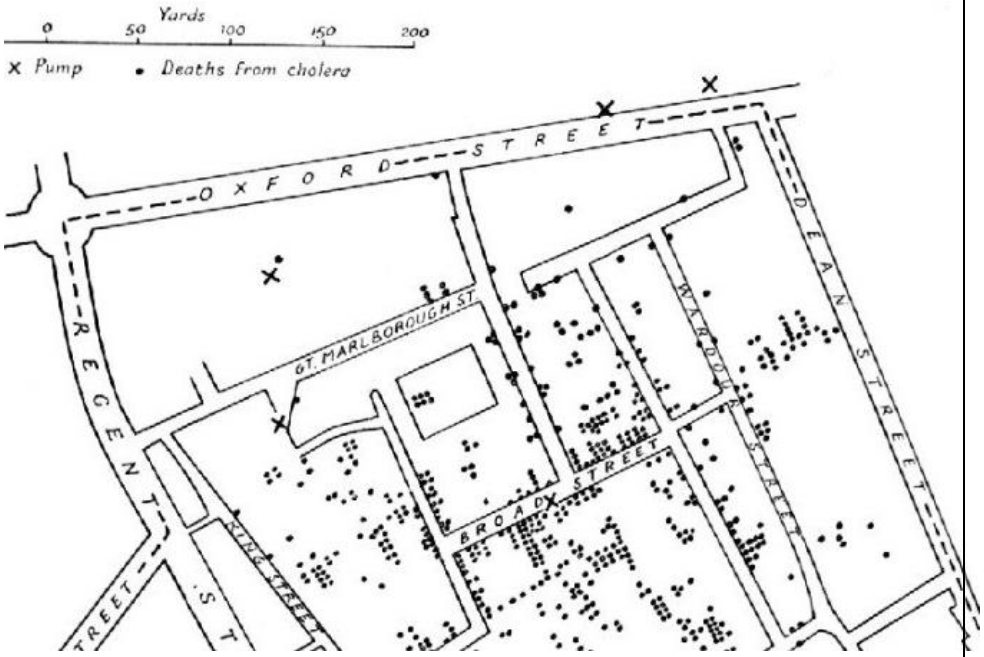
The future is not like the Island of Sicilia , a destination awaiting our arrival, it is like the Autostrada del sole, something we have to imagine, design, plan and construct

We have had two healthcare revolutions, with amazing impact

The First



The Second

- Antibiotics
- MRI
- CT
- Ultrasound
- Coronary artery bypass graft surgery
- Hip and knee replacement
- Chemotherapy
- Radiotherapy
- Randomised controlled trials
- Systematic reviews

However, all health services, everywhere, still face 5 major problems one of which is unwarranted variation which is “variation in utilization of health care services that cannot be explained by variation in patient illness or patient preferences” (Jack Wennberg) which reveals the other four

- FAILURE TO PREVENT DISEASE &DISABILITY eg stroke and vascular dementia from AF
- WASTE OF RESOURCES through low value activity
- HARM, from overuse even when quality is high
- INEQUITY, from underuse by groups in high need

And new, additional, challenges are developing

- RISING EXPECTATIONS
- INCREASING NEED
- FINANCIAL CONSTRAINTS
- CLIMATE CHANGE

The Value Century

1948-1972 Free, Universal
1980's Effectiveness and Evidence based
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

waste is anything that does not add value

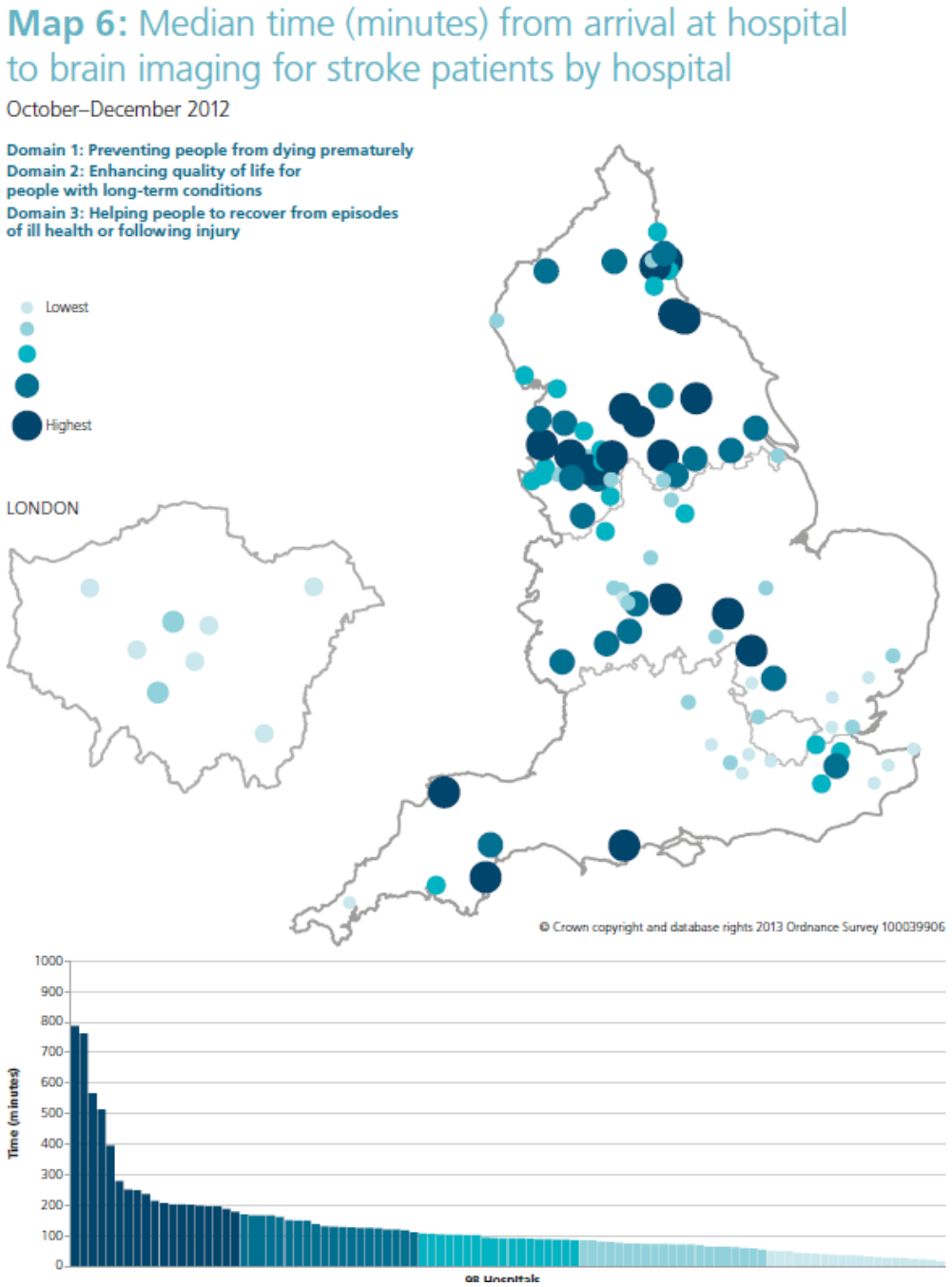
The NHS RightCare Approach in a nutshell

1. Helps health economies find where they are wasting money on sub-optimal low value or negative value healthcare.

2. Helps them replace that with optimal healthcare and get greater value.

An improvement methodology that meets needs of all perspectives and delivers efficiency and a sustainable health economy

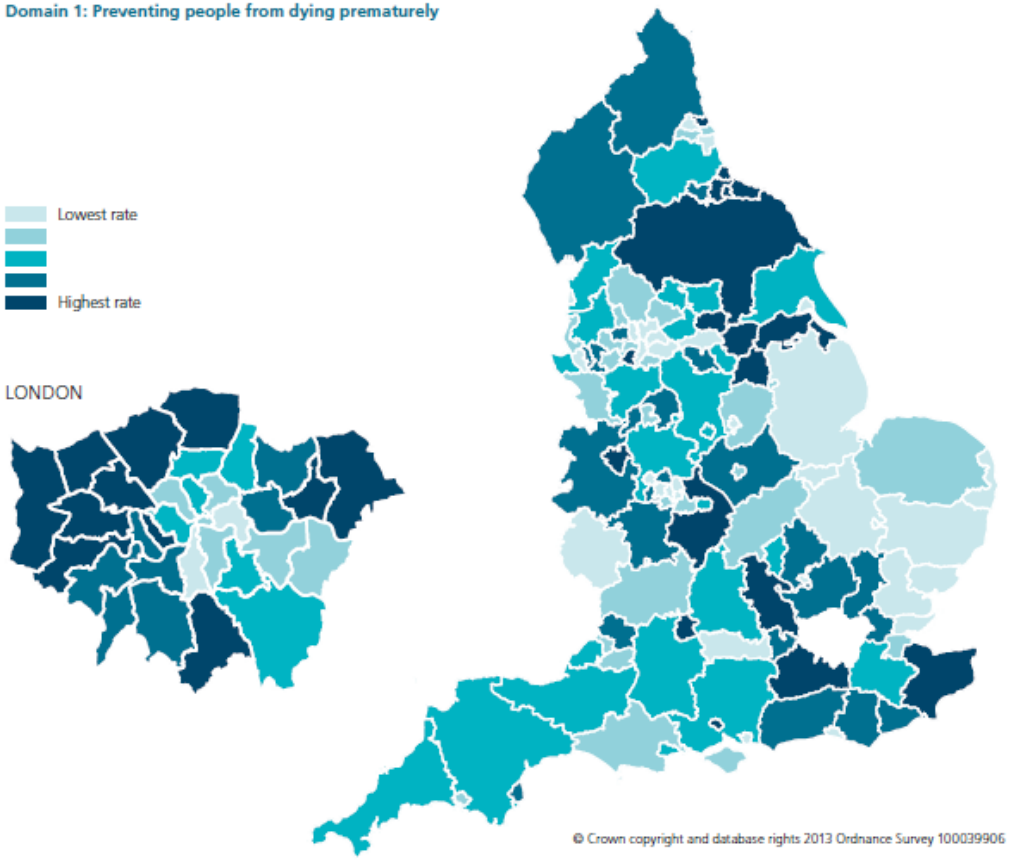
Traditionally we have looked at institutions and assessed their quality and this is essential but we now need to look at populations and reflect on value

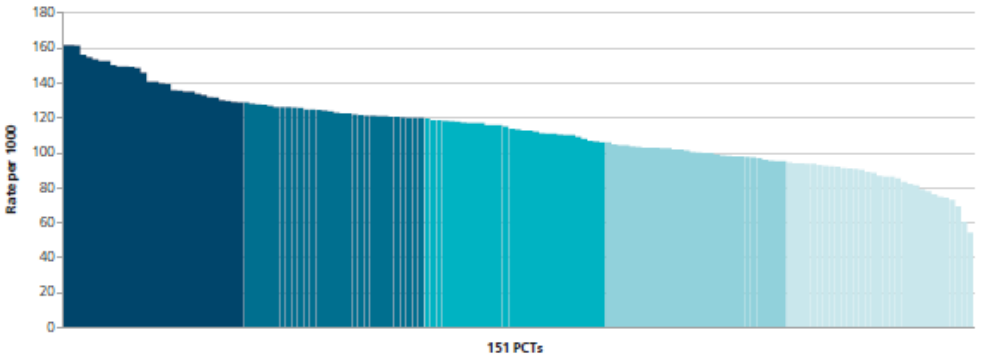


Map 3: Rate of non-obstetric ultrasound activity per weighted population by PCT

2012/13

Domain 1: Preventing people from dying prematurely

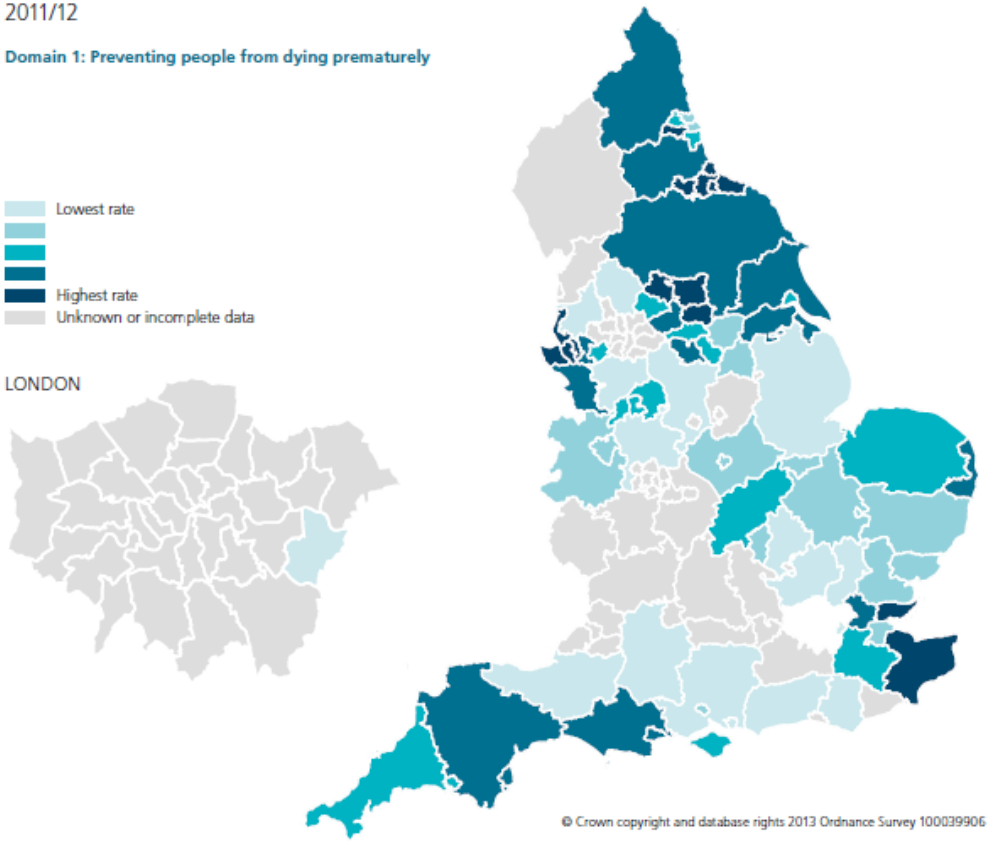


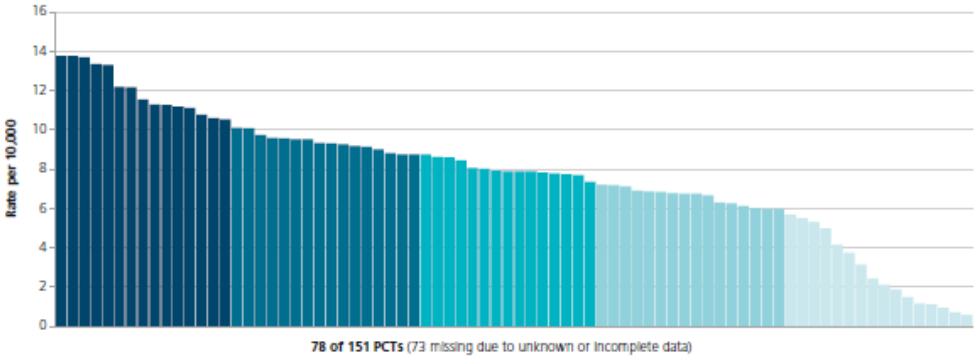


Map 4: Rate of positron emission tomography computed tomography (PET CT) activity from independent sector treatment centres per population by PCT

2011/12

Domain 1: Preventing people from dying prematurely





NHS or nHS?

