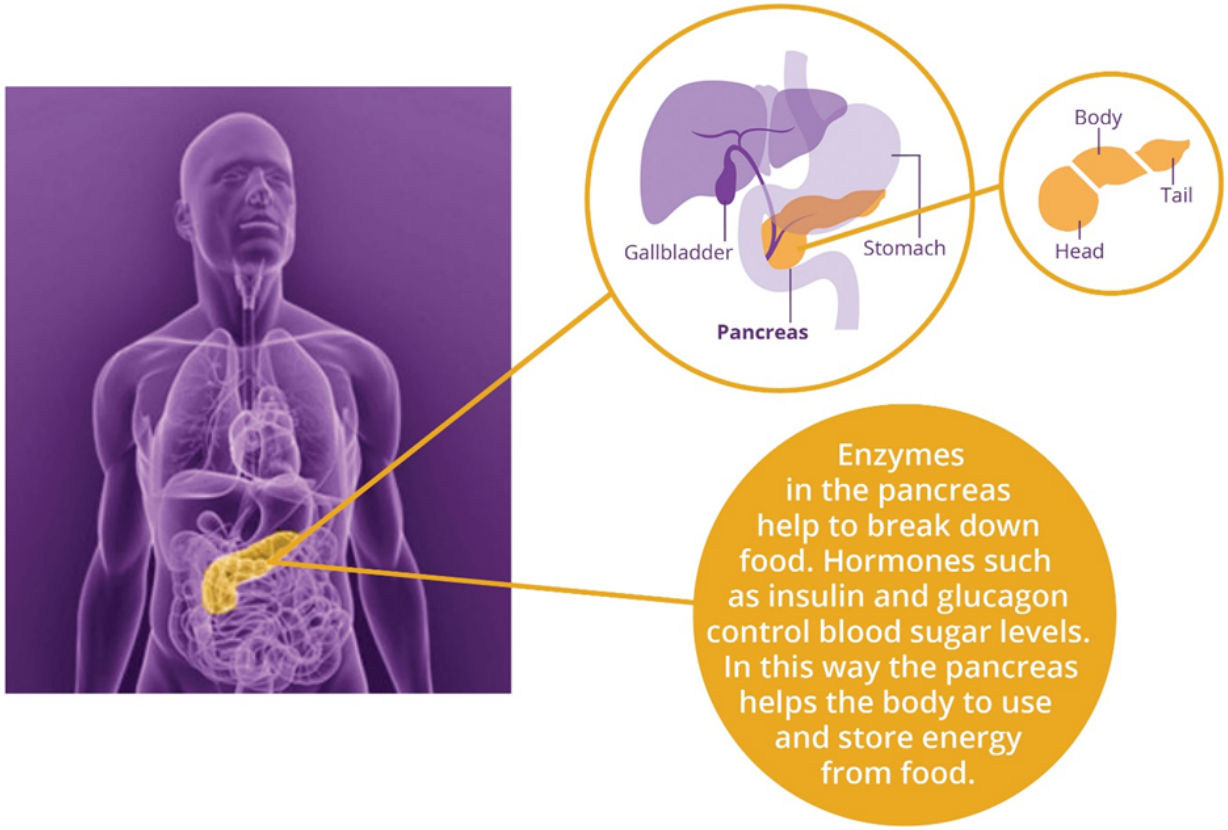
Pancreatic Cancer – an overview

Let’s drive earlier diagnosis

The Pancreas



87% of UK population cannot identify where in their body the pancreas lies*

*Pancreatic Cancer Action Ipsos Mori poll 2013.

The Facts

Half of all patients are diagnosed as an **emergency**

Pancreatic cancer affects **men** and **women equally**

Receives only **1%** of cancer research funding

Twenty four people are newly diagnosed with the disease **each day**

For those **diagnosed in time for surgery** their chance of surviving beyond five years **increases tenfold**

Currently only **four percent** of those diagnosed survive beyond **five years**

Most are diagnosed too late

Most patients diagnosed too late:

Only 10% dx in time for surgery.

50% patients never heard of pancreatic cancer.

83% of UK population doesn't know where pancreas situated.

Average life expectancy 4-6 months

5-year survival only 4% (no change in 40 years)

Pancreatic Cancer Action Patient Survey 2015:

