Cancer

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Cancer

Cancer is a pollution of the body; an invader; an enemy

Patients fight to kill it, expel it, to defeat the foreign agent

The moment patients receive a cancer diagnosis, death becomes more real. They feel that threat, even if it is small

Many without cancer fear it. This fear is an important driver of health care utilization and testing

For today . . .

- Cancer statistics,
- Prevention, screening
- Signs and symptoms
- Guidance

House keeping:

- Timings, coffee?
- Phones
- Questions
- Notes/presentation
- Evaluation

- ***Interactive and no offense meant with slides!***

Cancer

Cancer: why all the interest?

Cancer: why all the interest?

Loss of life years <75

1	2	3	4
1. Circulatory Disease	1. Cancer	1. Circulatory Disease	1. Cancer
2. Cancer	2. Mental Health	2. Cancer	2. Circulatory Disease
3. Gastrointestinal	3. Circulatory Disease	3. Mental Health	3. Mental Health
4. Mental Health	4. Accidents	4. Accidents	4. Gastrointestinal
5. Accidents	5. Gastrointestinal	5. Gastrointestinal	5. Accidents

Which do you think is the correct column?
(high to low)

Cancer: why all the interest?

Loss of life years <75

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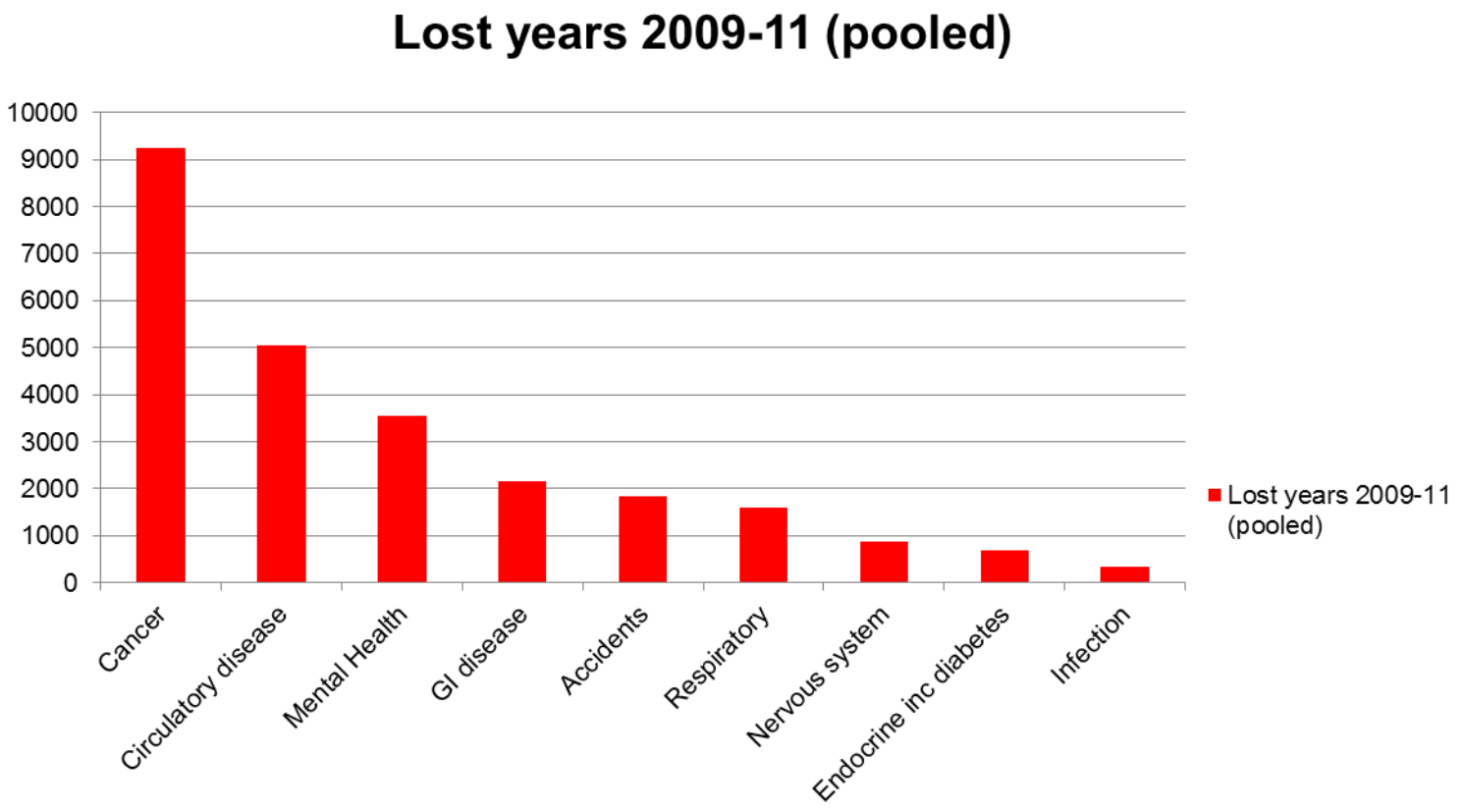
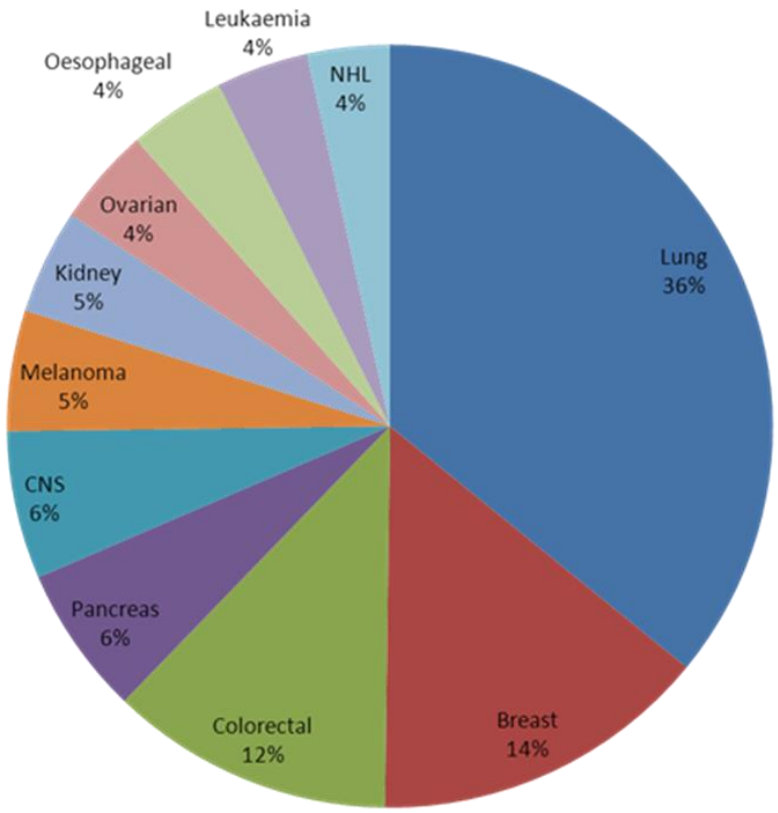
1. Circulatory Disease	1. Cancer	1. Circulatory Disease	1. Cancer
2. Cancer	2. Mental Health	2. Cancer	2. Circulatory Disease
3. Gastrointestinal	3. Circulatory Disease	3. Mental Health	3. Mental Health
4. Mental Health	4. Accidents	4. Accidents	4. Gastrointestinal
5. Accidents	5. Gastrointestinal	5. Gastrointestinal	5. Accidents

Cancer: why all the interest?



Cancer: why all the interest?

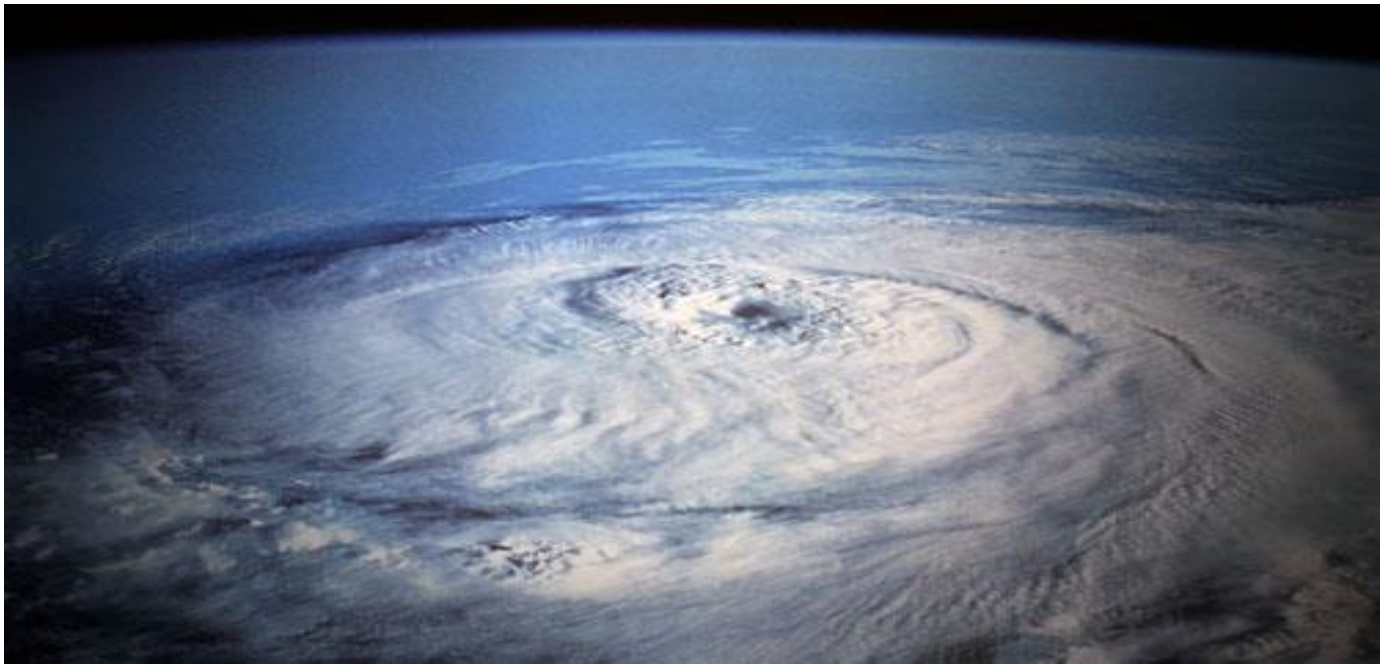


Cancer: years of life lost 2009-11

	%
Lung	36
Breast	14
Colorectal	12
Pancreas	6
CNS	6
Melanoma	5
Kidney	5
Ovarian	4
Oesophageal	4
Leukaemia	4
NHL	4

Cancer ….. the Future:

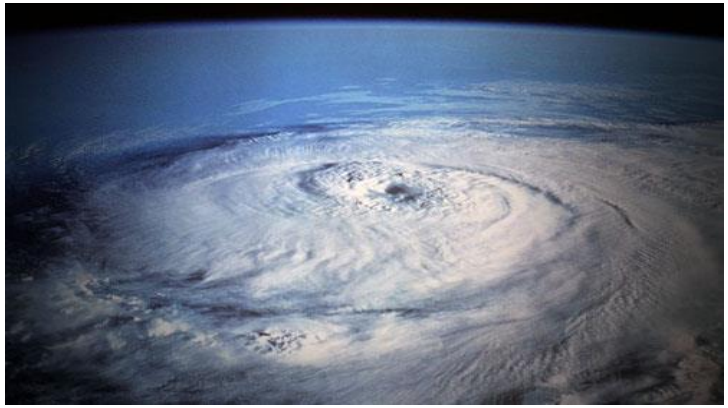
The perfect storm:



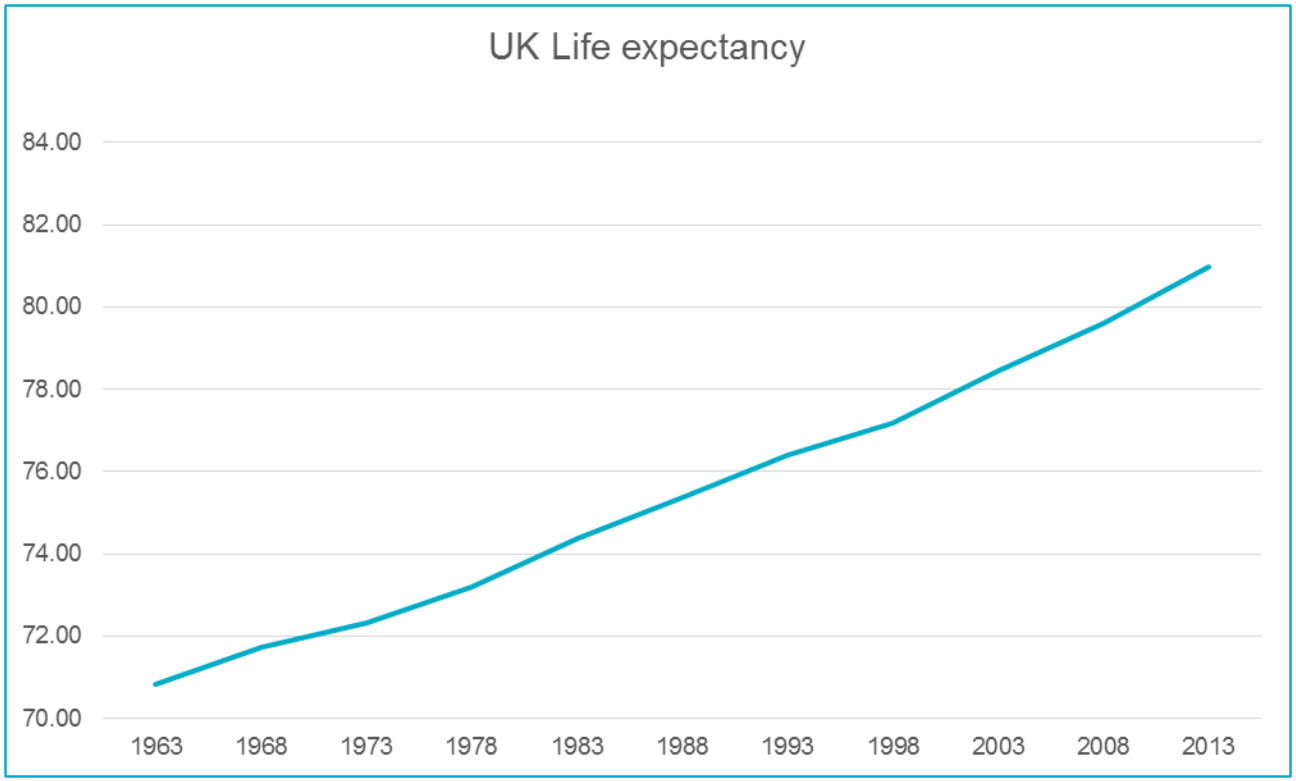
The Scale of the Challenge:

