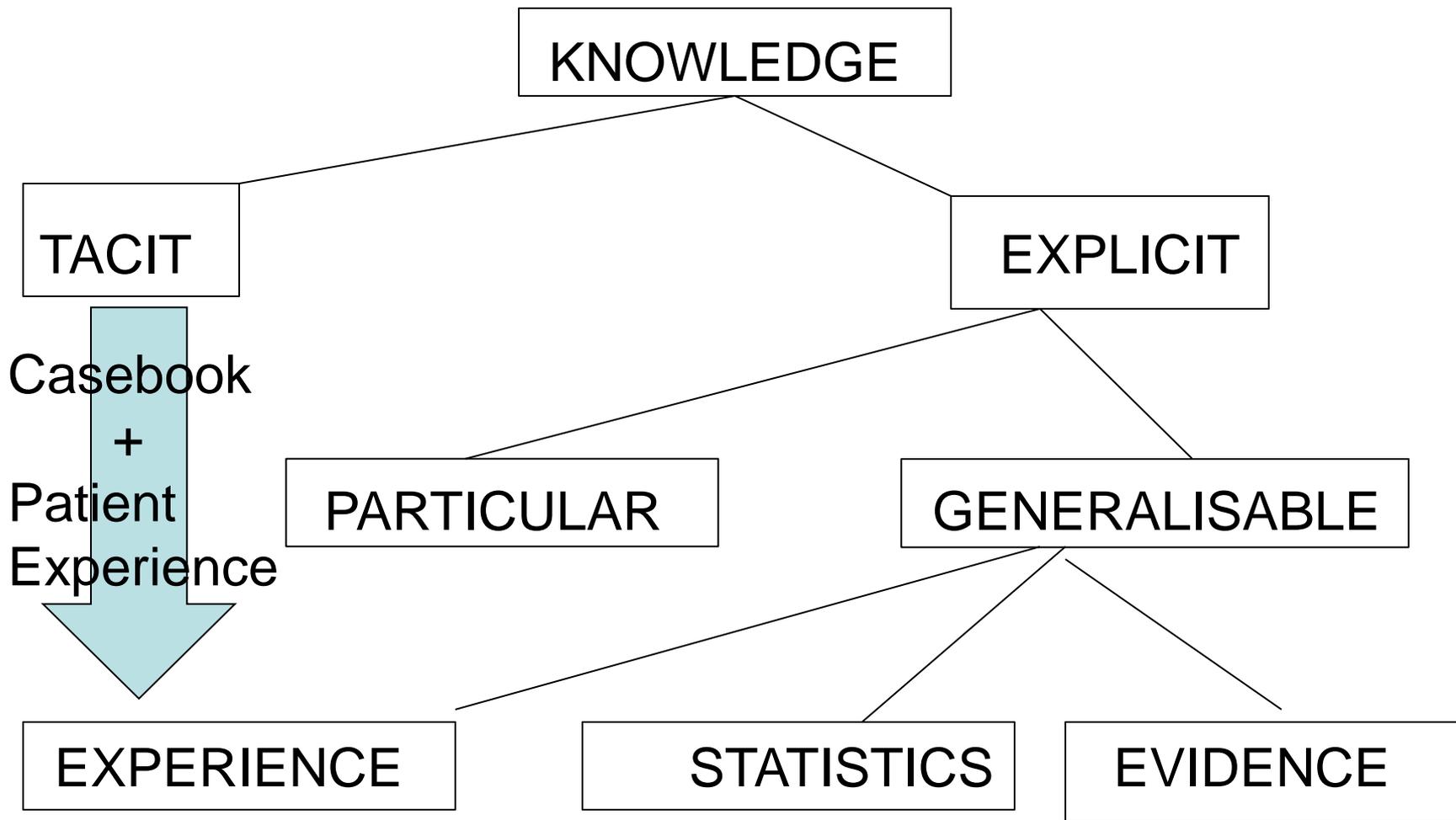
## 3 types of generalisable knowledge

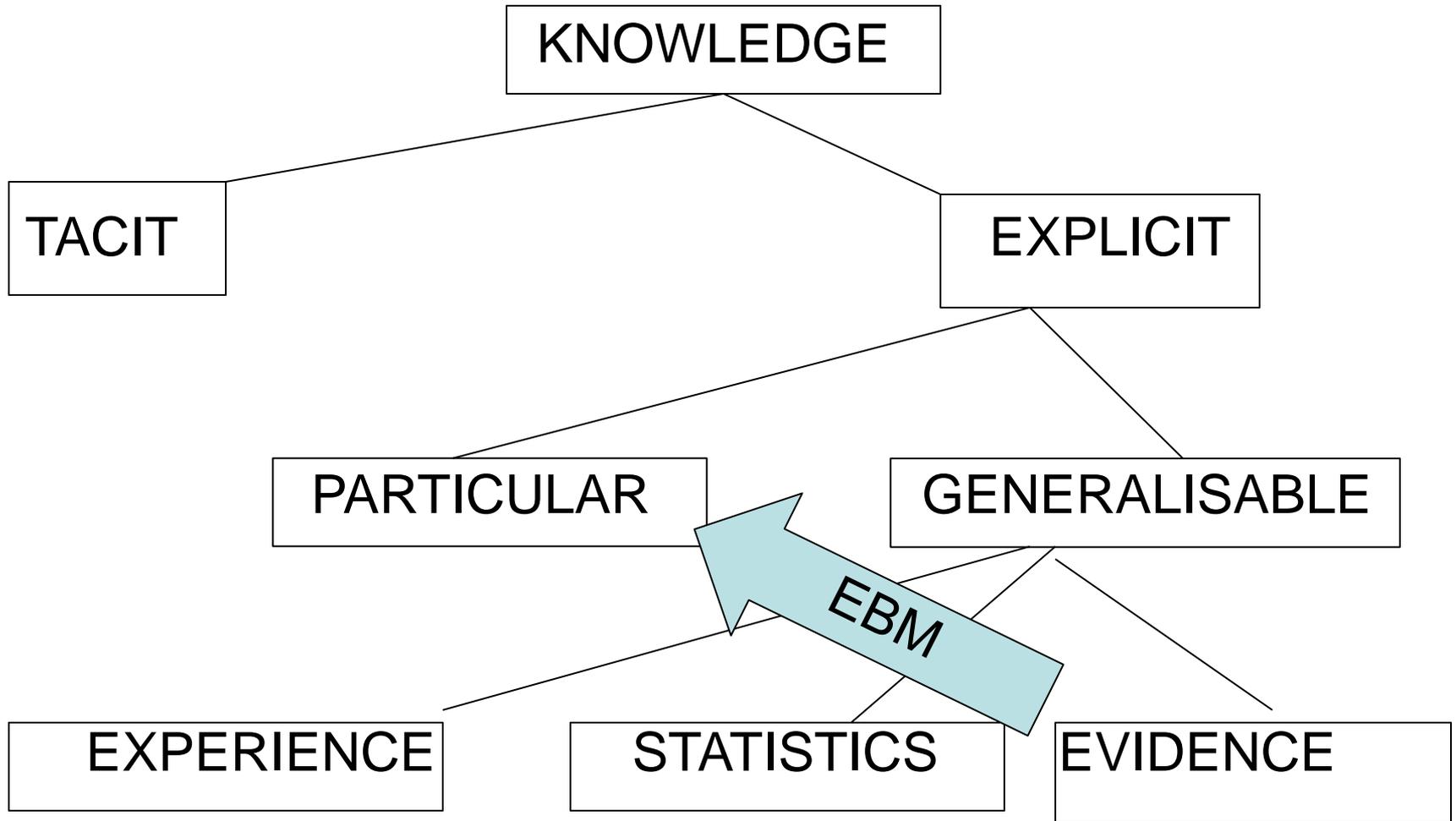
Knowledge from research - **Evidence**

Knowledge from measurement of  
healthcare performance-**Statistics**

Knowledge from experience-**Of  
patients and clinicians**

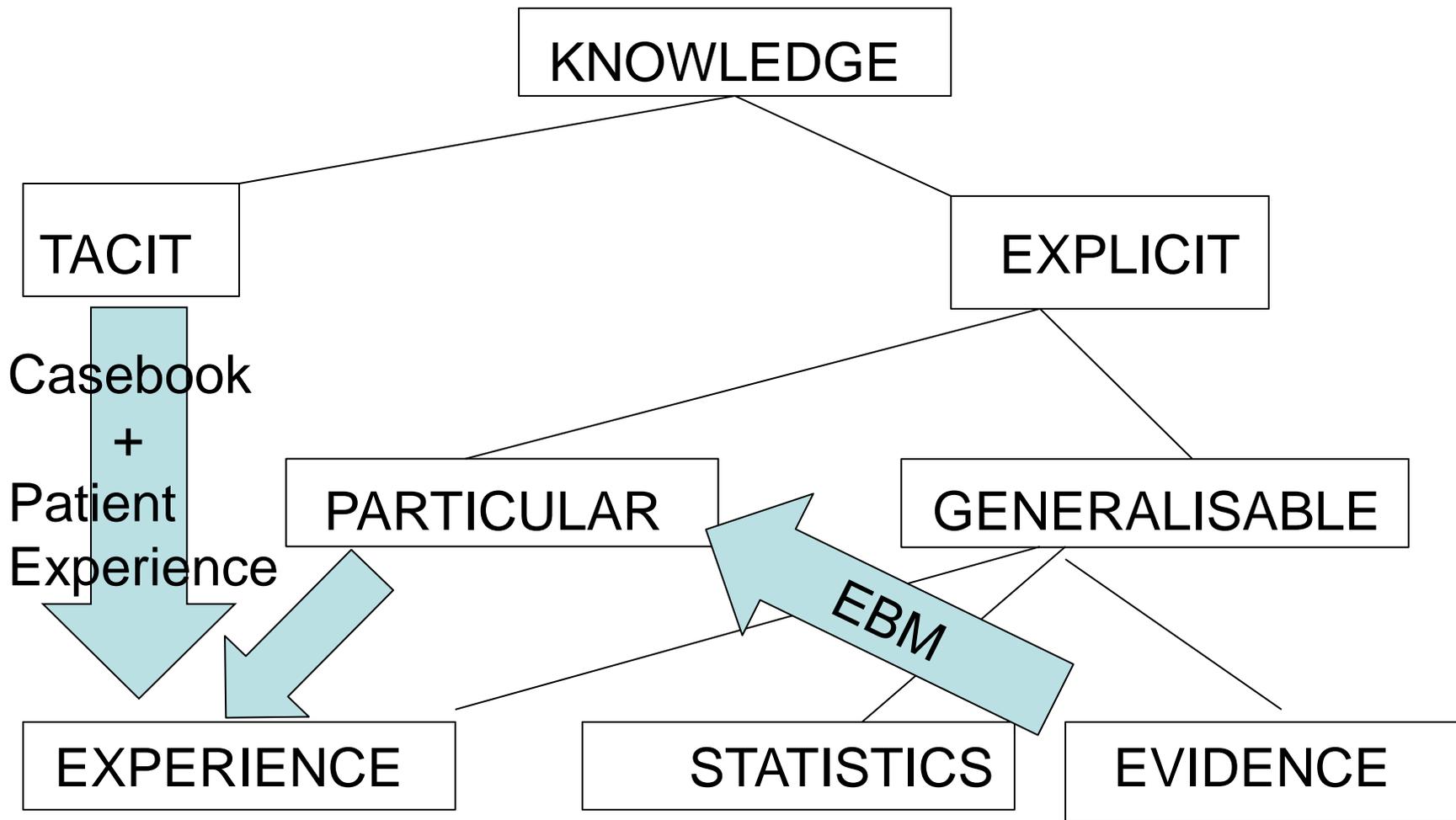






These need to be linked to 2 types of particular knowledge

- about individual patients
- about individual populations

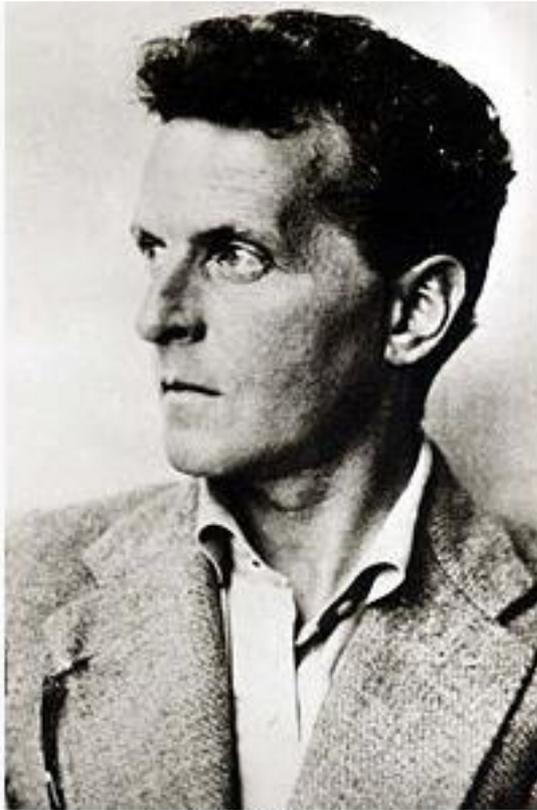


“...by a sentence I propose to mean any arrangement of words which obeys the rules of grammar; eg statins are animals

by a statement any sentence which obeys the rules of logic; eg statins reduce cholesterol and reduce the risk of heart disease  
and finally,

by a proposition any sentence which conveys to someone that something is or is not the case.” there is strong evidence that statins reduce the risk of second heart attack

**Source:** Berlin, I (1950) Concepts and Categories. Philosophical Essays. Oxford University Press (p.12).



Ludwig Wittgenstein