- Is people with epilepsy in Leeds better than in Liverpool?
- Who is responsible for the service for people with headache in Northumberland?
- Is people with knee pain in Somerset better than in Devon?
- Is the service for frail elderly people getting better in Herefordshire, is it better than in Worcs, and who is responsible for it?
- How many asthma services should there be in London, and in England and is that different from the number of services for inflammatory bowel disease?

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

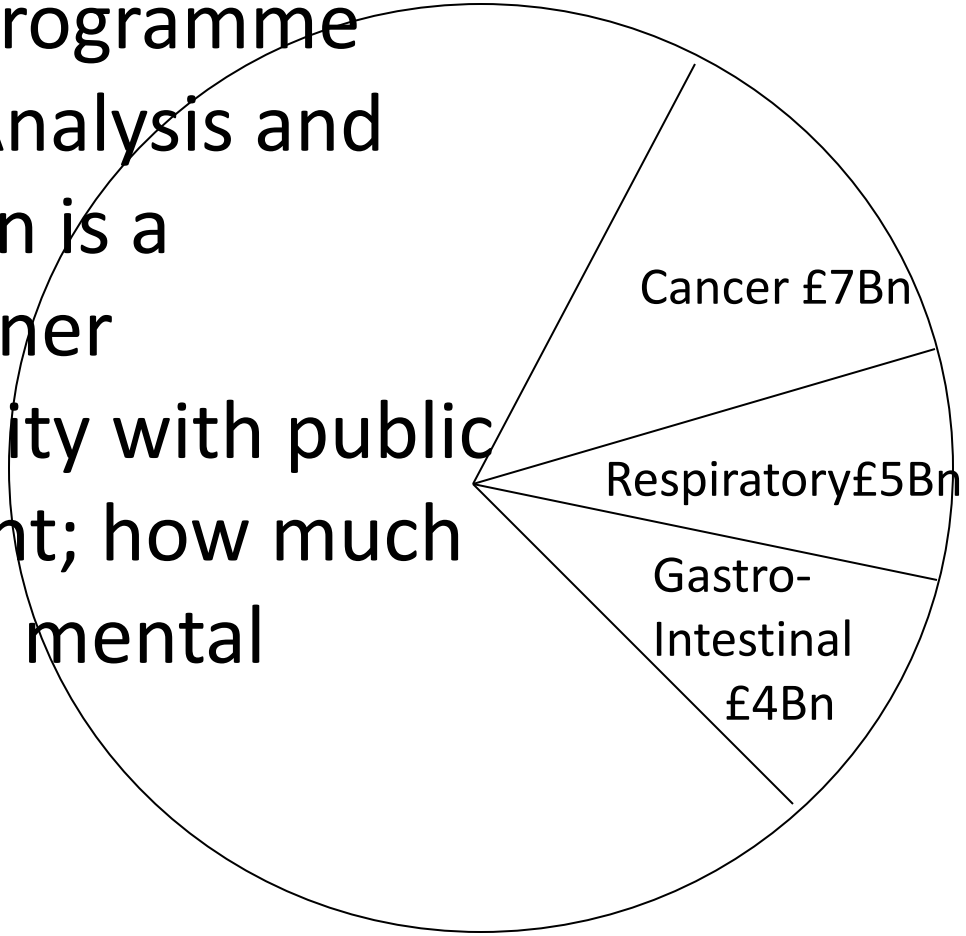
4. Has the money for care been distributed to different patients groups, e.g. people with cancer or people with mental health problems, by a process of decision-making that is not only equitable but also maximises value for the whole population?

BUT THIS IS HOW THEY REPORT SPENDING AT PRESENT!

	Annual Budget £'000
Acute	329,920
Community Health	63,360
Continuing Care	31,196
Mental Health and Learning Disability	62,815
Primary care	89,831
Other	26,956
Sub Total Programme costs	**604,078**

Question 4

Between Programme Marginal Analysis and reallocation is a commissioner responsibility with public involvement; how much is spent on mental health ?



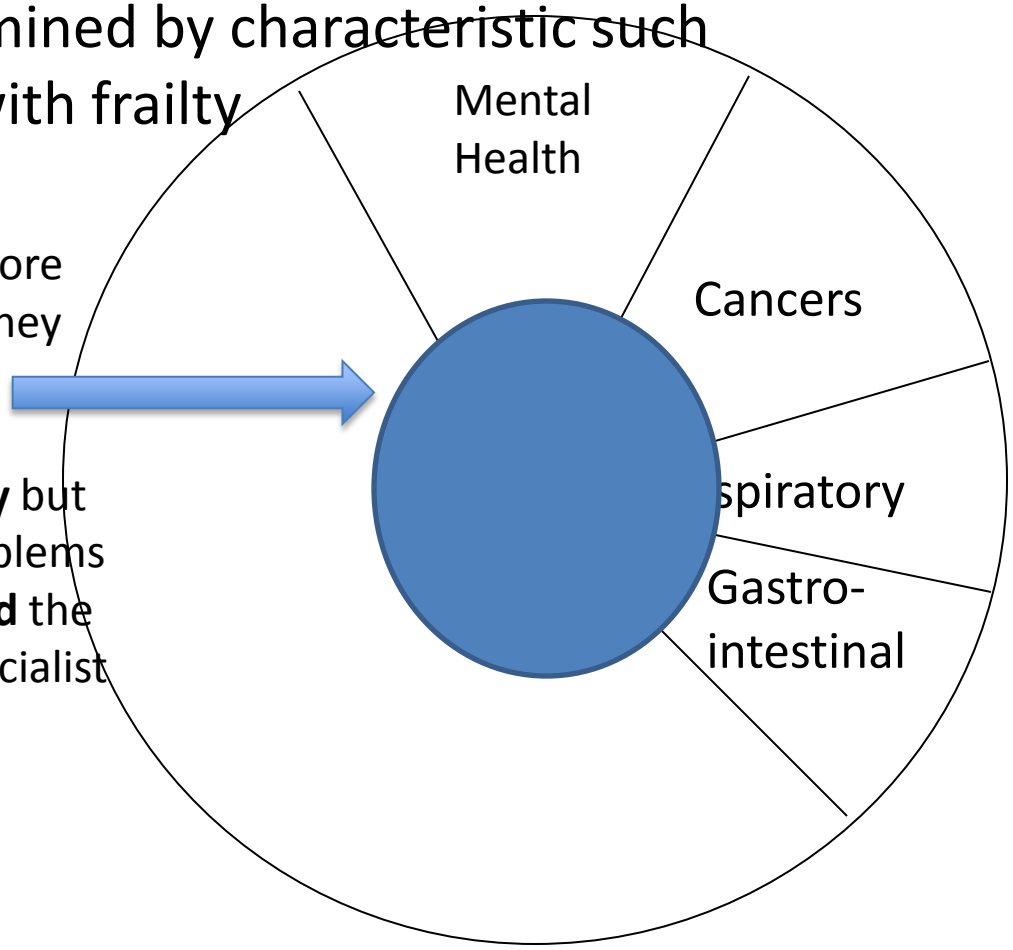
£11Bn!

At this point Gps' will say "but lots of people have more than one disease"

Question 4

We are working to develop programme budgets determined by characteristic such being elderly with frailty

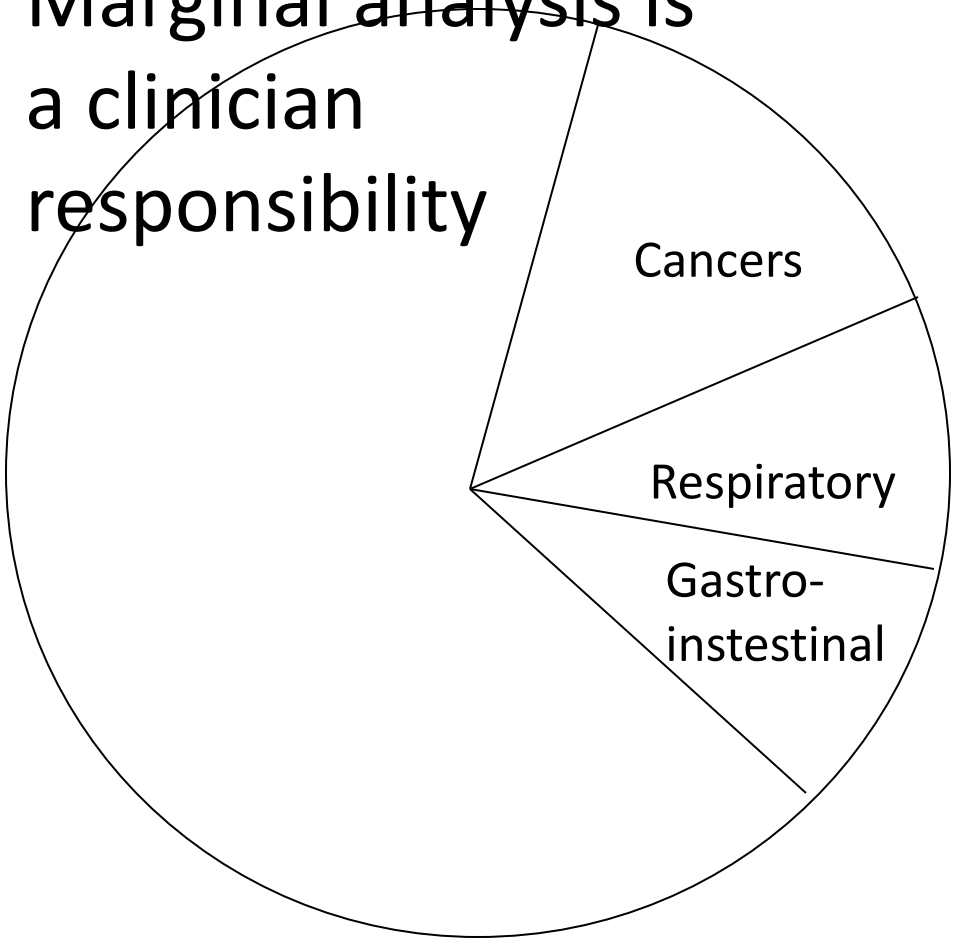
Many people have more than one problem ; they have complex needs. GP's are skilled in managing **complexity** but when one of the problems becomes **complicated** the Generalist needs Specialist help

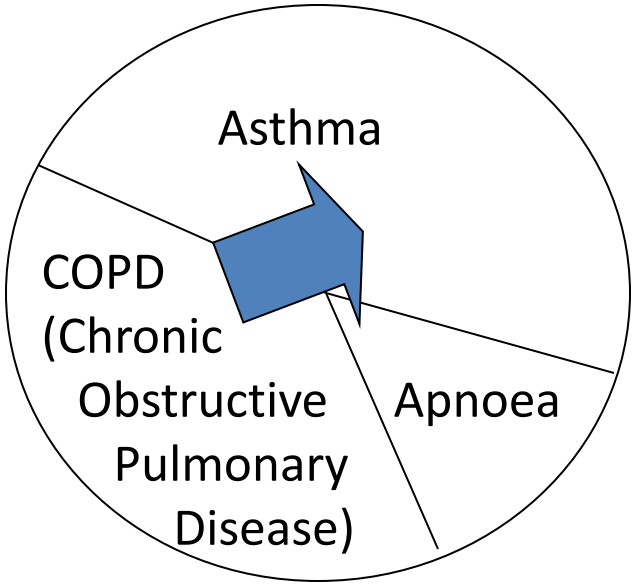


10 QUESTIONS ABOUT VALUE

4a Have the resources within one programme budget been allocated to optimise value

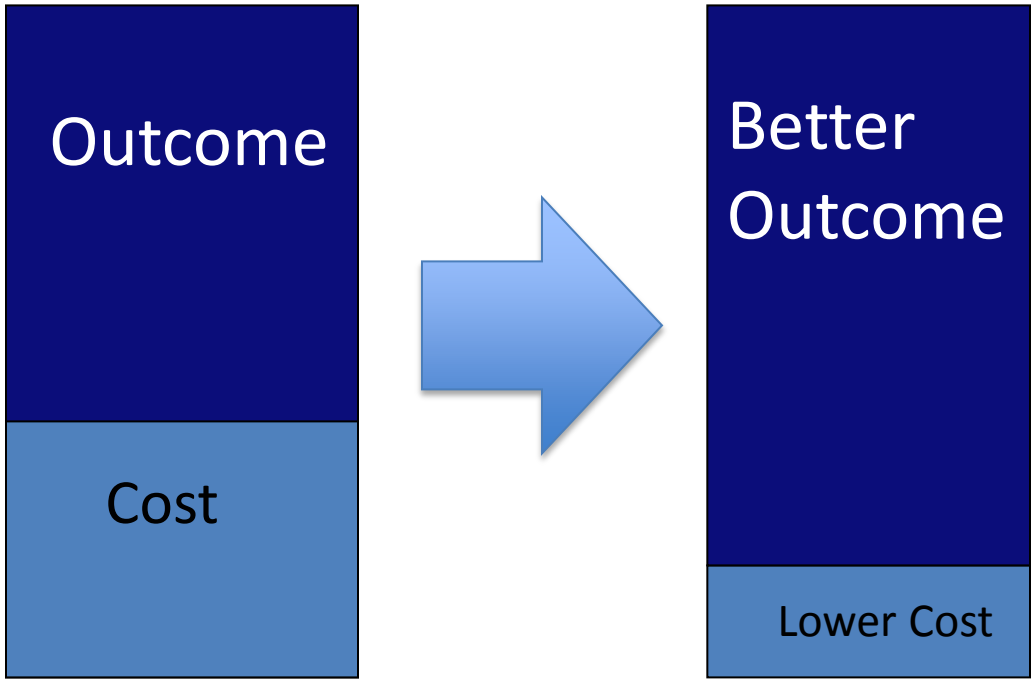
Within Programme, Between System Marginal analysis is a clinician responsibility





Technical Value (Efficiency) = Outcomes/ Resources

$$\frac{\text{Outcome= Benefit (EBM +Quality) – Harm (Safety)}}{\text{Resources (£££ + C + Time, of clinicians \& patients)}}$$



