

# Great innovations of the first and second healthcare revolutions

## The First

### Broad Street - John Snow



### Gower Street - Doll & Hill

## The Second

- MRI and CT scanning
- Anti psychotics
- Antibiotics
- Genetics
- Hip and knee replacement
- Chemotherapy
- Antidepressants
- Randomised controlled trials
- Systematic reviews



-

BUT after 50 years of astonishing progress the NHS faces 5 major problems

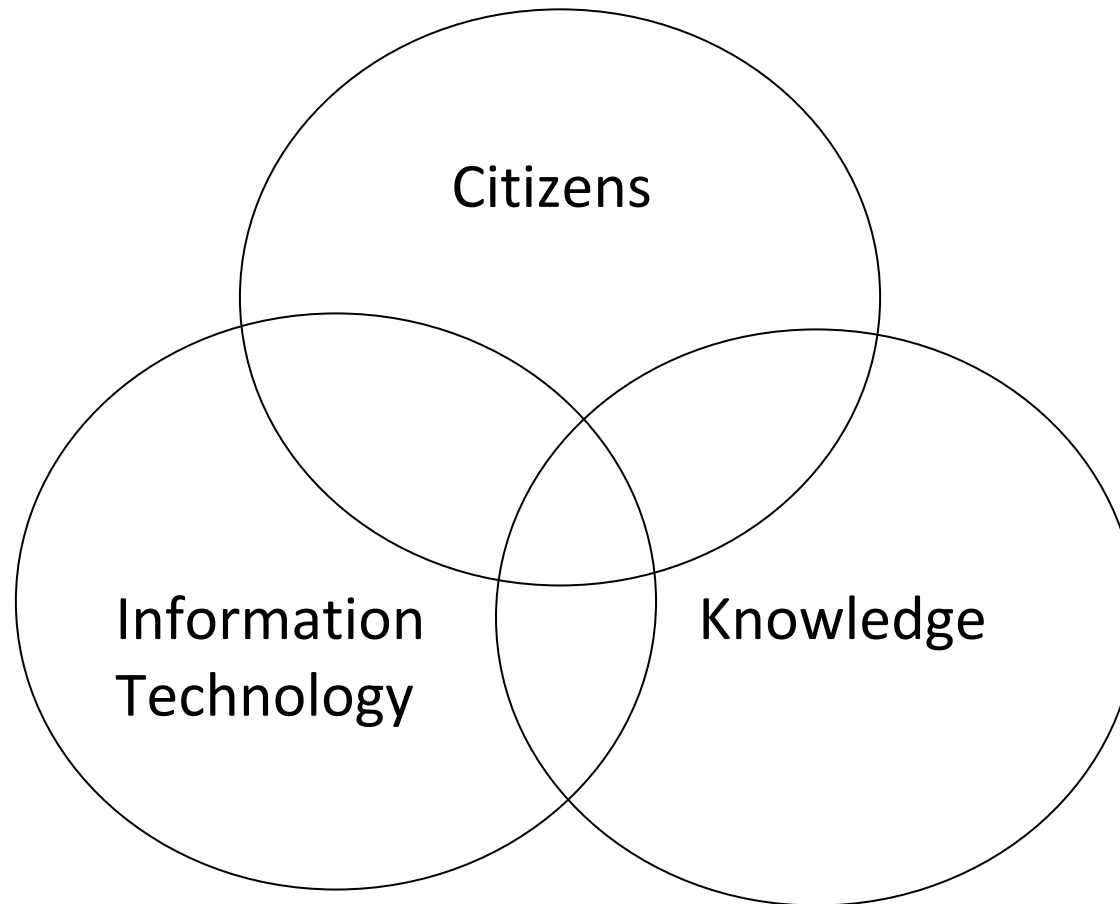
- SAFETY.
- QUALITY.
- FAILURE TO MAXIMISE VALUE
- INEQUALITIES
- FAILURE TO PREVENT

And new, additional challenges are developing

- RISING EXPECTATIONS
- CLIMATE CHANGE
- FINANCIAL CONSTRAINTS
- CARBON CONSTRAINTS

These need a third revolution and the three drivers are

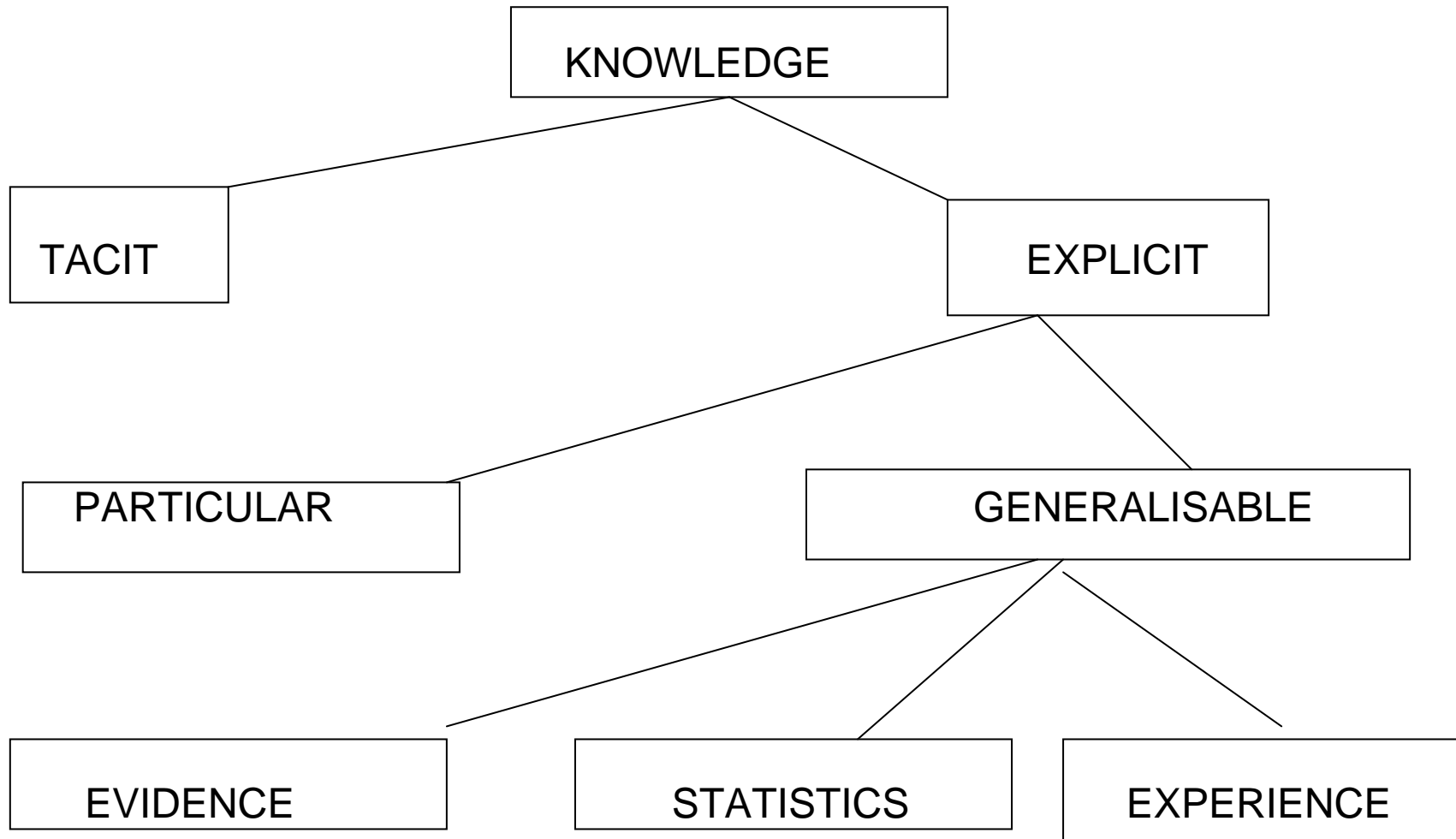




The Drivers of the Third Industrial Revolution  
(Manuel Castells)



Knowledge is  
the enemy of  
disease



Professionals and patients need  
clean clear knowledge for  
decision making just as they need  
clean clear water for hand  
washing

Water may look clear but be  
polluted and poisonous





# ESSAY

## Fighting for Thirlmere— The Roots of Environmentalism

Harriet Ritvo

**S**tretched placidly in the heart of the English Lake District, Thirlmere hardly presents the stereotypical face of the industrial revolution. On the contrary, with its sheet of water, its surrounding evergreens, and its lack of development or pollution, it seems to fit an alternative stereotype. Yet the process by which this lake assumed this apparently pleasant form provoked decades of conflict in the late 19th century, and the focus of resistance was the “industrialization” of the lake. That conflict still reverberates more than a century later, both with reference to Thirlmere in particular and, more generally, as conservation and other environmental issues have become of increasing concern throughout the world.

