Cancer. From cure to prevention.

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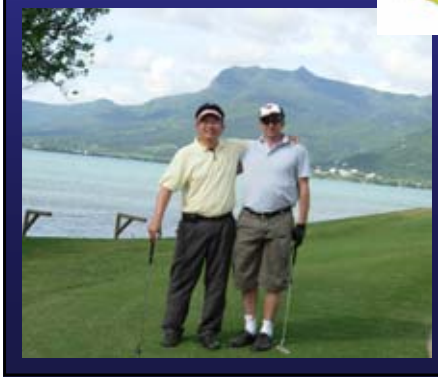


Content of talk

- Changes in cancer care in England
- Examine recent global changes in public health and science
- Look into future

Breast cancer pathway 1984

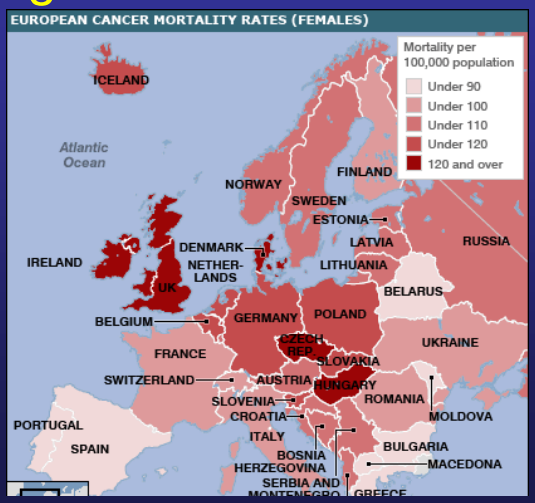
- Mrs Ogden
- Born 1936
- Right breast lump
- Mother died of breast cancer aged 42
- Referred to Hospital

Breast cancer pathway 1984

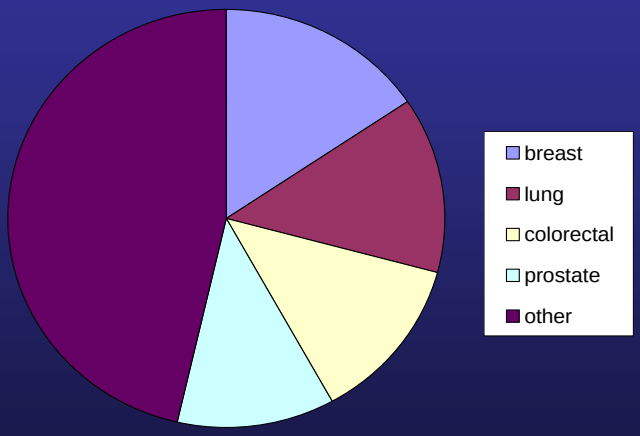
- Saw Mr Spratt (Day 56)
- Mammogram (Day 92)
- Mastectomy (Day 126)
- 3/12 follow-up in surgical clinic
- 3/12 later metastatic pleural effusion
- Oncologist
- Chemo
- Died 8/12 later in hospital

Why need for a Cancer Plan in England?

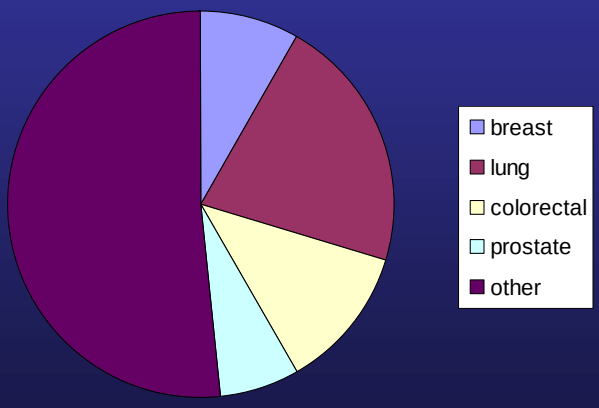
- Worst mortality in Europe
- Historic underinvestment
- No National Strategy