The perfect storm…

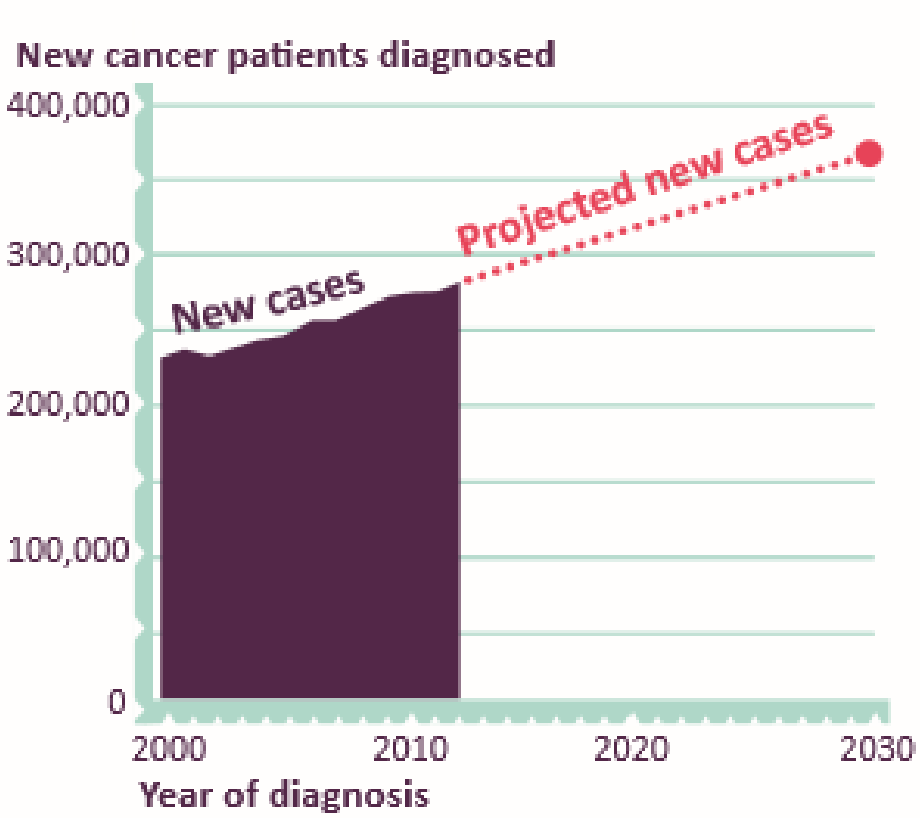
Aging population



Aging Population



The Scale of the Challenge:



By the end of 2016, there were 1,000 people in the UK being diagnosed with cancer every day

Mistry, M., et al., Cancer incidence in the United Kingdom: projections to the year 2030. Br J Cancer, 2011. 105: p. 17951803.

Cancer

Numbers of cancers

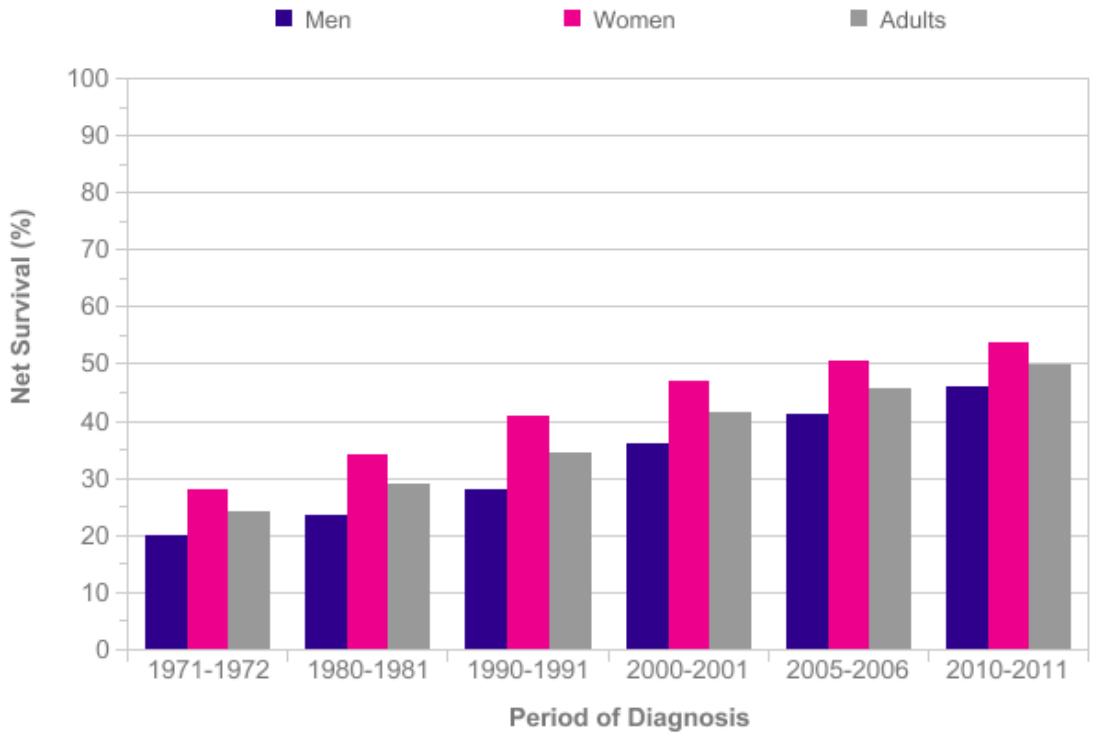
	2013	2030	% increase
UK	352,000	424,789	20.7%
Global	14.1 million	23.6 million	67.4%

http://globocan.iarc.fr/old/burden.asp?selection_pop=206826&Text-p=United+Kingdom&selection_cancer=290&Text-c=All+cancers+excl.+non-melanoma+skin+cancer&pYear=18&type=0&window=1&submit=%C2%A0Execute
https://publications.cancerresearchuk.org/downloads/product/CS_REPORT_WORLD.pdf

Cancer: why all the interest?

1 in 2 people will be diagnosed with one or more cancers in their lifetime

10 year survival has improved to reach 50%



www.cancerresearchuk.org/health-professional/cancer-statistics/survival/all-cancers-combined#heading-One – last accessed 5.3.17

Rules of getting older???

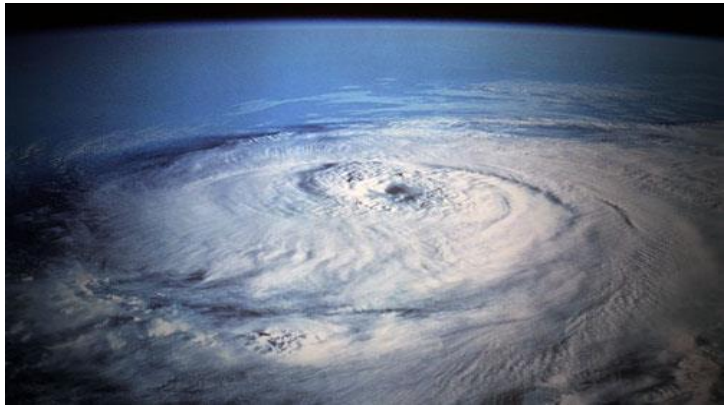
Cancer

The perfect storm…

Aging population

Lifestyles less healthy:

- Smoking
- Diet
- Alcohol
- Exercise
- Sun exposure

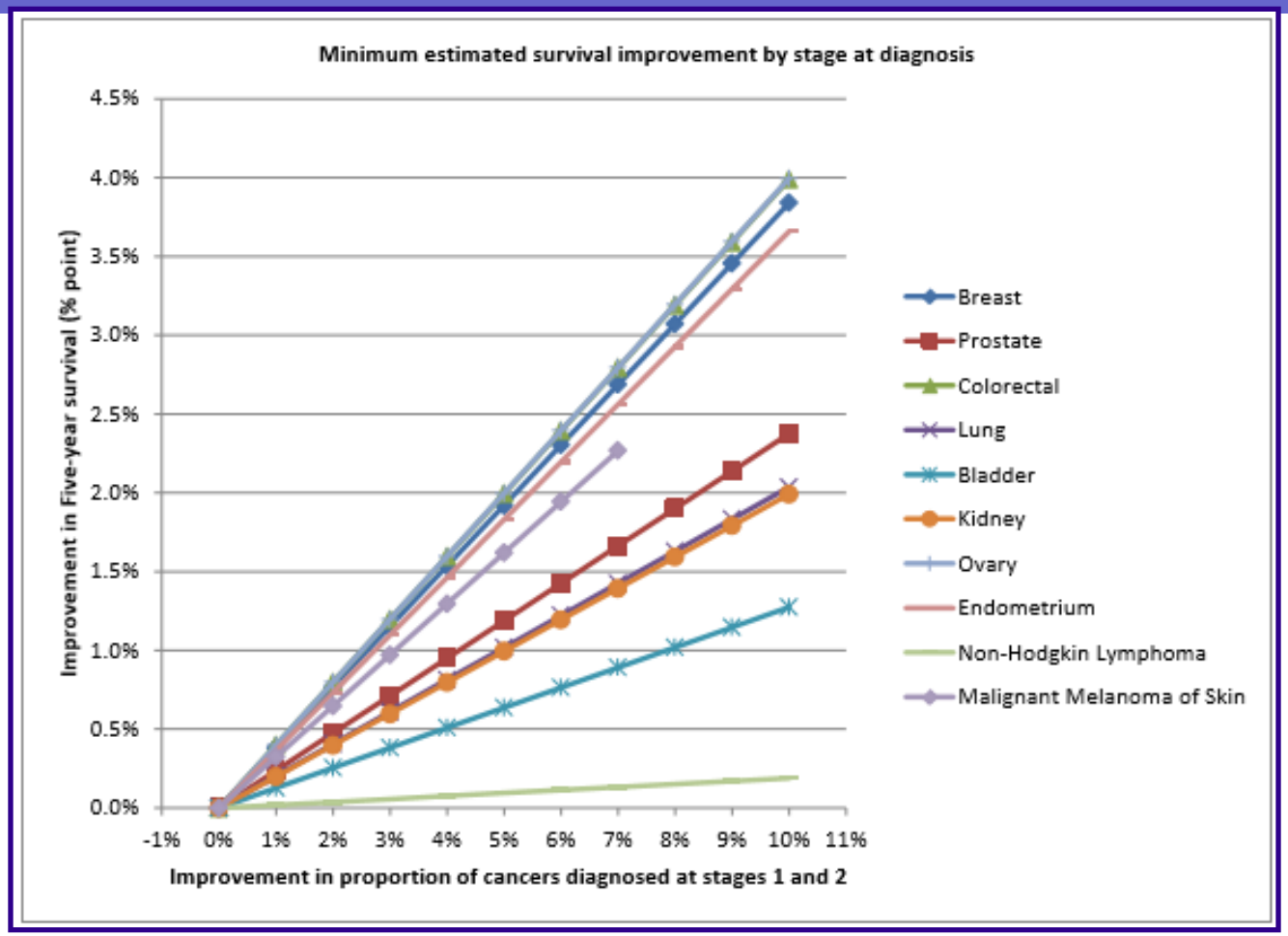


Increasing survival

Cancer

Why is early diagnosis important?

Cancer Survival improvement by stage

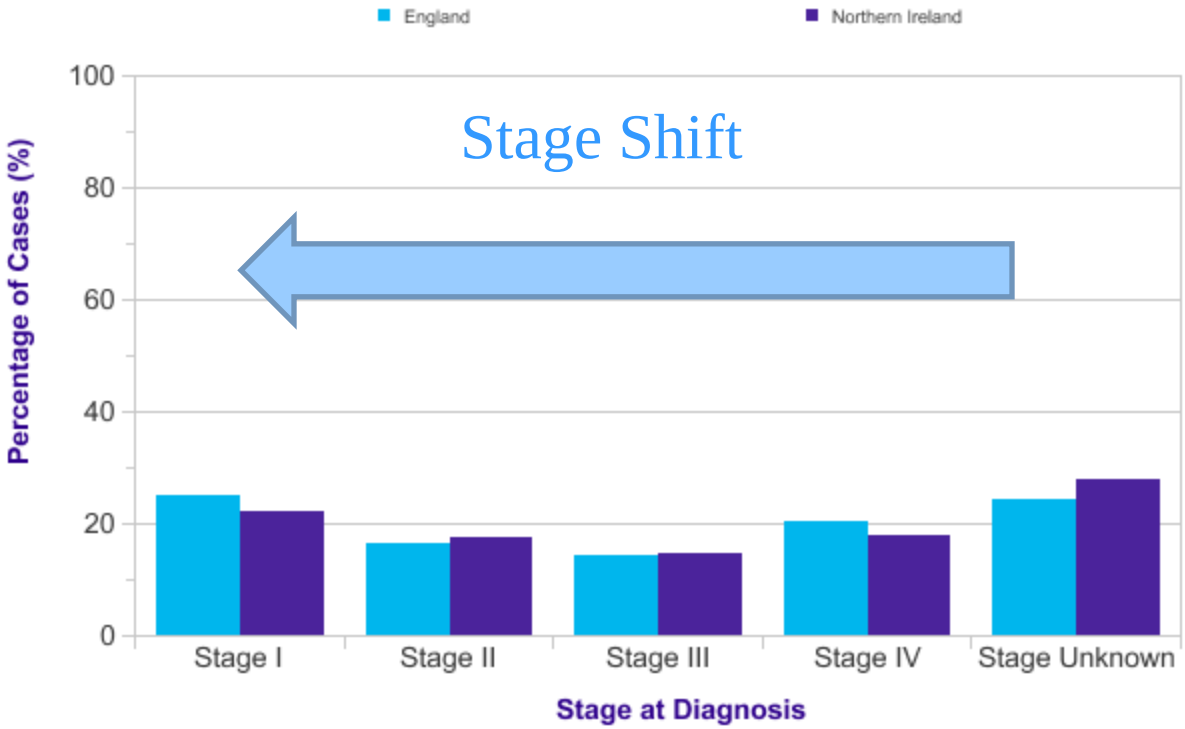


Increase in numbers diagnosed at stage 1 & 2

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/388160/fourth_annual_report.pdf (last accessed 25.3.17)

Stage shift

All Cancers



www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/all-cancers-combined#heading-Two (last accessed 5.3.17)