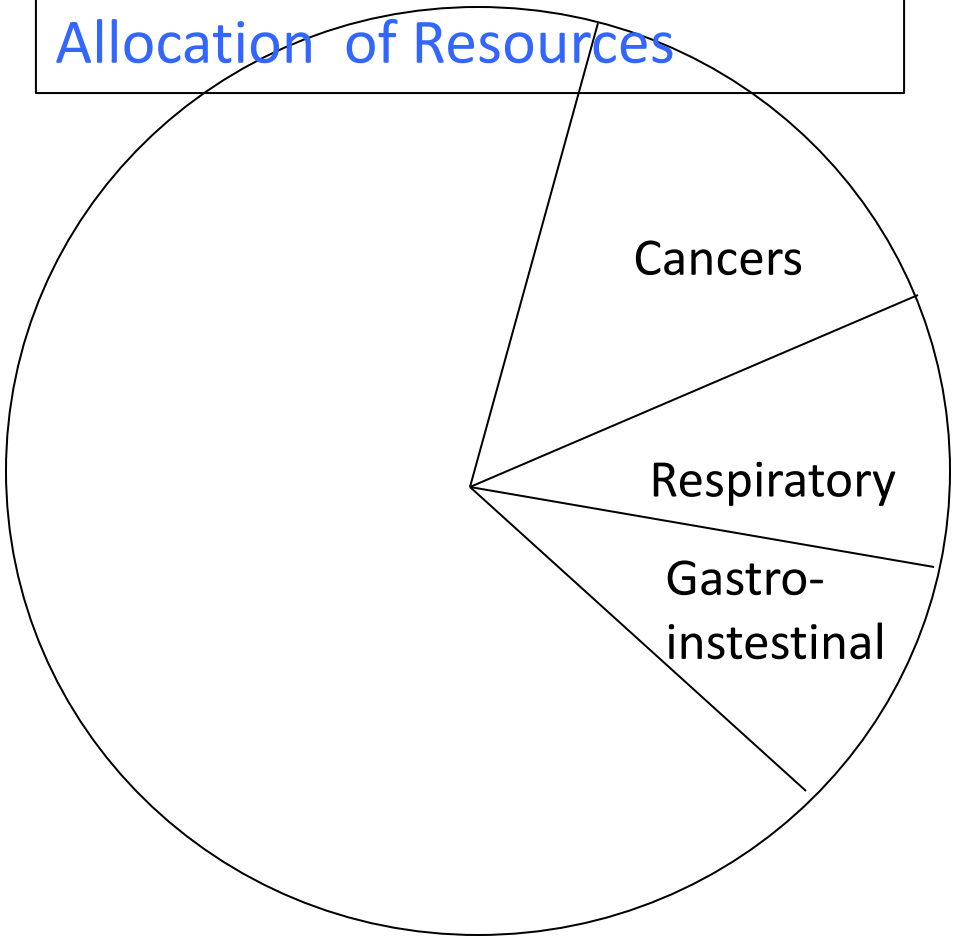
These are the three traditional questions about Technical Value or Efficiency

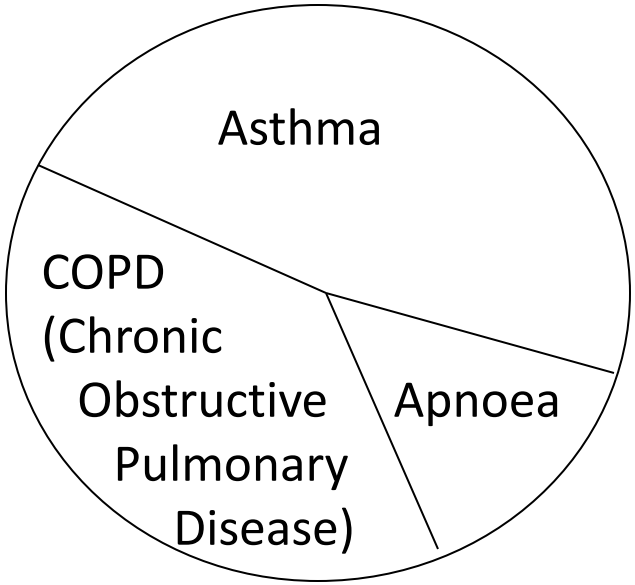
5. Is the quality of care being maximised?
6. Are clinical risks being minimised?
7. Can costs be cut further without increasing harm or reducing effectiveness

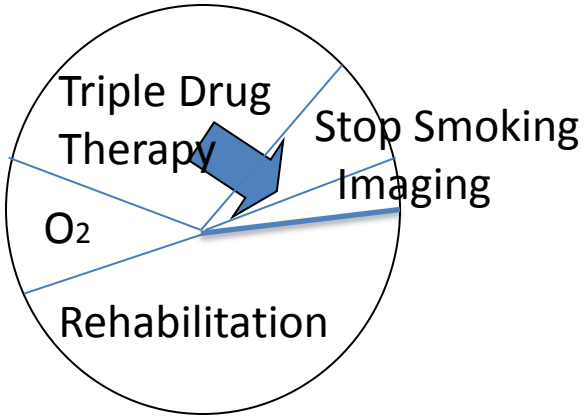
THERE ARE TWO QUESTIONS THAT NEED TO BE ASKED ABOUT TECHNICAL VALUE IN ADDITION TO THE TRADITIONAL THREE – QUESTION 8

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

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



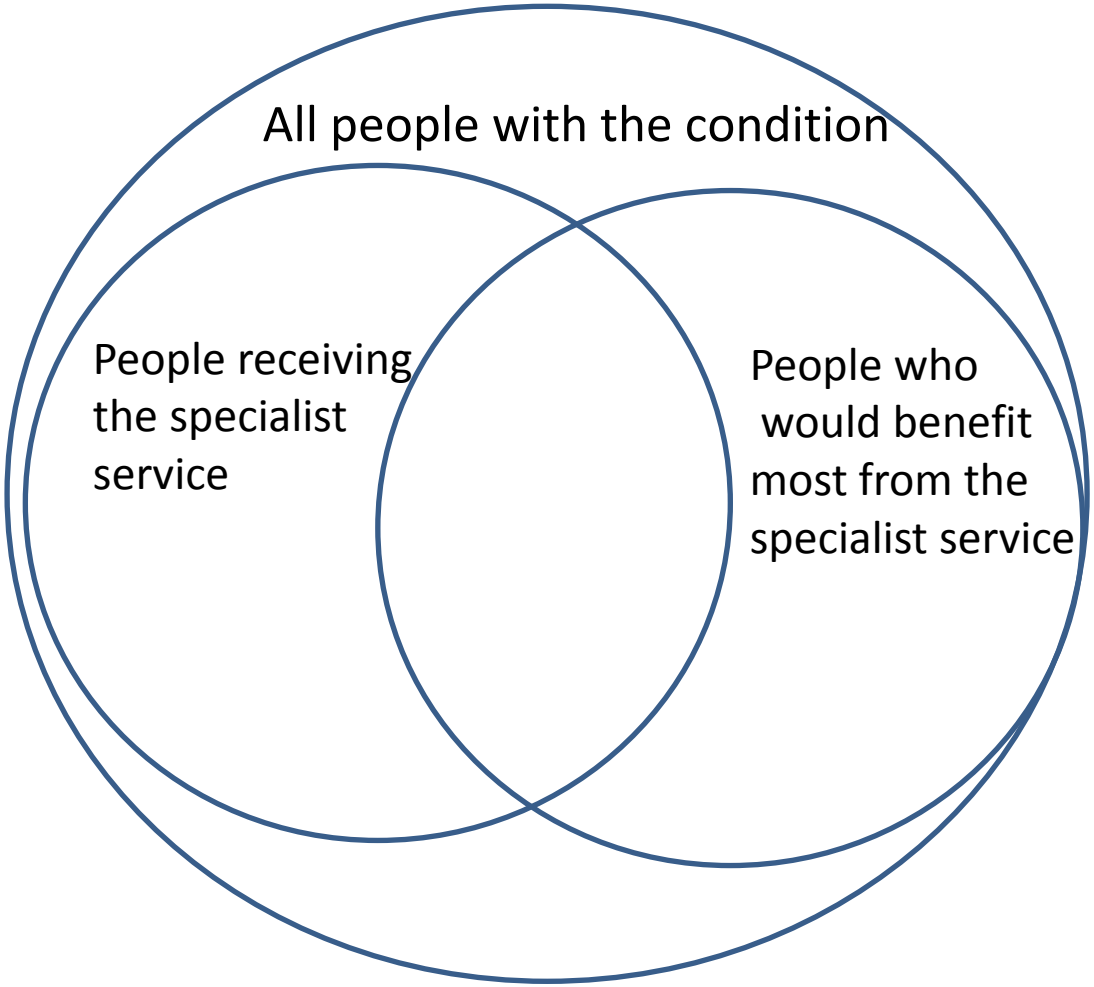


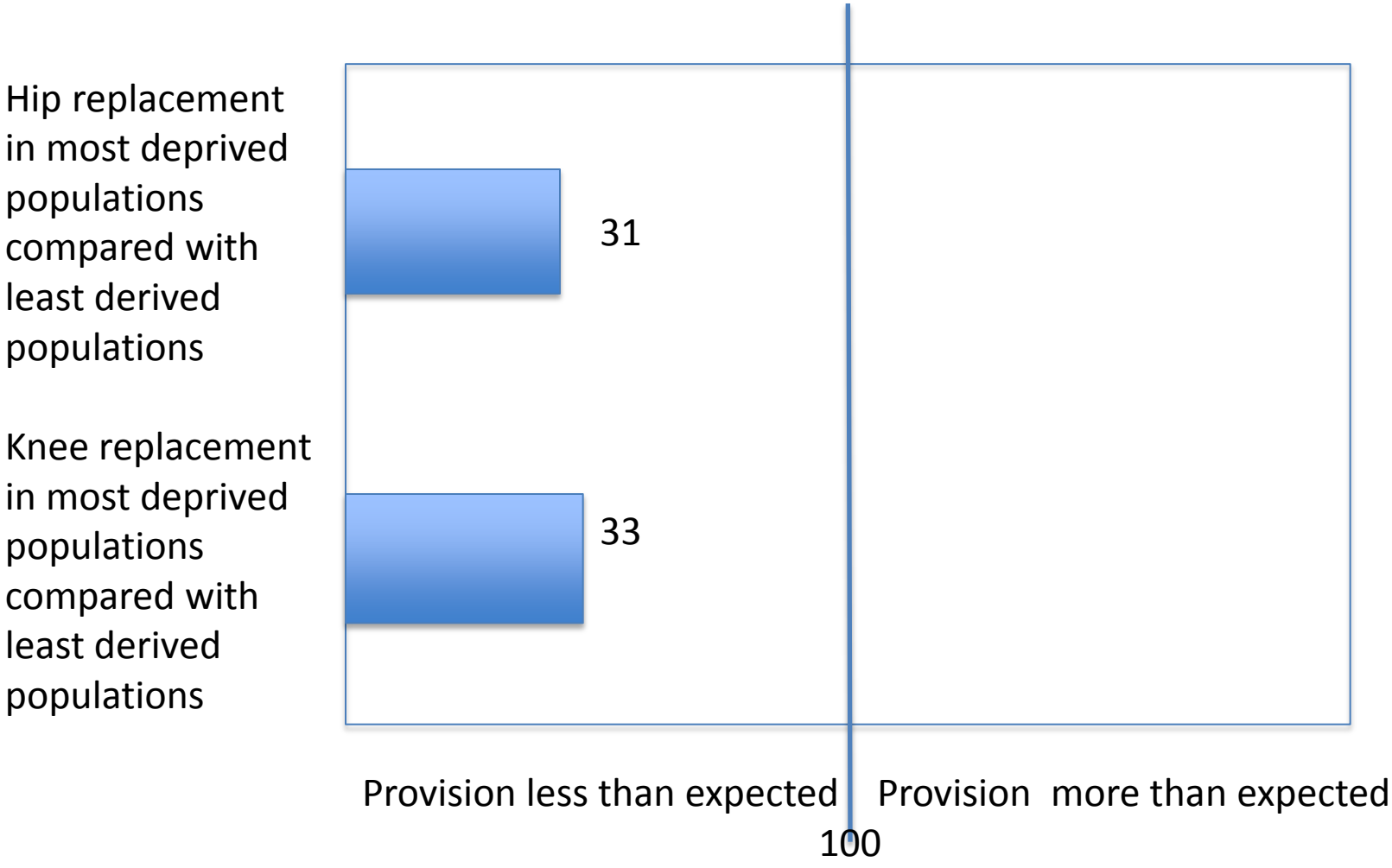


THERE ARE TWO QUESTIONS THAT NEED TO BE ASKED ABOUT TECHNICAL VALUE IN ADDITION TO THE TRADITIONAL THREE –QUESTION 9

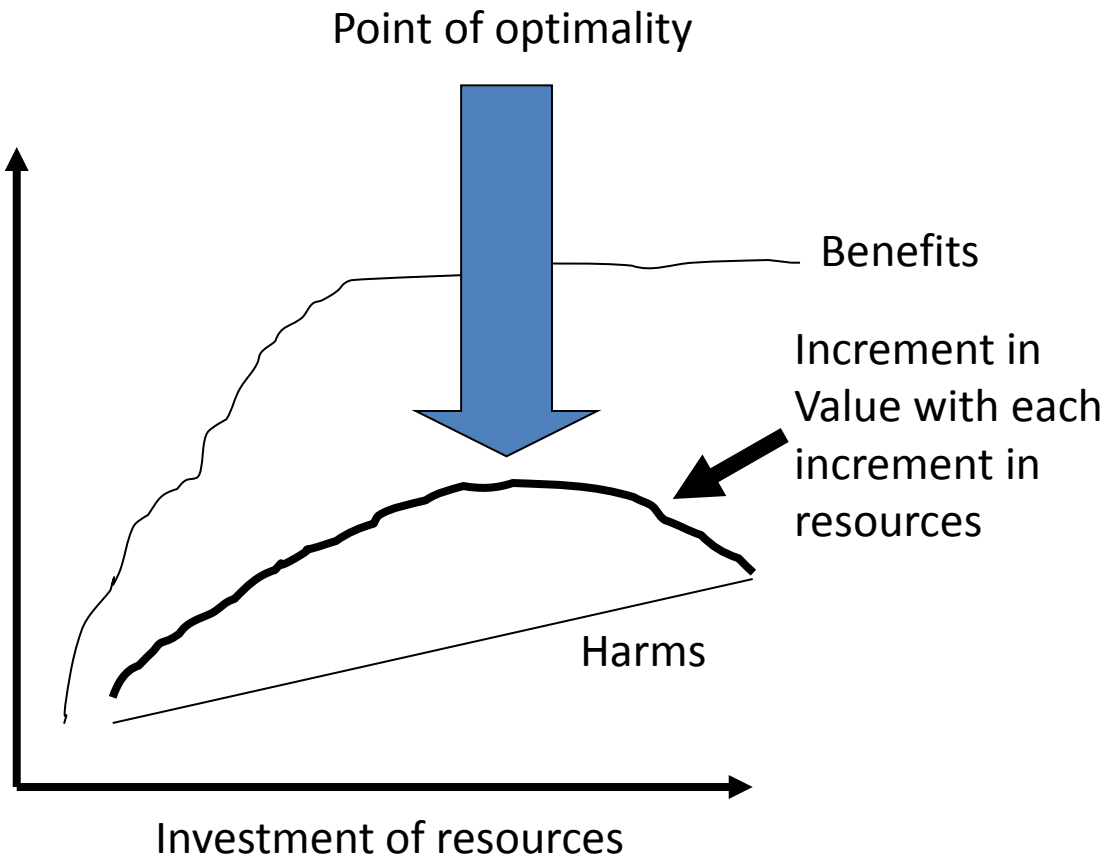
9. Are the right patients being offered the high value interventions?