First, the story. During 1876, residents of Cumberland and Westmorland gradually became aware that the pristine beauty of one of their cherished lakes was under serious threat. Manchester, the largest industrial city in England, was planning to convert Thirlmere into a reservoir: to dam it, to raise its level as much as 50 feet, and to pipe its waters 100 miles southeast to the cisterns of Manchester. Not only would the completed dam submerge the natural outline of the lake, along with the dramatic cliffs that surrounded it, but it was feared that the new shoreline would be liable to recede during dry seasons, exposing large tracts of unsightly and smelly mud. An ad-

dition, to minimize Manchester’s impact on people, property, and landscape.

Of course, this was not the only way to look at it. The progressive industrialists who ran mid-Victorian Manchester did not think of themselves as Vandals or Goths. Not long before the Thirlmere scheme was formulated, they thought that they had provided their dynamic city with an adequate supply of high-quality water by building a series of reservoirs in the nearby Peak District. But even as this massive project drew near completion, politicians and engineers began to realize that the industrial demand for water had outstripped predictions. In addition, increasing water consumption in working-class homes not only reflected population growth, but also rising standards of hygiene. A large new source of water had to be found.

After careful deliberation, Thirlmere emerged as the likeliest site for a new reservoir. It lay within a circle of steep hills that would be relatively easy to flood, and its high elevation would simplify the technical challenges of the 100-mile-long pipeline. Thirlmere’s water was pure enough for Manchester’s textile industry, and it was potable without additional treatment.

A 19th-century reservoir in the idyllic countryside of the English Lake District sparked the origins of modern environmental activism.

features of the 19th-century landscape. Resistance was inevitable, but normally only on the part of people whose properties would be directly affected or of rate-payers who would have to foot the bill (1). What made the Thirlmere scheme especially noteworthy in its own time, and especially predictive of the shape of future conflicts, was the prominence of interests unconnected with property in the narrowest sense. Thirlmere lay close to the center of the Lake District, which had for a century occupied a pre-eminent posi-



Thirlmere in 1853.

tion in the pantheon of English natural beauty, even before its sacred status was consolidated by the poetry of William Wordsworth and his fellow Lake poets. Further, by the middle of the Victorian period, many writers,



Research

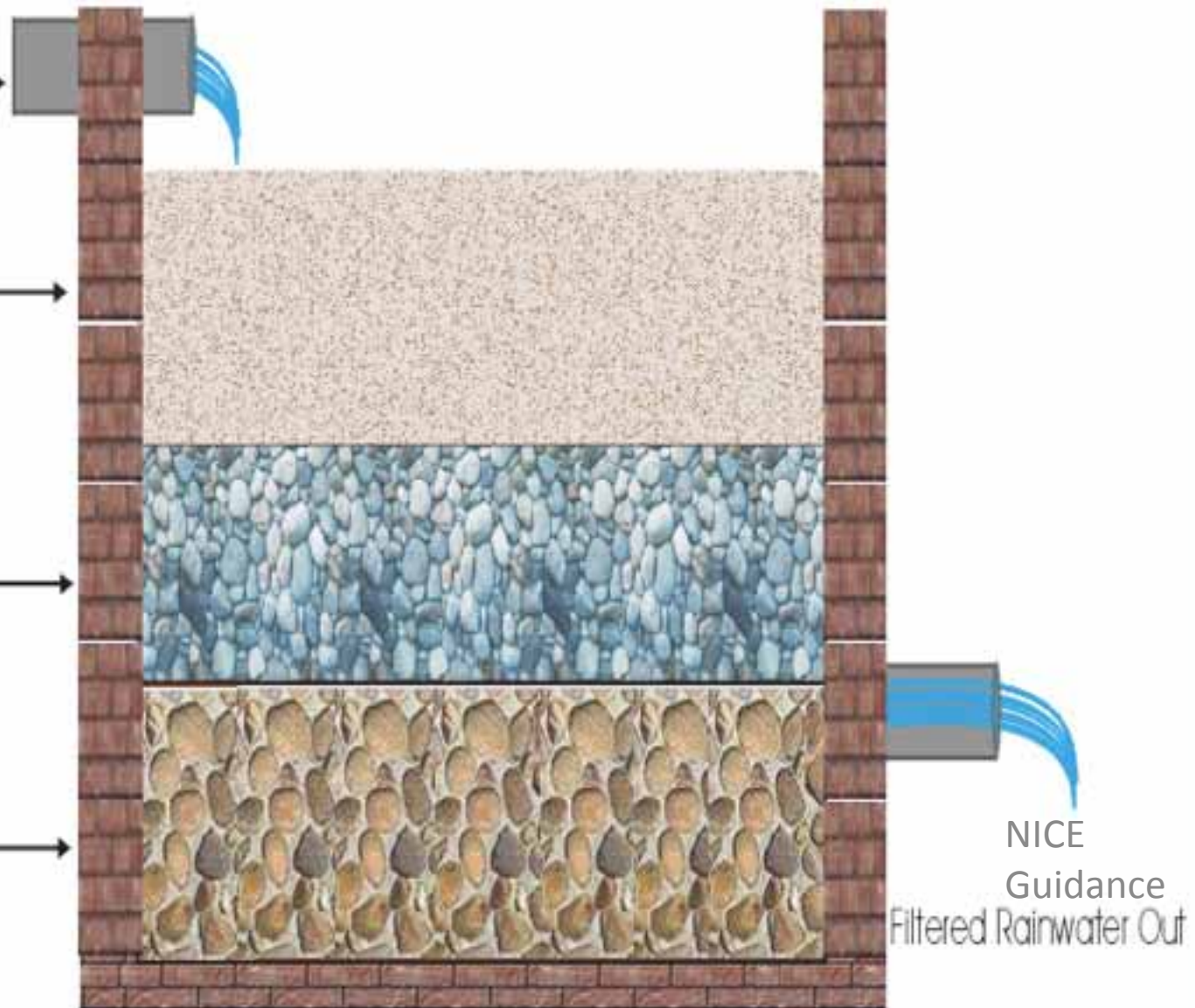
Rainwater In →

Reports

Sand →

Aggrigates →

Pebbles →



# The Hodder and Thirlmere Aqueduct Access Gates

Compiled & Researched by the Nutters Mobile Surveillance Unit

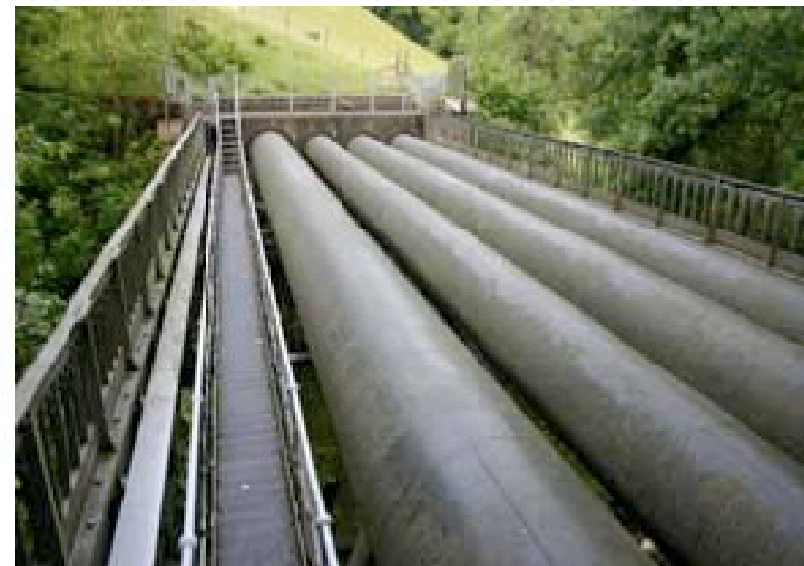
[bridge crossings](#) | [other crossings](#)