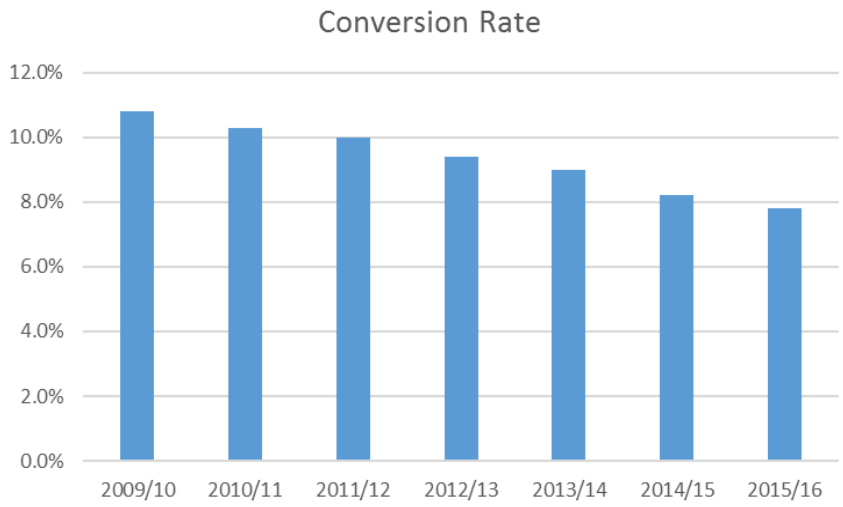
Cancer

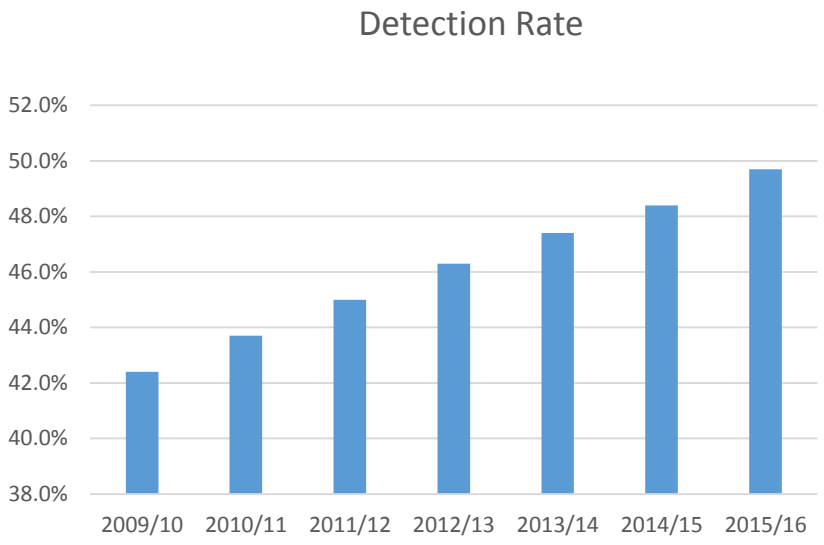
What did we do?

BE CLEAR ON CANCER

Cancer

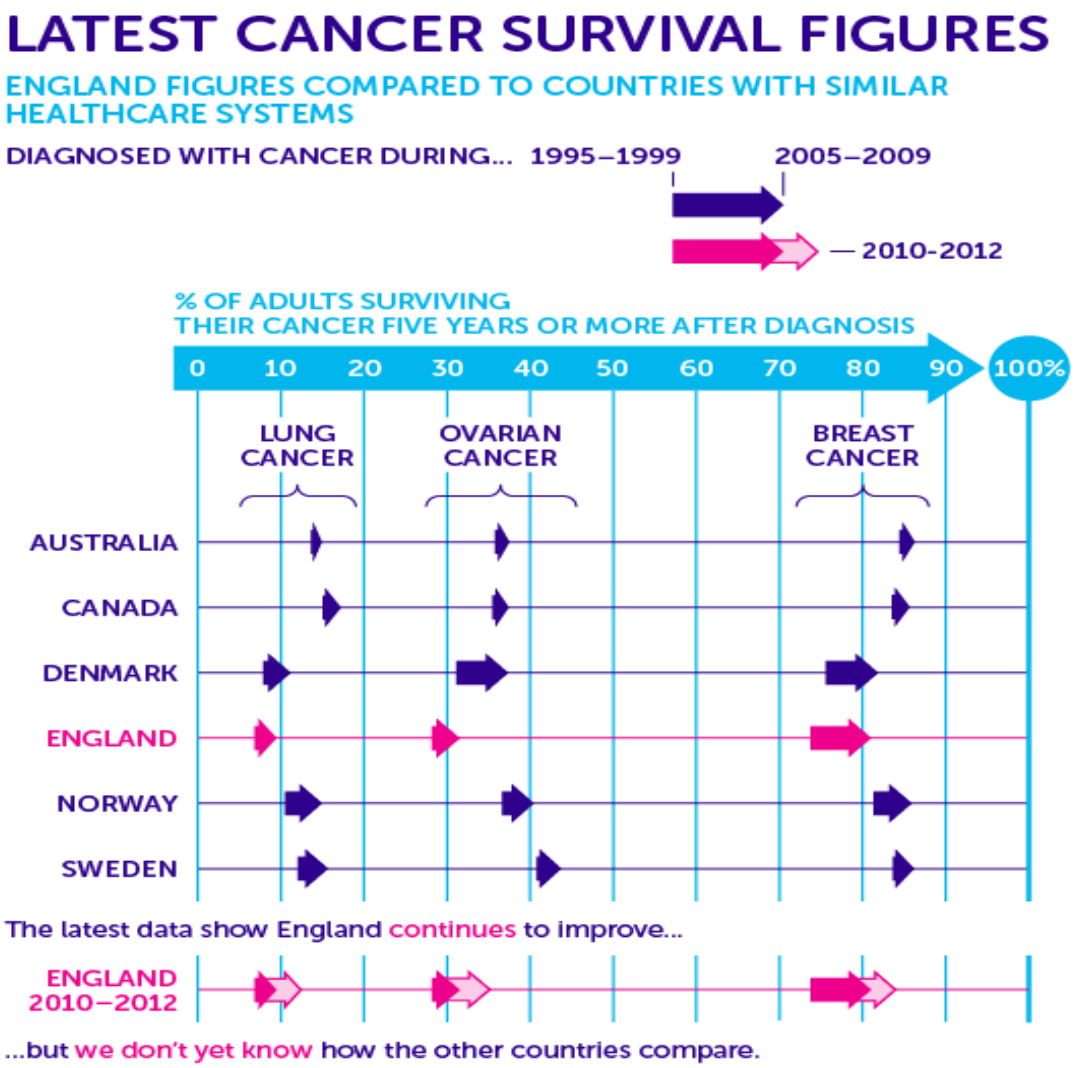
How did we do?





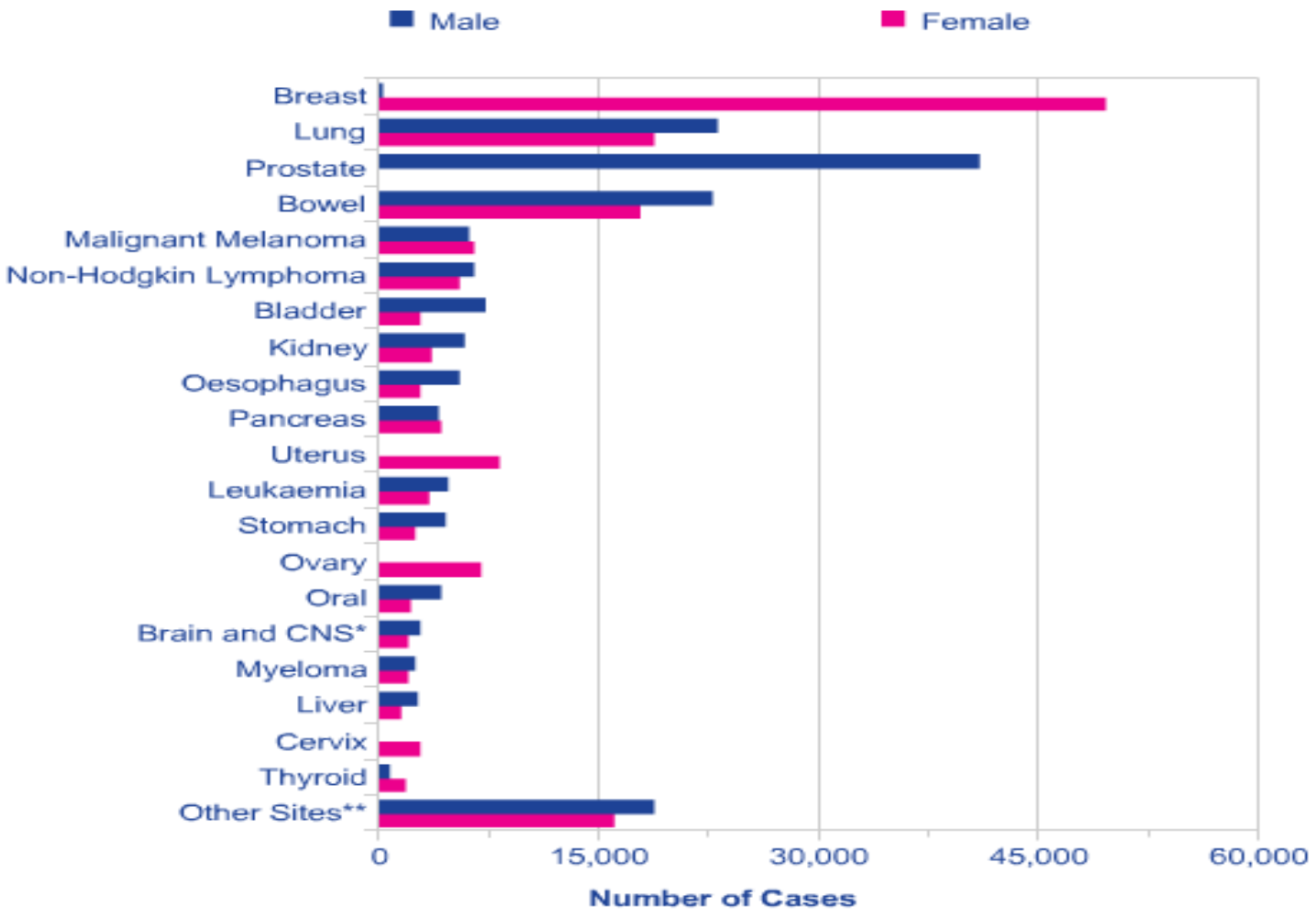
https://fingertips.phe.org.uk/profile/cancerservices

However compared to Europe?



http://scienceblog.cancerresearchuk.org/2015/08/05/cancer-survival-in-england-is-improving-but-still-lagging-behind-similar-countries/

The 20 Most Commonly Diagnosed Cancers UK, 2014 (Excluding Non-Melanoma Skin Cancer)



Risk factors and other conditions

Aging population

Lifestyles less healthy:

- Smoking
- Diet
- Alcohol
- Exercise
- Sun exposure

Risk factors and long term conditions

NHS England
Thames Valley Cancer Alliance

Cancer Risk factors **common to other** long term conditions:

Aging population

Lifestyles less healthy:

- Smoking
- Diet
- Alcohol
- Exercise
- Sun exposure

Hypertension
Heart disease
Stroke
Diabetes
Dementia
Mental Health Problems…

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Prevention

- **Primary prevention:** avoidance of exposure to cancer-causing agents (e.g. tobacco, industrial carcinogens, etc ….) – modifiable factors

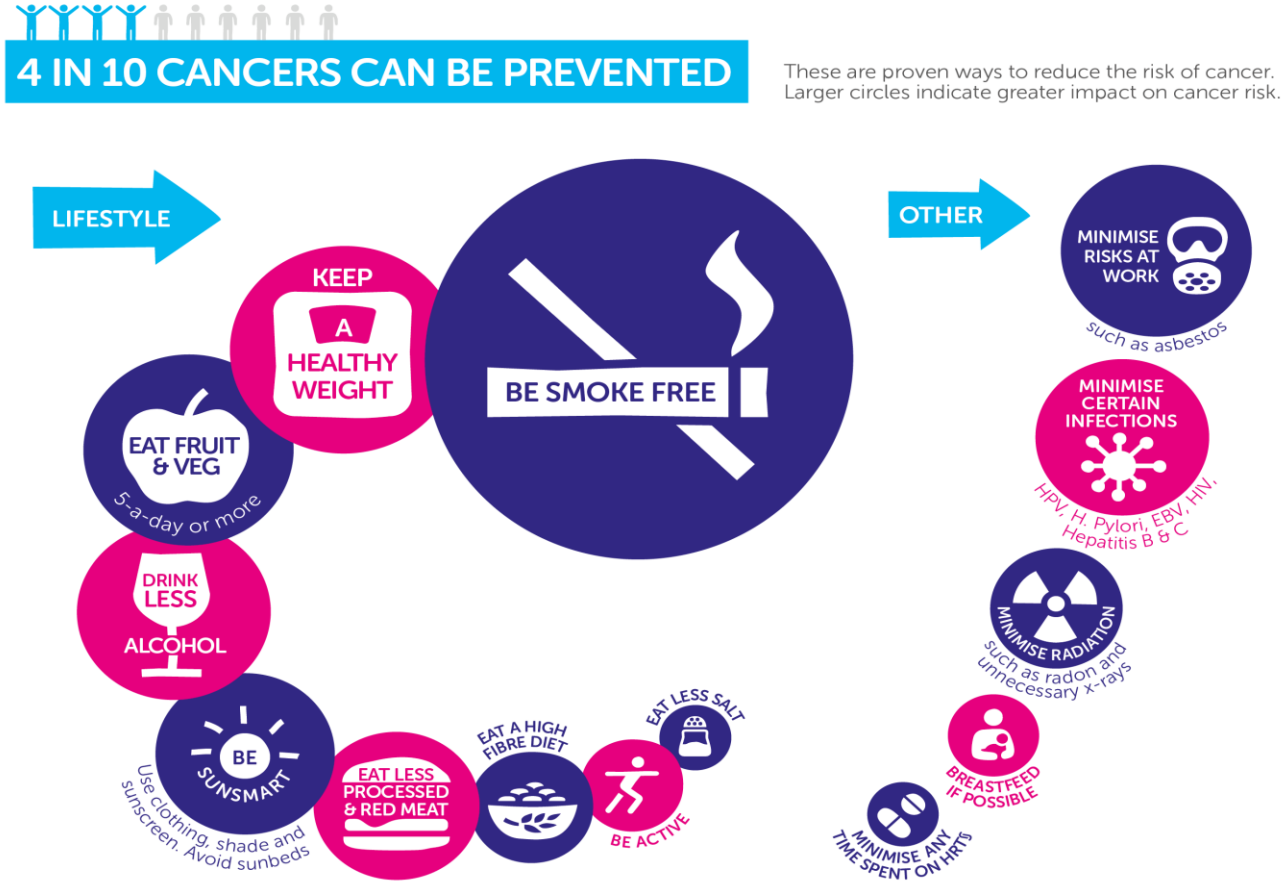
- **Early detection of cancer: education to promote early diagnosis and screening** (Imaging diagnosis and laboratory tests,…)

- **Genetic testing**: these tests can check for certain inherited gene changes that increase the chance of developing cancer.