**Name:** Ludwig Josef Johann Wittgenstein

**Birth:** April 26, 1889

 Vienna, Austria



4.112 The object of philosophy is the clarification of thoughts

Philosophy is not a theory but an activity

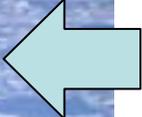
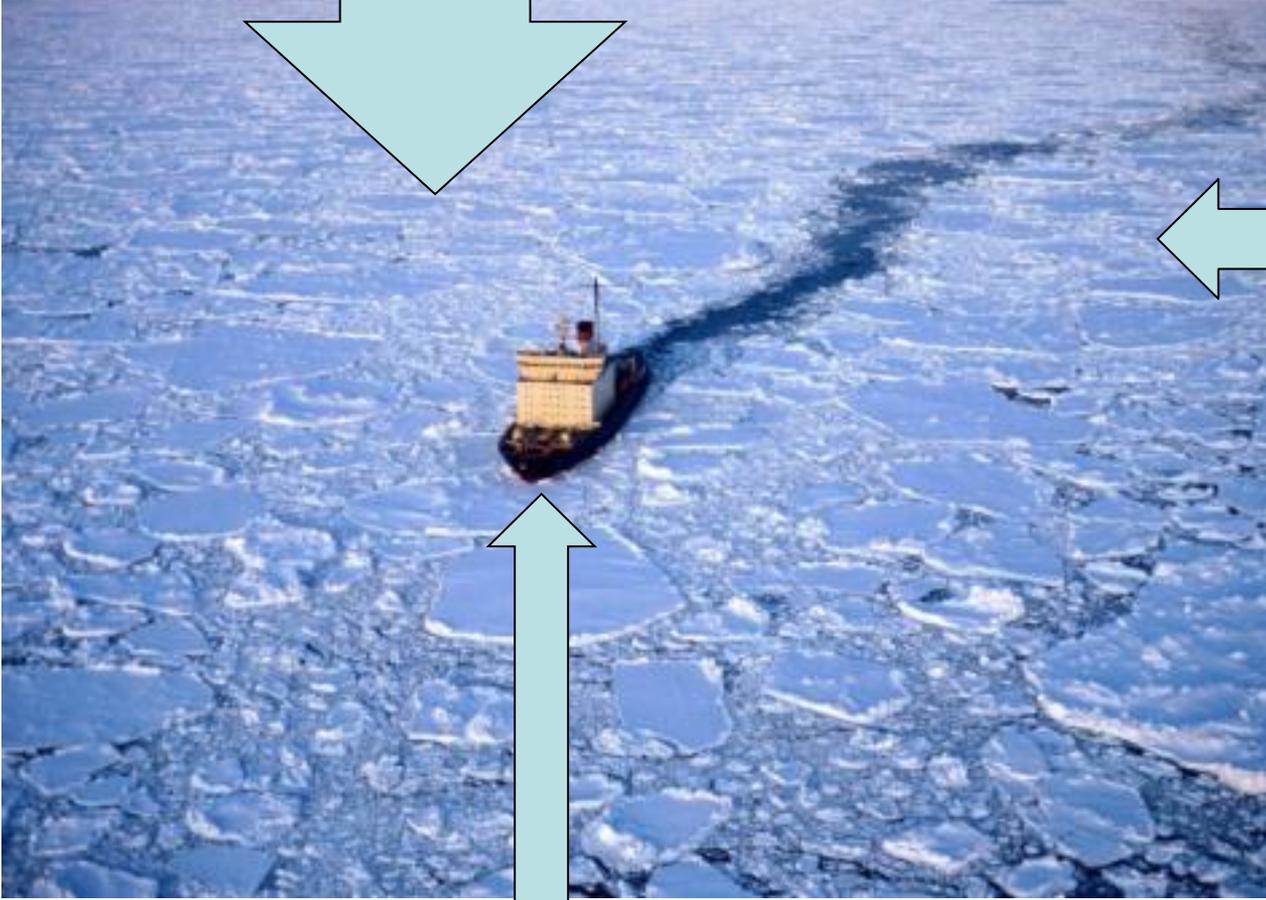
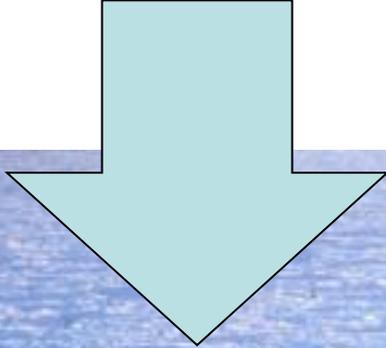
A philosophical work consists of elucidations

The result of philosophy is not a number of “philosophical propositions”, but to make propositions clear

Philosophy should make clear and delimit sharply the thoughts which otherwise are, as it were opaque and blurred



Propositions supported by Experience



Propositions Supported by Evidence



The Icebreaker HMS EvidenceBasedMedicine

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## may follow Sepp Blatter



Just hours after the arrests, Loretta Lynch, the US attorney-general, announced the charges at a packed press conference in Brooklyn. Corruption within Fifa, she said, was "rampant, systemic and deep-rooted". And she made it clear that the investigation into corruption at Fifa was far from over.