9a Are the specialist services seeing the patients who would benefit most




Hip replacement in most deprived populations compared with least derived populations
31
Knee replacement in most deprived populations compared with least derived populations
33
Provision less than expected
Provision more than expected
100

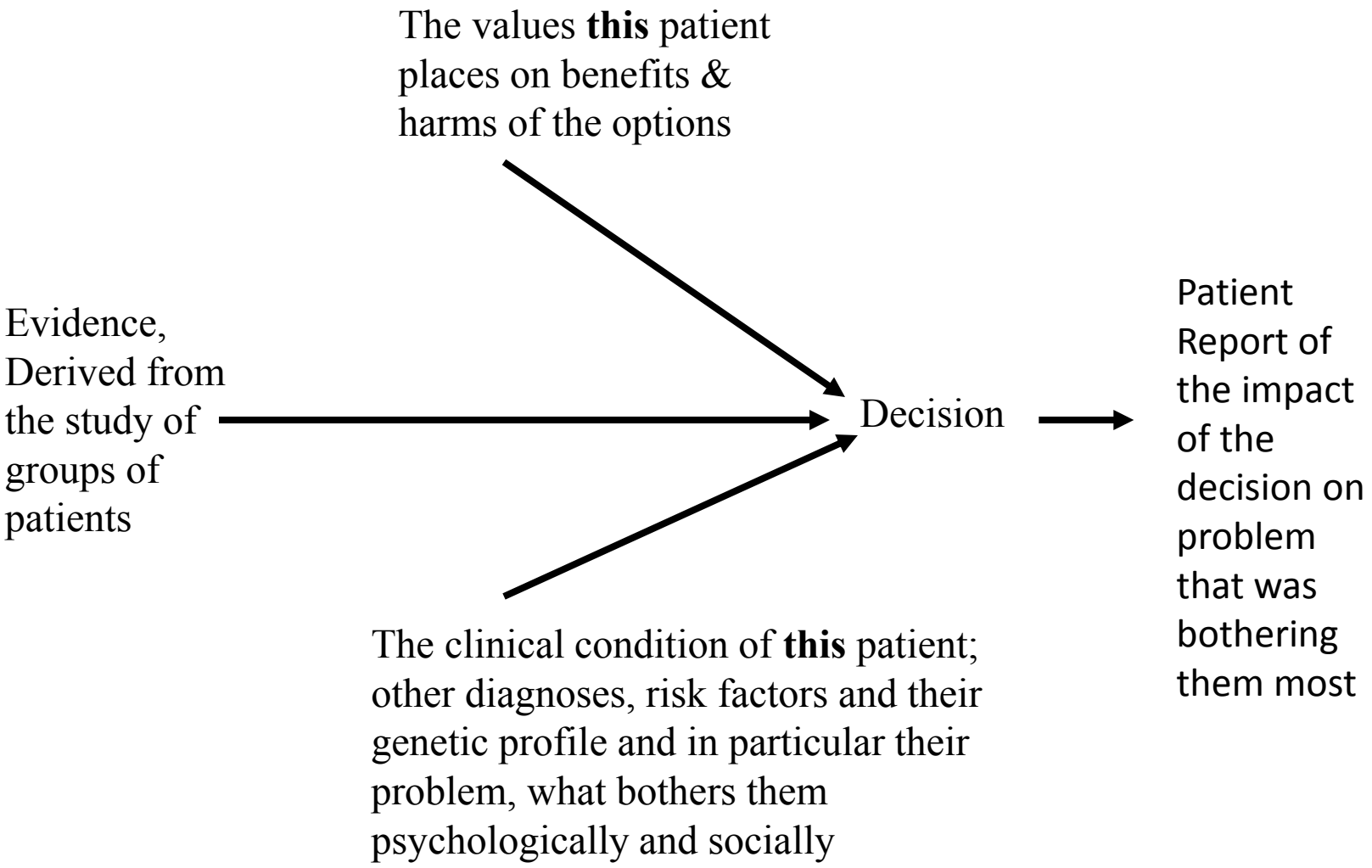
9b Are there imaging interventions which have gone past the point of optimality

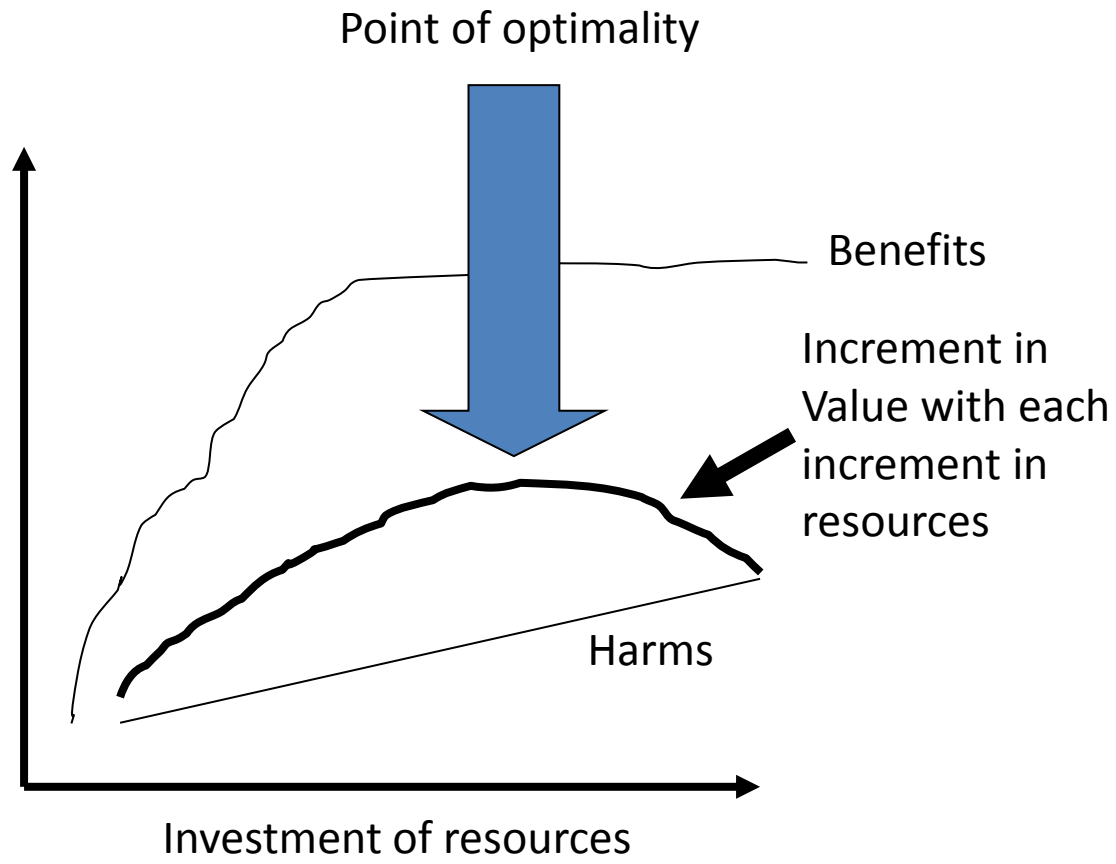


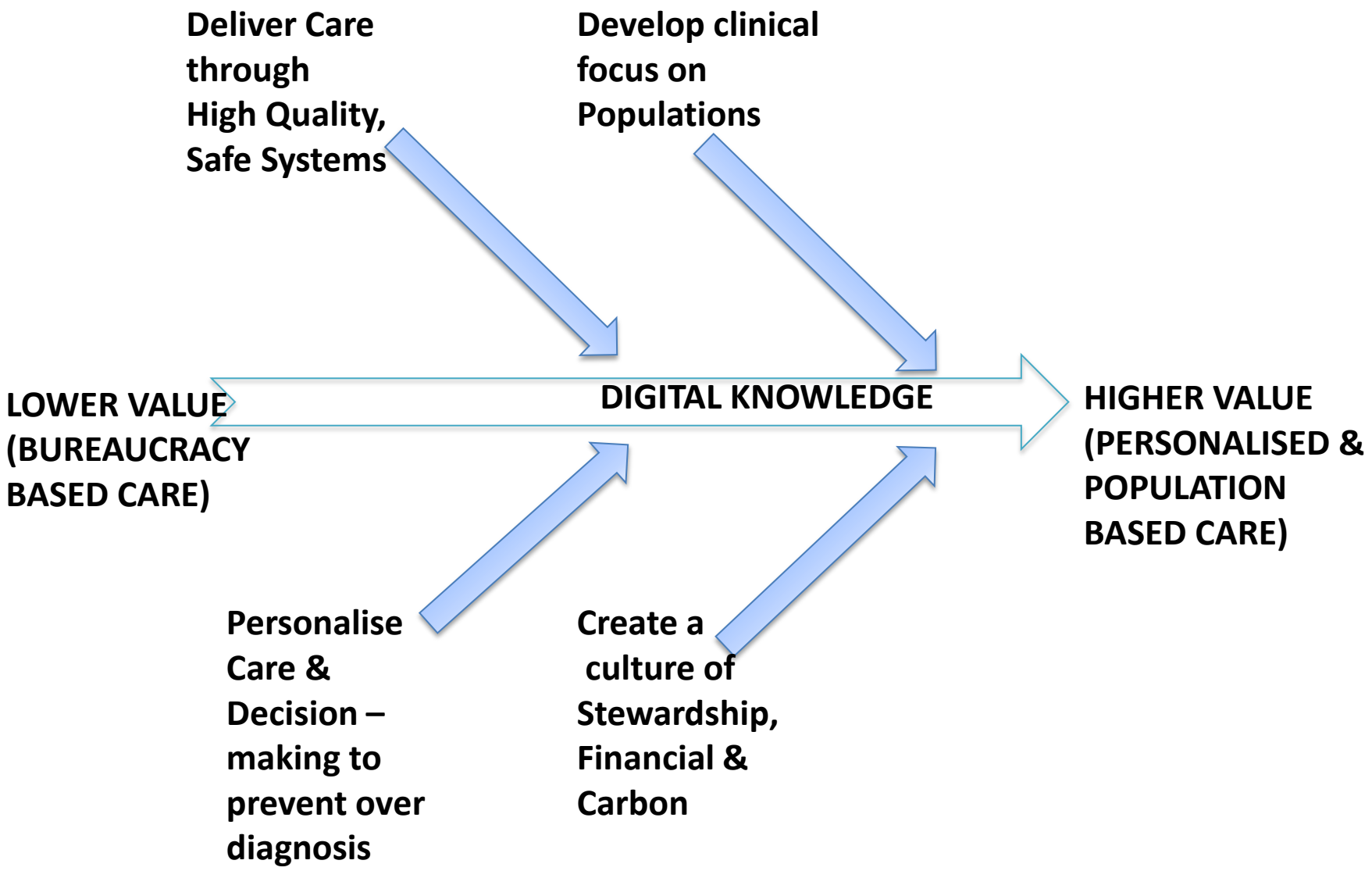
10 QUESTIONS ABOUT VALUE

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

Personalised imaging – evidence and values based




Point of optimality
Benefits
Increment in Value with each increment in resources
Harms
Investment of resources


Deliver Care through High Quality, Safe Systems
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DIGITAL KNOWLEDGE
HIGHER VALUE (PERSONALISED & POPULATION BASED CARE)
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The Care Archipelago

GENERAL PRACTICE

MENTAL HEALTH

COMMUNITY HEALTH SERVICES

SPECIALIST SERVICES

SOCIAL SERVICES

The Commissioning Archipelago

GP/
Pharmacists/
optometrists

152
Local
Authorities

211 CCG's

Public
Health
England

Specialist
commissioning

The Professional Archipelago

GPs & Practice Nurses

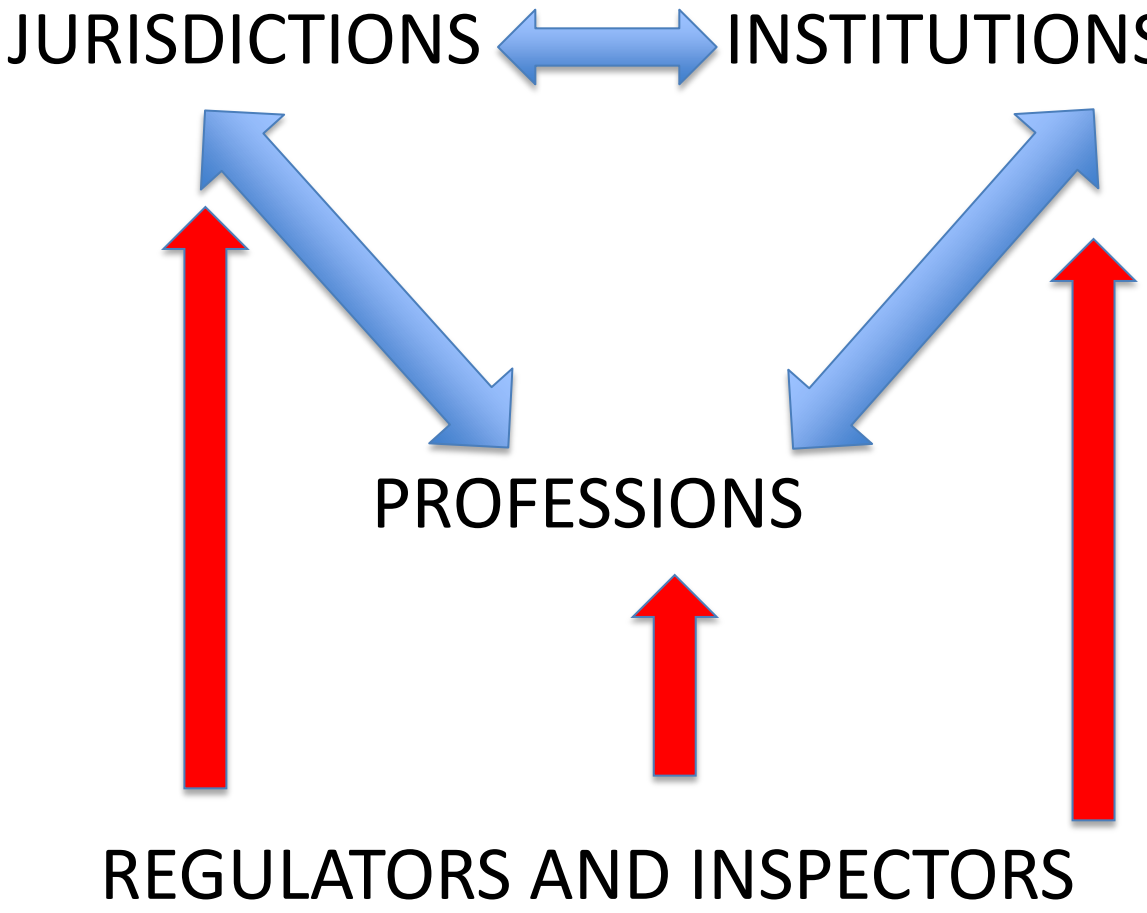
Social workers

Mental Health Professionals

Public Health Directors

Housing Staff

A&E staff


JURISDICTIONS
INSTITUTIONS
PROFESSIONS
REGULATORS AND INSPECTORS

“complexity is the dynamic state between chaos and order”

Kieran Sweeney (2006)
Complexity in Primary care
radcliffe

Chaos……..Complexity……..Order

Person aged 87, 5 diagnoses
8 prescriptions, cared for by
Daughter with alcoholic husband

Man aged 57 with
Psychosis, drug dependence, and severe epilepsy

woman aged 73,
webuser, with T2 Diabetes, STEMI, high blood pressure, homeopathy

woman aged 67 painful hip & mild depression

Man aged 67 with
Dukes A colorectal ca.