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

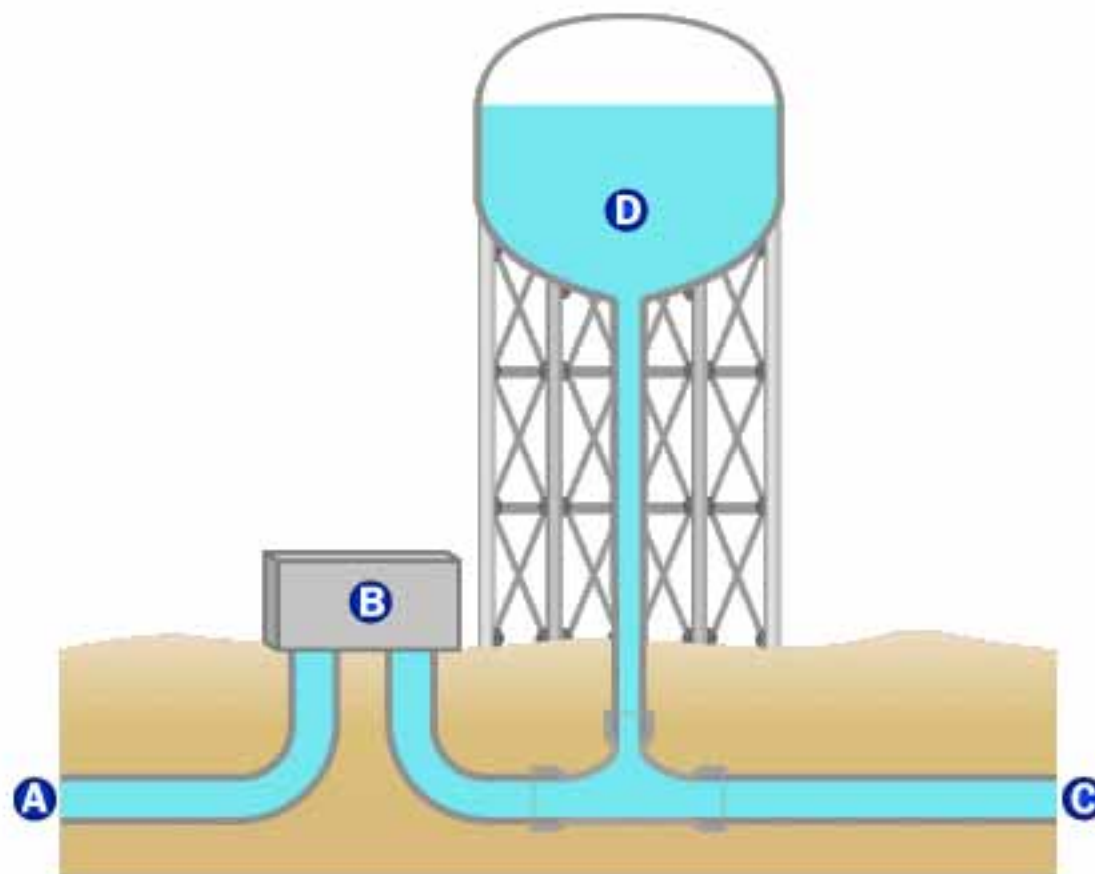
We think the original cast iron pipes have been replaced as these are welded

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

Ignorance is like cholera; it cannot be controlled by the individual alone it requires the organised efforts of society

What is the best structure for  
financing and organising healthcare  
for the 21st C ?



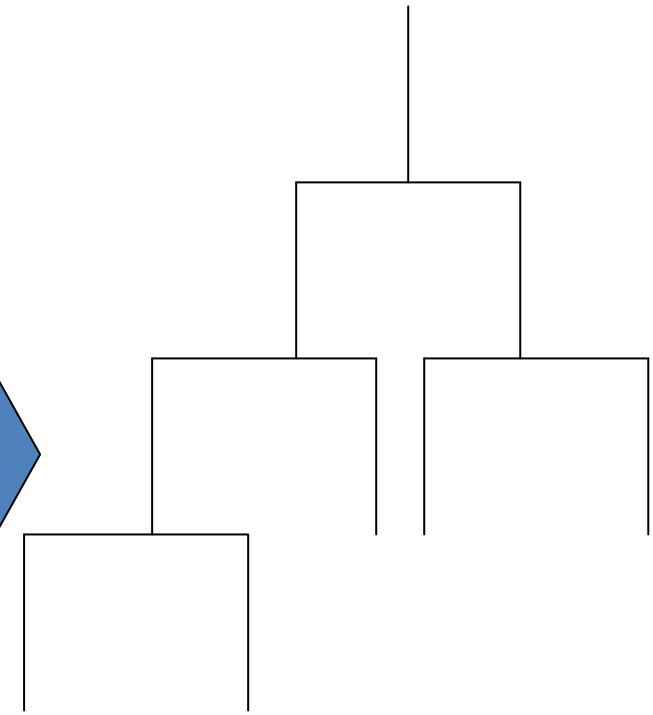
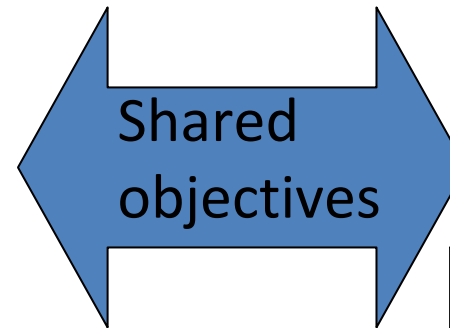
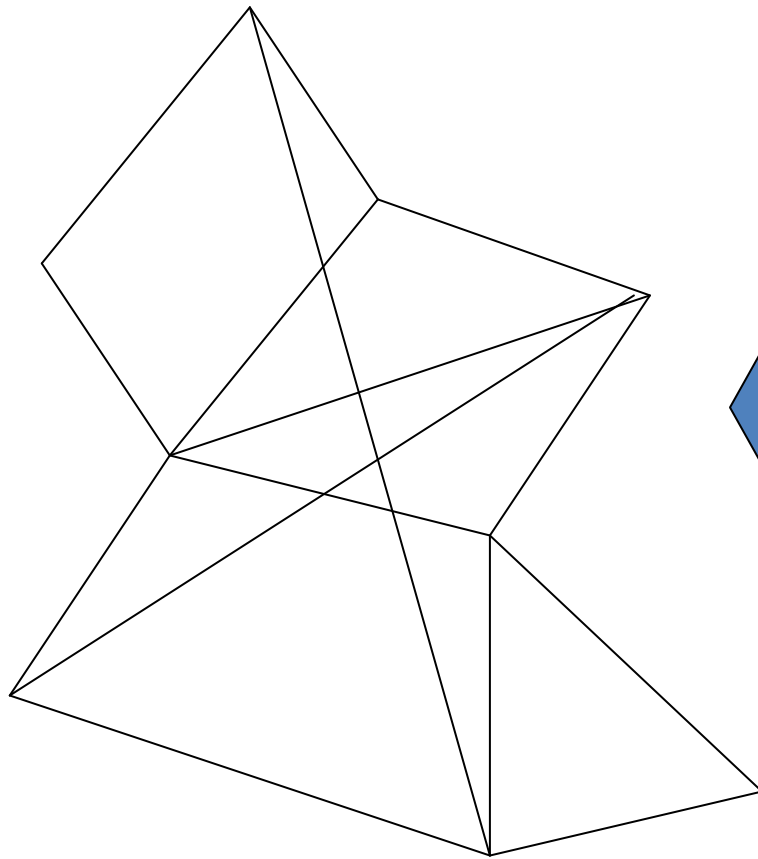
“A business organisation should have a nonhierarchical, self-organizing structure working in tandem with its hierarchical formal structure.....

As business organisations grow in scale and complexity they should simultaneously maximise both corporate level efficiency and local flexibility...

the most appropriate name is the ‘hypertext’ organisation”

Ikujiro Nonaka and Hirotaka Takeuchi  
The knowledge creating company  
OUP 1995





Hypertext organisation  
(Nonaka & Takeuchi OUP 1995 ;  
The Knowledge Creating Company