Prevention

NHS England
Thames Valley Cancer Alliance

- 40% cancers attributable to lifestyle factors and therefore modifiable
  - Could 4:10 cancer be prevented?



CRUK

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UK

- In 2013, the overall smoking prevalence in the UK was 19% (persons aged 15+), 1 in 5
- Around 9.5 million smokers
- Males: 21%
- Females: 19%

- Eng: 18.4 Wales: 19.8

Risk factors - tobacco

NHS England
Thames Valley Cancer Alliance

19% of all new UK cancer cases each year

Smoking accounts for more than:

- **One in four UK cancer deaths**
- **One in five cancers**
- **Causes more than 4 in 5 cases of lung cancer**
- **Increases the risk of 15 other cancers**

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Sixteen types of cancer associated with smoking

NHS England
Thames Valley Cancer Alliance

- Oral cavity
- Nasal cavity and paranasal sinuses
- Pharynx
- Larynx
- Oesophagus
- Lung
- Stomach
- Liver
- Pancreas
- Kidney
- Ureter
- Bladder
- Ovary
- Cervix
- Colorectal (bowel)
- Myeloid leukaemia

Source: the International Agency for Research on Cancer (IARC)

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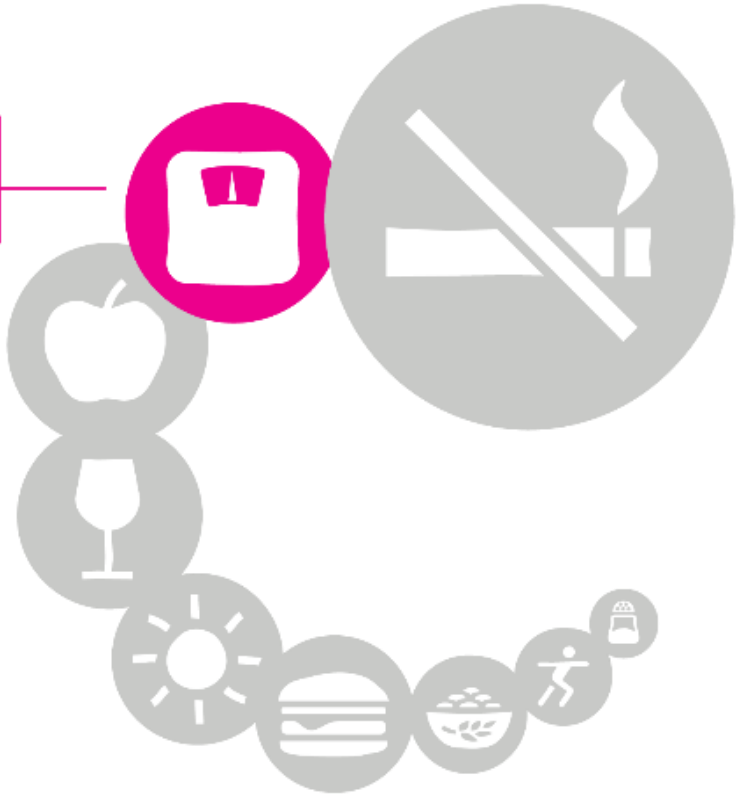
Risk factors

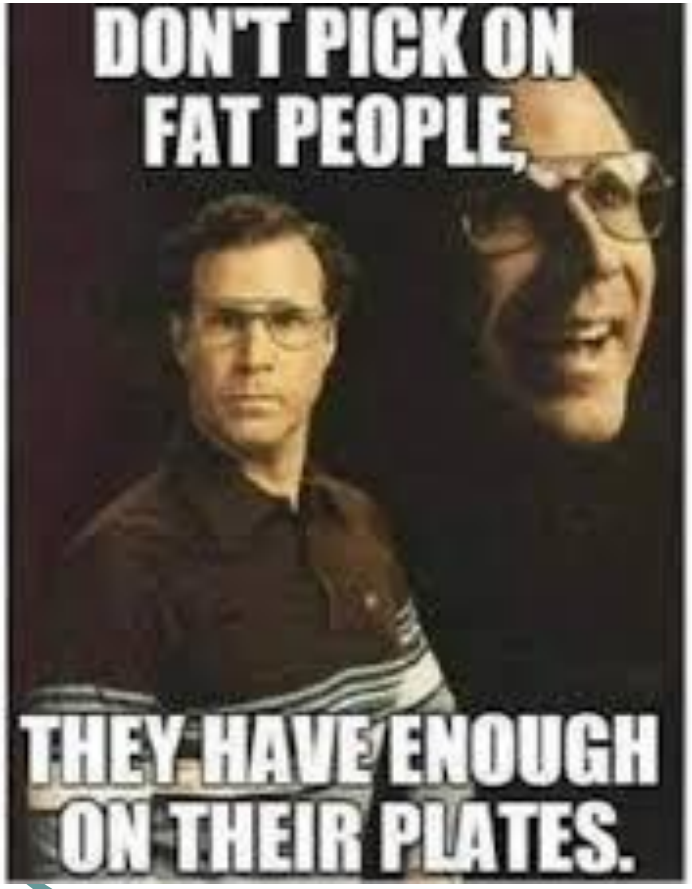
Keep a healthy weight

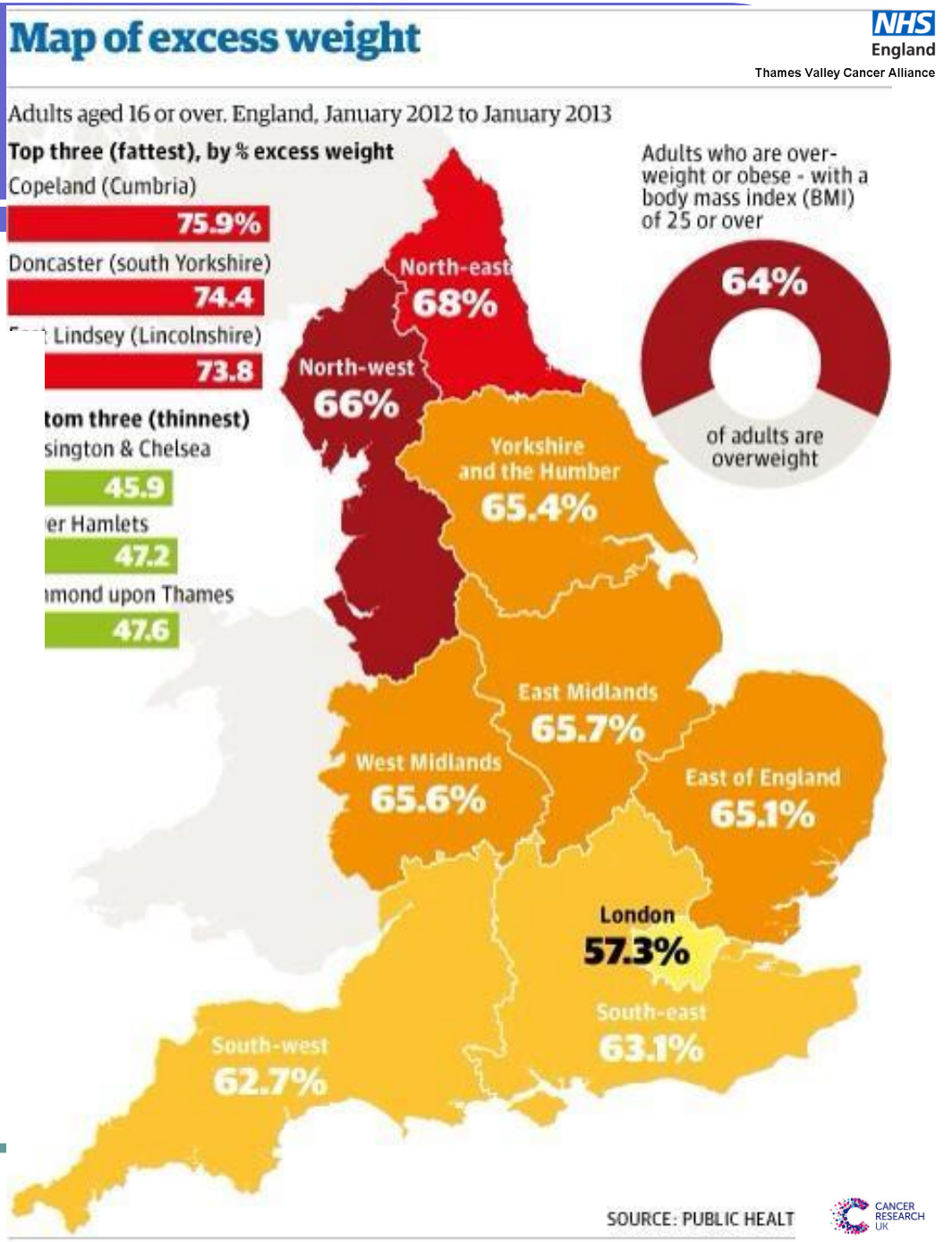
18,100 cancer cases could be prevented each year in the UK



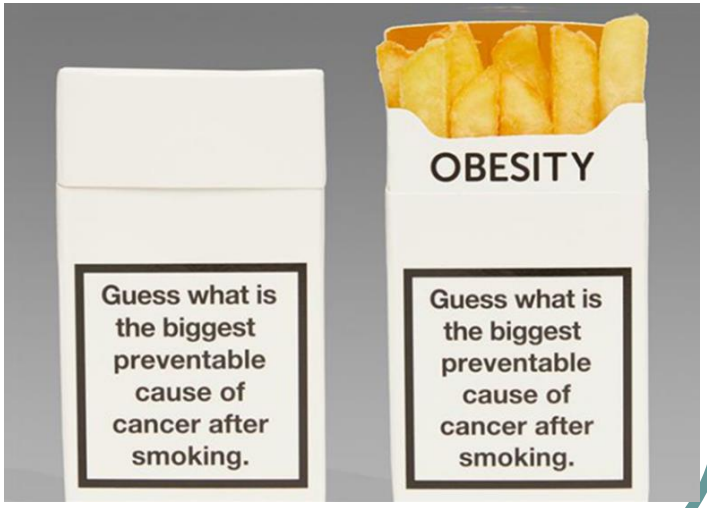
5% of all new UK cancer cases each year.

Excess weight





BY 2043 OBESITY COULD OVERTAKE SMOKING AS BIGGEST PREVENTABLE CAUSE OF CANCER IN WOMEN



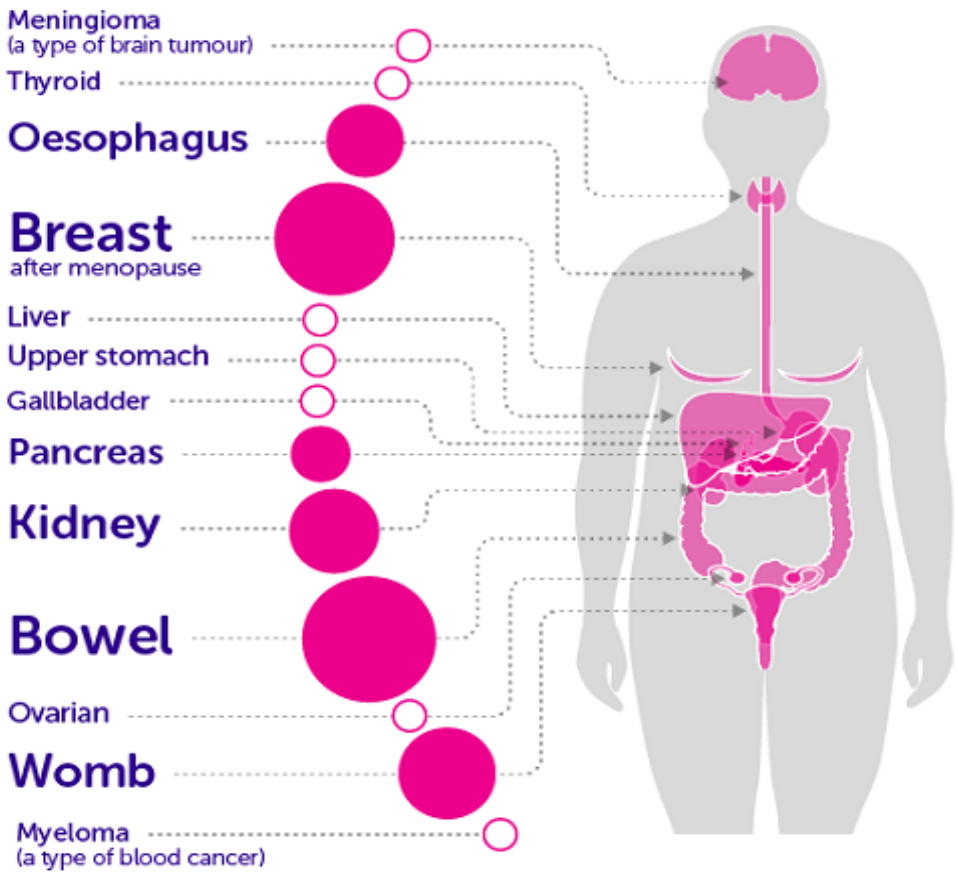
Types

NHS England
Thames Valley Cancer Alliance

BEING OVERWEIGHT CAN CAUSE 13 TYPES OF CANCER

Larger circles indicate cancers with more UK cases linked to being overweight or obese

Number of linked cases are currently being calculated and will be available in 2017



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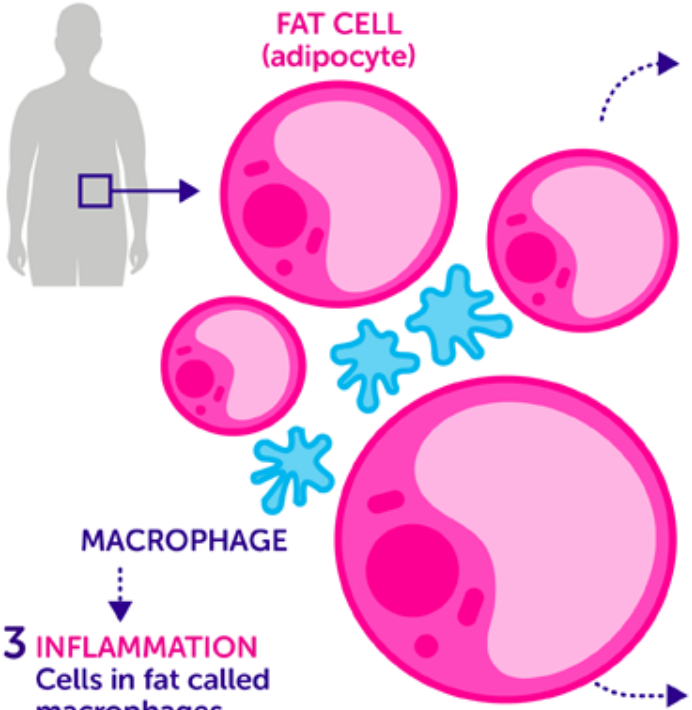
theory??