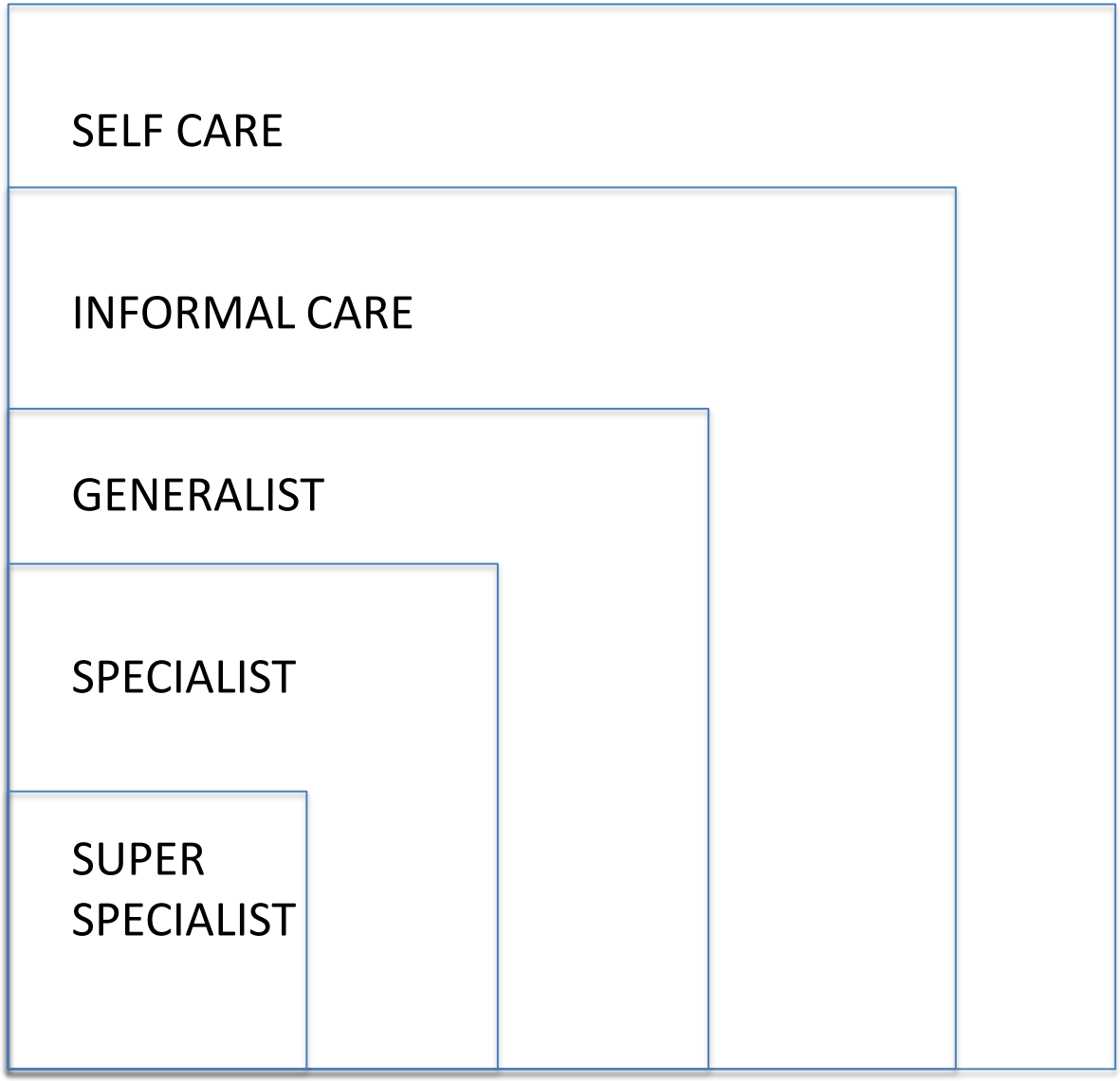
Man aged 23, Potts# Football

woman aged 45
invited for cervical screening

Systems, not bureaucracies

Population healthcare focus primarily on populations defined by a common need which may be a symptom such as breathlessness, a condition such as arthritis or a common characteristic such as frailty in old age, not on institutions , or specialties or technologies. Its aim is to maximise value and equity for those populations and the individuals within them

System architecture

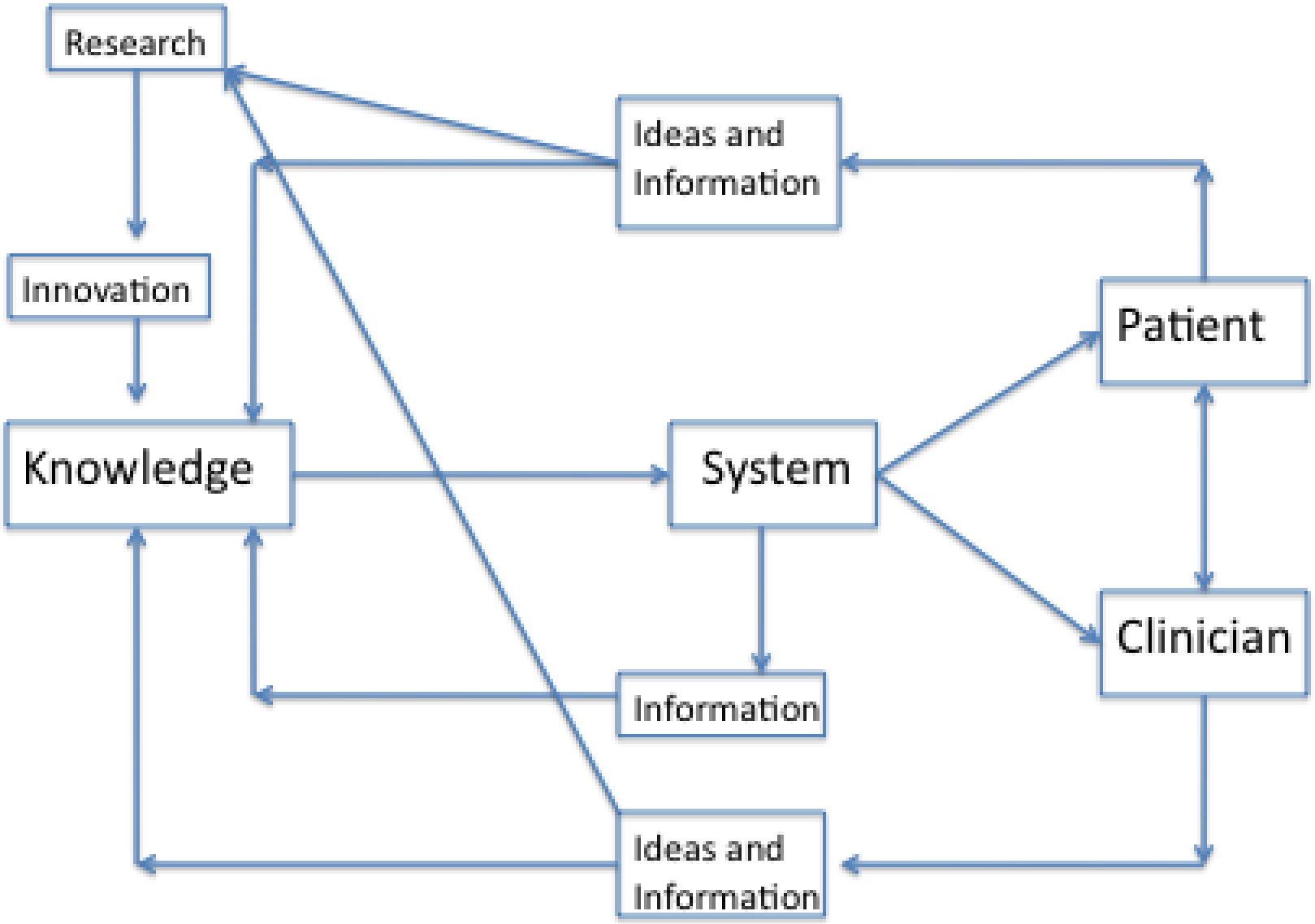


System design

Newborn Screening for Sickle Cell Disorders Programme Standards

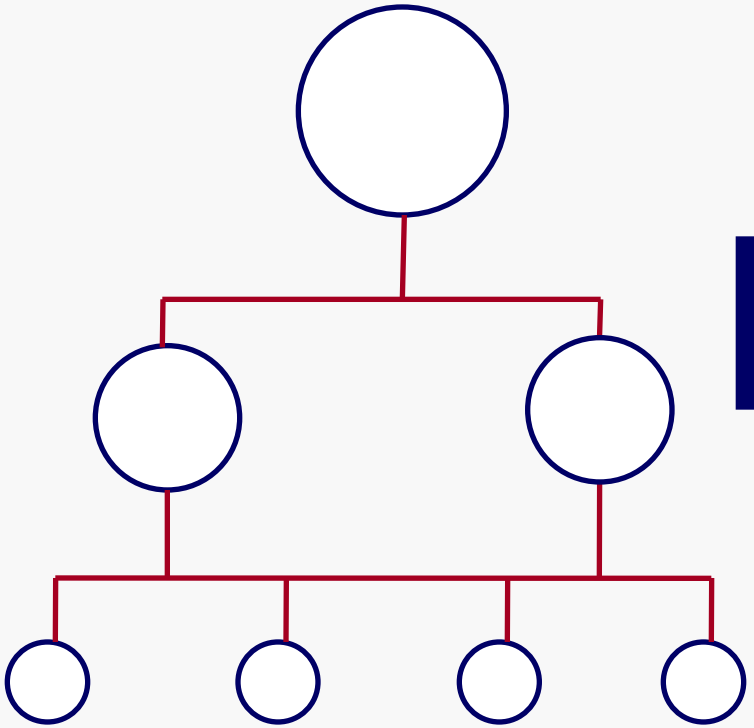
NEWBORN PROGRAMME OBJECTIVES:	CRITERIA	STANDARDS	
		Minimum (Core)	Achievable (Developmental)
Programme Outcome			
Best possible survival for infants detected with a sickle cell disorder by the screening programme	**Mortality rates expressed in person years**	**Mortality rate from sickle cell disease 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)**
Programme Outcome			
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

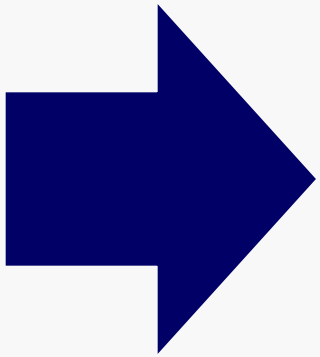
This is an example of a national service set up as a system

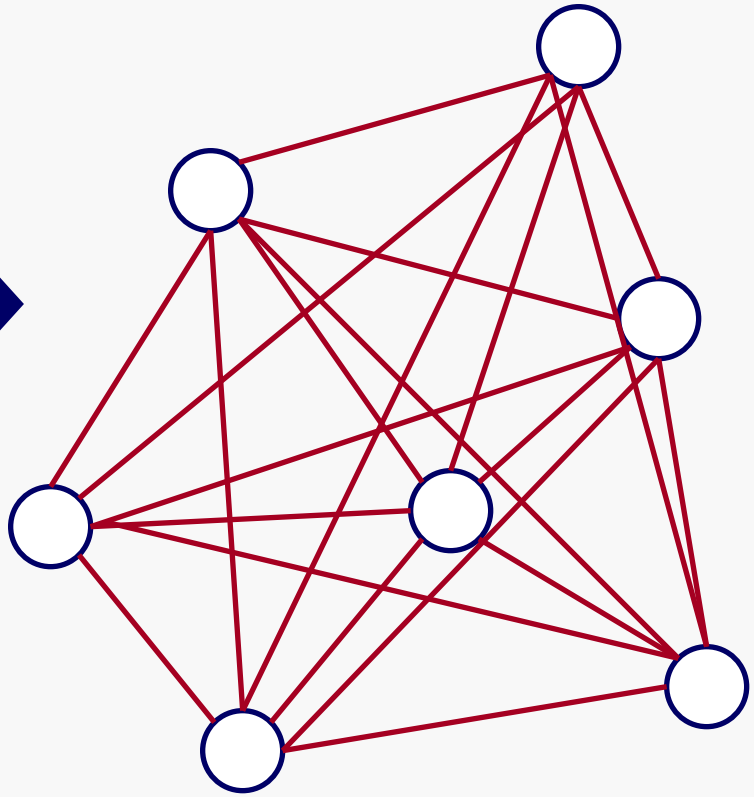

Research
Ideas and Information
Innovation
Patient
Knowledge
System
Clinician
Information
Ideas and Information

Hierarchy

Network







- Define the scope of the system.
- Define the population to be served.
- Reach agreement on the aim and objectives of the service
- For each objective find one or more criteria
- For each of the criteria identify levels of performance that can be used as quality standards
- Identify all the resources used in the system, thus creating a system budget and prioritise within the plan using the STAR tool
- Define all the partners so that they need to be engaged in a Clinical Network and produce a system specification
- Define the pathways and key decision points in the patient's journey
- Prepare the necessary outcome based contract , describing the risks that have to be managed
- Introduce the system

The population to be served. An example from Bradford is included to show the degree of detail required

People registered in the 86 practices of Bradford, Airedale and Craven, with a total population size of 601,638 (2 hospital INR providers, 25 primary care INR providers)

Airedale, Wharfedale and Craven.
155,638 population registered
17 practices

Bradford Districts
328,000 population registered
42 practices

Bradford City
118,000 population registered
29 practices

The aim of the system

To use the resources of the NHS to best effect to minimise the impact of hearing loss on the quality of life of people who are affected