Bureaucratic Organisation

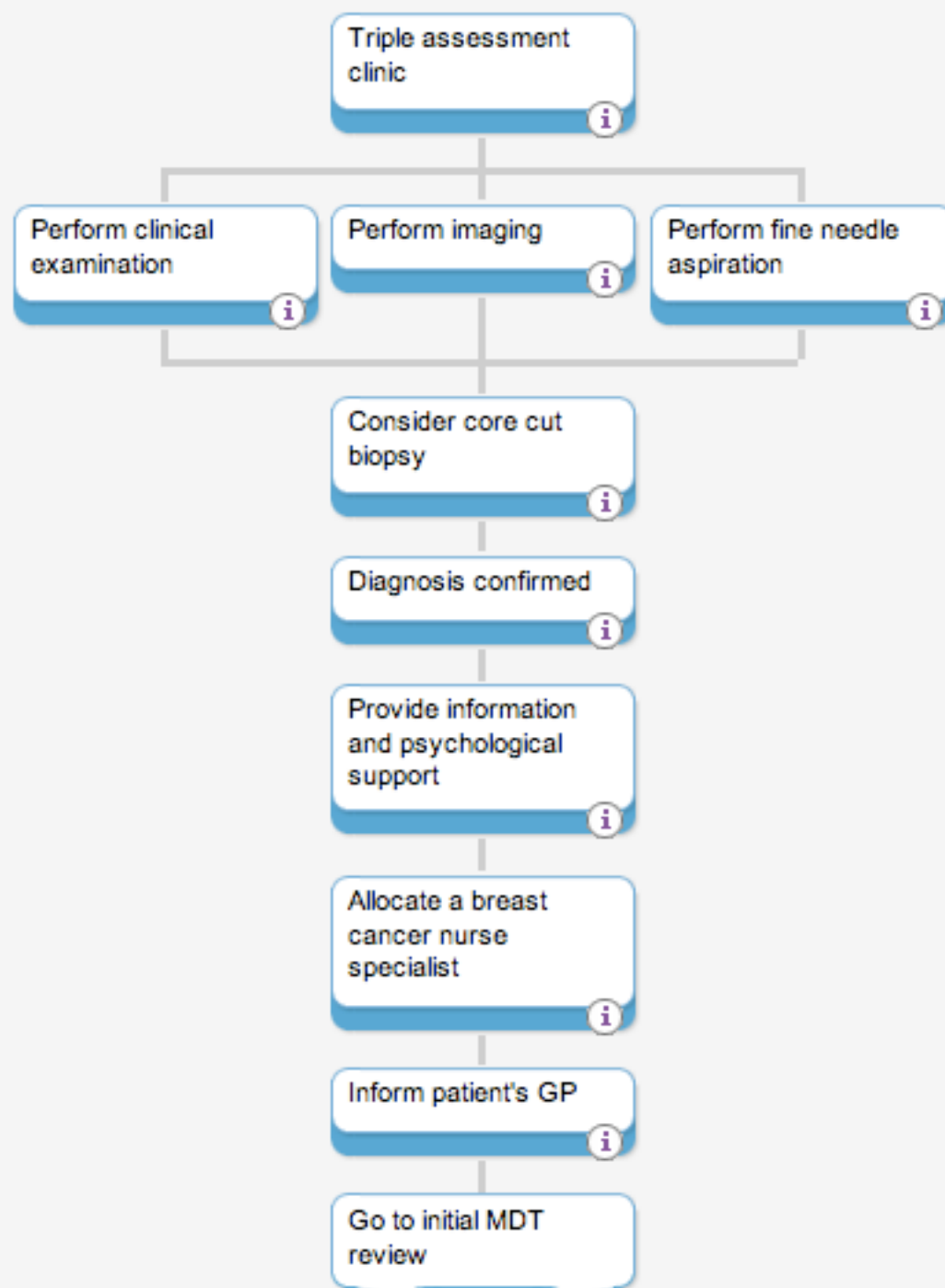
### Newborn Screening for Sickle Cell Disorders Programme Standards

NEWBORN PROGRAMME OBJECTIVES:	CRITERIA	STANDARDS	
		Minimum (Core)	Achievable (Developmental)
<b>Programme Outcome</b>			
Best possible survival for infants detected with a sickle cell disorder by the screening programme	Mortality rates expressed in person years	Mortality rate from sickle cell disease and it's complications in children under five of less than four per 1000 person years of life (two deaths per 100 affected children)	Mortality rate in children under five of less than two per 1000 person years of life (one death per 100 affected children)
<b>Programme Outcome</b>			
Accurate detection of all infants born with major clinically significant haemoglobin disorders*	Sensitivity of the screening process (offer, test and repeat test)	99% detection for Hb-SS 98% detection for Hb-SC 95% detection for other variants	99.5% for Hb-SS 99% for Hb-SC 97% for other variants

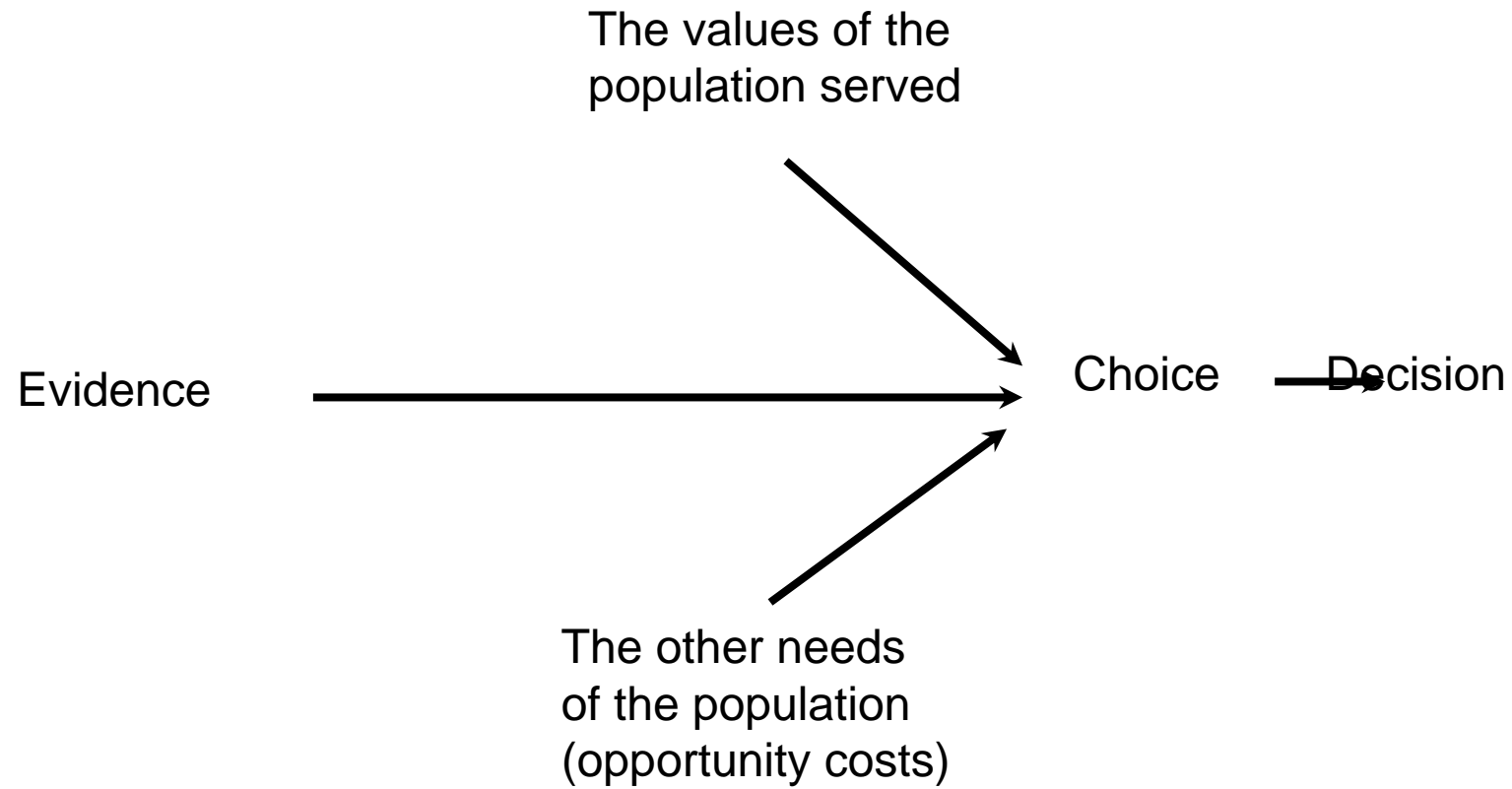
This is an example of a national service set up as a system