HOW COULD OBESITY LEAD TO CANCER?

Research has identified three main ways



1 OESTROGEN
After the menopause, oestrogen made by fat cells can make cells multiply faster in the breasts and womb, increasing the risk of cancer.

2 INSULIN AND GROWTH FACTORS
Excess fat can cause levels of insulin and other growth factors to rise, which can also tells cells to divide more rapidly.

3 INFLAMMATION
Cells in fat called macrophages release chemicals called cytokines, encouraging cells to divide (including cancer cells).

There are other theories too, but these are the main ideas being studied. More research is needed to understand this in more detail.

Proff Martin Wiseman, World Cancer Research Fund UK

Risk factors

NHS England
Thames Valley Cancer Alliance

2% of all new UK cancer cases each year.

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Meat and cancer

NHS England
Thames Valley Cancer Alliance

20-30% increased risk of bowel cancer in relation to **100-120g/day of red meat** and a

9-50% increased risk of bowel cancer in relation to **25-30g/day of processed meat.**

some evidence **linking red meat to pancreatic cancer and prostate cancer,** and **processed meat to Oesophageal and stomach cancer**, with H Pylori - however this is still uncertain

Significant **risk reduction** of approximately 30% **with higher intake of fish,** including fresh, canned, salted and smoked

- Red meat includes:
  - all fresh, minced and frozen beef, pork and lamb.
  - Processed meat includes ham, bacon, salami and sausages

Bylsma LC, Alexander DD. A review and meta-analysis of prospective studies of red and processed meat, meat cooking methods, heme iron, heterocyclic amines and prostate cancer. *Nutr J*. 2015;

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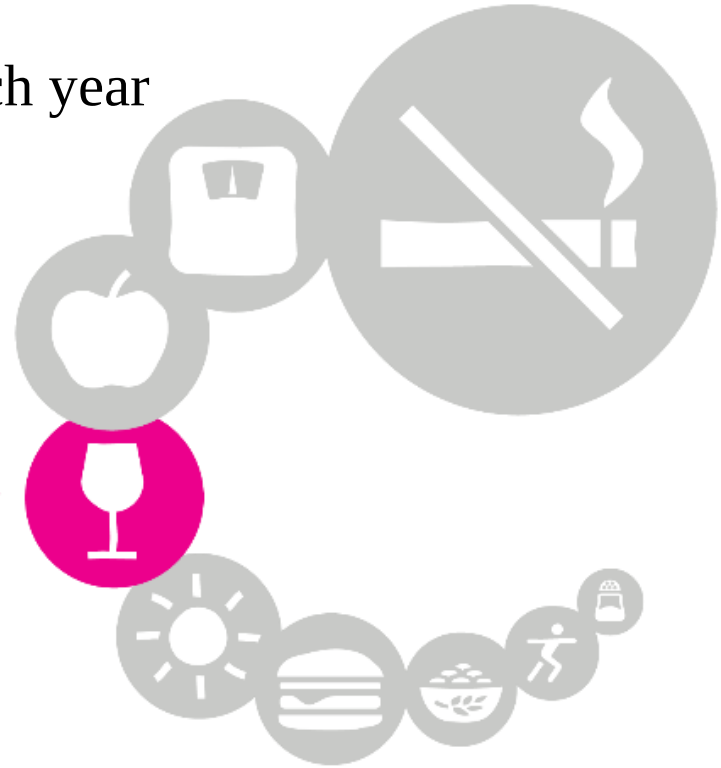
Alcohol

NHS England
Thames Valley Cancer Alliance

4% of all new UK cancer cases each year



Drink less alcohol

12,800 cancer cases could be prevented each year in the UK

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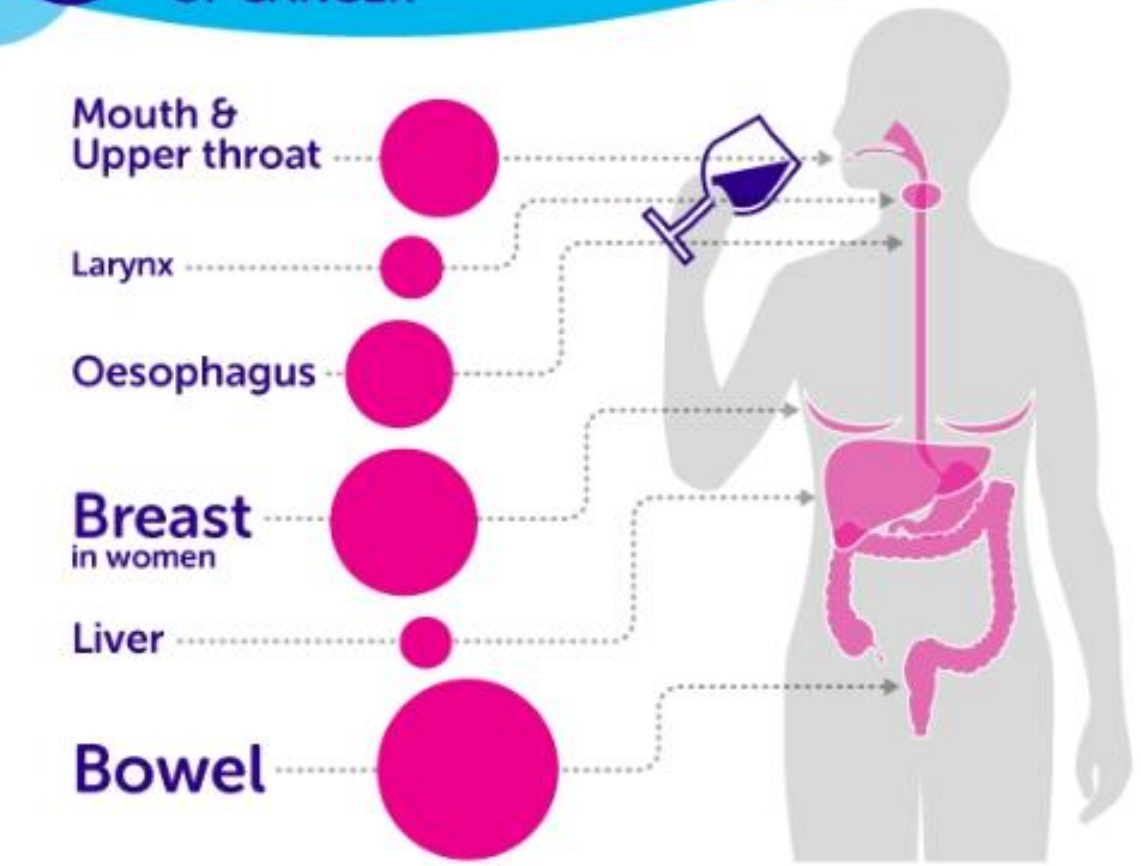
ALCOHOL CAN CAUSE 7 TYPES OF CANCER



Larger circles indicate cancers with more UK cancer cases linked to drinking alcohol

WE WILL BEAT CANCER SOONER
cruk.org

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Alcohol

- Alcohol (ethanol) is converted into a toxic chemical called acetaldehyde
  - can damage DNA and stopping our cells from repairing this damage

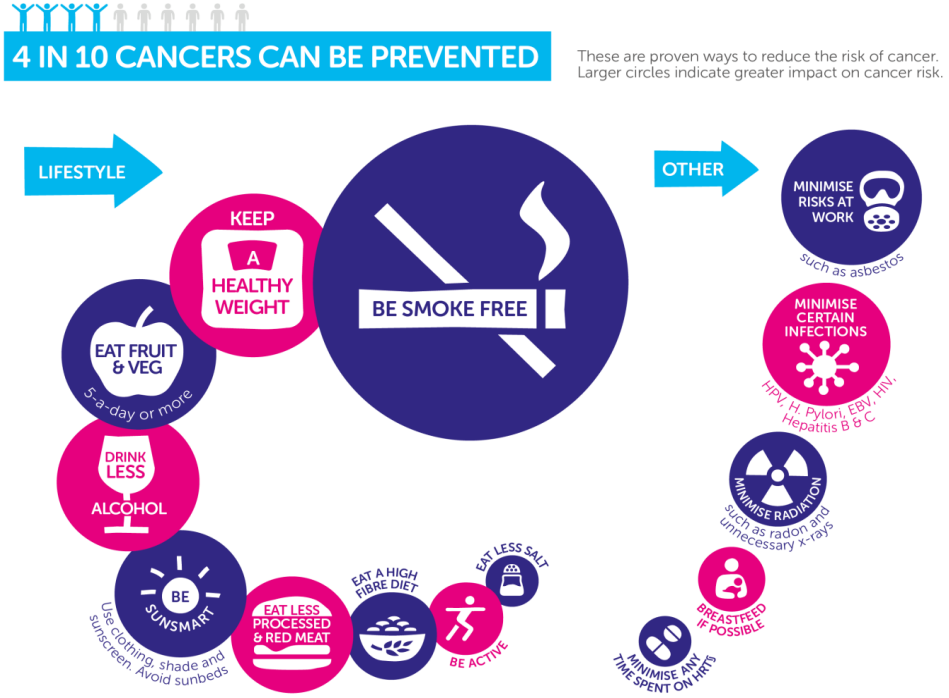
- Acetaldehyde also causes liver cells to grow faster than normal.
  - These regenerating cells are more likely to mutate into cancer cells
  - Ethanol is broken down mainly by the liver, but H Pylori bacteria that live in our mouths and the linings of our guts are also able to convert ethanol into acetaldehyde.

- Alcohol's effects on oestrogen and other hormones can lead to cancer:
  - Alcohol can increase the levels of some hormones, such as oestrogen.
  - Unusually high levels of oestrogen increase the risk of breast cancer.

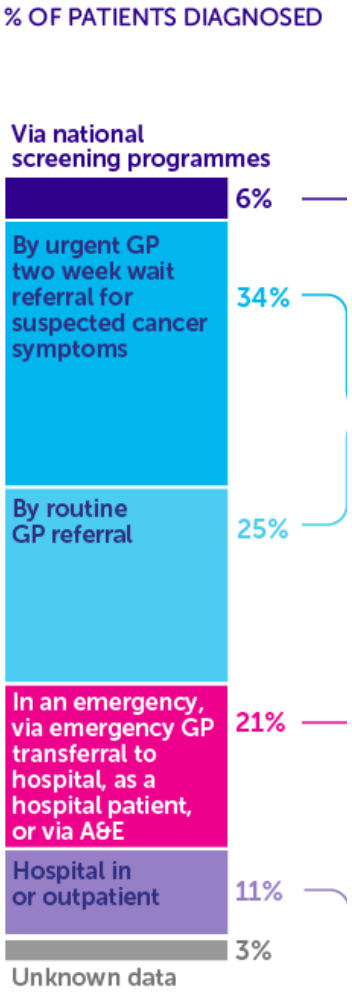
The International Agency for Research on Cancer

Prevention

- Cancer incidence is increasing
  - 1:2 lifetime risk
- 40% cancers attributable to lifestyle factors
  - Could 4:10 cancer be prevented?

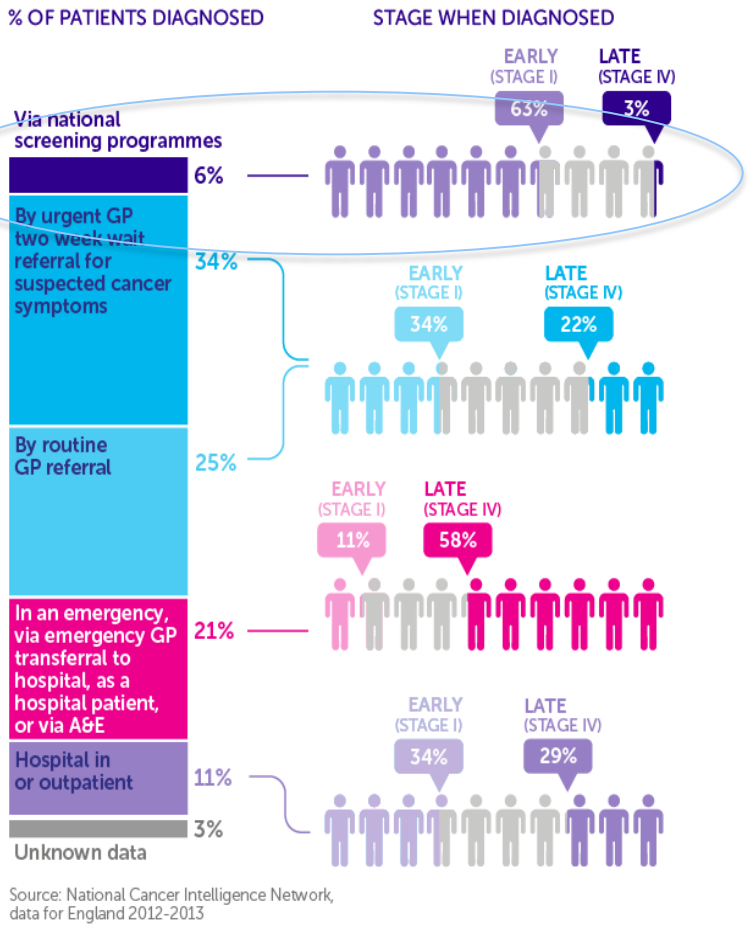


Why is screening important?



Source: National Cancer Intelligence Network, data for England 2012-2013

Why is screening important?