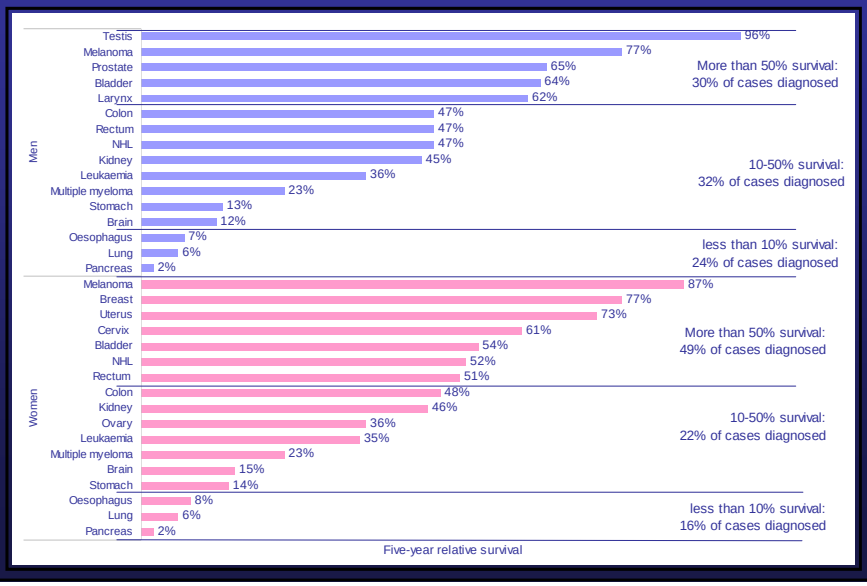
Burden of cancer in England 2008: Incidence 230,000 cases p.a.



Burden of cancer in England 2008: Mortality 125,000 deaths



Five year age standardised relative survival (%), adults diagnosed 1996-1999, England and Wales by sex and site



NHS Cancer Plan 2000

NHS Cancer Plan 2000

It had four aims:

- to save more lives
- to ensure people with cancer get the right professional support and care as well as the best treatments
- to tackle the inequalities in health that mean unskilled workers are twice as likely to die from cancer as professionals
- to build for the future through investment in the cancer workforce, through strong research and through preparation for the genetics revolution, so that the NHS never falls behind in cancer care again

Commitments in Cancer Plan

- Reduce smoking
  - 32% in 1998 to 26% by 2010
- Waiting times
- Investment
  - £670 million per year
  - £50 million for Palliative Care
- Improving Outcomes Guidance
- Cancer Networks

Waiting times targets

- 2 week wait

Urgent GP referral	Initial consultation	Diagnosis	Decision to treat	First treatment

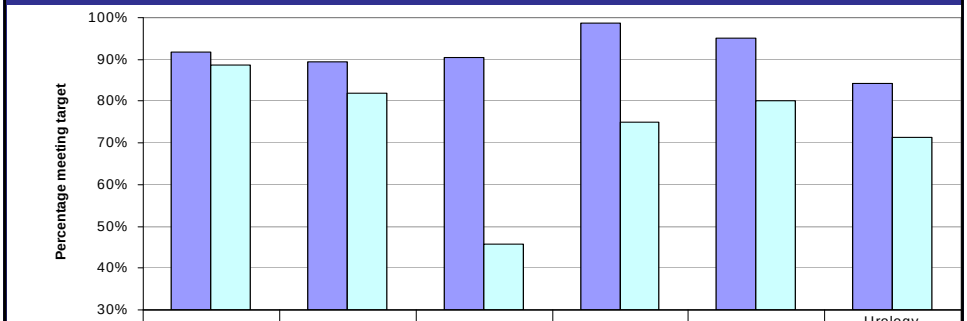
- 1 month wait

Any referral	Initial consultation	Diagnosis	Decision to treat	First treatment

- 2 month wait

Urgent GP referral	Initial consultation	Diagnosis	Decision to treat	First treatment