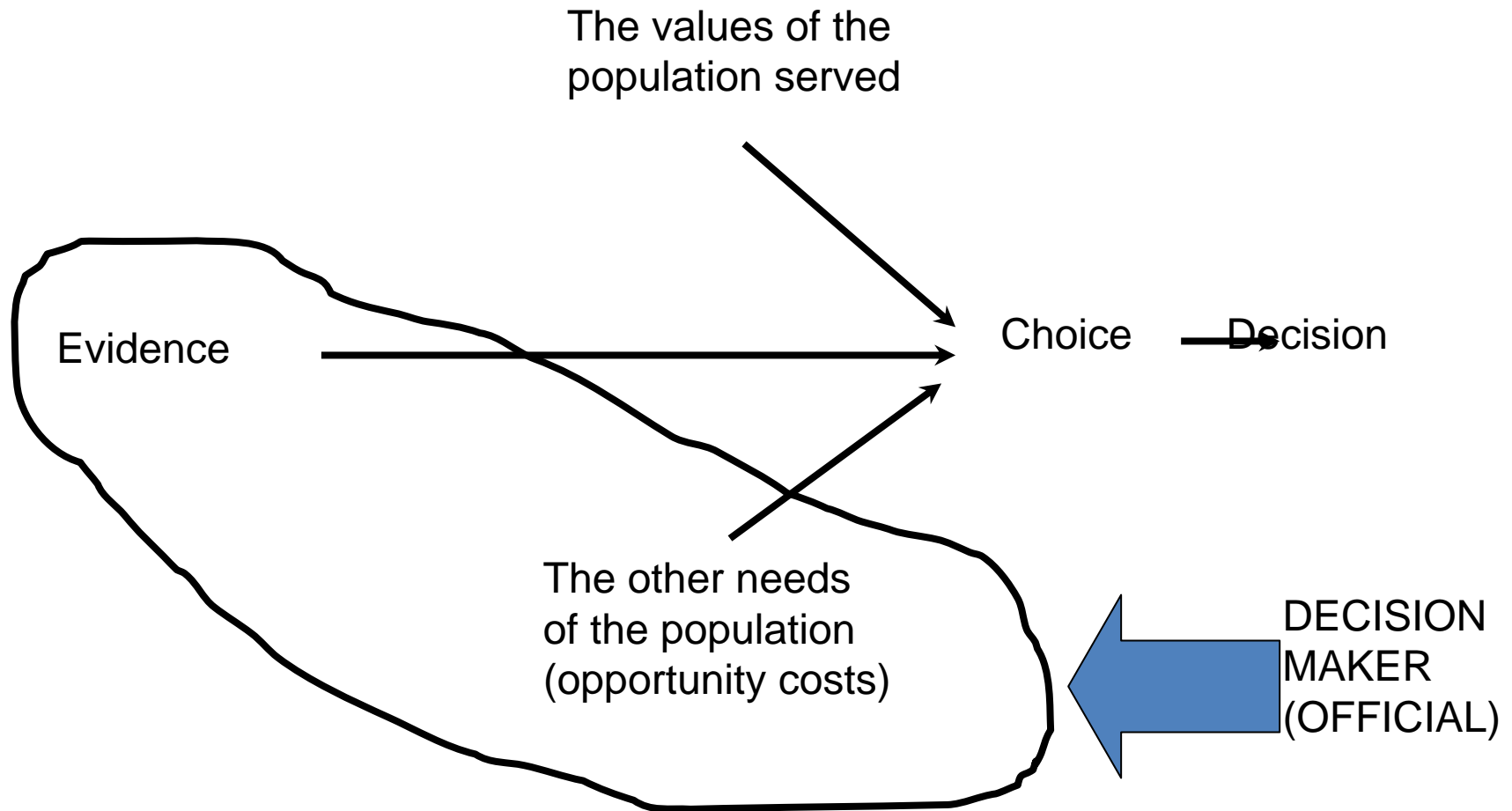
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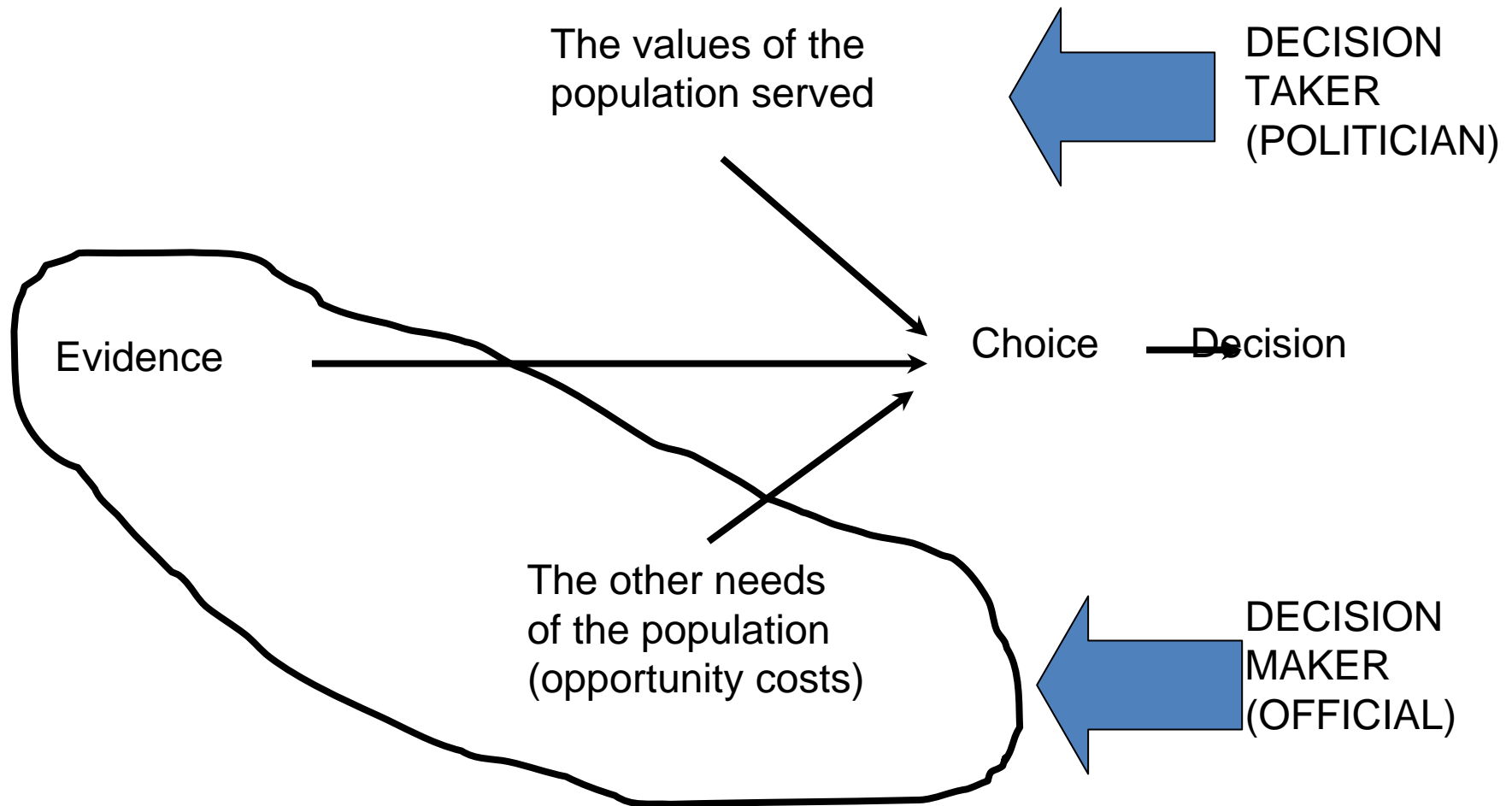
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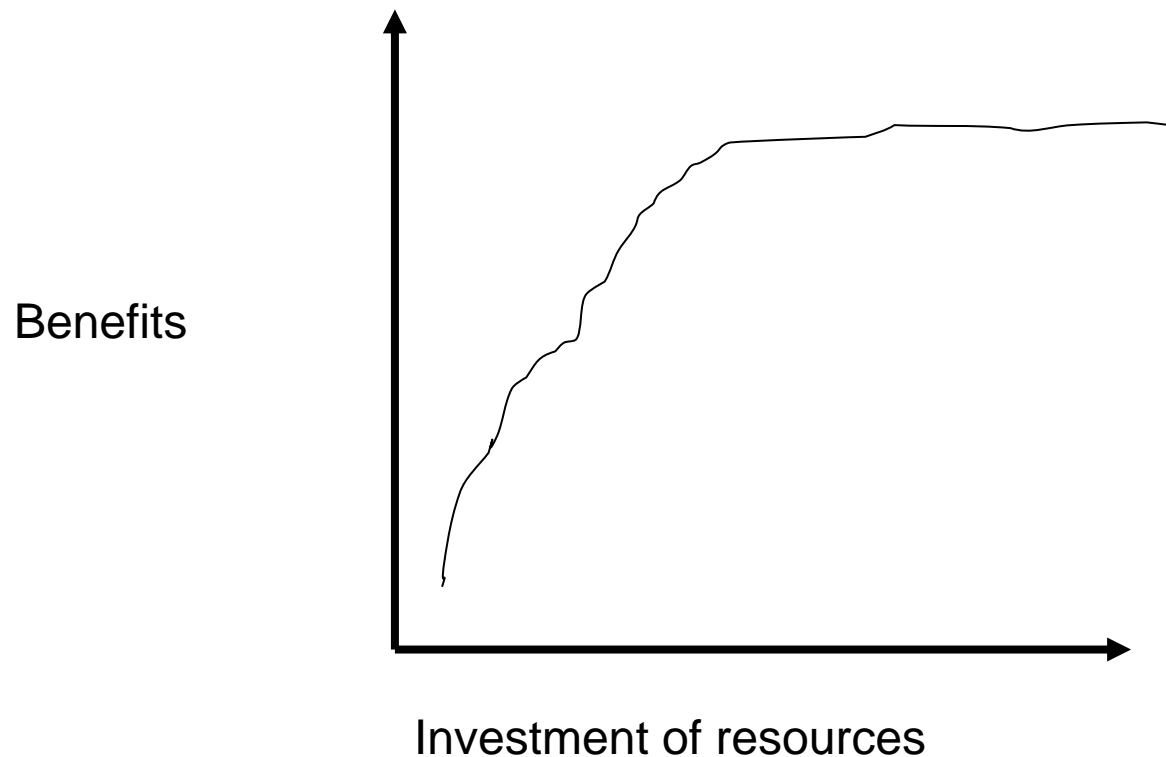