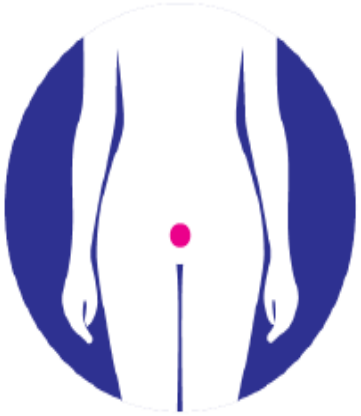


Screening reduces the number of people dying from cancer by:

- **Detecting cancer early**
  63% of cancers detected through screening are at an early stage (stage I)

- **Preventing cancer**
  Bowel scope screening and cervical screening can both prevent cancer

Screening programmes for cancer in UK



Cervical

Bowel

Breast

- NHS Prostate Cancer Risk Management Programme (PCRMP) has been the most important resource for UK primary care

ERSPC (European Randomised Study of Screening for Prostate Cancer) Lancet 2014; 384:2027

- This important RCT (1b) had 13 years of follow-up.
- It is the largest ever study of prostate cancer screening.
  - 160,000 men aged 55 to 69 randomised to screening or control
- screening using PSA, with referral for biopsy at a cut off PSA level of 3 ng/ml, and with a screening interval of 4 years

Results:

- 7,408 cases of prostate cancer were detected in the intervention group (10%) and 6,107 in the control group (6.8%)
- Prostate cancer mortality was reduced in the screened group , Rate Ratio 0.79, RRR 21%
- The absolute risk reduction in mortality was 1.28 men per every 1,000 men invited for screening or one per 27 additional prostate cancer cases detected
- A total of 781 men have to be invited (NNI) to screening to prevent one prostate cancer death, and 27 to be diagnosed to prevent one death
- Over-diagnosis (therefore risk over treatment) is considerable, with an excess of 3.44 cases per 1,000 men per year
- Total mortality was not reduced

Conclusions:

- this important study shows a reduction in prostate cancer mortality in men aged 55 to 69 who undergo PSA screening
- However, there remains considerable over-diagnosis of prostate cancer and further research is needed to quantify the risks and harms.

The authors conclude:

- This greater absolute benefit from screening at 13 years follow up is not sufficient evidence to justify population-based screening
- However, well informed men under the age of 70 should have access to PSA testing if they wish after careful consideration of the pros and cons (especially the risk of over diagnosis)

Bowel Screening

BOWEL CANCER FACTS

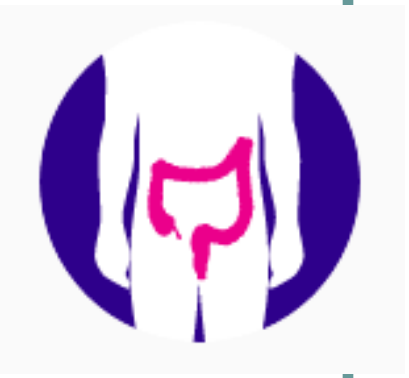
Bowel cancer is the 4th most common cancer in the UK

There are around 40,000 new cases a year (2014)

& around 16,000 deaths a year

57% of people survive bowel cancer for 10 or more years

More than 50% of bowel cancer cases are linked to major lifestyle and other risk factors



THE ENGLISH PROGRAMME USES 2 DIFFERENT TYPES OF BOWEL SCREENING:

- Faecal Occult Blood Test (FOBt)
  (has helped to identify >25000 cancers)

- Bowel Scope

BOWEL CANCER SCREENING: THE FOBT

- Men and women aged between 60-74 are invited every 2 years.
  - Must be registered with a GP practice to receive invitation
  - Anyone over 74 can request a kit by calling 0800 707 6060

- Screening kit is completed at home and sent to the hub
  - The screening hub analyses the kit
    - The test detects tiny amounts of blood in the sample of poo, which can't be seen by the eye
    - The FOBt does not diagnose bowel cancer
  - If positive, (20/1000) local colonoscopy arranged
  - Expect 2 of those 20 to have colorectal cancer.

THE FUTURE OF BOWEL CANCER SCREENING: FIT

The Faecal Immunochemical Test (FIT) will replace FOBt in England, Scotland and Wales over the next few years

Benefits:

- Easier to use
  - Only one sample is needed (FOBt needs six, 2 from 3 poos)
- Improved uptake
  - A FIT pilot in 2014 found it increased uptake, particularly in groups with low participation rates, such as men and people in more deprived areas

GUT 2916: 10.1136/gutjnl-2015-310691

FIT for screening

NHS England
Thames Valley Cancer Alliance

BIG SWITCH UNDER WAY

- One sample using a brush
- Similar costs
- More acceptable

Evidence in GUT 2016

- 7% overall uptake screening (from 59% to 66%)
- Double previous none responders (especially in men)
- Fit positivity 7.8% - a negative FIT has a negative predictive value of 98% for cancer and higher risk adenomas
- Increased detection cancer x2 and advanced adenoma x5

<u>BUT will increase pressure on colonoscopy</u>

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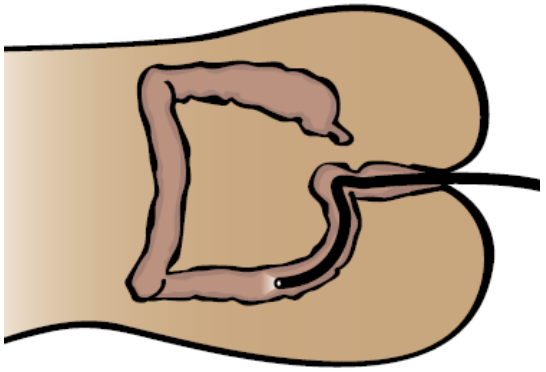
BOWEL SCOPE (FLEXIBLE SIGMOIDOSCOPY)

A one-off bowel screening test offered to men and women at 55 years who are registered with a GP.

Aims to detect polyps in the lower part of the bowel

- Uses a thin flexible tube with a tiny camera on the end



For every 220 people screened by bowel scope, 1 less person will die from bowel cancer over 17 years.

BMJ 2017;356:i6673

The Gender Gap in Cancer?

- Men (all cancers) :
  - 16 per cent more likely to get the disease
  - 40 per cent more likely to die from cancer than women overall, and
- cancers that affected both men and women (excl. Breast, Gynae, prostate, testes)
  - Men were 60 per cent more likely to get cancer than women, and
  - 70 per cent more likely to die from it

Causes?

1. lifestyle factors : UK Men are
   - Smoking more
   - Drinking more alcohol,
   - putting on weight,
   - ***But women are overindulging*** in unhealthy behaviour too (although not as much), so that's not the whole story.
2. the report's authors point the finger at a deeper-rooted issue with the male psyche – the tendency to hide one's head in the sand when it comes to health matters "Ostrich heads"
3. Men have a reputation for having a 'stiff upper lip' and not being as health conscious as women.

WHAT ARE THE BENEFITS AND HARMS OF BOWEL CANCER SCREENING?

BOWEL CANCER SURVIVAL BY STAGE OF DIAGNOSIS

BOWEL

= People surviving their bowel cancer for five or more years

DIAGNOSED EARLIER
AT STAGE I

MORE THAN 9 IN 10

DIAGNOSED LATER
AT STAGE IV

LESS THAN 1 IN 10

All data for East of England when diagnosed between 2002 and 2006

LET'S BEAT CANCER SOONER
cruk.org

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THE HARMS OF BOWEL CANCER SCREENING

- Screening can give an abnormal result even though the person doesn't have cancer – a false positive result
- Screening can miss cancer – a false negative result
- People over-interpret a normal result and do not report symptoms they experience in the future – false reassurance
- A bowel cancer or polyp that would not have caused any harm is diagnosed and treated - over diagnosis
- Follow up tests from FOBt/FIT, as well as bowel scope itself, have risks such as bleeding, damage (perforation) to the bowel wall, or (very rarely) death

Deciding whether to be screened is individual – a person's attitudes and values shape their view on the relative benefits and harms

WHAT ARE THE BARRIERS TO PARTICIPATION IN THE BOWEL CANCER SCREENING PROGRAMME?

BOWEL CANCER SCREENING BARRIERS

- Knowledge of screening
  - E.g. thinking screening isn't relevant because they don't have symptoms
- Fear and fatalism
  - E.g. believing that death is predetermined
- The test itself
  - E.g. dislike and social taboo around handling faeces
- Motivation and practical barriers
  - E.g. competing demands on time
- Beliefs related to culture, gender, or deprivation
  - E.g. screening and preventative tests are not familiar parts of healthcare

HOW CAN UPTAKE BE INCREASED?

Improve awareness of bowel cancer screening

Training

- Ensure all staff know about the bowel screening programme and are familiar with the FOBt/FIT
- Have a screening lead

Proactive practice recall

Display screening information

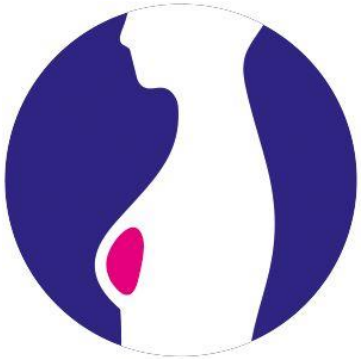
- Bowel cancer screening information cards
- Leaflets (multiple languages) and posters about bowel cancer and bowel cancer screening
- Animation: how to do the test

Make the most of Bowel Cancer Awareness Month in April

BREAST SCREENING

BREAST CANCER FACTS

Breast cancer is the most common cancer in the UK – around 150 cases are diagnosed every day



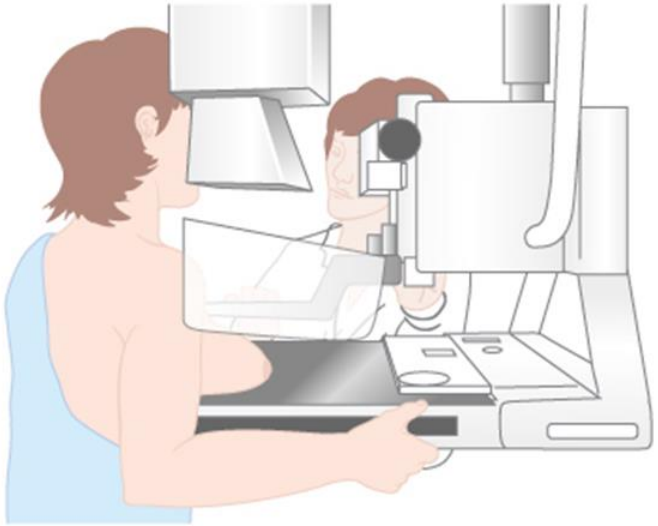
Around 55,200 new cases a year in the UK in 2014 and around 11,400 deaths a year

78% of women survive breast cancer for 10 or more years

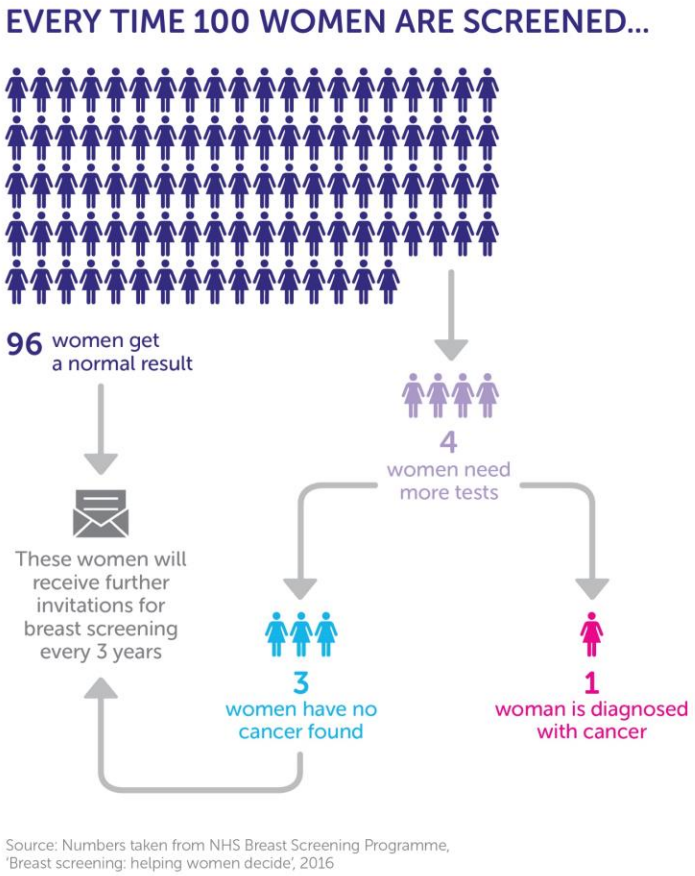
27% of breast cancer cases in the UK are linked to major lifestyle and other risk factors.

BREAST SCREENING: MAMMOGRAPHY

- For women aged between 50 and 70 years, who are registered with a GP
- Test is a mammogram – 2 x-rays of each breast
- Carried out at special clinics or mobile breast screening units
- Self-referral over 70



BREAST SCREENING RESULTS BREAKDOWN



Every time 100 women are screened:

- 96 women have a normal result
- 4 are called back for more tests

Of those 4 called back:

- 3 are found not to have cancer
- 1 has cancer

THE BENEFITS OF BREAST CANCER SCREENING

- The current evidence suggests that breast screening reduces the number of deaths from breast cancer by about 1,300 a year in the UK.
- Breast cancers found by screening are generally at an early stage. Early stage breast cancers are more likely to be cured and may need less treatment.
- 99% of women who are diagnosed with breast cancer at the earliest stage (stage I) survive their cancer for 5 years or more.