The objectives

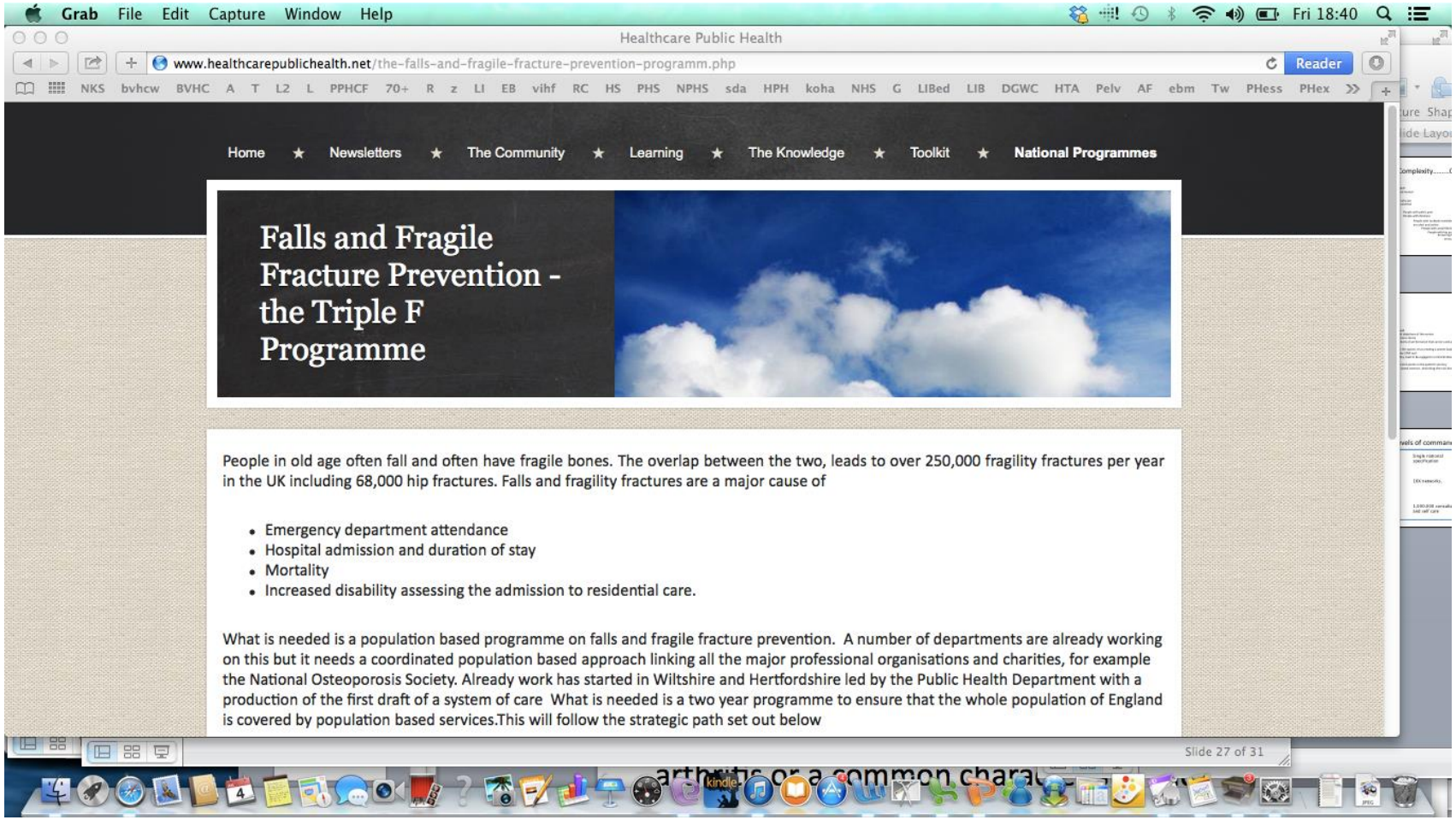
To identify people with atrial fibrillation

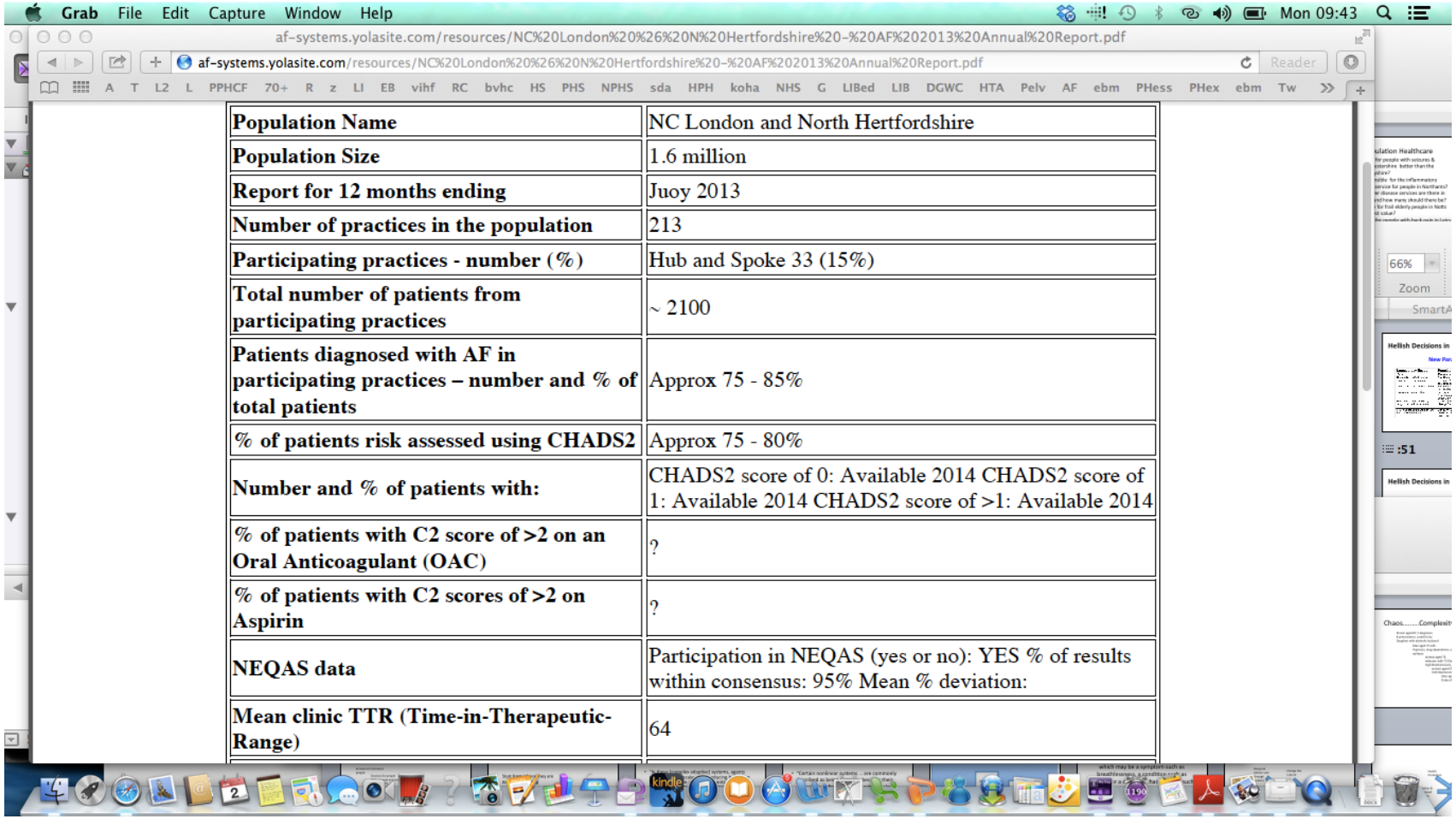
To assess risk accurately in all people known to have AF

To treat people safely and effectively

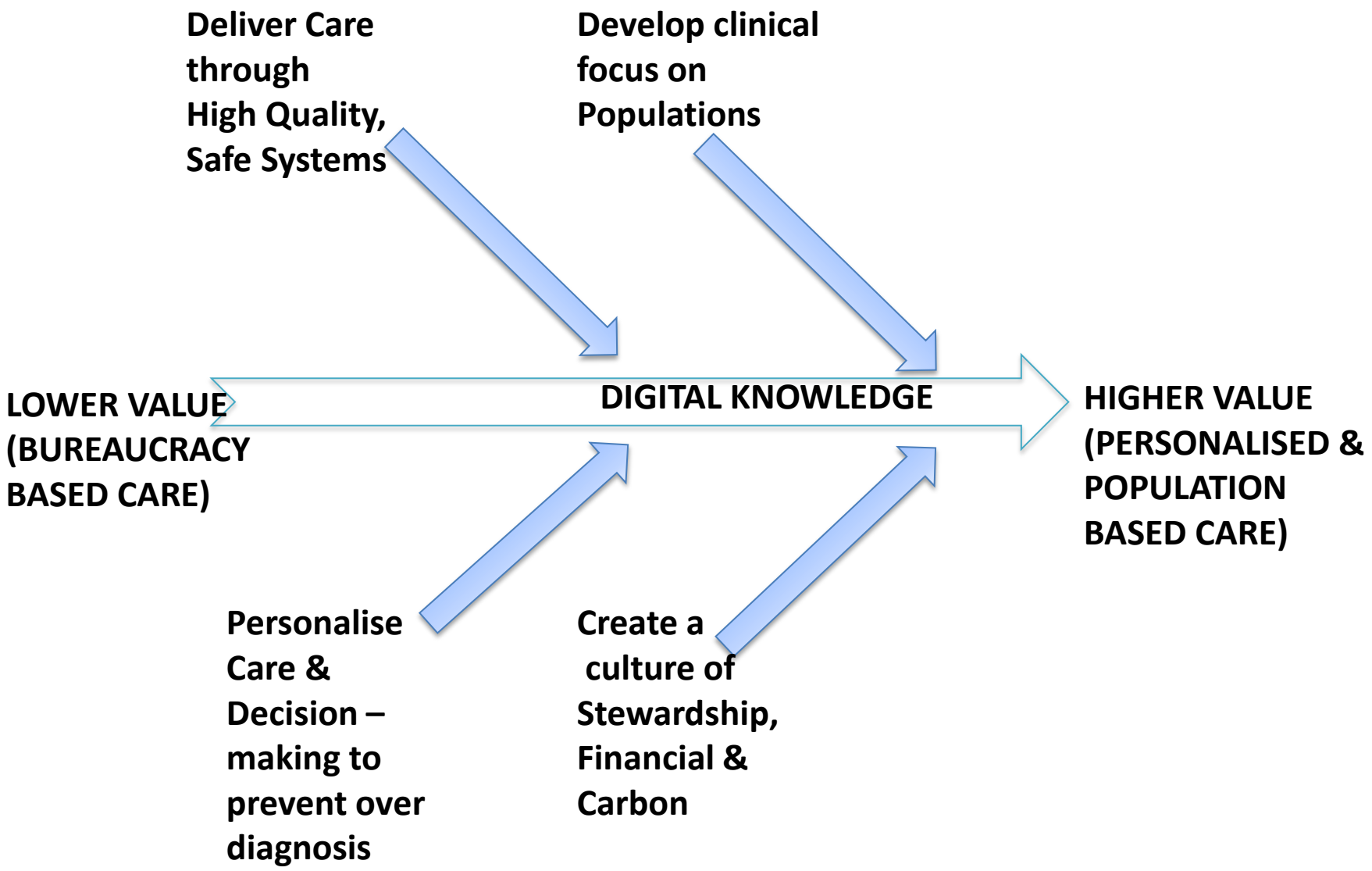
To phase out ineffective treatment with aspirin and increase the % of people on an effective oral anticoagulant

To ensure people with AF make a well informed decision that takes their values into account


Grab File Edit Capture Window Help
Fri 18:40
Healthcare Public Health
www.healthcarepublichealth.net/the-falls-and-fragile-fracture-prevention-programm.php
Reader
Home ★ Newsletters ★ The Community ★ Learning ★ The Knowledge ★ Toolkit ★ National Programmes
Falls and Fragile Fracture Prevention - the Triple F Programme
People in old age often fall and often have fragile bones. The overlap between the two, leads to over 250,000 fragility fractures per year in the UK including 68,000 hip fractures. Falls and fragility fractures are a major cause of
Emergency department attendance
Hospital admission and duration of stay
Mortality
Increased disability assessing the admission to residential care.
What is needed is a population based programme on falls and fragile fracture prevention. A number of departments are already working on this but it needs a coordinated population based approach linking all the major professional organisations and charities, for example the National Osteoporosis Society. Already work has started in Wiltshire and Hertfordshire led by the Public Health Department with a production of the first draft of a system of care What is needed is a two year programme to ensure that the whole population of England is covered by population based services.This will follow the strategic path set out below
Slide 27 of 31