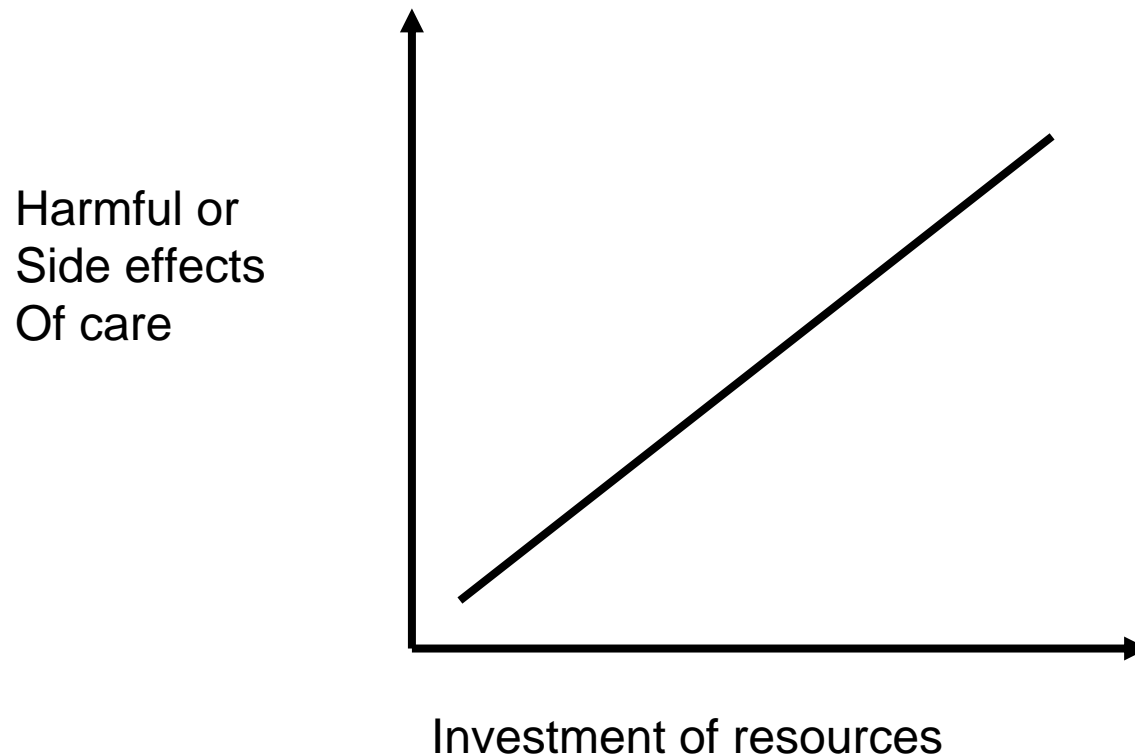




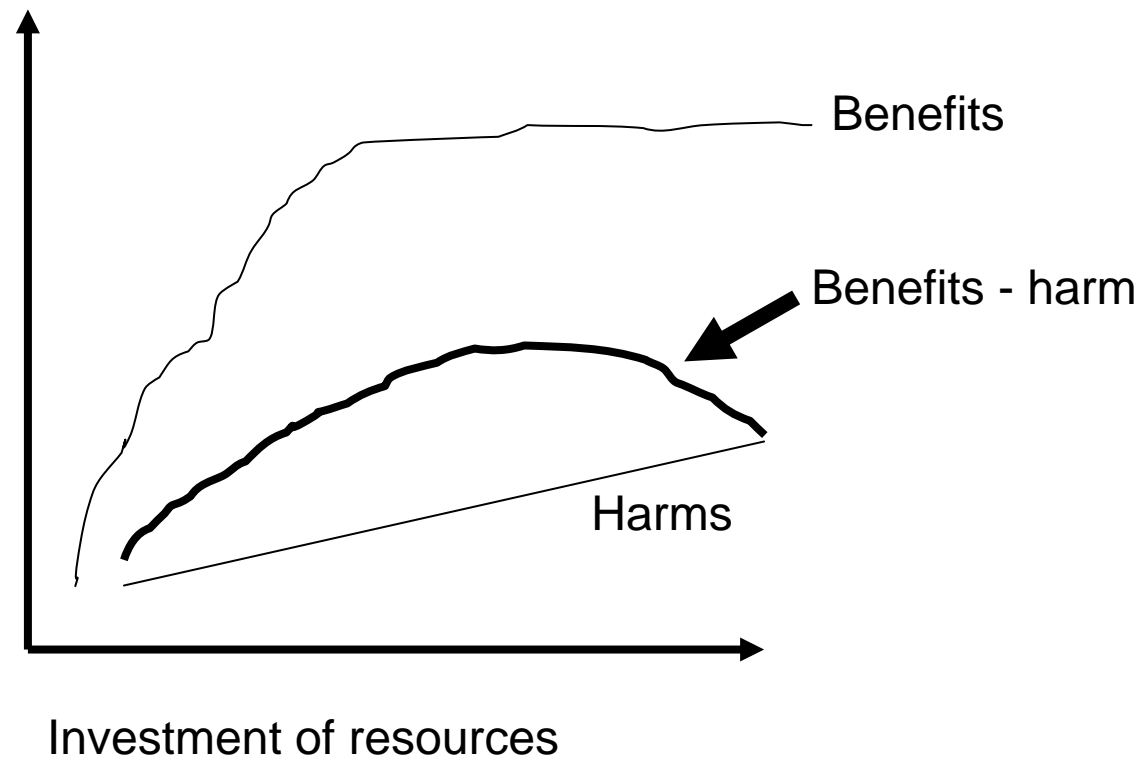
# The law of diminishing returns



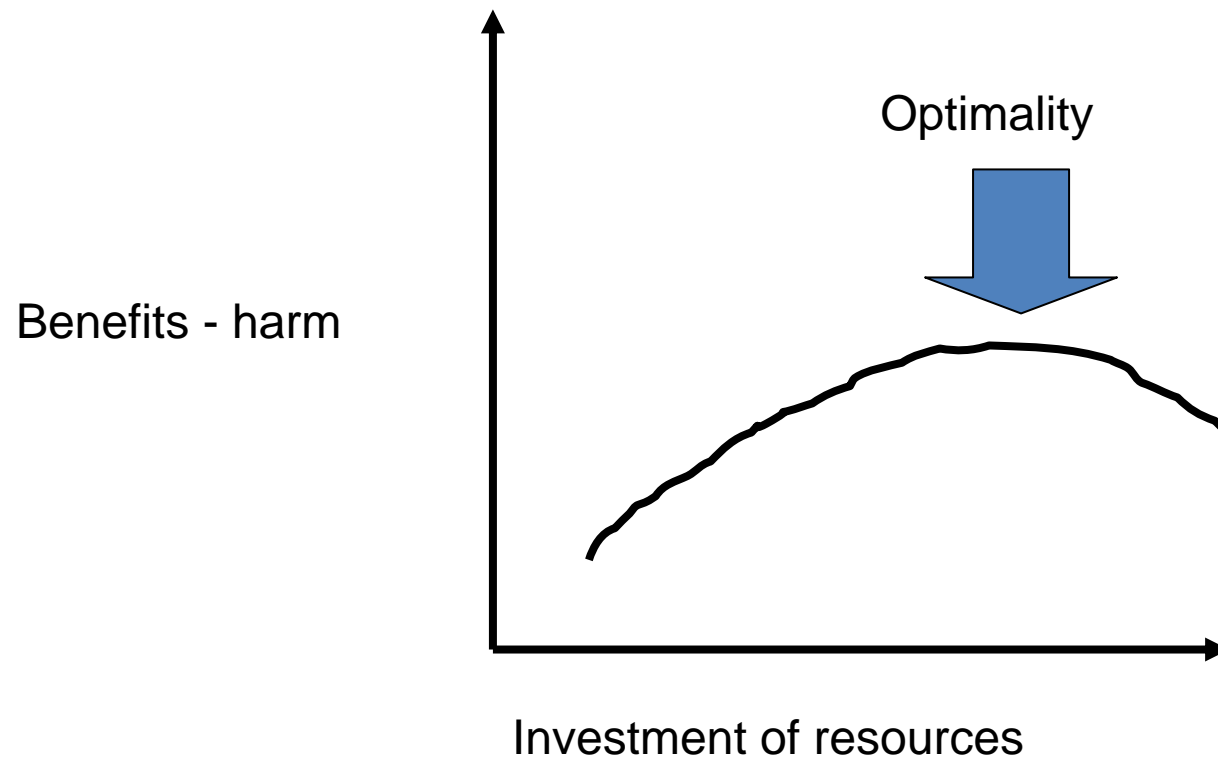
Harmful effects increase in direct proportion to the resources invested