The charges against 14 Fifa officials and sports marketing executives were sweeping; prosecutors allege that over two decades more than \$150m in bribes were paid to Fifa officials to influence

with the Internal Revenue Service's criminal investigation unit – and avid football fan. Mr Berryman opened a file on Mr Blazer, who was known for living an extravagant lifestyle that included private jets and an apartment in New York's Trump Tower which he kept largely for his cats.

"Based on his understanding of the sport and his experiences, [the agent] had enough reasonable suspicion that he should be looking closer at Blazer," Richard Weber, chief of the IRS's criminal investigation division, said.

The IRS's interest initially was

Daryan Warner, the sons of Jack Warner, a former Fifa vice-president and ex-chief of Concacaf, also secretly pleaded guilty that year.

A turning point came in 2014. On May 1, Mr Webb, the Fifa executive committee member, and Eugenio Figueredo, the then head of the South American football governing organisation, sat in a press conference in Miami to announce a special Copa America tournament commemorating the South American football championship's 100th anniversary. "We will build 100 years of immortality," Mr Figueredo pledged.

A year later – and after months of debate – US authorities were ready to strike. The Fifa congress in Zurich was the perfect moment, they decided.

In the wake of the arrests, Mr Blatter warned that this may not be the end. "The next few months will not be easy. I am sure more bad news may follow," he told Fifa delegates.

And after five years of secret recordings and forensic financial investigation, some Fifa officials fear the FBI has enough material, and now enough people in custody, to start going after an even bigger target: Mr Blatter himself.

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David Sackett was in his final year as a medical student at the University of Illinois in Chicago in 1959 when he was confronted by a patient who changed his view of the profession and led to his becoming one of the most influential physicians of his generation.

A teenager was suffering from an enlarged liver as a result of hepatitis A. Conventional medical wisdom at the time dictated he should be consigned to bed rest. Worn down by the boy's pleas to be allowed to get up, Sackett sought evidence to explain why this was not a good idea.

Trawling through medical literature, he found an obscure paper by a US army gastroenterologist who had treated a hepatitis outbreak among soldiers in the Korean war. Generals were alarmed about losing men to long convalescences, so the doctor compared those who remained in bed with others who returned to active duty. It showed no difference in outcome.

So Sackett apologised to the patient and allowed him to get up and roam the ward. The boy recovered with no apparent ill effects from his wanderings.

The episode earned Sackett, who has died aged 80, a reputation as a trouble-

maker but prompted his pioneering role in what has become known as evidence-based medicine. Among his findings was the benefit of taking aspirin to prevent heart attacks and strokes – providing the basis for a daily ritual now practised by millions around the world.

First at McMaster University in Canada and later at Oxford, Sackett promoted the use of rigorous clinical data to provide an empirical grounding for medical interventions. Once resisted by doctors who feared it would turn the "art of medicine" into a statistical exercise, today his approach provides the foundation of modern healthcare.

Sir Muir Gray, a like-minded Scottish doctor who recruited Sackett to set up the Centre for Evidence-Based Medicine at Oxford, says: "Bringing David to the UK is the single most important thing I did in 40 years with the NHS."

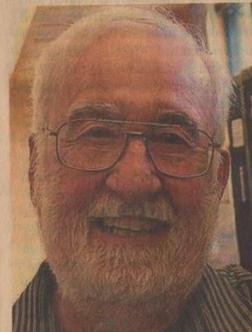
Sackett was born in suburban Chicago on November 17 1934 to an artist-designer father and bibliophile mother. In an account of his life published online after his death, he recalled growing up in a house "filled with love, neighbourhood kids, border collies, bagpipe and classical music, and books for every age and interest".

The questioning instincts that Sackett brought to medical school were evident from an early age. A teacher once told his mother: "Your boy will wind up either president of the United States or hung in a village square."

Sackett was planning to become a kidney specialist when geopolitics took him in a different direction. The Cuban missile crisis led to a "doctor draft" of young medics and he was assigned to the US Public Health Service, a uniformed corps set up to tackle nationwide health threats. Sent to work at the Chronic Disease Research Institute in Buffalo, New York, he gained his first experience of big clinical trials.

A spell at Harvard followed before he was hired to head a new department of epidemiology and biostatistics at McMaster in 1967. Over the following three decades, he helped establish this uncelebrated university in the Ontario steel town of Hamilton as a force in medicine. John Kelton, dean of health sciences at McMaster, says the impact of Sackett's research papers was like "someone hearing The Beatles or The Rolling Stones for the first time".

The invitation from Oxford in 1994 put him on a bigger academic stage. But



'Like someone first hearing The Beatles': David Sackett

His approach was criticised as 'cookbook medicine' but he derided the 'negative' establishment

whereas his insurgent spirit had fitted the upstart atmosphere of McMaster, he found a tougher audience at England's oldest university. His approach was criticised as "cookbook medicine" that threatened to suppress clinical freedom. For his part, he once described how the "old farts" of the British medical establishment had "20 ways of saying 'interesting', all of them negative".

But gradually he and his allies prevailed – helped by Sackett's practice of bypassing the great and the good in favour of selling his ideas to up-and-coming medics on hospital wards. "Our motto was: 'As long as there's retirement, there's hope,'" recalls Sir Muir.

Sackett, who is survived by his wife Barbara and their four sons, retired to Canada in 1999 but he continued evangelising to young epidemiologists in workshops at their country home in Irish Lake, Ontario. Tuition was free, with all expenses paid by the fees he received as an expert witness in lawsuits against big pharma.

He was diagnosed last year with a rare and aggressive cancer of the bile duct – a disease on which, he ruefully commented, "there is not much evidence".

Andrew Ward



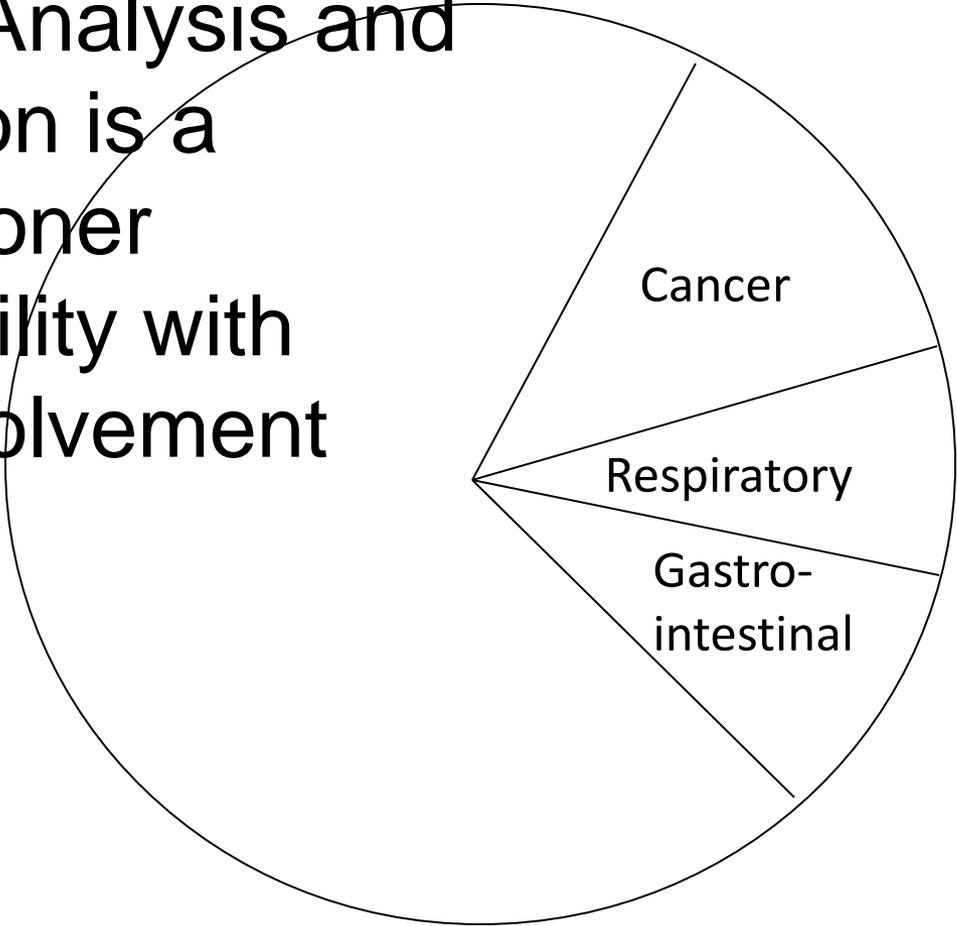
# 10 QUESTIONS ABOUT VALUE

- 1. How much money should be spent on healthcare?
- 2. How much money should be top-sliced for research, education and information technology? (and for specialised services?)
- 3. Has the money for healthcare been distributed to different parts of the country by a method that recognises variation in need and maximises value for the whole population?