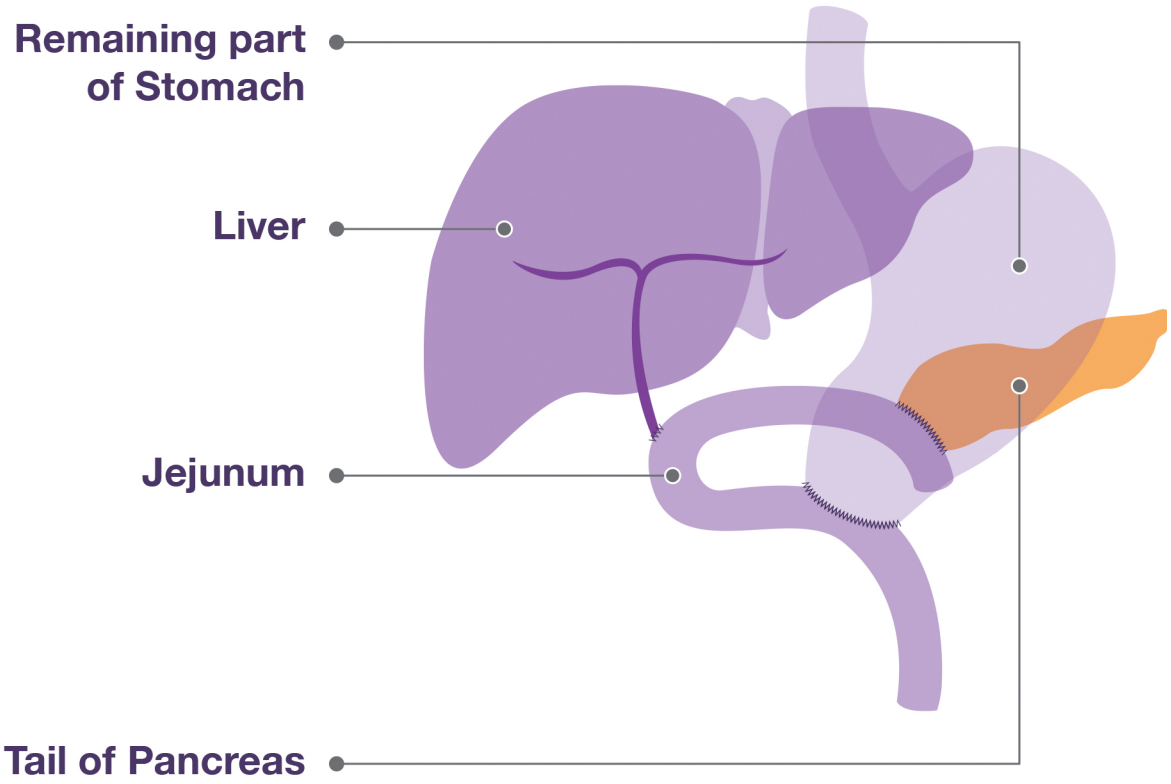
Before referral for tests, 40% patients visited their GP 4 times or more.

1 in 10 had 10+ appointments

61% of patients said their GP initially dismissed symptoms

Survival increases ten-fold...

Surgical resection "Whipple's procedure" or distal pancreatectomy & splenectomy followed by adjuvant chemotherapy can increase survival by up to ten-fold



Incidence and Mortality of pancreatic cancer in the UK

In 2013, 9,389 people were newly diagnosed with pancreatic cancer in the UK, an increase of 6% on 2012

The number of people diagnosed with pancreatic cancer in the UK has been steadily rising.

In 2013, the number of deaths due to pancreatic cancer in the UK was 8,524,

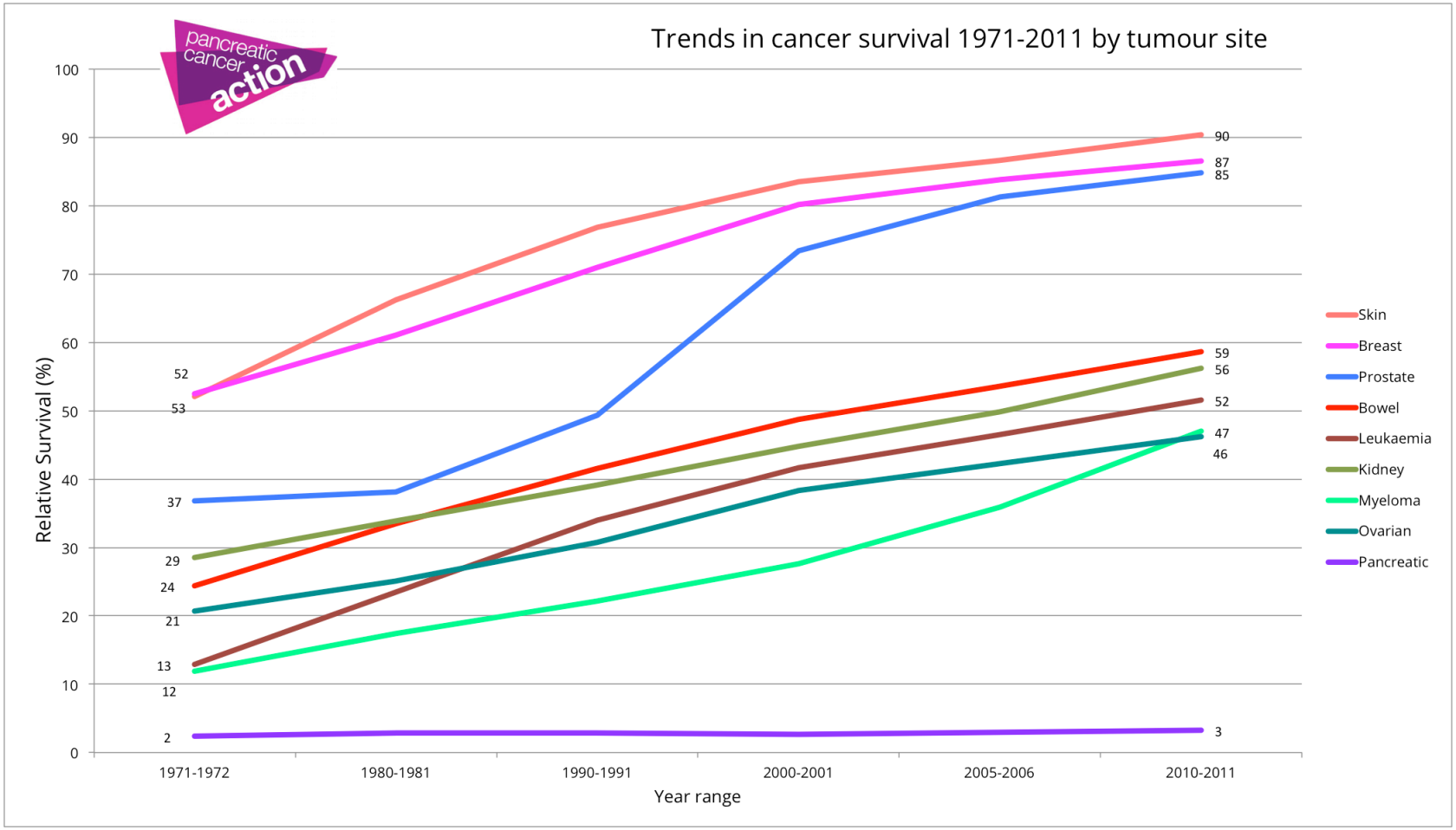
Nearly 24 people a day and nearly one person an hour will die from pancreatic cancer in the UK.