Population Name	NC London and North Hertfordshire
Population Size	1.6 million
Report for 12 months ending	Juoy 2013
Number of practices in the population	213
Participating practices - number (%)	Hub and Spoke 33 (15%)
Total number of patients from participating practices	~ 2100
Patients diagnosed with AF in participating practices – number and % of total patients	Approx 75 - 85%
% of patients risk assessed using CHADS2	Approx 75 - 80%
Number and % of patients with:	CHADS2 score of 0: Available 2014 CHADS2 score of 1: Available 2014 CHADS2 score of >1: Available 2014
% of patients with C2 score of >2 on an Oral Anticoagulant (OAC)	?
% of patients with C2 scores of >2 on Aspirin	?
NEQAS data	Participation in NEQAS (yes or no): YES % of results within consensus: 95% Mean % deviation:
Mean clinic TTR (Time-in-Therapeutic-Range)	64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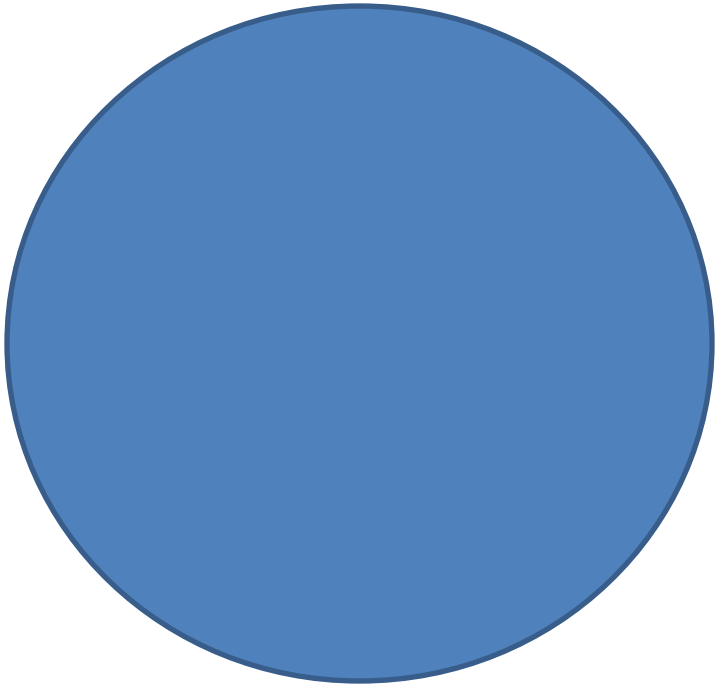
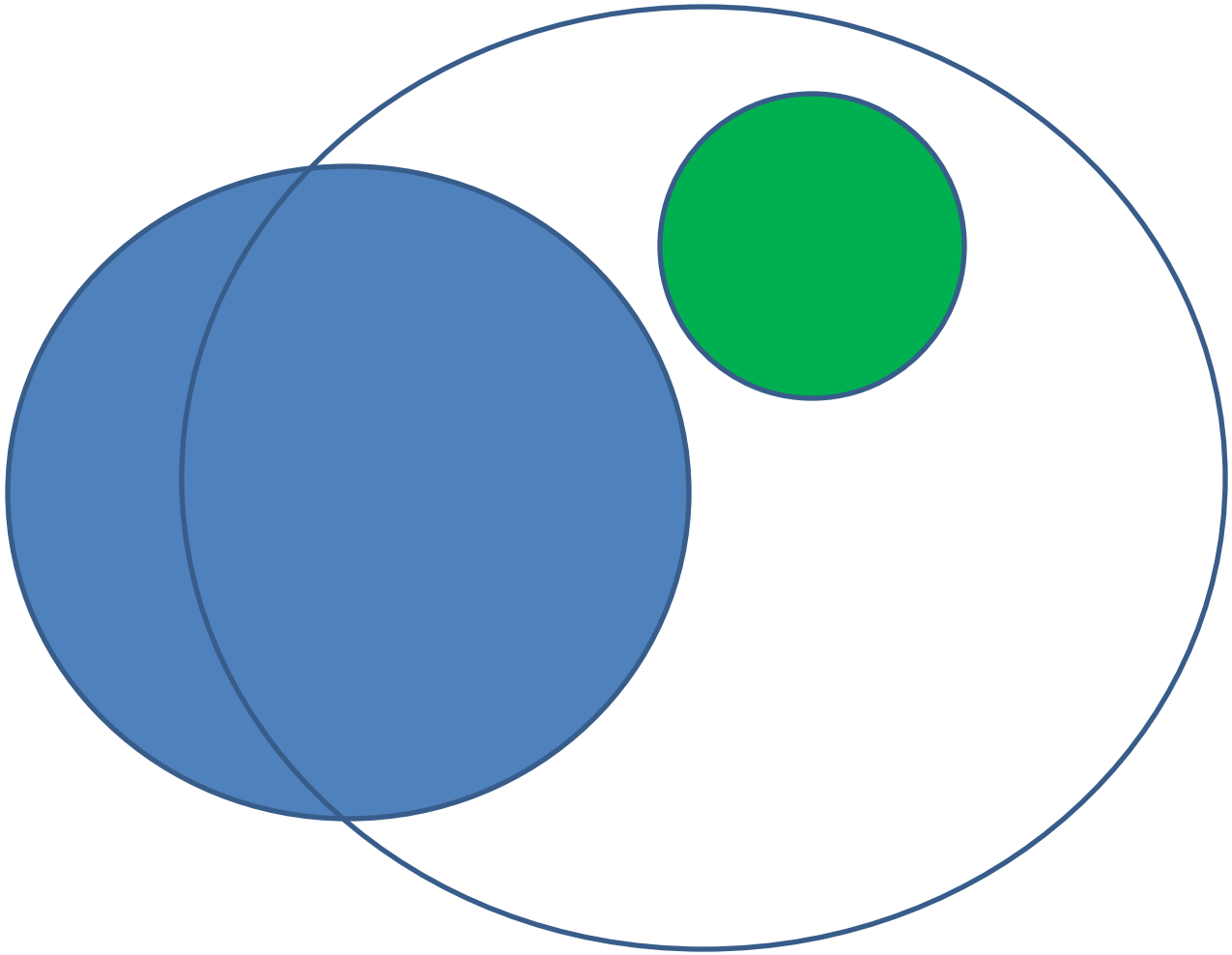
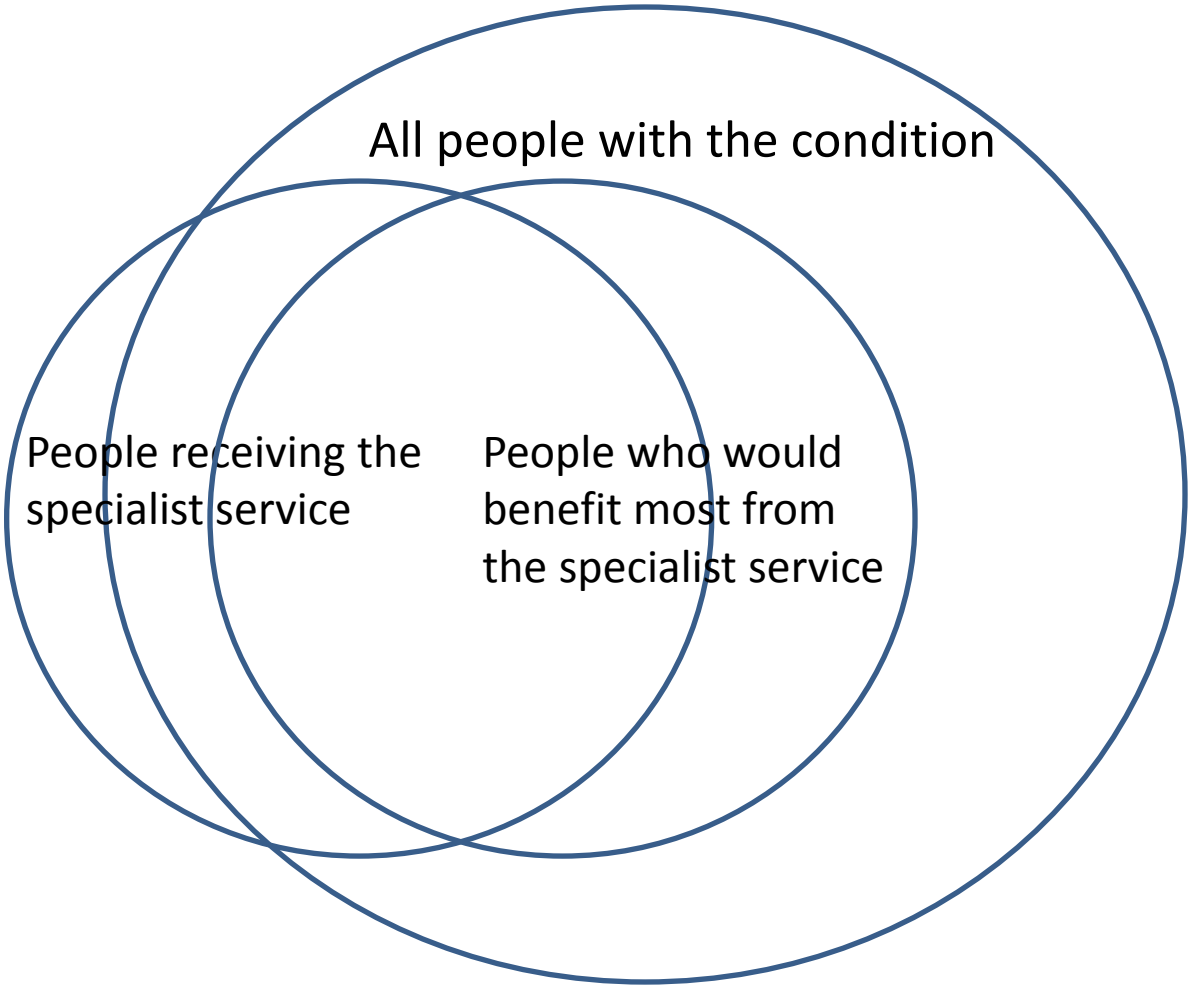
Dr Jones is a respiratory physician in the Derby Hospital Trust and last year she saw 346 people with COPD and provided
evidence based, patient centred care, and to improve effectiveness, productivity and safety



Dr Jones estimated that there are 1000 people with COPD in South Derbyshire and a population based audit showed that there were 100 people who were not referred who would benefit from the knowledge of her team




All people with the condition
People receiving the specialist service
People who would benefit most from the specialist service

Dr Jones is given 1 day a week for Population Respiratory Health and the co-ordinator of the South Derbyshire COPD Network and Service has responsibility, authority and resources for

Working with Public Health to reduce smoking

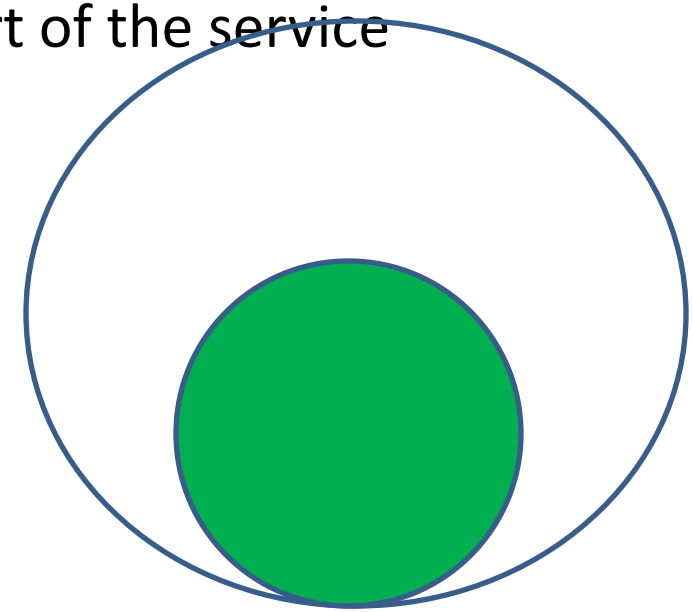
Network development

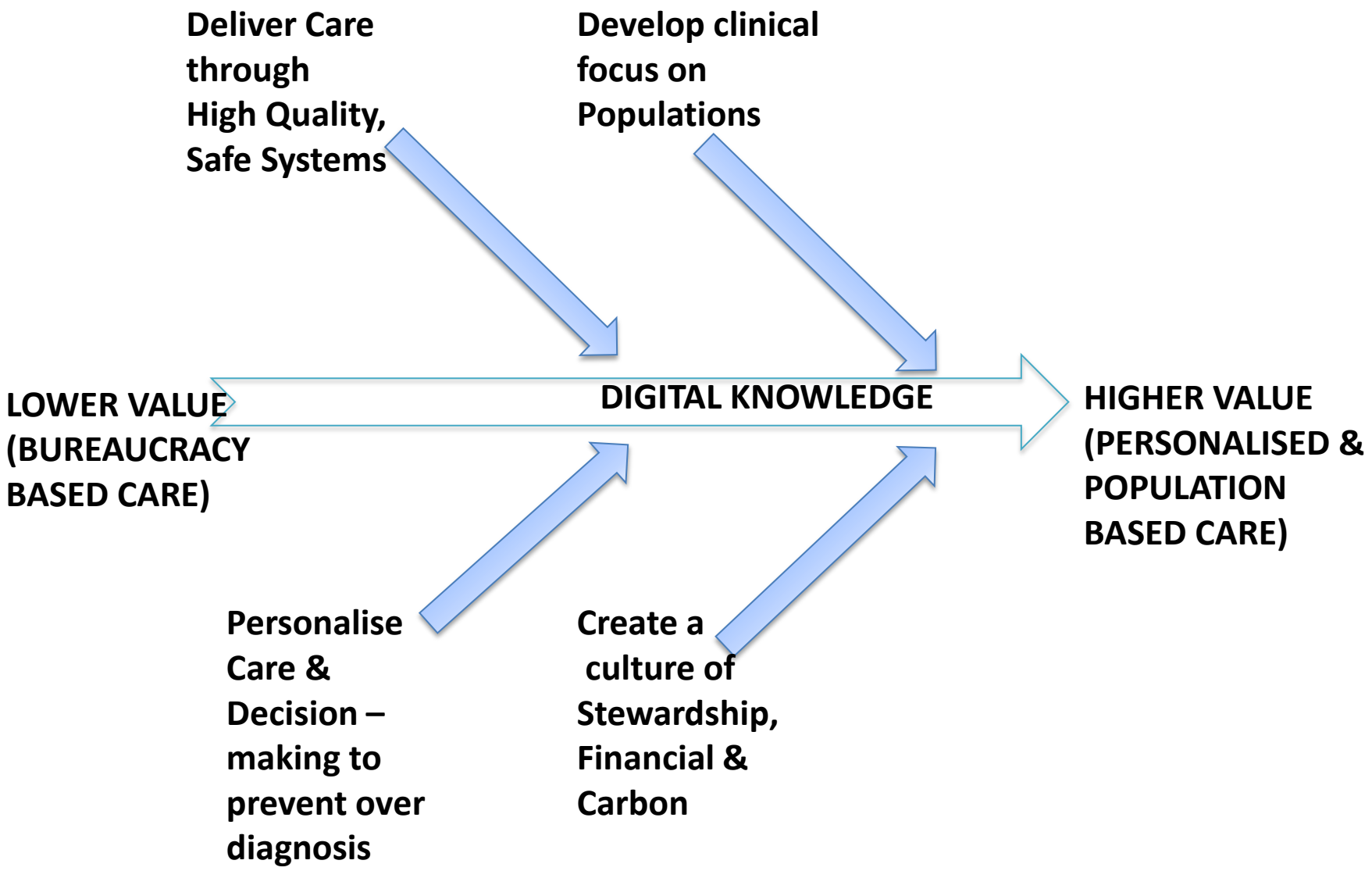
Quality of patient information

Professional development of generalists, and pharmacists

Production of the Annual Report of the service

She is keen to improve her performance from being 27th out of the 106 COPD services, and of greater importance, 6th out of the 23 services in the prosperous counties

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Personalise Care & Decision – making to prevent over diagnosis
Create a culture of Stewardship, Financial & Carbon

Personalised medicine

- This book focuses on the two key questions that are most frequently asked by clinicians about applying the results of randomised controlled trials and systematic reviews to decisions about their individual patients. Is the evidence relevant to my clinical practice? How can I judge whether the probability of benefit from treatment in my current patient is likely to differ substantially from the average probability of benefit reported in the relevant trial or systematic review?Rothwell, P.M. (2007) Treating Indviduals: From randomised trials to personalised medicine. The Lancet Elsevier (p.xi).

Stratified medicine

- “The key feature of a risk-stratified analysis is that several patient attributes (or risk factors) are combined into a score that describes a single dimension of risk along which treatment effect is likely to vary (almost always on the absolute risk scale, and potentially on the relative risk scale as well).”
- **Source:** Kent, D.M., Hayward, R.A. (2007) Limitations of Applying Summary Results of Clinical Trials. The Need for Risk Stratification. *JAMA*, 298(10) (p.211).