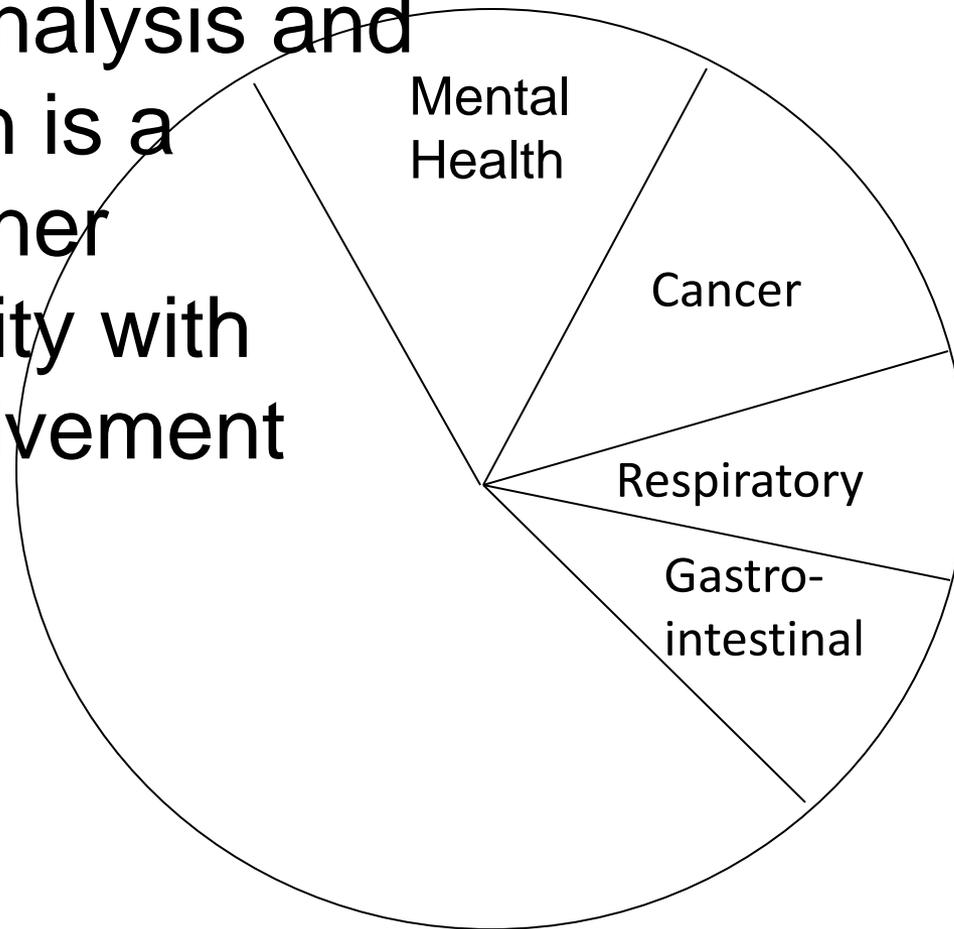
# 10 QUESTIONS ABOUT VALUE

- 4. Has the money for care been distributed to different patients groups, e.g. people with cancer or people with mental health problems, by a process of decision-making that is not only equitable but also maximises value for the whole population?
  - Have the resources within one programme budget been allocated to optimise value

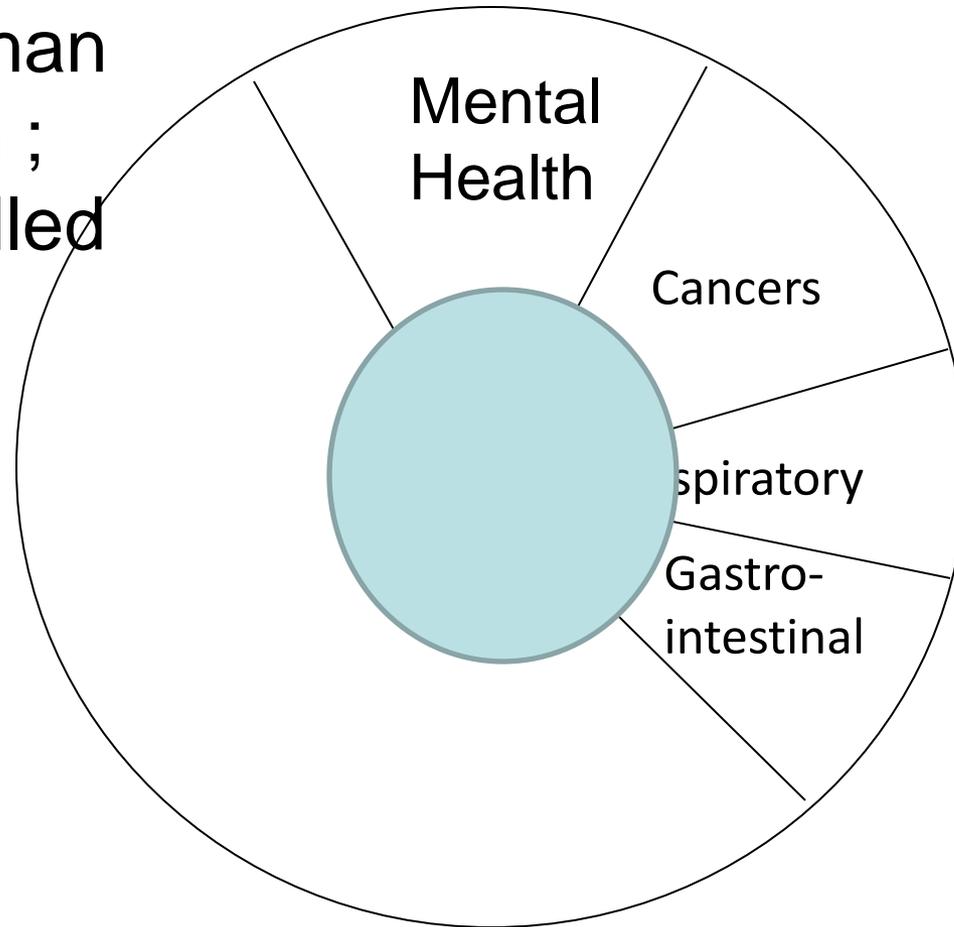
Between Programme  
Marginal Analysis and  
reallocation is a  
commissioner  
responsibility with  
public involvement



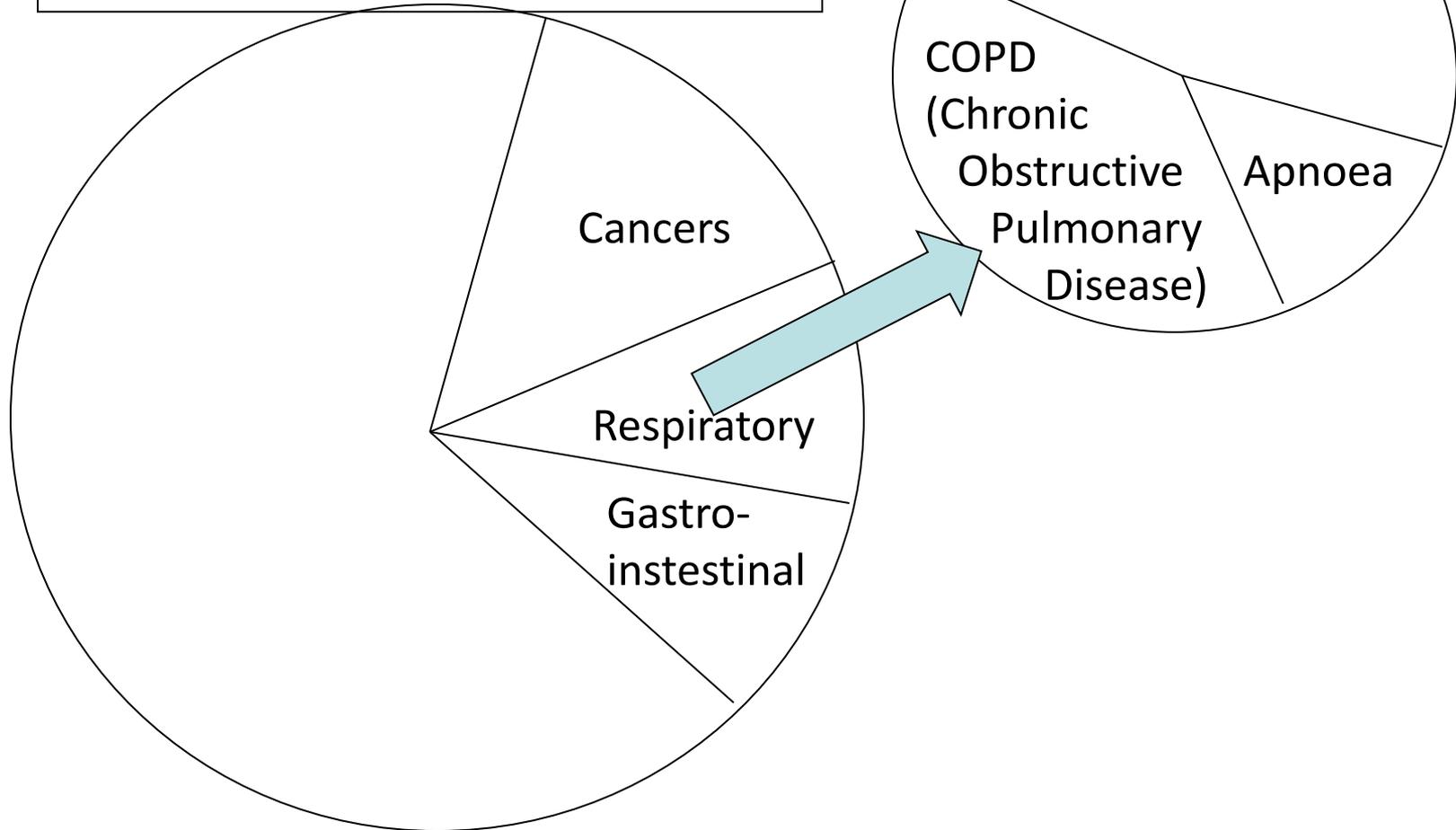
Between Programme  
Marginal Analysis and  
reallocation is a  
commissioner  
responsibility with  
public involvement