Lancet (380,9855,p1778-1786)

THE HARMS OF BREAST CANCER SCREENING

- Screening doesn't find all breast cancers. So some people with breast cancer will be missed - a false negative result.
- In some women, the test is positive even though there is no breast cancer - a false positive result
- Women over-interpret a normal result and do not report symptoms they experience in the future - false reassurance
- Harms associated with the test e.g. radiation exposure, pain
- **A breast cancer is picked up that would not have caused harm – overdiagnosis (19% cases)**

Lancet (380,9855,p1778-1786)


CERVICAL
SCREENING

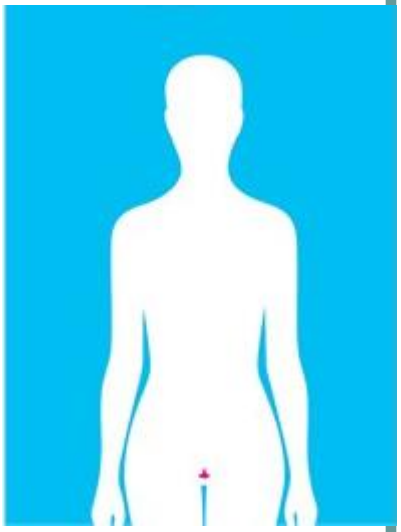
CERVICAL CANCER FACTS

In women, cervical cancer is the 13th most common cancer

There are around 3,000 new cases in the UK each year and around 900 deaths a year

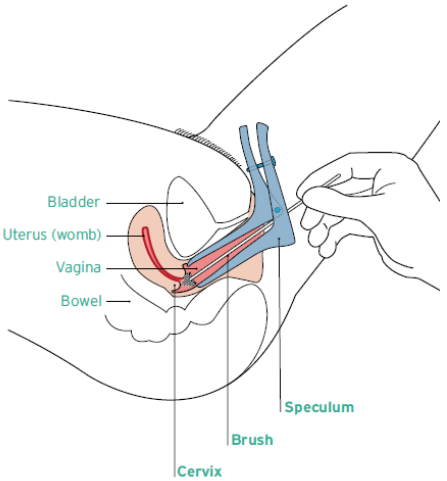
63% of women survive cervical cancer for 10 years or more

HPV (16 & 18) infection is the main risk factor (>96%) for cervical cancer



CERVICAL SCREENING AIMS TO PREVENT CANCER

- It is NOT a test to find cancer. It is a test to detect HPV in the cells of the cervix that may develop into cancer in the future
- Women from 25-64, who are registered with a GP are invited for cervical screening
- Women aged 25-49 are invited every 3 years. After that, women are invited every 5 years until the age of 64



THE RESULTS

- If the result is unclear women are asked to repeat the test
- If it is HPV positive (42% chance CIN3), women will be invited for a colposcopy.
- If it is HPV negative, the woman will be returned to routine screening.

THE BENEFITS OF CERVICAL SCREENING

- Cervical screening saves at least 2,000 lives each year in the UK.
- The benefit of screening on cervical cancer risk increases with age.
- The cervical screening programme started in the late 1980s and since the early 1990s cervical cancer incidence rates have decreased by almost a quarter in the UK.

British Journal of Cancer 2016; 1–7. https://www.ncbi.nlm.nih.gov/pubmed/27632376

Detection – how?

- Assessment on patient presentation
- Cancer risk assessment tools
  - And diagnostics/referral
- Screening

Cancer Detection

- Risk prediction tools
- Suspected Cancer Guidelines (NG12)

Cancer Risk prediction tools

- Integrated into GP software
  - Supplement but NOT replace clinical judgement!
- May be used to “batch” search or during consultation
- Provide an individualised risk score
- Enable personalised lifestyle advice
- Based on
  - demographics,
  - risk factors, and
  - current signs and symptoms
- Depend on data input (read codes)

Improving early diagnosis of cancer BJGP 2017;67(659):276-277

Cancer Risk prediction tools

- QCancer:
  - Based on codes and demographics
  - On GP system
  - On-line
  - Also has 10 years risk calculator for both men and women
- Cancer Risk Assessment Tool (RAT)
  - Simple scoring based symptom on multiple cancers
- Macmillan Cancer Decision Support Tool:
  - Incorporates both QC and RAT
  - Risk stratified features eg >2% risk searches

Improving early diagnosis of cancer BJGP 2017;67(659):276-277

Limitations

- Data base:
  - observational data
  - Coding dependent
- Incorporated into systems
  - EMIS
  - Vision
- Use by clinicians
  - Validation
  - Capacity

Delays

- Delays in diagnosis of cancer have major impact on:
  - QOL for patients and carers
  - Outcomes
  - Resources: time and money

Where do risks arise from?

- Patient Factors – poor uptake of screening programmes, symptom misattribution, lack of uptake of appointments, beliefs
- Doctor (GP) Factors – access, the diagnostic process (availability, assessment, vigilance and failure to fast track), processes of referral
- System factors – waiting for tests and treatment

NICE Suspected Cancer Guidelines

(updated 2017)

- Recommendations for 37 different types of cancer types
- Major impact on the NHS and the way we work
- Unique and scholarly
- All evidence comes from primary care
- Are recommendations and GPs encouraged to use clinical judgement
- PPV referral threshold for cancer is 3% (prev 5%)
  - Clinical features (Si&Sy) suggestive of cancer to be referred
  - Hence more referrals
- Direct access to diagnostics
  - eg US Imaging PSA Ca125 Platelets
- Safety netting and referral

NICE 2015 NG12, BMJ 2015;350

Assessing and referring adult cancers

by Will Stahl-Timmins

Refer using suspected cancer pathway

Non-urgent specialist referral

Abdominal features (discomfort or pain)

- Abdominal pain + Rectal bleeding
- Abdominal pain + Weight loss age 40+
- Abdominal pain age 50+
- Abdominal pain + Weight loss age 60+ colorectal cancer excluded
- Upper abdominal pain age 55+ + Weight loss
- Upper abdominal pain age 55+ + Anaemia / Thrombocytosis / Nausea / Vomiting
- Dyspepsia age 55+ + Weight loss
- Dyspepsia age 55+ treatment resistant
- Dyspepsia age 55+ + Thrombocytosis / Nausea / Vomiting

Abdominal features (distension or mass)

- Rectal or abdominal mass
- Upper abdominal mass, consistent with enlarged: gall bladder / liver / stomach
- Hepatosplenomegaly
- Splenomegaly + Fever / Night sweats / Breathlessness / Pruritus / Weight loss

Abdominal features (bowel transit symptoms)

Women

- Abdominal distension persistent / frequent esp. age 50+
- Ascites +/ pelvic/abdominal mass not obviously uterine fibroids
- Irritable bowel syndrome symptoms in last 12 months age 50+
- Change in bowel habit unexplained age 50+
- Change in bowel habit unexplained + Rectal bleeding
- Change in bowel habit unexplained age 60+
- Change in bowel habit unexplained age under 60
- Diarrhoea / Constipation + Weight loss age 60+

Abdominal features (Upper gastrointestinal symptoms)

- Nausea / Vomiting + Thrombocytosis / Weight loss / Reflux
- Dyspepsia / Upper abdominal pain age 55+
- Nausea / Vomiting + Weight loss age 60+
- Reflux + Weight loss age 55+
- Dysphagia

Bleeding

- Rectal bleeding unexplained age 50+
- Rectal bleeding unexplained + Abdominal pain / Change in bowel habit
- Weight loss / Iron deficiency anaemia
- Bruising / Bleeding / Petechiae unexplained
- Haemoptysis unexplained age 40+
- Haematemesis

Musculoskeletal

- Back pain persistent age 60+ / Bone pain persistent / Unexplained fracture
- Back pain persistent age 60+ + Weight loss

Neurological

- Loss of central neurological function progressive / sub-acute

Non-specific features of cancer

- Fatigue persistent / Fever unexplained / Infection unexplained persistent / recurrent / Pallor
- Fatigue / Weight loss / Appetite loss + Ever smoked / Exposed to asbestos + age 40+
- Weight loss unexplained
- Appetite loss unexplained
- Deep vein thrombosis

Multiple possibilities

Assess for additional features to clarify most likely cancers

- Jaundice age 40+
- Weight loss age 60+ + Diarrhoea / Back pain / Abdominal pain
- Nausea / Vomiting / Constipation / New onset diabetes

Possible cancers

Non-Hodgkin's lymphoma

Colorectal

Stomach

Ovarian

Oesophageal

Gall bladder

Liver

Leukaemia

Mesothelioma

Myeloma

Brain/ CNS

Pancreatic

Lung

Primary care investigation

- non-urgent: Testing for occult blood in faeces
- within 2 weeks: CT scan / Ultrasound
- within 2 weeks / non-urgent: Upper GI endoscopy direct access
- within 2 weeks: Ultrasound
- within 48 hours: Full blood count
- non-urgent: Measure serum CA125
- within 2 weeks: Chest x ray
- Full blood count + Blood tests calcium / erythrocyte sedimentation rate / plasma viscosity
- within 2 weeks: MRI scan / CT scan

1. In your lab links you see a FBC for a 72 year old man with a platelet level of 498

A. File it
B. Repeat it
C. Review the patient
D. Arrange CXR and FIT test
E. Wish locums/registrars sorted out their own mess

Clinical relevance of thrombocytosis in primary care

https://bjgp.org/content/67/659/e405

- ¼ patients have FBC each year
- Thrombocytosis is present in 1.5–2.2% patients ≥40 years

Willie Hamilton

PLATELETS AND CANCER

new in NG12 (Specifics)

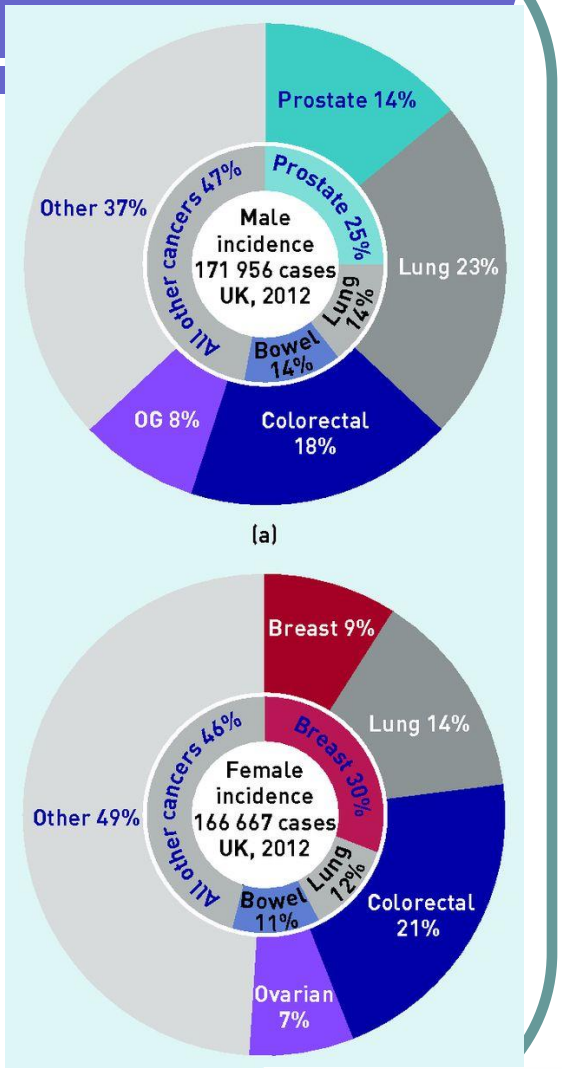
- The positive predictive value of thrombocytosis is 11.6% for males and 6.2% for females
- This rises to 18.1% for males and 10.1% for females if the patient has a second raised platelet count within 6 months.
- The incidence of cancer rose with age and with a higher platelet count

NICE Guidance (NG12)

- Relevance of ↑ Platelet count

Seen in cancers of:

- Lung
- Lower GI
- Prostate
- Breast
- OG
- Ovarian



Br J Gen Pract 2017; 67 (659): e405-e413.

Theories why link between platelets and cancer

1. Thrombocytosis may augment tumour development
2. Platelets may shield tumour cells to promote metastasis
3. Tumours may raise platelet counts.

It is possible that all three of these processes can occur simultaneously in patients with thrombocytosis and underlying malignancy.

PRACTICAL ADVICE

- Repeat
- Review- some patient may meet criteria for 2WWR
- Bloods, CXR, FIT
- Urgent CT (chest, abdomen and thorax)/MDC

- Audit- can focus e.g. male over 65 with 2 high readings, ever-smoked

A 58 year old man presents with LUTS. What assessment would you make?

- His IPSS score is 18 indicating moderate symptoms.
- Examination of his abdomen is normal - no bladder/renal mass. PR reveals a smooth moderately enlarged benign feeling prostate
- Dipstick urine shows a trace of nitrite, no blood. What investigations would you do?
- He is keen to have a PSA test.

- His renal function and FBC are normal, PSA 10 (age specific range-0-4) MSU reveals raised wcc and rbc 100 with E. coli UTI. What action would you take?

- PSA is now 2.9 MSSU normal what action would you take?

- PSA repeated after 3/12 is 5.4 his symptoms are only slightly improved on treatment and repeat MSU is normal. What would you do?

- If you had chosen Dutasteride as treatment for his LUTS what are the implications for PSA monitoring?

5α-reductase inhibitor therapy

- Dutasteride lowers PSA levels by about half within six months
- Even a slight rise in PSA levels among men taking the drug was a strong indicator of prostate cancer, particularly aggressive tumours

Prostate Cancer guidance with LUTS

- Wait 2 days after ejaculation, exercise, or prostate stimulation before measuring PSA.
- Treat a UTI & wait for 6 weeks before measuring PSA.
- If prostate hard, make SCR regardless.
- If PSA > threshold, repeat the PSA two weeks later. If 2nd PSA > threshold, make SCR.
- If prostate feels malignant on first PSA > 20 make SCR anyway providing no recent ejaculation/exercise/UTI.
- If PSA < threshold on second PSA, repeat PSA 12 months later or earlier if concerned.
- Always consider performance status and patient wishes

3. A 62 year old man presents for a new patient diabetes review having seen the nurse 2 weeks previously

- His diabetes was diagnosed 'opportunistically ' following a CV Risk appointment. His BMI is 22, there is no FH of DM he asks if this would explain his recent weight loss (4kg in 5 weeks) and upper abdominal discomfort.
- He is not clinically anaemic or jaundiced and examination of his abdomen is normal.
- What action would you take?