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



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



**Mental Health Disorders**

**9,125,744**

**Problems of Circulation**

**6,898,410**

**Cancers & Tumours**

**4,352,462**

**Problems of the Gastro Intestinal System**

**3,851,576**

**Problems due to Trauma and Injuries**

**2,992,155**

**Problems of the Musculo Skeletal System**

**3,531,277**

**Problems of the Respiratory System**

**3,539,634**

Asthma 849,076

**Problems of the Genito Urinary System**

**3,755,334**

**Maternity and Reproductive Health**

**2,932,117**

**Problems of Learning Disability**

**2,494,242**

**Dental Problems**

**2,643,856**

**84,193,209**

**Neurological**

**2,987,043**

**Endocrine, Nutritional and Metabolic Problems**

**2,133,090**

**Social Care Needs**

**1,720,193**

**Problems of Vision**

**1,381,610**

**Problems of the Skin**

**1,552,694**

**Healthy Individuals**

**1,482,230**

**Infectious Diseases**

**1,301,165**

**Disorders of Blood**

**1,034,646**

**Conditions of Neonates**

**801,692**

**Adverse Effects and Poisoning**

**756,048**

**Problems of Hearing**

**329,809**

**Other Areas of**

**Spend/Conditions**

**22,596,181**

- General Medical Services/Personal Medical Services

**7,256,778**

- Strategic Health Authorities (including WDCs)

**3,514,197**

- Miscellaneous

**11,825,209**

**84,193,209**

<i>PBC category and, where relevant, sub-category</i>	<i>Tonnes of <u>carbn</u></i>	<i>£000</i>
<b>Mental Health Disorders</b>	<b>1,600,000</b>	<b>9,125,744</b>
Substance Misuse		716,326
Organic Mental Disorders		752,920
Psychotic Disorders		1,294,807
Child and Adolescent		716,726
Mental Health Disorders Other		5,644,965
<b>Problems of Circulation</b>	<b>1,200,00</b>	<b>6,898,410</b>
Coronary Heart Disease		2,307,992
<u>Cerebrovascular</u> Disease		836,856
Problems of Rhythm		383,400
Problems of Circulation Other		3,370,163
<b>Cancers &amp; Tumours</b>	<b>750,000</b>	<b>4,352,462</b>
Head and Neck		146,391
Upper GI		206,840
Lower GI		326,166
Lung		204,413
Skin		96,500
Breast		403,807
Gynaecological		156,446
Urological		413,792
Haematological		470,869
Cancers & Tumours Other		1,927,237



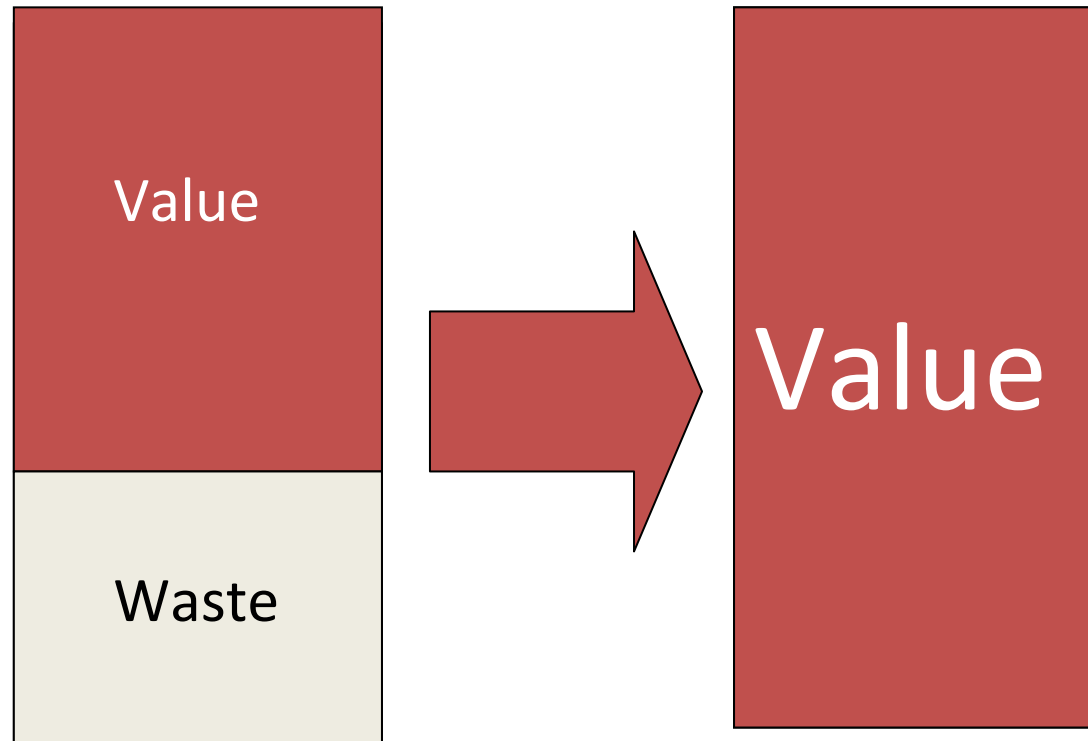
**15Problems of the Musculo Skeletal System3,531,277**

**11Problems of the Respiratory System 3,539,634**

Obstructive Airways Disease 576,008

Asthma 849,076

Problems of the Respiratory System Other 2,114,551



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## NEWS

### Green Nephrology SpR Fellowship - applications open!

20/03/2009, author: Frances



Applications opened on Tuesday to the groundbreaking one-year Green Nephrology Fellowship, funded by NHS Kidney Care. The first of its kind, the post is open to specialist trainees in renal medicine, will train them in sustainability and systems

improvement and will focus on clinical service redesign to improve the environmental sustainability of renal care.

[read more...](#)

## BLOG

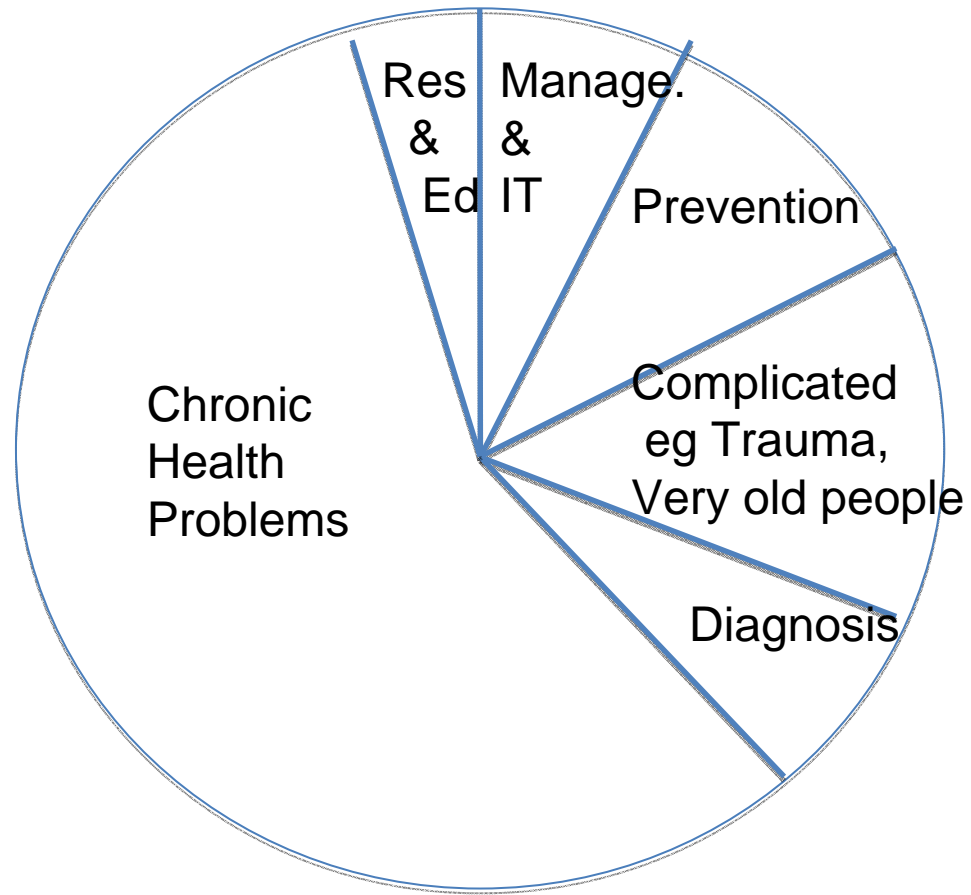
### Carbon Dependency damages your health!!