ONS Cancer Registrations England 2012 ↵
ISD Scotland Cancer Incidence in Scotland (2012 ↵
Northern Ireland Cancer Registry Cancer Statistics, Pancreas http://www.qub.ac.uk/research-centres/nicr/CancerData/OnlineStatistics/Pancreas/ ↵
Deaths registered in England and Wales in 2012 by cause ↵
ISD Scotland. ↵
Northern Ireland Cancer Registry, Queens University, Belfast: Number of deaths and mortality rates by sex: http://www.qub.ac.uk/research-centres/nicr/ ↵

Pancreatic cancer has the lowest survival of all common cancers

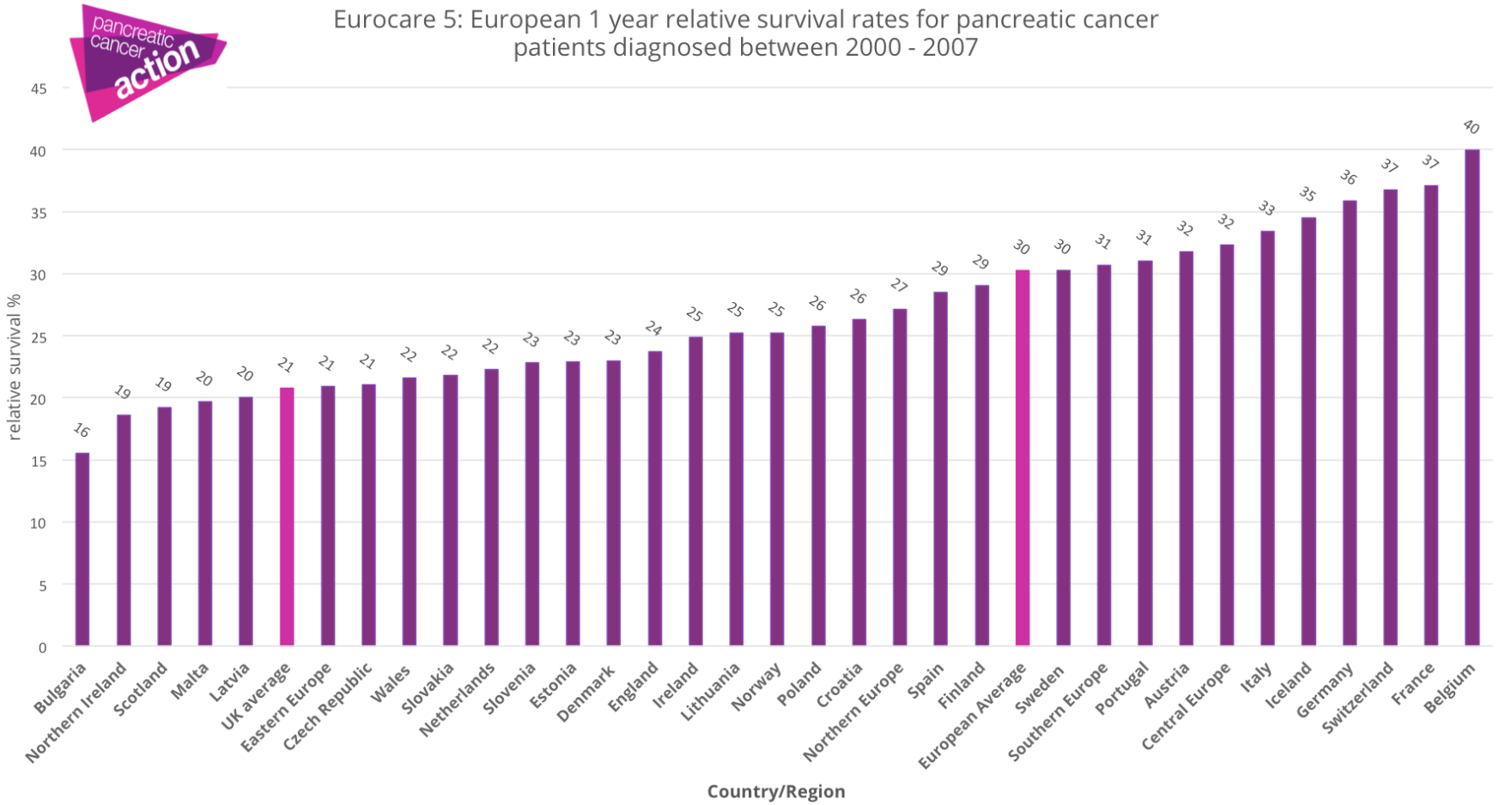
Age Standardised	Relative Survival	One Year (%)	Five-Year (%)
	Male	19.1	5.4
England	Female	21.0	5.4
	Persons	20.0	5.4
	Male	19.7	4.0
Wales	Female	17.5	3.4
	Persons	18.6	3.7
	Male	19.5	3.6
Scotland	Female	20.6	5.5
	Persons	20.1	4.6
	Male	16.9	5.1
Northern Ireland	Female	20.2	5.3
	Persons	18.4	5.0
	Male	18.8	4.5
UK Average	Female	19.8	4.9
	Persons	**19.3**	**4.7**