Many people  
have more than  
one problem ;  
GP's are skilled  
in managing  
complexity



Within Programme,  
Between System  
Marginal analysis is a clinician  
responsibility



# Technical Value (Efficiency) = Outcomes / Costs

Outcome= Benefit (EBM +Quality) – Harm (Safety )

Costs (Money + time + Carbon)

The screenshot shows the website for the Centre for Sustainable Healthcare. The header includes the logo and navigation links: Resource Library, Events, Networks, and a search icon. The main navigation bar contains: WHO WE ARE, WHAT WE DO, NEWS, RESOURCES, and JOIN IN. The breadcrumb trail is: Home > What we do > Sustainable Specialities. The main heading is "Kidney Care". The text below reads: "In 2009, CSH partnered with the Renal Association, the British Renal Society, the NHS Sustainable Development Unit and industry partners to set up the Green Nephrology programme to support sustainable kidney care." It then states: "The Green Nephrology programme successfully implemented:" followed by a bulleted list: "Green Nephrology Summits (sponsored by Baxter Healthcare, NHS Kidney Care and the Association of Renal Industries)", "Green Nephrology Fellowships (sponsored by NHS Kidney Care, the Association of Renal Industries and private donations)", and "Green Nephrology Network of local representatives - encompassing >80% of UK renal units." On the right, there is a "MENU" section with a dropdown for "Sustainable Specialities" containing links for: Mental health, Dentistry, Kidney care (highlighted), Occupational therapy, Respiratory care, and The future. A page number "12" is visible in the bottom right corner.

CENTRE for SUSTAINABLE HEALTHCARE  
inspire • empower • transform

Resource Library > Events > Networks >

WHO WE ARE WHAT WE DO NEWS RESOURCES JOIN IN

Home > What we do > Sustainable Specialities

## Kidney Care

In 2009, CSH partnered with the Renal Association, the British Renal Society, the NHS Sustainable Development Unit and industry partners to set up the Green Nephrology programme to support sustainable kidney care.

The Green Nephrology programme successfully implemented:

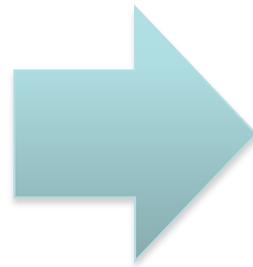
- Green Nephrology Summits (sponsored by Baxter Healthcare, NHS Kidney Care and the Association of Renal Industries)
- Green Nephrology Fellowships (sponsored by NHS Kidney Care, the Association of Renal Industries and private donations)
- Green Nephrology Network of local representatives - encompassing >80% of UK renal units.

MENU

- ▼ Sustainable Specialities
  - Mental health
  - Dentistry
  - Kidney care**
  - Occupational therapy
  - Respiratory care
  - The future

12

## These are the three traditional questions about Efficiency



5. Can costs be cut further without increasing harm or reducing effectiveness (productivity)

6. Are clinical risks being minimised?

7. Is the quality of care being maximised?

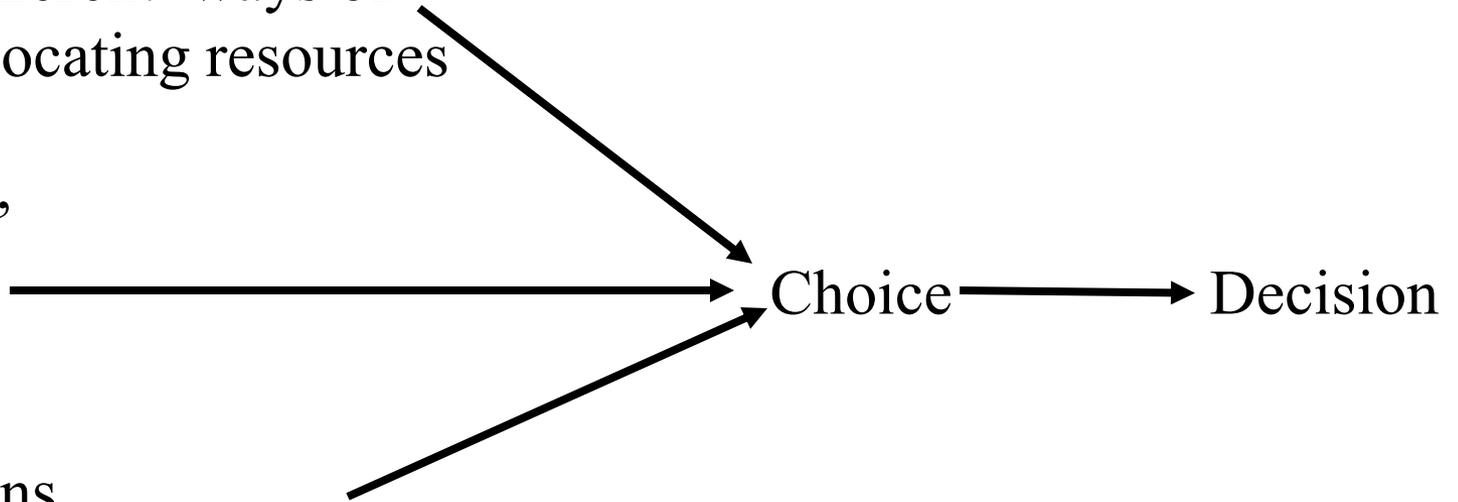
# 10 QUESTIONS ABOUT VALUE

- 8. Are the resources that have been allocated being used on the right interventions?

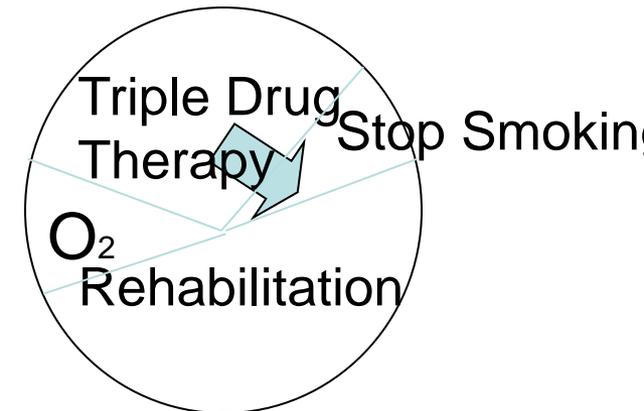
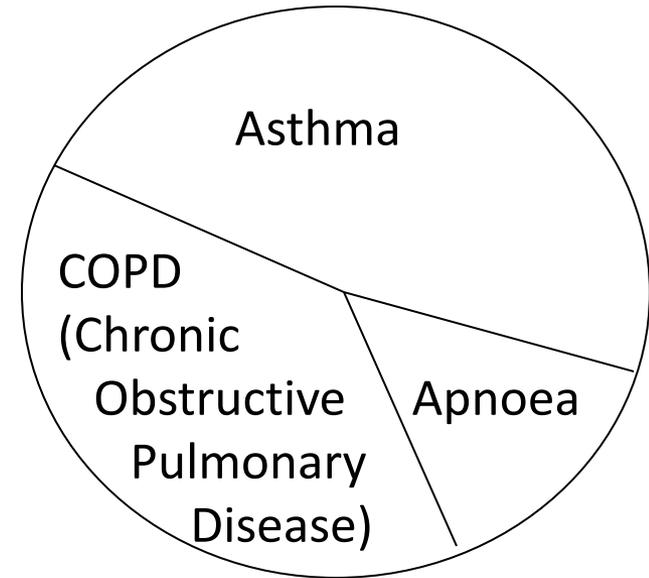
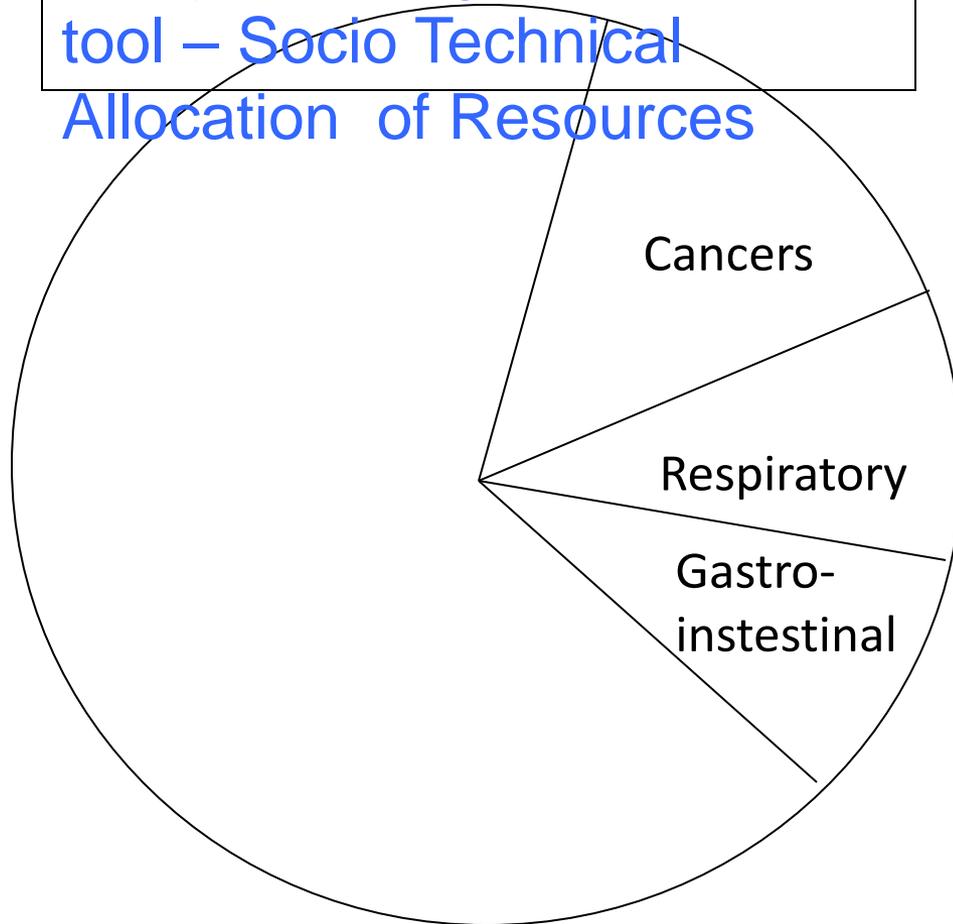
The values **this**  
population  
places on benefits &  
opportunity costs of  
different ways of  
allocating resources