NICE guidance for pancreatic cancer

- Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for pancreatic cancer if they are aged 40 and over and have jaundice
- Consider an urgent direct access CT scan (to be performed within 2 weeks), or an urgent ultrasound scan if CT is not available, to assess for pancreatic cancer in people aged 60 and over with weight loss and any of the following:
  - diarrhoea
  - back pain
  - abdominal pain
  - nausea
  - vomiting
  - constipation
  - **new-onset diabetes**

Safety netting in primary care

Safety netting

‘Cancer detection in patients with vague symptoms’ **BJGP 2016:355;i5515**

- Most cancer cases present with vague, undifferentiated symptoms
- Key factors in missed diagnoses include

(i) lack of continuity, (ii) poor record keeping (iii) false reassurance (iv) DNA

Safety netting

- Communication
- Action for GPs
- Actions for practices

http://www.cancerresearchuk.org/sites/default/files/safety_netting_summary_table_201607.pdf

Safety netting

COMMUNICATE TO PATIENTS	Likely time course of current symptoms
	When to come back if symptoms do not resolve in expected time course
	Specific warning/ red flag symptoms or changes to look out for
	Who should make a follow up appointment with the GP, if needed
	The reasons for tests or referrals
	If a diagnosis is uncertain

Safety netting

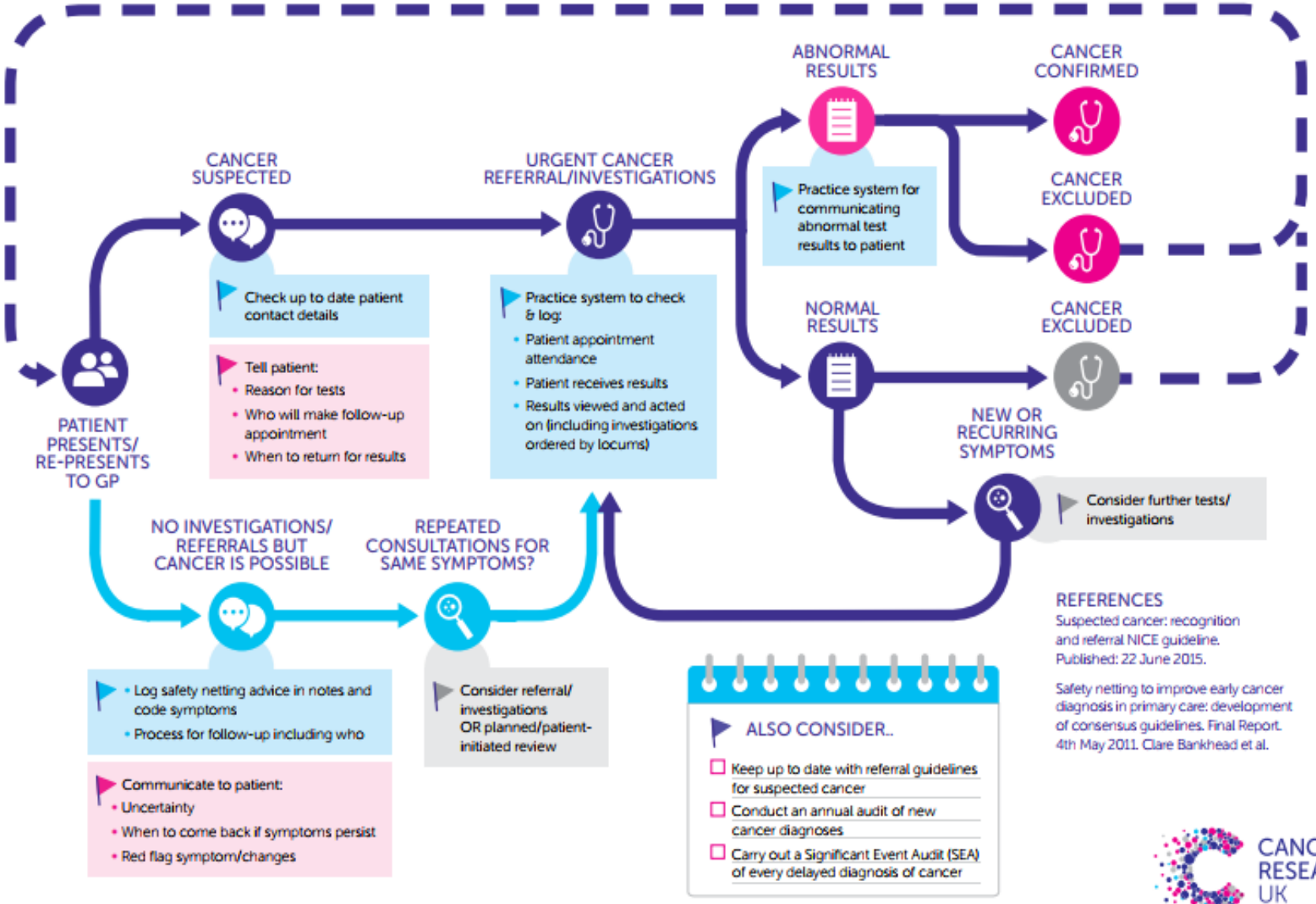
ACTIONS FOR GPS	
	Detail any safety netting advice in the medical notes
	Consider referral after repeated consultations for the same symptom where the diagnosis is uncertain (e.g. three strikes and you are in)
	Ensure the patient understands the safety netting advice (take into account language/ literacy barriers)
	Code all symptoms and urgent referrals
	If symptoms do not resolve, carry out further investigations even if previous tests are negative

Safety netting

ACTIONS FOR PRACTICES	
	Ensure that you have current contact details for patients undergoing tests or referrals
	Ensure patients know how to obtain their results
	Have a system for communicating abnormal test results to patients
	Have a system for contacting patients with abnormal test results who fail to attend for follow up
	Put in place systems to document that all results have been viewed, and acted upon appropriately
	Have policies in place to ensure that tests/ investigations ordered by locums are followed up
	Have systems that can highlight repeat consultations for unexplained recurrent symptoms/ signs
	Make sure practice staff involved in logging results are aware of reasons for urgent tests and referrals under the two week wait
	Conduct significant event analyses for patients diagnosed as a result of an emergency admission
	Conduct an annual audit of new cancer diagnoses

SAFETY NETTING SUMMARY

Patient communication | GP consultation | Practice process/system | Education



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Suspected cancer: recognition and referral NICE guideline. Published: 22 June 2015.

Safety netting to improve early cancer diagnosis in primary care: development of consensus guidelines. Final Report. 4th May 2011. Clare Bankhead et al.

CANCER RESEARCH UK

http://www.cancerresearchuk.org/sites/default/files/safety_netting_summary_flowchart_201607.pdf

BEST PRACTICE TIPS IN CANCER:

NHS England
Thames Valley Cancer Alliance

REDUCING THE RISK OF EMERGENCY PRESENTATIONS

VAGUE SYMPTOMS

- **Adopt "3 strikes" ethos:** Patient presents with the same symptom/s and consider referring to exclude serious pathology
- **Use clinical decision tools:** eg QCancer, Macmillan Cancer Decision Support Tool, RAT. All rely on **Read-code** data entry
- **Adopt review process for serious but non-specific symptoms:** ensure that patients are reviewed and given instructions to return for assessment

QUALITY IMPROVEMENT

- **Review practice processes**
- **Audit: eg emergency presentation diagnoses, referral criteria, processes**
- **Map/SEA new diagnoses: and ensure learning shared**
- **SEA of cancer events**

CANCER SCREENING (Bowel, Breast, Cervical)

- **Have robust data input processes**
- **Proactive practice processes to encourage screening**
- **Provide Leaflets, and in different languages**
- **Develop practice staff and champions** (enthusiasts who lead the cancer agenda)

SAFETY NETTING

- **Adopt "if no better" process:** explain clearly to patient
- **Have clear abnormal results management process**
- **Ensure high quality data entry** to ensure clear management plan, clear instructions, and recording of consultations
- **Referral assurance of:**
  - Correct patient details
  - Tell patient "for cancer exclusion", give leaflet
  - Ensure patient available for appointment
  - Inform patient of process if "no appointment yet" information within 1 week
  - Contact patient on direct referral on notification
  - Feed-back after assessment

SYMPTOMS AND COMPLEX CONDITIONS

- **Follow NICE guidance**: NG12
- **Exclude Red flags:** presentation and examination
- **Specifically,** be aware of:
  - New onset Diabetics in those over 60
  - In LUTS: consider DRE, PSA
  - Unintentional weight loss and abdominal pains in those over 40
  - Thrombocytosis in high risk patient
  - Teachable moments; Risk factor discussion

Ref: CRUK, Macmillan, NCDA

Lung Cancer

- Lung cancer is the most common cancer in the world, with 1.3 million new cases annually.
- In the UK it is the second most common form of cancer and more than 39,000 people are diagnosed with the disease every year
- > 85% of cases are linked to smoking
- Around 33,000 people die each year from lung cancer in the UK

Colorectal Cancer

- In 2008 there were an estimated 333,330 new cases of colorectal cancer in the European Union (EU-27)
- In the UK it is the forth most common form of cancer and more than 40,000 people are diagnosed with the disease every year
- Around 16,000 people die each year from colorectal cancer in the UK

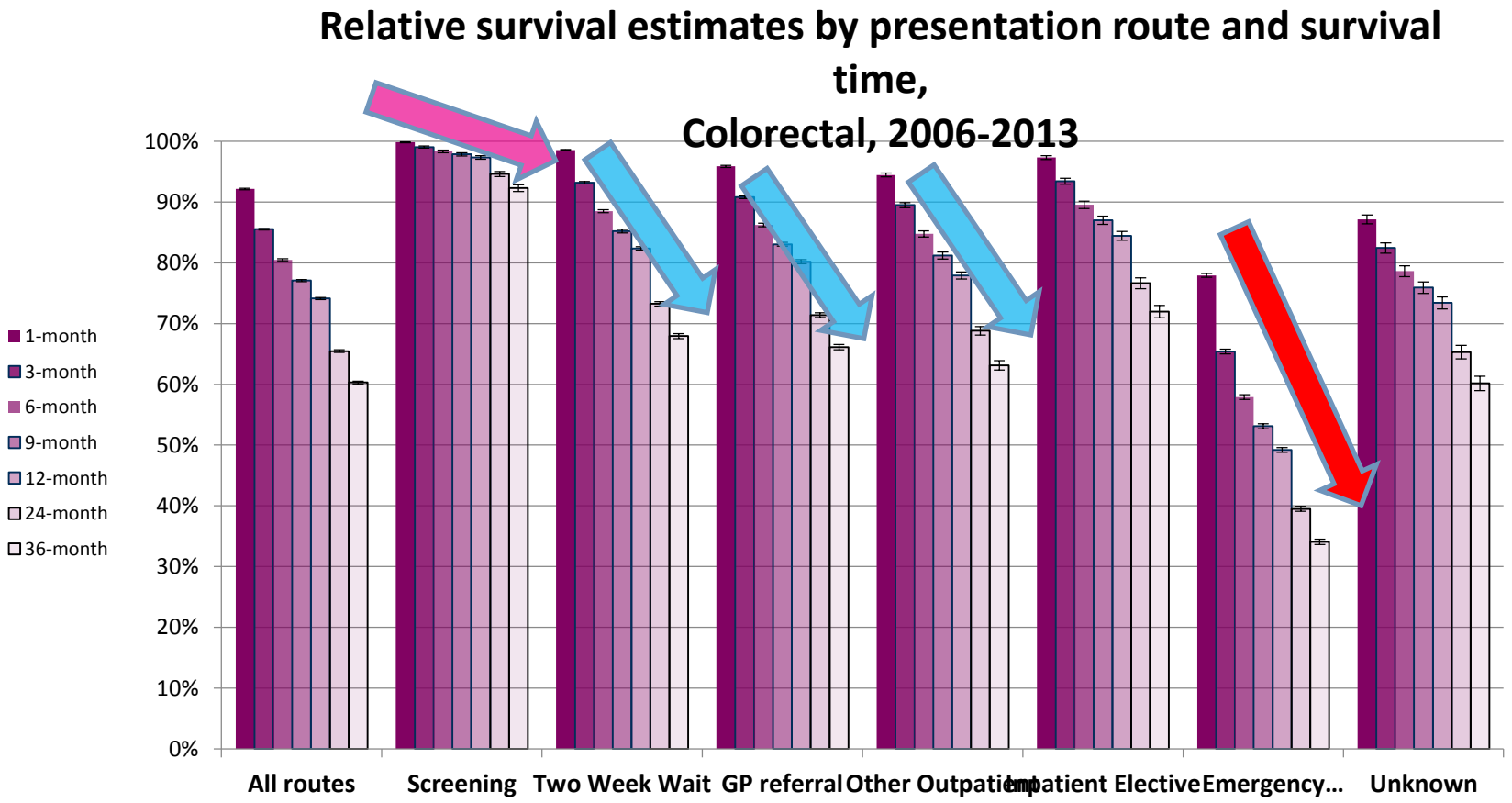
Diagnosis and survival

One year survival rates - %

Presentations	All routes	Emergency
Breast	97	53
Colorectal	**73**	**48**
Bladder	72	35
Ovary	69	42
Kidney	66	33
Stomach	38	22
Lung	**26**	**9**

Conclusion: *Emergency presentation may be a useful marker of poorer prognosis & outcomes*

• SURVIAL BY PRESENTATION



http://www.ncin.org.uk/publications/routes_to_diagnosis (accessed 10.9.17)

RCGP Royal College of General Practitioners

CANCER RESEARCH UK

Colorectal symptoms

Low Risk Symptoms	High Risk Symptoms
Rectal bleeding with anal symptoms	Change of bowel habit for more than 6 weeks
Rectal bleeding with an external visible cause such as prolapsed piles, rectal prolapsed, anal fissure	Abdominal pain with iron deficiency anaemia or palpable abdominal mass
	Abdominal pain with evidence of intestinal obstruction

Average risk individuals

- Adult above 45 years
- No family history of CRC
- No family history of genetic syndromes

High risk individuals

- Inflammatory bowel disease: UC & CD
- Familial Polyposis syndromes: FAP, Gardner's syndrome, Turcott's, Juvenile
- Familial non-polyposis syndromes:

  Lynch I

  and Lynch II
- Family history: CRC, adenoma
- Personal History: CRC, adenoma

Investigations

- History and general examination
- Rectal examination
- FBC, ESR, ferritin, LFTs, FIT test
- Flexible sigmoidoscopy & colonoscopy +/- biopsy
- Imaging eg Barium enema, double contrast

Carcinoma in Inflammatory Bowel Disease

Extensive colitis 13%

- < 10 years < 1%
- 15 years 4.5%
- 20 years 13%
- 30 years 34%

Crohn's disease 3%

Lung cancer – some facts and statistics

- Lung Cancer is the 2nd commonest cancer in the UK with over 39,000 new cases per year.
- Lung Cancer is also the most lethal Cancer causing 35,000 deaths per year in the UK
- Most cases of lung cancer (>85%) are linked to smoking – but not all
- Only 26% of patients survive 1 year in the UK and 5 year survival is less than 8%
- Survival rates in comparable countries appears to be significantly better with 1 year survival rates of up to 43% and 5yr survival up to18% [1]

Q: Why are survival rates poor in the UK?

A: Because patients are presenting late

Patients who are diagnosed at an early stage (stages I and II) have a much better prognosis with 5 year survival rates of over 70%

Lung cancer – some facts and statistics

Q. How can we diagnose it earlier?

- Target high risk groups of the population
- Increase public awareness of warning symptoms
- Encourage people to seek help early if they are concerned
- Encourage patients to see their GP and ***consider a chest x-ray***

Consider an urgent CXR if the patient has:

- Haemoptysis
- Persistent cough > 3 weeks
- Unexplained weight loss in a smoker
- Persistent hoarseness
- Unexplained chest/shoulder pain
- Stridor
- *But remember 25% "Normal"*
  - Br J Gen Pract. Aug 1, 2006; 56(529): 570–573.

Thank You

Q?