There have been huge improvements in survival for most cancers...

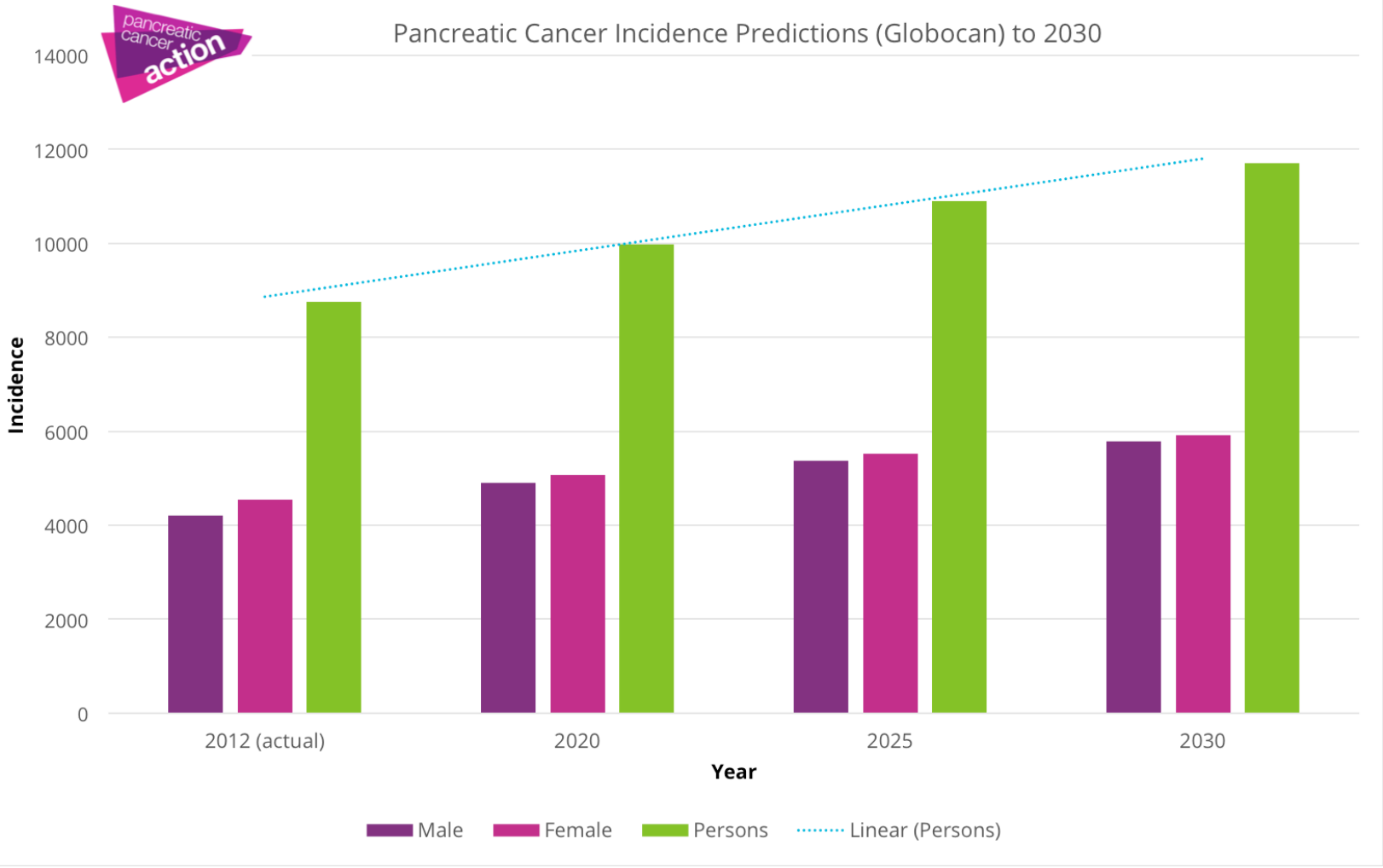


Sadly the same isn't true for pancreatic cancer

UK pancreatic cancer one-year survival rates are the lowest in the Europe



Incidence in the UK is predicted to rise



Most patients diagnosed too late:

61% of patients said their GP initially dismissed symptoms

BUT…

Over half of patients said they too dismissed their symptoms

From visiting their GP with symptoms, nearly one third had to wait four months or more before a referral to a specialist.

14% had to wait 12 months or more.

18% opted to get a private referral (usually due to the length of wait for imaging tests)

Possible reasons for delays in diagnosis

- Complex presentations especially in the presence of co-morbidities

- Patient delay such as prolonged time to re-visit or simply choosing not to visit their GP
- System delays within primary and secondary care
- Clinical delay
- Health inequalities

Clinical Presentation: Classic symptoms

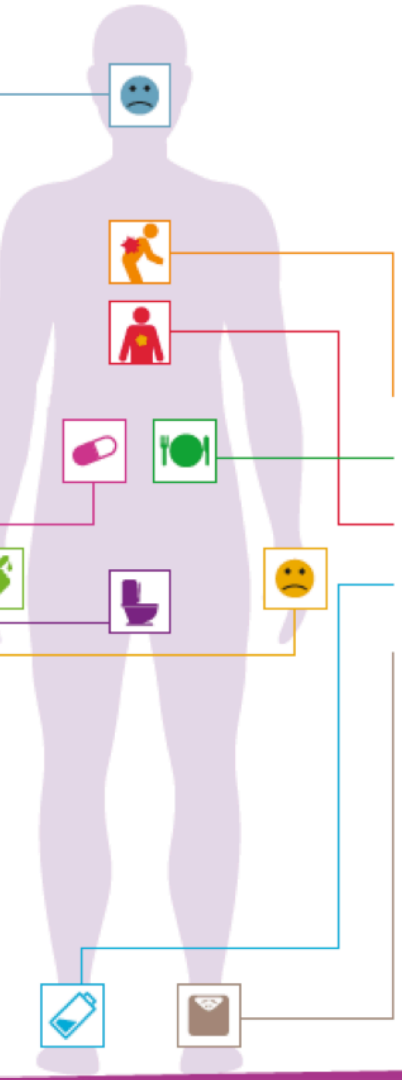
The Map of Medicine lists the following as the most common symptoms:

MOST COMMON	OTHER COMMON
Epigastric Pain: occurs in approximately 70% of cases Jaundice: occurs in approximately 50% Of cases Unexplained weight loss Occurs in 10-30% of cases	▪ Nausea ▪ Anorexia ▪ Malaise ▪ Vomiting