Evidence,  
Derived  
from the  
study of  
populations

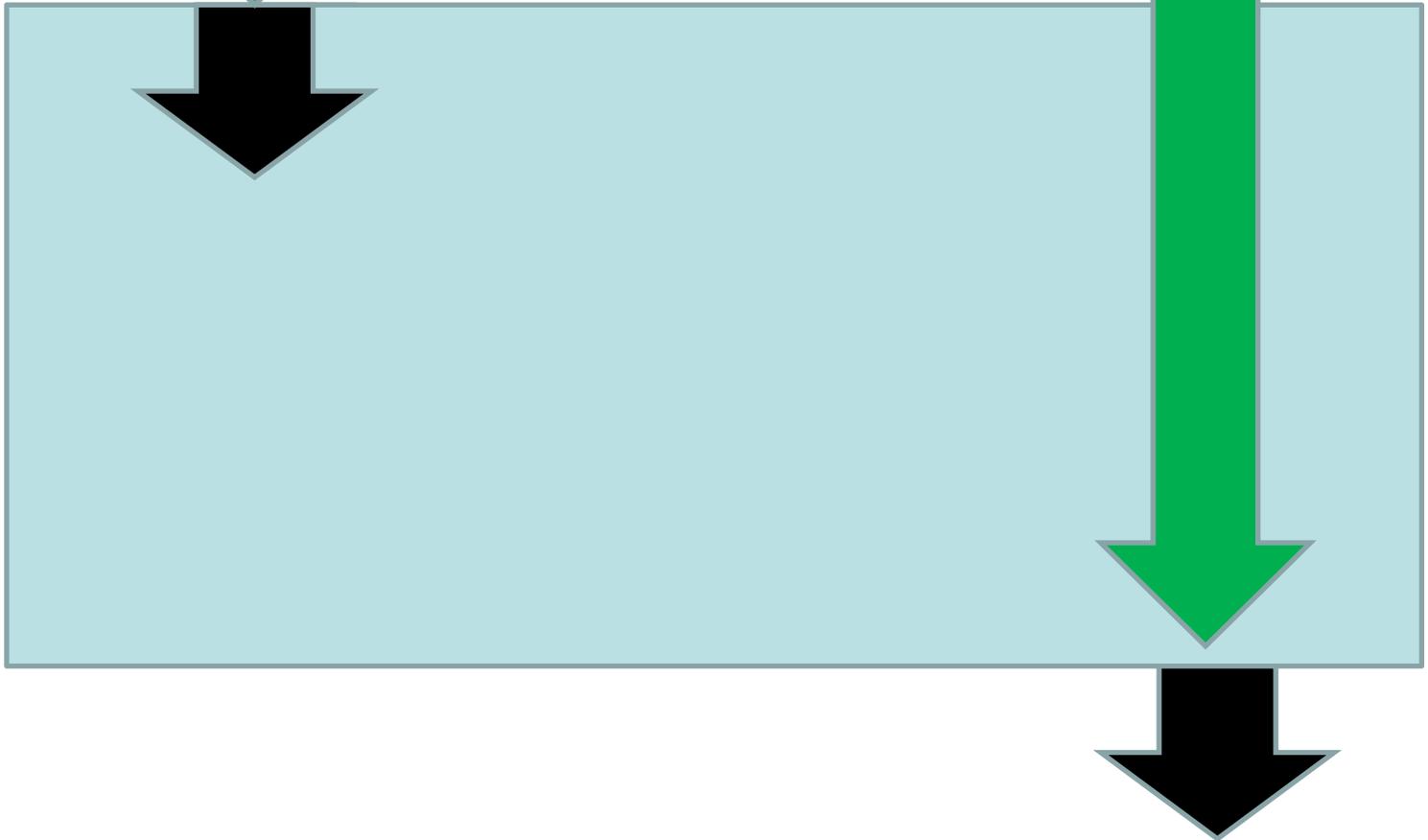
The health status and needs  
of **this** population



Optimise resource use for each system by carrying out Within System Marginal Analysis Using the STAR tool – Socio Technical Allocation of Resources

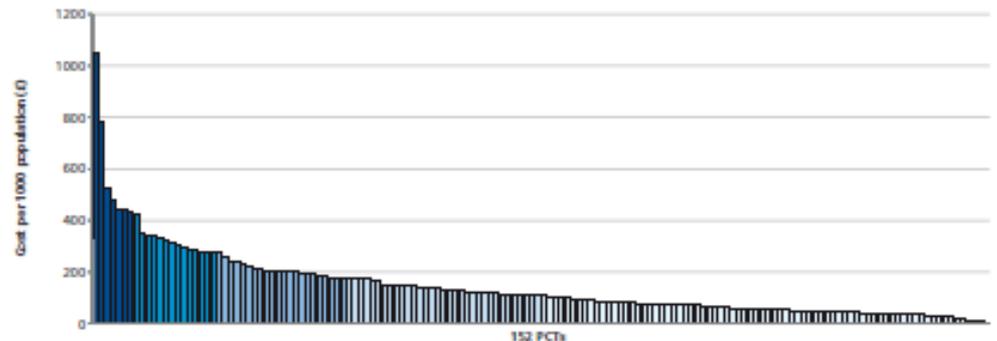
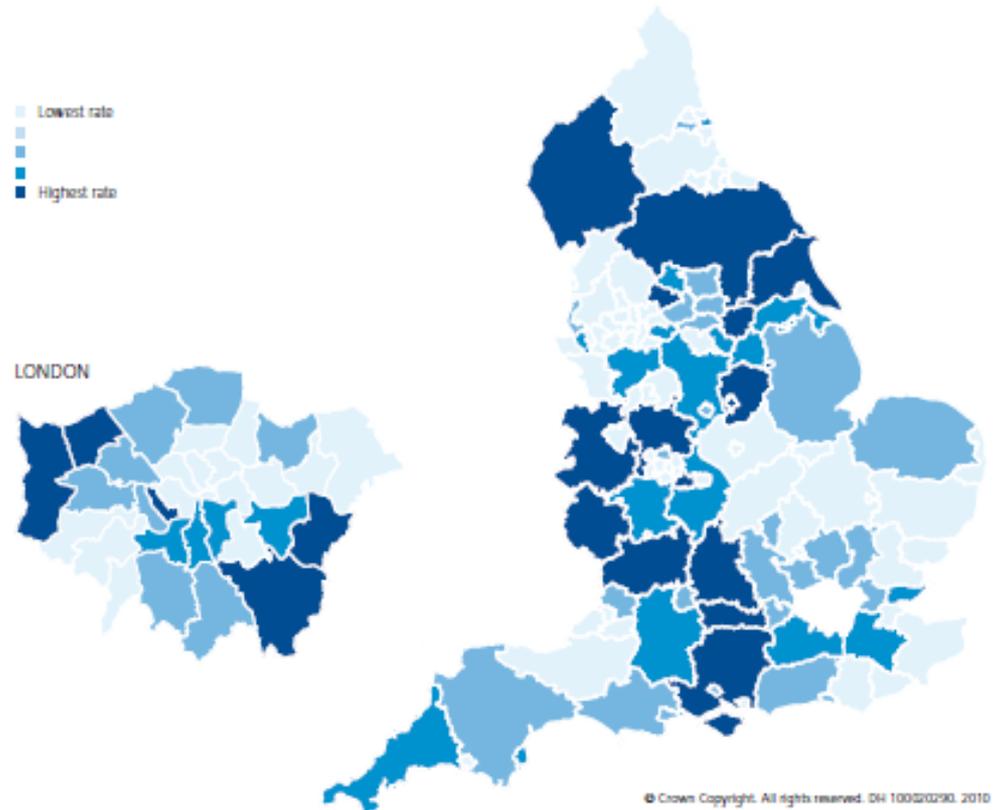


**Increase High Value Innovation by  
Disinvestment from Lower Value  
Interventions and ensure that any  
innovation without strong evidence  
of high value is introduced using the  
IDEAL method to ensure evaluation**



# Rate of anterior cruciate ligament reconstruction expenditure per 1000 population by PCT Weighted by age, sex, and need; 2008/09

The variation among PCTs in the rate of expenditure for anterior cruciate ligament reconstruction per 1000 population is 50-fold.