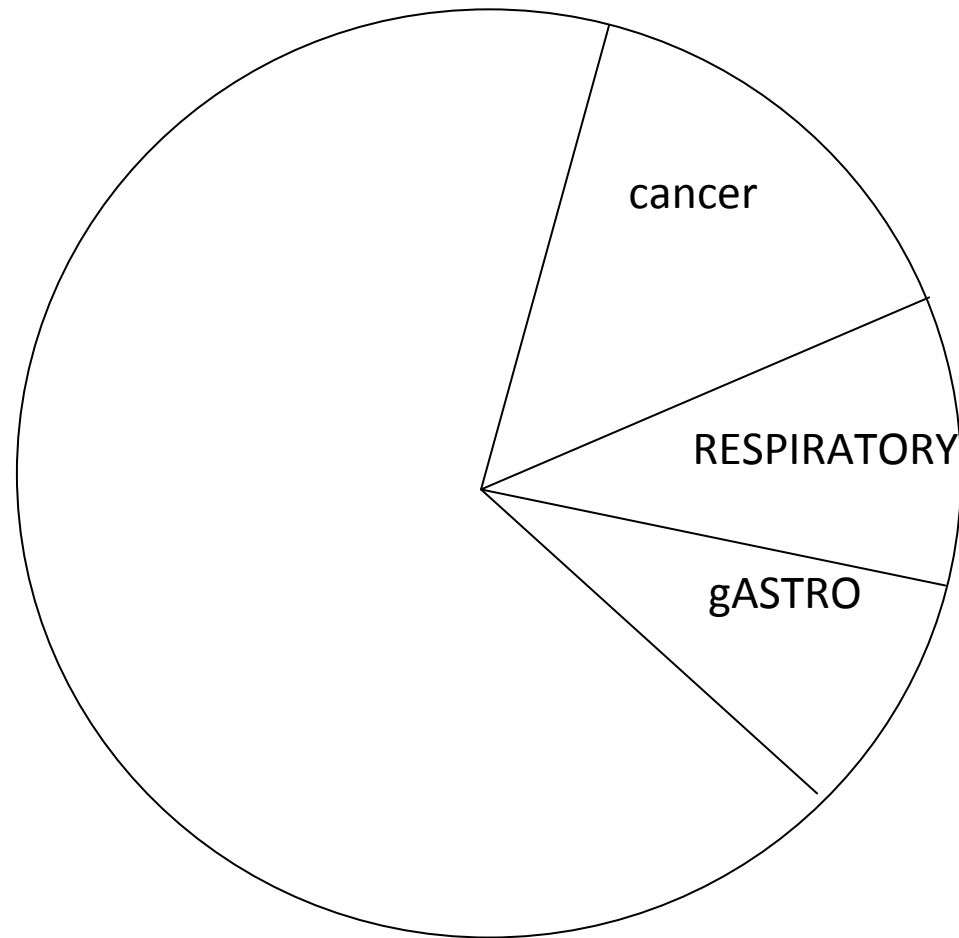
20/03/2009, author: Frances



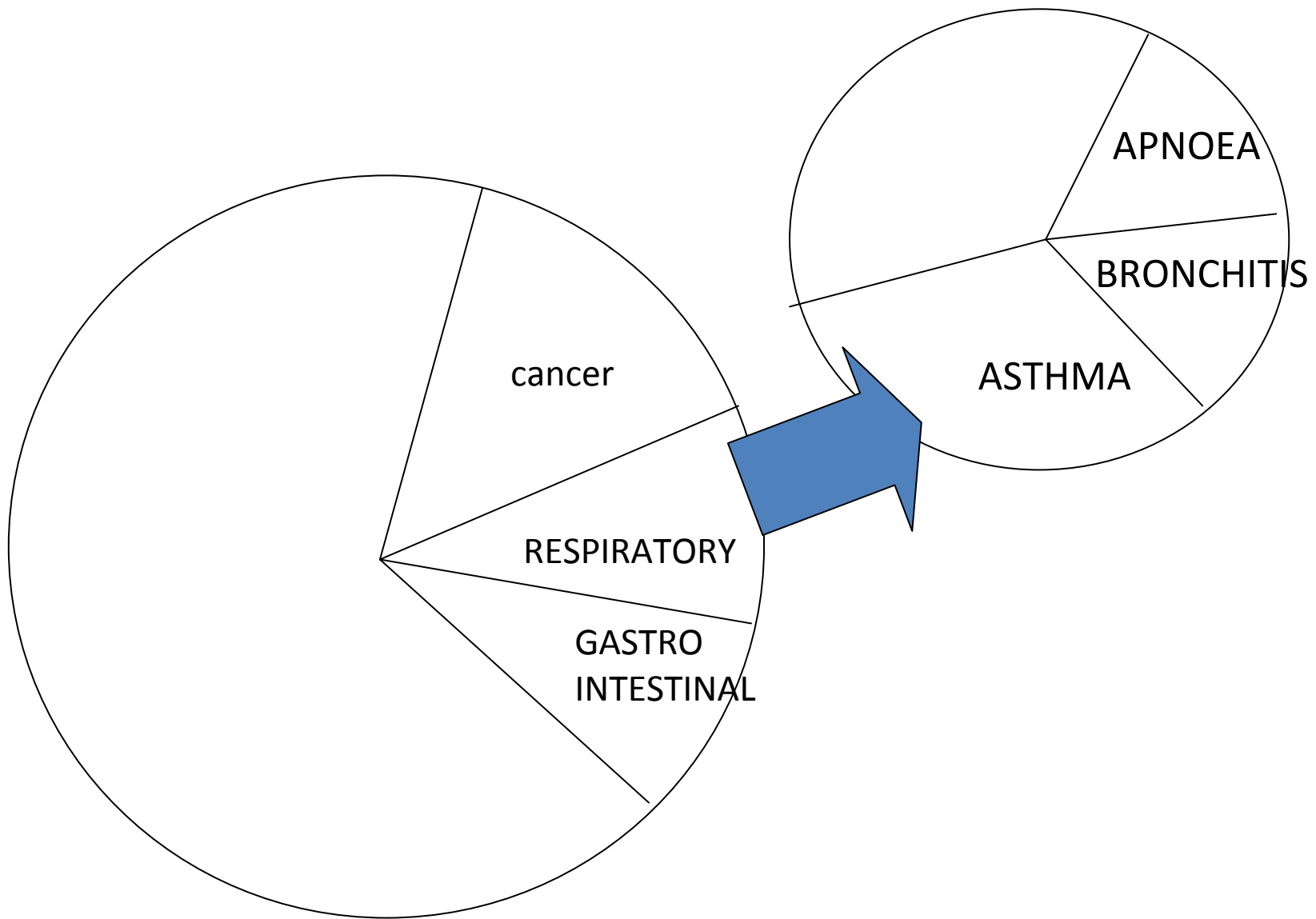
The Campaign for Greener Healthcare and Brighton medical students will be offering "screening" for the debilitating "Carbon Dependence Syndrome" at the UK Public Health Association conference in Brighton next week.

[read more...](#)





BVHP The Better Value Healthcare Programme



BVHP The Better Value Healthcare Programme

iWantGreatCare: Add a review of Boots Croydon Valley Plaza Retail Park - Windows Internet Explorer

http://pharmacies.iwantgreatcare.com/pharmacies/boots-croydon-valley-plaza-retail-park/reviews/new

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## You are rating: Boots Croydon Valley Plaza Retail Park

Do you trust the pharmacist?

Not at all  Totally --%

Did the pharmacist listen to you?

Not at all  Totally --%

Would you recommend this pharmacy?

Not at all  Totally --%

### Recent Reviews

Atorvastatin 96%  
"Changed from simvastatin which made me feel ..."

Tom Bereznicki 98%  
"He aint cheap, but he is the best and a Cheslea ..."

Mr Frankie Wong 100%  
"A friendly, patient dentist offering painless ..."

H J Everett (Warsash) 83%  
"This is my local Pharmacy and I

Start

CleverSt... Unsafe E... Search Desktop

Microsoft... iWantGr...

Internet 100%

22:18 Monday




A Sample site | Avedis Donabedian: Introduction to quality assurance in healthcare - Windows Internet Explorer

[http://www.healthcarecultureprogramme.org/podcasts/1](#)
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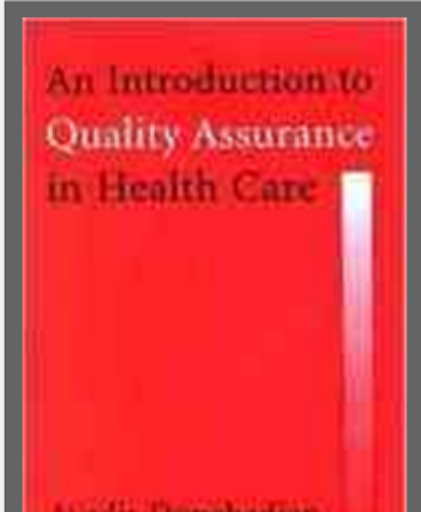
Released Monday 10 August

# Avedis Donabedian: Introduction to quality assurance in healthcare

Book review by Sir Muir Gray



Avedis Donabedian was an Armenian, and his national identity was in many ways as important to him as were Cochrane's roots in Scotland. In 2003, Oxford University Press published a book whose copyright rested with the American University of Armenia entitled [An Introduction to Quality Assurance in HealthCare](#). In his preface, Donabedian states that: 'It was with great reluctance that I undertook to write this book', but from 'the happy state' of his retirement, he felt he was recalled by 'the urgent need, insistently and repeatedly brought to my attention, for a brief, coherent account of quality assurance in health care for use by



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