These symptoms however are often signs of late-stage/inoperable disease

Signs & Symptoms

of pancreatic cancer



- **Low mood or depression**
- **Diabetes** new onset and not associated with weight gain
- **Indigestion** not responding to prescribed medication
- **Pale, smelly stools** that don't flush easily
- **Jaundice** (yellowing skin, possible itchy skin)

- **Mid-back pain**
- **Pain on eating**
- **Upper abdominal pain**
- **Fatigue**
- **Unexplained weight loss**

DO NOT IGNORE THEM!

If you persistently experience one or more of these symptoms which are not normal for you, **contact your GP straight away** or call the **NHS 111 Service**

Common Misdiagnosis

- Gall stones
- Gastritis
- Irritable Bowel Syndrome
- Gastroenteritis
- Indigestion
- Liver disease

Let's drive earlier diagnosis

A-Typical symptoms

New onset type 2 diabetes mellitus:

New-onset type 2 diabetes in an underweight or normal weight patient, not associated with weight gain

Resistant dyspepsia/persistent epigastric pain:

Patients may also describe their abdominal pain radiating to the back and/or back pain that is relieved on leaning forward.

IBS like symptoms in those >45 years:

IBS is very rare as a new onset symptom at this age and should ring alarm bells so it is essential to think of and exclude pancreatic carcinoma as a cause for bloatedness and flatulence.