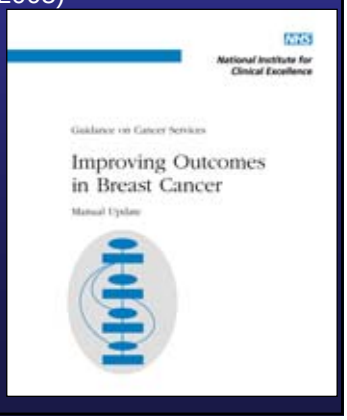
1 and 2 month targets 2003/04



	Breast	Gynaecology	Lower GI	Upper GI	Lung	Urology (excluding testicular)
1 month target	91.8%	89.4%	90.6%	98.6%	95.0%	84.3%
2 month target	88.8%	81.8%	45.9%	75.0%	80.0%	71.3%

Improving Outcomes Guidance

- Breast 1996 (2002)
- Colorectal 1997 (2004)
- Lung 1997 (2005)
- Gynaecology 1999
- Upper Gastrointestinal 2001
- Urology 2002
- Haematology
- Supportive and Palliative Care 2004
- Head and Neck 2004
- Children and young people 2005
- Skin 2006
- Sarcomas 2006
- Central Nervous System 2006



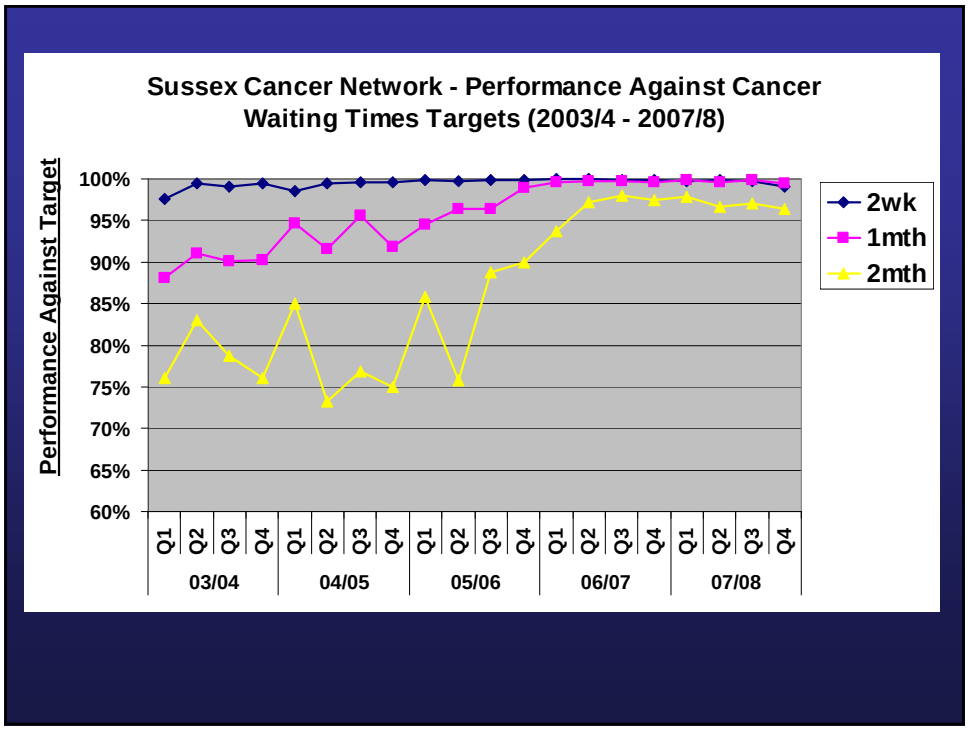
Common themes in IOGs

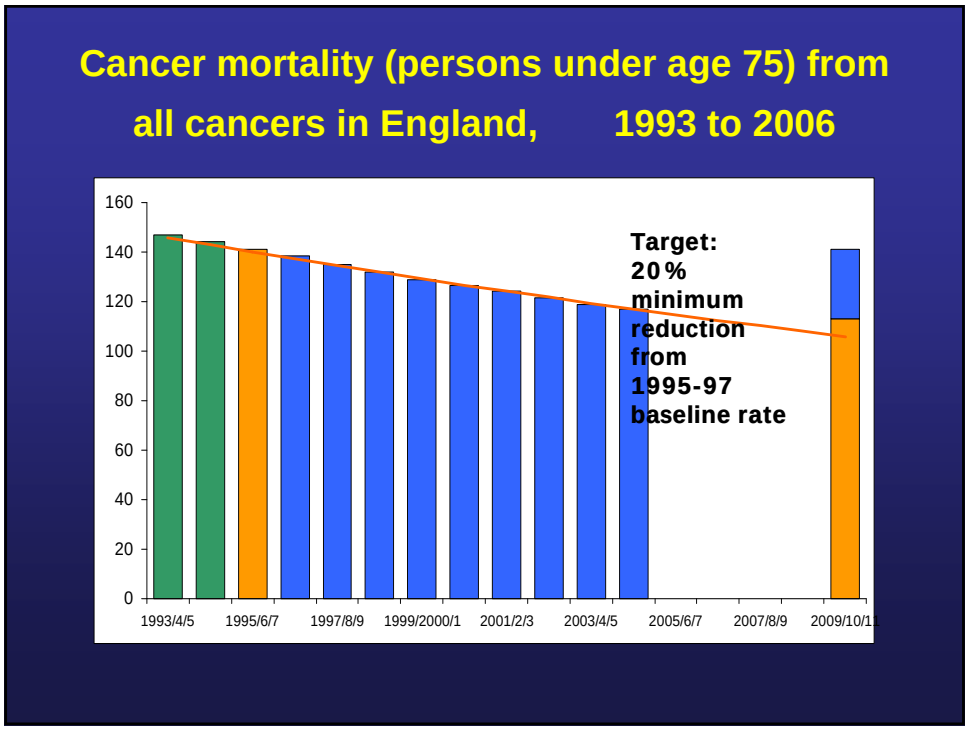
- Guidance to Commissioners
- Prevention/Early diagnosis
- Critical mass
- Multidisciplinary Teams
- Patient experience
  - Key worker
  - Information
  - Choice

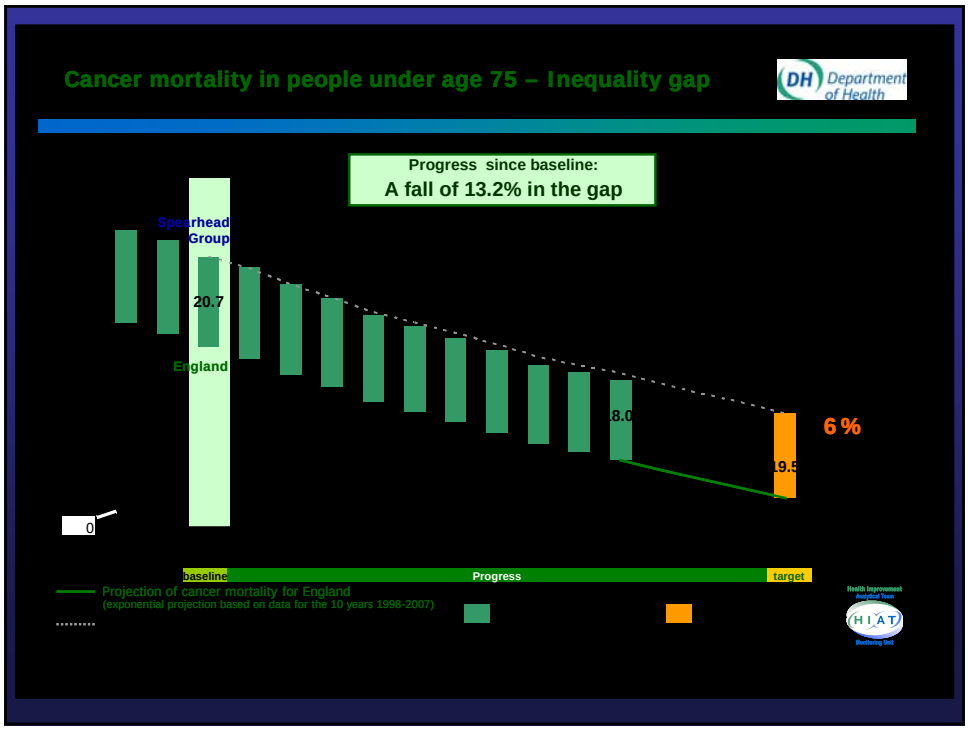
Cancer Networks

- To implement Cancer Plan at local level
- Organisations involving clinicians, health professionals, commissioners, providers, patients and carers and voluntary sector
- Boundaries to reflect patient flows into a Cancer Centre
- 800 000 to 3 million population