Precision medicine

"We define *precision medicine* as the provision of care for diseases that can be precisely diagnosed, whose causes are understood, and which consequently can be treated with rules-based therapies that are predictably effective. Another term "personalized medicine" is often used for this phenomenon that we're calling "*precision medicine*."

Source: Christensen, C.M. (2003) The Innovator's Dilemma. Harper Business Essentials. (p 45 and 56).

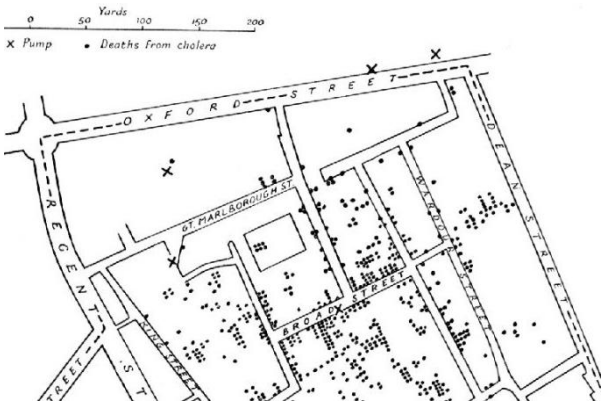
Personalised care is part of Patient centred care

- My proposed definition of "patient-centred care" is this: "The experience (to the extent the informed, individual patient desires it) of transparency, individualization, recognition, respect, dignity, and choice in all matters, without exception, related to one's person, circumstances, and relationships in health care."

  Source: Berwick DM. (2009) What 'Patient-Centred' should mean: confessions of an extremist. Doi 10.1377/hlthaff.28.4w555

Digital knowledge is driving the third healthcare revolution

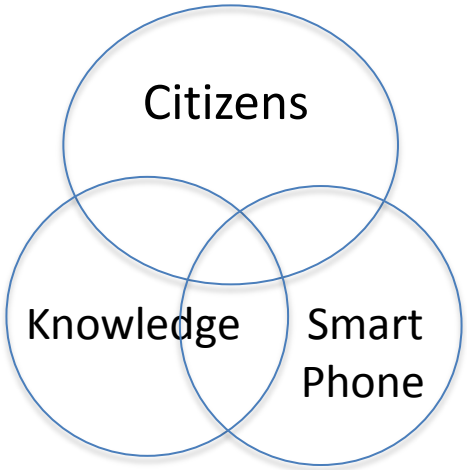
The First
Public Health

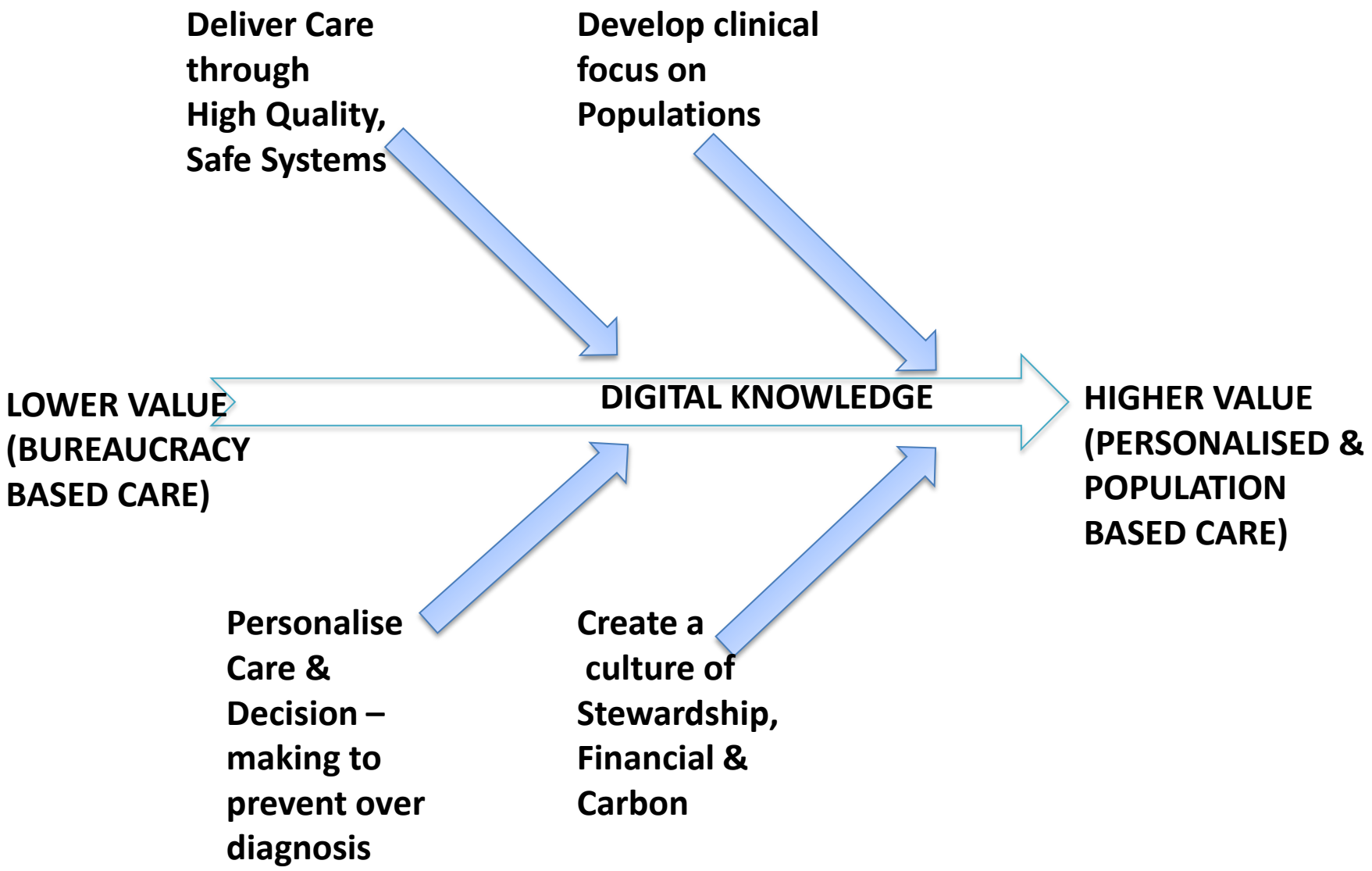


The Second
High Tech

- Antibiotics
- MRI
- CT
- Transplantation
- Stents
- Hip and knee replacement
- Chemotherapy
- Radiotherapy
- RCTs
- Systematic reviews

the Third
Networking




Deliver Care through High Quality, Safe Systems
Develop clinical focus on Populations
LOWER VALUE (BUREAUCRACY BASED CARE)
DIGITAL KNOWLEDGE
HIGHER VALUE (PERSONALISED & POPULATION BASED CARE)
Personalise Care & Decision – making to prevent over diagnosis
Create a culture of Stewardship, Financial & Carbon

"**Culture**…the shared tacit assumptions of a group that it has learned in coping with external threats and dealing with internal relationships."

Schein, E.H (1999) The Corporate Culture Survival Guide

"**Leadership** …and a company's culture are inextricably interwined."

Morgan, J.M. and Liker, J.K. (2006) The Toyota Product Development System

Ban old language

PrimarySecondaryAcuteCommunityManagerOutpatientHubandSpoke

Introduce new language

A **SYSTEM** is a set of activities with a common set of objectives and outcomes; and an annual report. Systems can focus on symptoms, conditions or subgroups of the population

(delivered as a service the configuration of which may vary from one population to another)

A **NETWORK** is a set of individuals and organisations that deliver the system's objectives

(a team is a set of individuals or departments within one organisation)

A **PATHWAY** is the route patients usually follow through the network

A **PROGRAMME** is a set of systems with ha common knowledge base and a common budget

“Waste (muda) is anything that does not add value to the outcome” Taiichi Ohno

ohno

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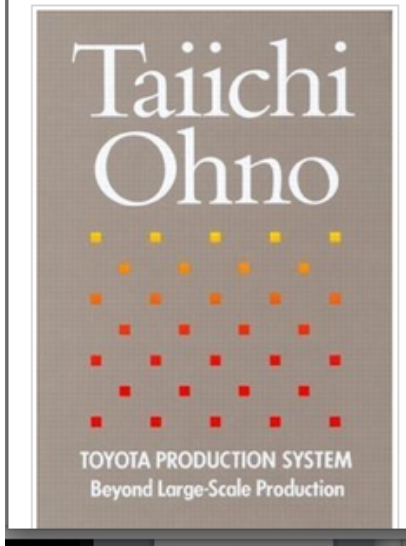
Released Wednesday 14 December

What does Toyota mean by the word waste?

Book review by Sir Muir Gray



The Toyoda family played a dominant part in the history of the Toyota Motor Corporation, always honourable and positive, but there were other key people apart from family members who made the company what it is today.

The most famous of these is Taiichi Ohno, charismatic, ferocious and relentless personality who developed the Toyota Production System and waged unrelenting war on *muda*.

The stories are legion. For example, when he thought there was too much inventory space beside a production line, one of the seven types of wastes, he got an electric saw and simply cut the twelve foot high stacks of shelves down to six feet, thus reducing the inventory space by 100% – problem solved.

His book The Toyota Production System should really be

0:00

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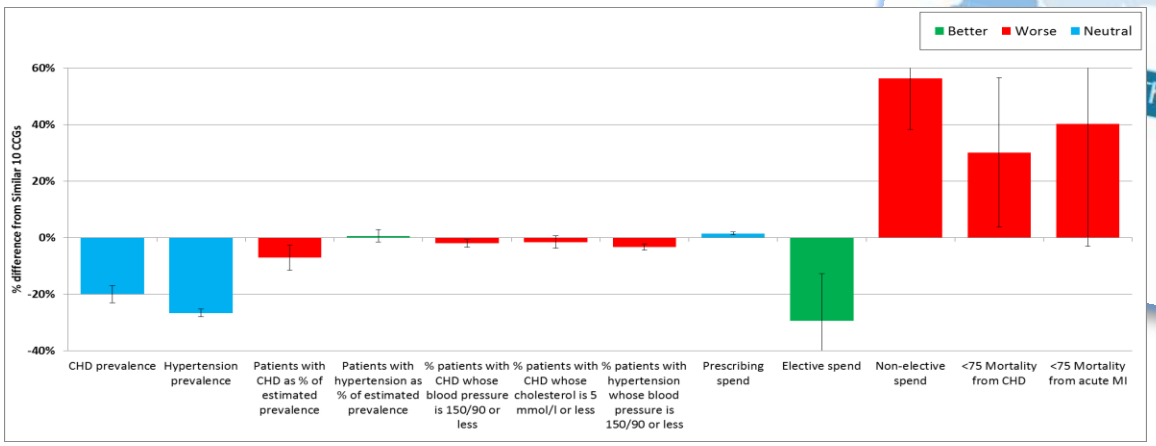

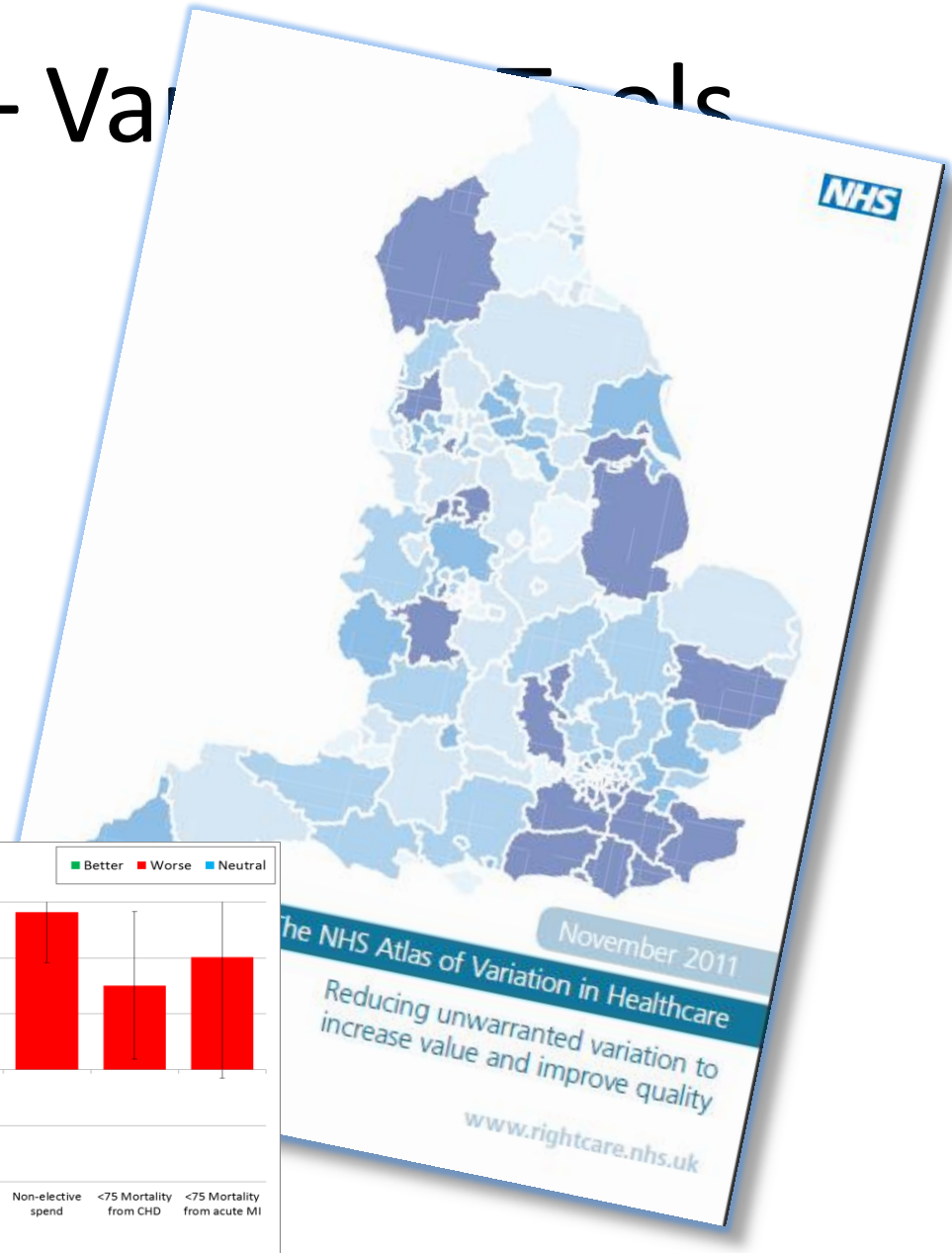

Go to the ant, O sluggard
study her ways and learn wisdom, for though she has no chief, no officer or ruler,
she secures her food in the summer,
she gathers her provisions in the harvest Proverbs 6;6