Altered bowel movements:

A patient may notice increased bowel movement frequency and pale, offensive smelling stools that don't flush away easily.

Venous Thromboembolism:

A Deep Vein Thrombosis (DVT) may be a manifestation of an underlying malignancy. If a patient presents with no obvious risk factors it is worth considering an abdominal malignancy such as pancreatic cancer.

The "Silent" killer? Frequency of reported symptoms - recent studies (Schmidt-Hansen et al, 2015)

Symptom /Signs/Disease	Stapely et al (2012) (≧ 40 yrs)	Stapely et al (2012) (≧ 60 yrs)	Hippisley – Cox & Copeland (2012) (30-84 yrs)	Collins & Altman (2013)	Keane et al (2014) (no age range)
Abdominal Pain	42.4%	41.2%	39.8%	39.8%	43.9%
Jaundice	30.5%	32.3%	Not reported	Not reported	30.8%
New- onset diabetes	22.1%	23.6%	Not reported	Not reported	13.6%
Change in bowel habit	22.3%	23.5%	Not reported	3.3%	27.4%
Dyspepsia	Not reported	Not reported	Not reported	Not reported	2-%
Nausea/vomiting	16.2%	16.7%	Not reported	Not reported	16.6%
Weight loss	9.7%	10.7%	7.8%	7.8%	10.5%
Malaise	5.1%	5.7%	Not reported	Not reported	10.5%
Bloating	Not reported	Not reported	1.2%	2.4%	4.1%
Non-cardiac chest pain	Not reported	Not reported	Not reported	Not reported	12%
Shoulder pain	Not reported	Not reported	Not reported	Not reported	4.9%
Dysphagia	Not reported	Not reported	1.4%	2.7%	1.8%
Appetite loss	Not reported	Not reported	3.5%	3.5%	Not reported

Positive Predictive Values (PPVs) of symptoms

For patients ≧60 yrs, the PPVs for individual symptoms is very low - with the exception of jaundice.

For symptom pairs, where jaundice is one of the symptoms, PPVs were 8.9 or greater.

For symptom pairs where unintentional weight loss is paired with another symptom, PPVs ranged from 1.5% - 2.7%

Back pain	New onset diabetes	Diarrhoea	Constipation	Malaise	Nausea or vomiting	Abdominal pain	Loss of weight	Jaundice	
0.1 (0.1, 0.1)	0.2 (0.2, 0.2)	0.2 (0.2, 0.2)	0.2 (0.2, 0.2)	0.2 (0.2, 0.3)	0.3 (0.3, 0.4)	0.3 (0.3, 0.4)	0.8 (0.7, 1.0)	21.6 (14,52)	PPV as a single symptom
0.2 (0.1, 0.2)	0.3 (0.2, 0.4)	0.2 (0.1, 0.3)	0.3 (0.2, 0.4)	0.3 (0.2, 0.6)	0.3 (0.2, 0.5)	0.4 (0.3, 0.5)	2.0 (1.0, 4.3)	8.9 –	Back pain
		0.4 (0.3, 0.5)	0.4 (0.3, 0.6)	0.5 (0.3, 0.9)	0.7 (0.5, 1.0)	0.9 (0.7, 1.1)	1.6 (1.0, 2.9)	22.3 –	New onset diabetes
			0.2 (0.1, 0.3)	0.3 (0.1, 0.5)	0.2 (0.2, 0.3)	0.4 (0.3, 0.5)	2.7 –	>10 –	Diarrhoea
				0.3 (0.2, 0.5)	0.6 (0.4, 0.8)	0.5 (0.4, 0.7)	1.5 (0.8, 3.0)	>10 –	Constipation
					0.5 (0.3, 0.8)	0.6 (0.4, 0.8)	0.9 (0.4, 2.1)	>10 –	Malaise
						0.9 (0.7, 1.2)	2.2 (1.1, 4.6)	14.6 –	Nausea or vomiting
						1.0 (0.8, 1.2)	2.5 (1.5, 4.4)	15.0 –	Abdominal pain
								>10 –	Loss of weight
								31.6 –	Jaundice

Cancer Decision Support Tool

Based on 2 risk calculators:

Qcancer:

- Pts risk factors: age, sex, deprivation, smoking history, alcohol consumption etc
- Plus presenting symptoms
- Calculator =absolute risk of pt having cancer

RAT:

- End product of series of studies in primary care.
- Single symptoms and double symptom PPVs

The CDS Tool

- Pilot in 2013 with 550 GP practices
- Now working to integrate with main GP IT providers

Assists GPs with the cancer diagnosis alongside the relevant guidance and allows conversations with patients about their risk of having cancer

NICE referral guidelines 2015

Pancreatic cancer

Refer people using a suspected cancer referral (for an appointment within 2 weeks) for pancreatic cancer if they are age 40 and over and have jaundice [new 2015]

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. [new 2015]

Direct access to imaging (CT) now available – how does the practice feel about this?

Who's at risk?