Sussex Cancer Network


Sussex Cancer Network - Performance Against Cancer Waiting Times Targets (2003/4 - 2007/8)
Performance Against Target
100%
95%
90%
85%
80%
75%
70%
65%
60%
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
03/04
04/05
05/06
06/07
07/08
2wk
1mth
2mth


Cancer mortality (persons under age 75) from all cancers in England, 1993 to 2006
160
140
120
100
80
60
40
20
0
1993/4/5
1995/6/7
1997/8/9
1999/2000/1
2001/2/3
2003/4/5
2005/6/7
2007/8/9
Target: 20% minimum reduction from 1995-97 baseline rate



Cancer Reform Strategy 2007

- Builds on progress made since the publication of the NHS Cancer Plan
- Recognises key challenges and opportunities for improving outcomes
- Sets out a clear direction for the next 5 years
- Shows how we will deliver cancer outcomes which are amongst the best in the world

Cancer Reform Strategy

- 6 key areas for action
  - Prevention
  - Diagnosing cancer earlier
  - Ensuring better treatment
  - Living with and beyond cancer
  - Reducing cancer inequalities
  - Delivering care in the most appropriate setting
- 4 key drivers for delivery
  - Using information to drive quality and choice
  - Stronger commissioning
  - Funding world class cancer care
  - Planning for the future

Breast cancer pathway 2009

- Patsy Ogden born 1970
- Nurse
- 1 daughter age 6/12 (Lucy
- Mother/grandmother both died breast cancer
- Aware of breast cancer
- Too busy to go to GP

Breast cancer pathway 2009

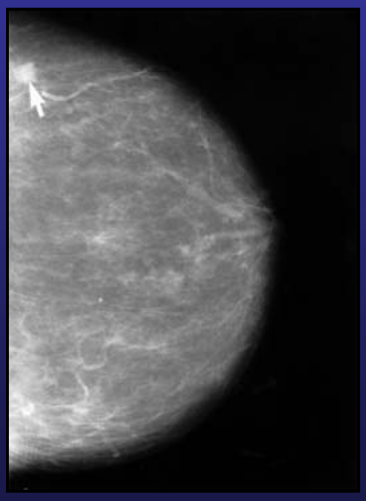
- Noticed lump in right breast
- GP referred under 2 week wait
- Breast surgeon and CNS (Day 8)
- Mammogram/US/Biopsy/MRI (Day 25)
- Multi-disciplinary team (Day 28)
- Lumpectomy and SNB (Day 42)
- Adjuvant treatment
- Follow-up programme

Breast Cancer Survival Trends

Cancer Research UK/ Office for National Statistics

Improvements in breast cancer care

- Awareness
- Screening
- Sub-specialisation
- Adjuvant treatments
- Faster access to treatment