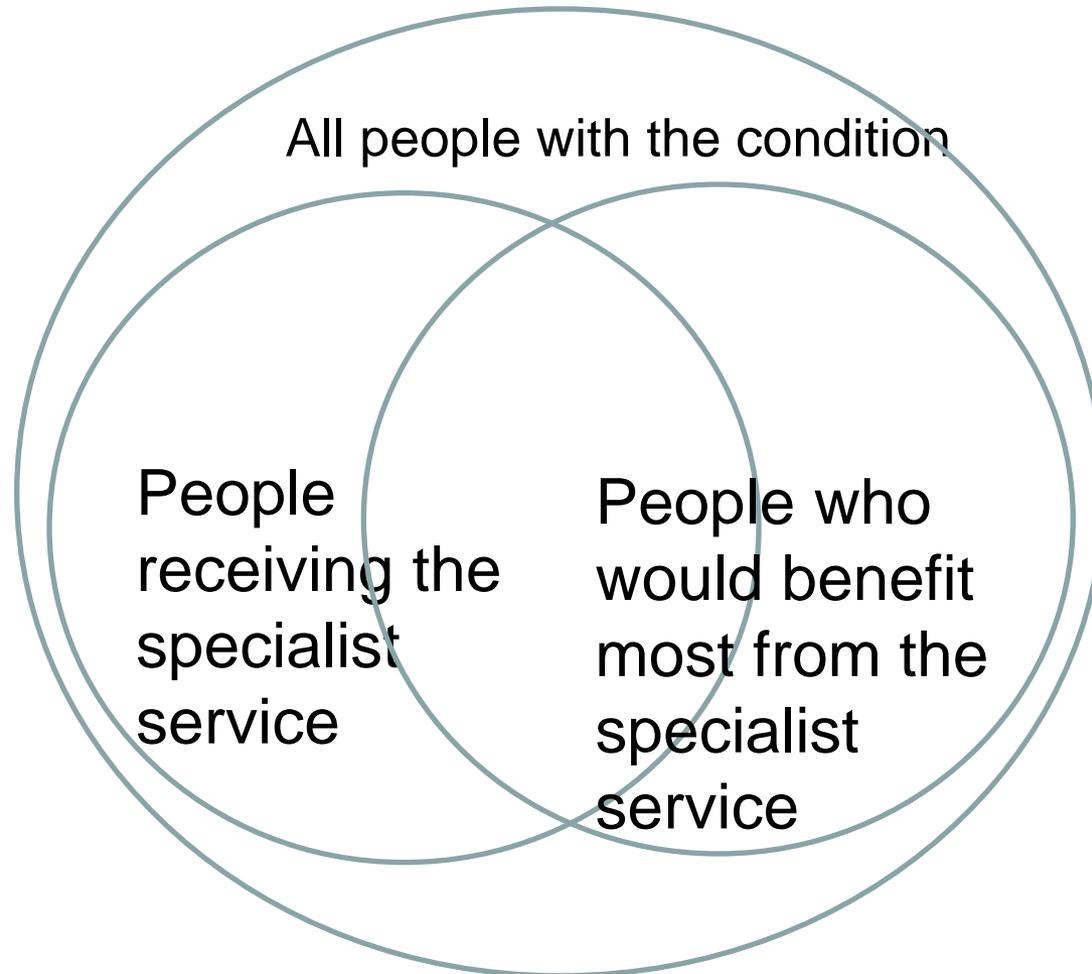


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# 10 QUESTIONS ABOUT VALUE

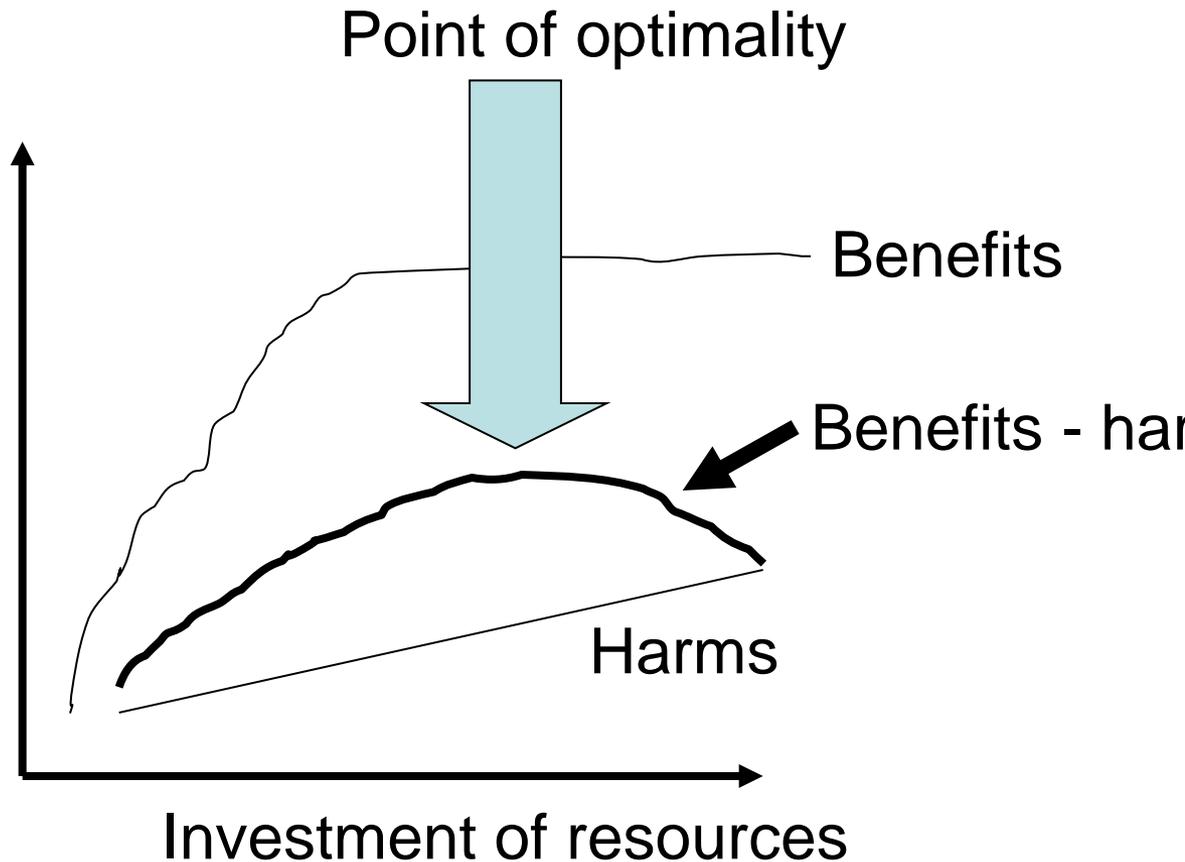
- 9. Are the right patients being offered the high value interventions?

# See the right patients



# Reduce lower or negative value activities

*After a certain level of investment, health gain may start to decline*

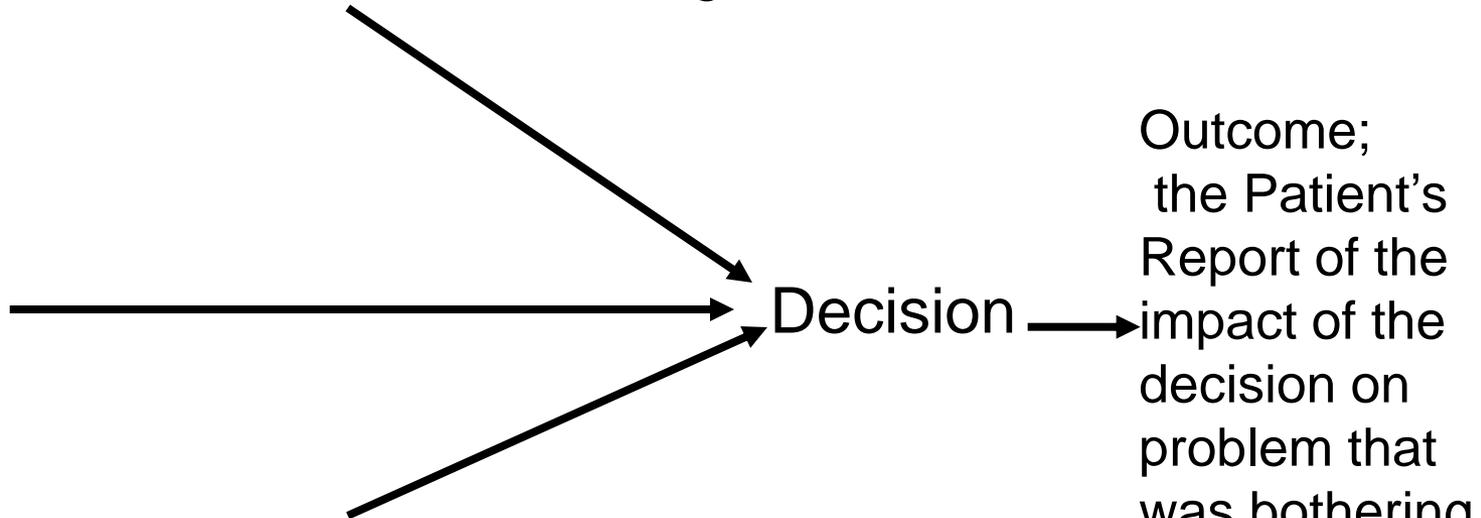


# 10 QUESTIONS ABOUT VALUE

- 10 (should really be No 1) Are we sure that every individual patient is getting what is right for him or her?