People with at least two first-degree relatives*diagnosed with pancreatic cancer have **almost double** the risk

*Mother, father, brother or sister

Other diseases associated with an increased risk are:

- Chronic Pancreatitis
- Periodontal Disease
- Crohn's Disease
- Previous cancers

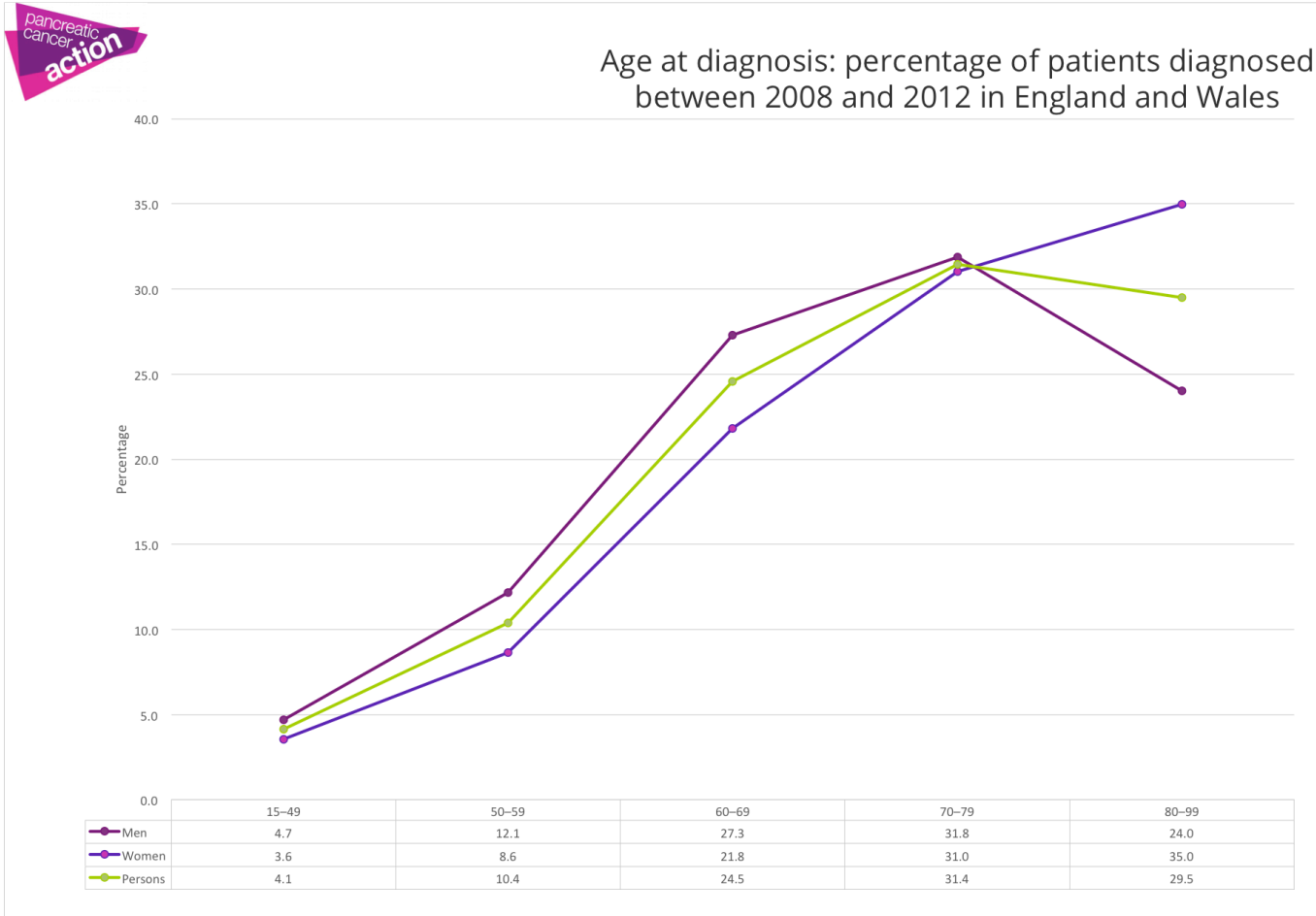
40% of patients diagnosed are under the age of 69

Obesity increases the risk in approximately **12%** of all pancreatic cancers

2x Diabetics have **double** the risk of developing pancreatic cancer

Nearly **one third** of cases areattributable to smoking. Your risk may be reduced to that of a non-smoker after stopping smoking for five years or more

40% of patients are UNDER the age of 69



	15–49	50–59	60–69	70–79	80–99
Men	4.7	12.1	27.3	31.8	24.0
Women	3.6	8.6	21.8	31.0	35.0
Persons	4.1	10.4	24.5	31.4	29.5

Can new-onset diabetes hold the clue to increasing early diagnosis?

Studies show that between 14% and 24 % of pancreatic cancer patients present with new onset diabetes.