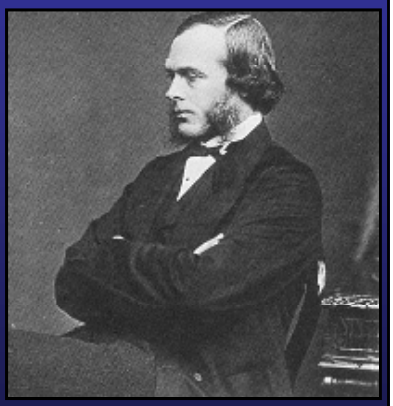


Requirements for breakthroughs in

- Public H
- Scientif

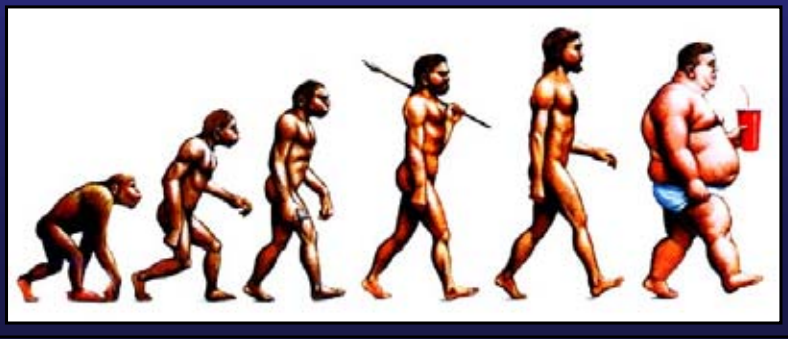
Breakthrough in Medicine 1865

- Public health need
  - Surgical wound infection
- Scientific breakthrough
  - Microbial theory
  - Advances in Chemistry
- Lister introduces antisepsis



2009 - What is the Public Health Need?

- Shift from acute to chronic conditions
- Aging population
- Health Inequalities
- Emerging infectious diseases
- Obesity

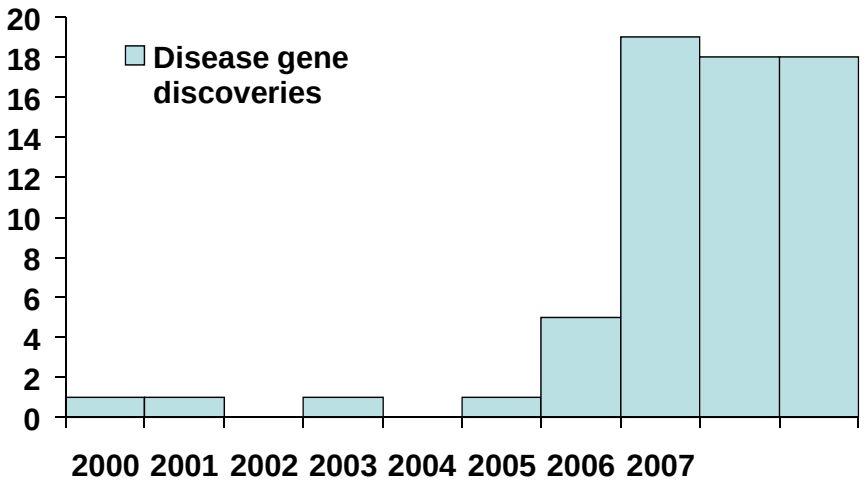


2009 – Scientific Discoveries

Human Genome Project and Hap Map

- 1990-1999 DNA sequencing techniques
- 1998-2002 Mapping of genetic diversity
- 2001 - 2009 Mapping of disease genes

Mapping of disease genes



Paradigm Shifts

- Cosmology: Ptolemy to Copernicus
- Evolution: Lemarck to Darwin
- Gravitation: Newton to Einstein

"a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it.“ Max Planck

A paradigm shift in sport

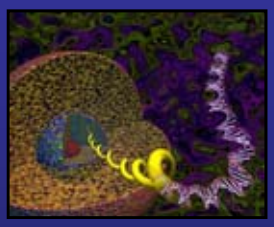
- The straddle
- 1968 The Fosbury flop
- High jump world record

Medicine…the Paradigm shift ?

- The Past
- Curative
  - Loss of function
  - Little understanding of molecular events
  - Expensive
    - Cost
    - Disability
- The Future
- Preventive
  - Intervene before symptoms
  - Identify molecular events/predict those at risk
  - More effective

The P4 Paradigm

- Predictive
- Personalised
- Pre-emptive
- Participatory



Breast Cancer Pathway 2034

- Lucy
- Born 6/12 ago
- Mother survived breast cancer age 38
- G'mother and Great G'mother died pre-menopausal
- Age 15…GP does genetic mapping
- She has 4 of 20 known Breast cancer genes
- Lifestyle change…diet
- Screening from 25
- Plans prophylactic mastectomies with reconstructions at age 35