The value **this** patient places on 1. the benefits 2. the harms & 3. on risk taking

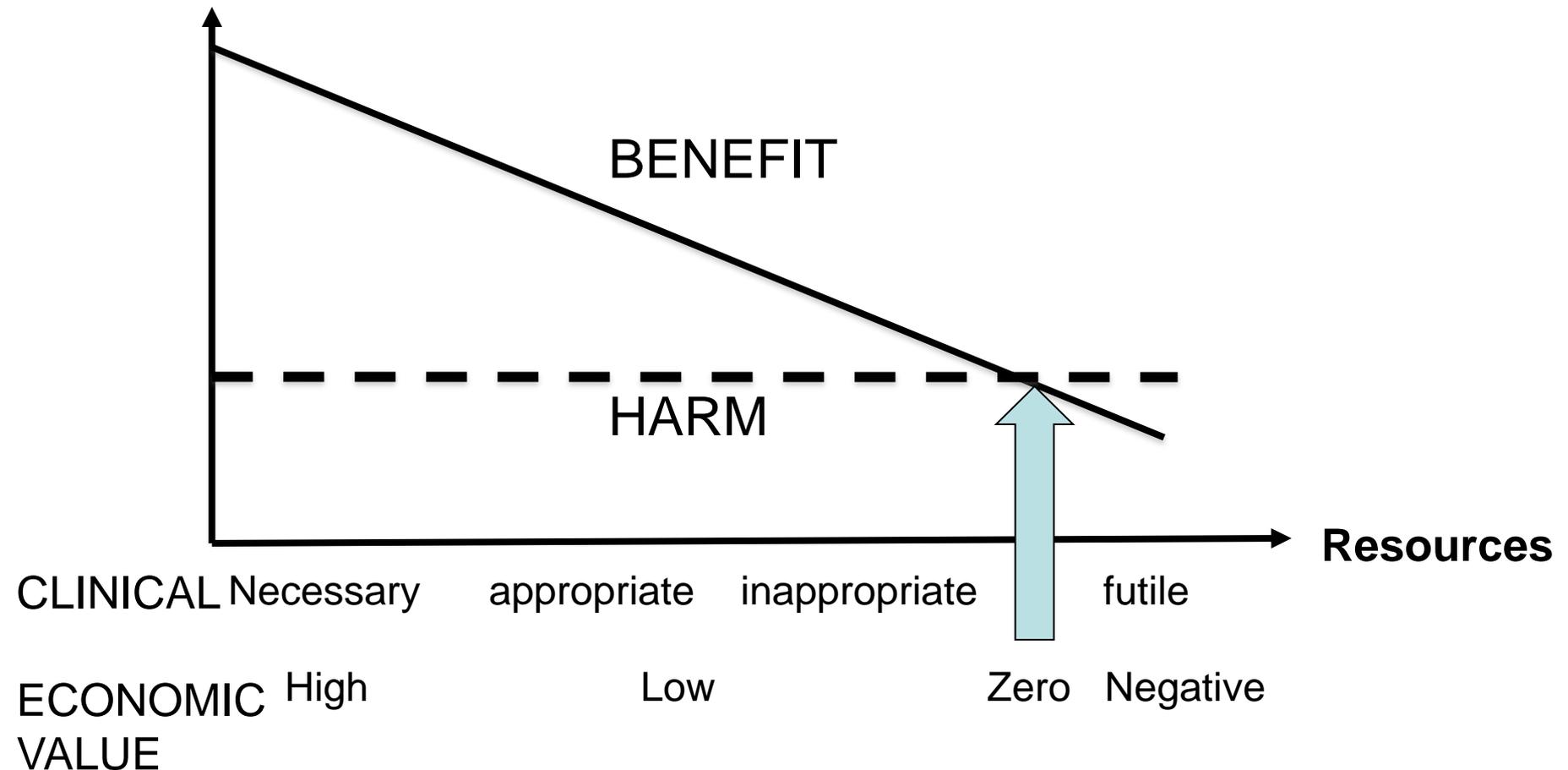
Evidence,  
Derived from  
the study of  
groups of  
patients

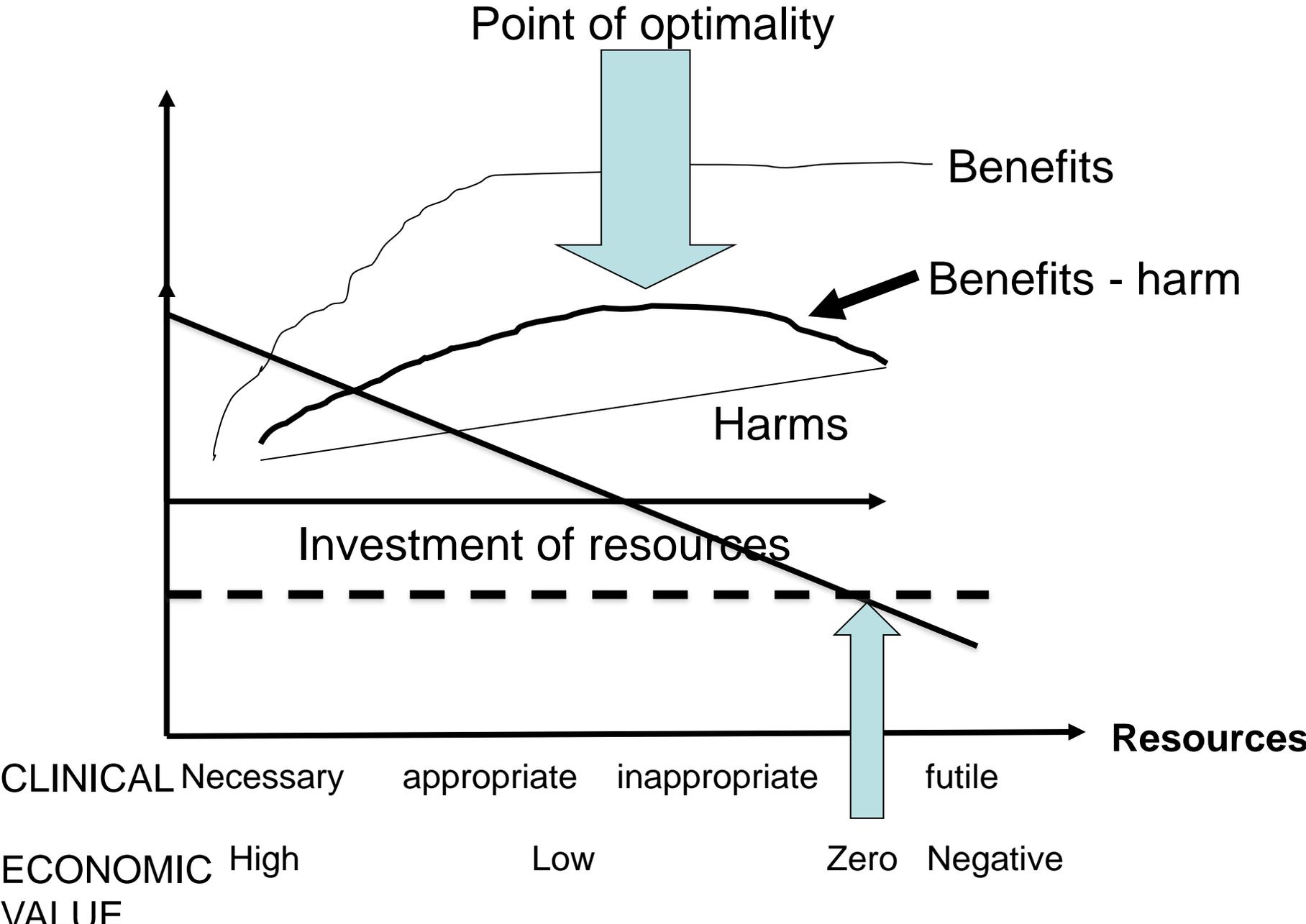


The clinical condition of **this** patient; other diagnoses, risk factors and their genetic profile and in particular their problem, what bothers them psychologically and socially

Outcome;  
the Patient's  
Report of the  
impact of the  
decision on  
problem that  
was bothering  
them most

As the rate of intervention in the population increases, the balance of benefit and harm also changes for the individual patient





Point of optimality

Benefits

Benefits - harm

Harms

Investment of resources

Resources

CLINICAL Necessary

appropriate

inappropriate

futile

ECONOMIC High

Low

Zero

Negative

VALUE

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AND REALITY

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Benjamin Lee Whorf

by  
Benjamin Lee Whorf

Forgotten Books



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— Richard Hoggart in the *Guardian*, Books of the Year

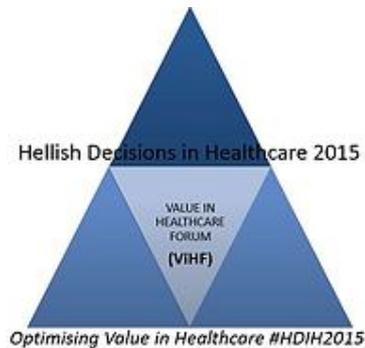
JOHN R. SEARLE

# EVBM

Evidence & Value Based Medicine

EVBM  
SPQR





# Value in Healthcare Forum (ViHF)

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## Hellish Decisions in Healthcare

Hellish Decisions in Healthcare 2015  
A 3 day event looking at the triple value agenda  
7-9 December 2015 Oxford

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