It has been found that pancreatic cancer induced hyperglycemia (high blood glucose levels) can occur up to 24 months prior to the diagnosis for pancreatic cancer (Chari et al, 2008)

Chari et al., (2008) Pancreatic cancer-associated diabetes mellitus. Gastroenterology 134 (1): 95-101 pp 271-274.

- Small audit of GP practice on South Coast England of newly diagnosed diabetes patients with BMI < 25 found 9 patients.
- All sent for US tests
- One found to have undiagnosed pancreatic cancer (albeit too late for surgical resection)

Pancreatic Cancer Action to widen the study to include more GP practices

Independent Cancer Taskforce recommendations for early diagnosis

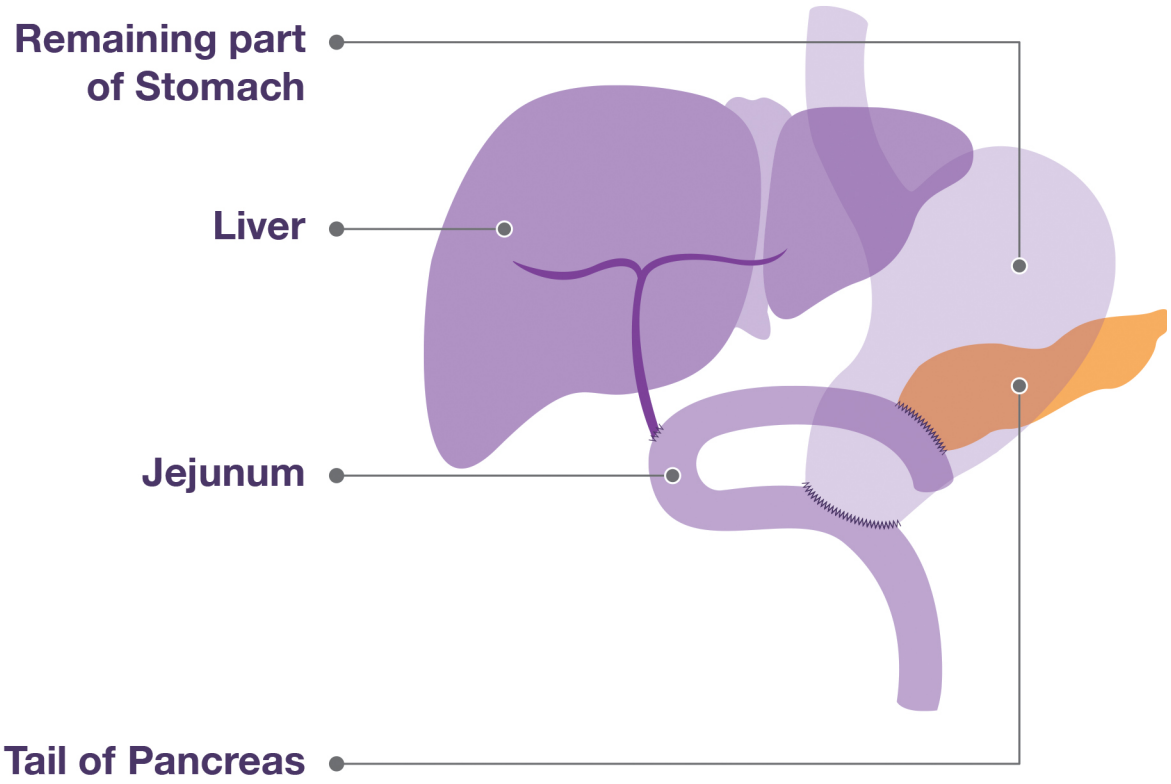
The Independent Cancer Taskforce was established by NHS England on behalf of the Care Quality Commission, Health Education England, Monitor, Public Health England, NICE and the Trust Development Authority in January 2015 to develop a five-year strategy for cancer services.

Ambition that:

- By 2020, 95 per cent of patients referred for testing by a GP are definitively diagnosed with cancer, or cancer is ruled out, and that patients get this result within four weeks.
- This requires a significant increase in diagnostic capacity, giving GPs direct access to key investigative tests, and the testing of new models which could reduce the burden and reliance on GPs.
- Currently, patients urgently referred for suspected cancer by their GP need to be seen by a specialist within 14 days of referral, but no guidance exists for when patients can expect to get the results.

If diagnosed in time:

Surgical resection "Whipple's procedure" followed by adjuvent chemotherapy using Gemcitabine.



Metastatic pancreatic cancer (80% cases)

- Chemotherapy – current standard is gemcitabine + Abraxane
  - Only approved in Scotland & Wales for NHS use – England not currently available
- Others include FOLFIRINOX - combination of fluorouracil (5-FU), leucovorin, irinotecan and oxaliplatin
  - BUT is highly toxic and can only be administered to patients with excellent performance status.

Pancreatic cancer e-learning modules

For GPs:

Royal College of General Practitioners

www.elearning.rcgp.org.uk/pancreatic

For hospital doctors:

BMJ Learning

http://learning.bmj.com/learning/module-intro/.html?moduleId=10051332