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Inequalities in cancer

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NCRI National Cancer Research Institute

Inequalities in cancer are complex

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- There are several groups to consider (eg. Race/Ethnicity, age, gender, disability, religion, sexual orientation, deprivation etc.)
- There are several outcomes of interest (eg. Incidence, survival, mortality, quality of life, patient experience etc.)
- There are several possible explanatory variables (eg. smoking, obesity, late diagnosis, treatment etc.)
- There are variations between cancers (eg. lung vs. breast).
- Complete data are not available on all variables – though data collection is improving

Improved our knowledge of inequalities in cancer

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- Through data linkage, cancer registries and LSHTM can provide information on:
  - Incidence, mortality, survival, treatment etc.
  - By age, gender, deprivation, ethnic group
  - For all cancers (although limited by incidence)
- Cancer Patient Experience Survey provides information about experiences of services by other factors (e.g. sexual orientation) provided directly by respondents

Incidence - Ethnicity

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- Ethnicity:
  - Many cancers lower in BME groups
  - Higher incidence of prostate cancer in Black ethnic group and Hepatocelluolar cancer
  - Higher incidence of stomach and liver cancers and myeloma in Black ethnic group aged over 65
  - Higher incidence of Liver cancer in Asian ethnic group
  - Breast cancer in the Black ethnic group occurs at a younger age, they are less likely to be screen-detected and they have worse prognosis tumours

Incidence - age

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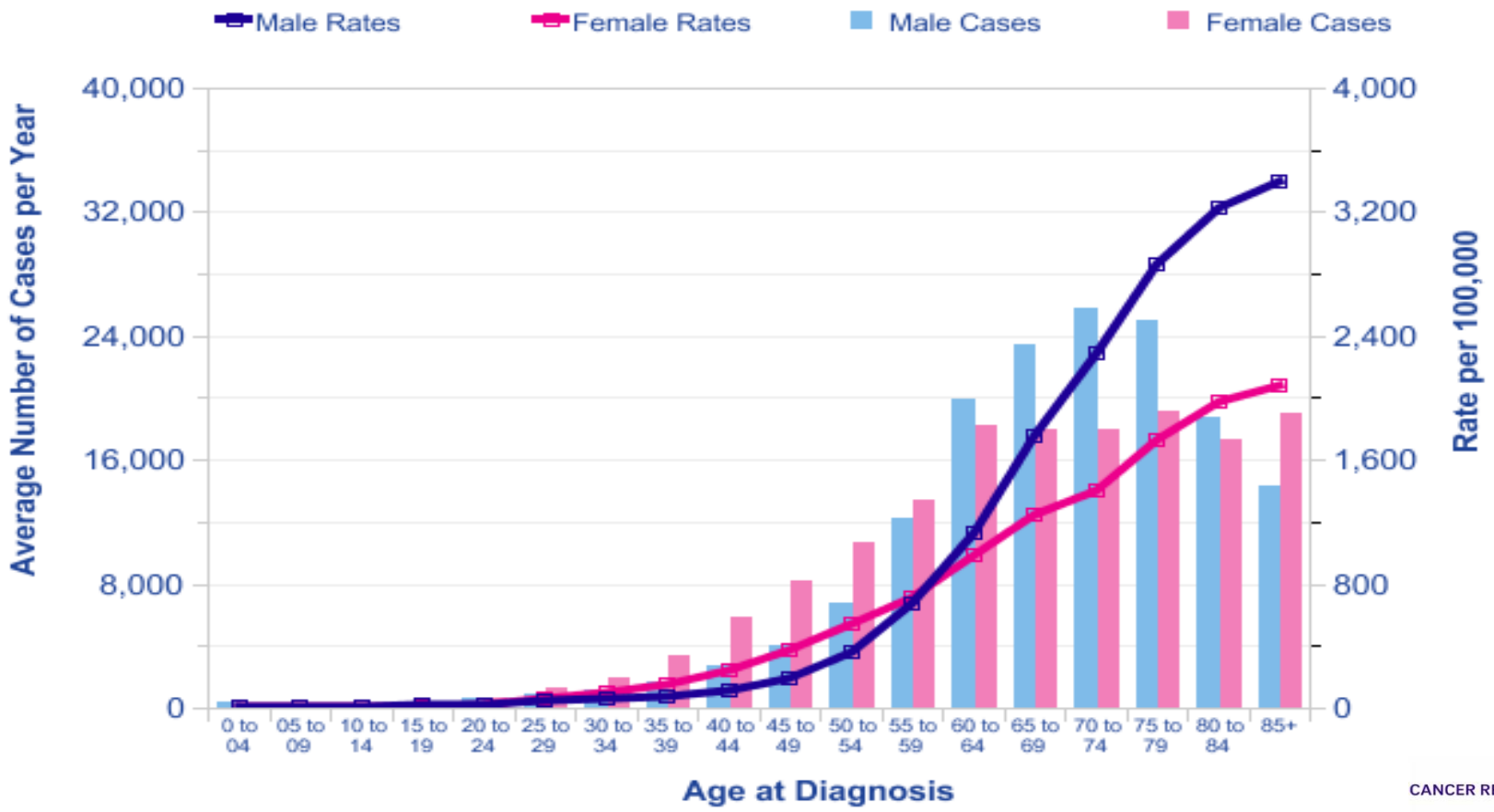
All Cancers Excluding Non-Melanoma Skin Cancer (C00-C97 excl. C44): 2007-2009



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Incidence - Sex

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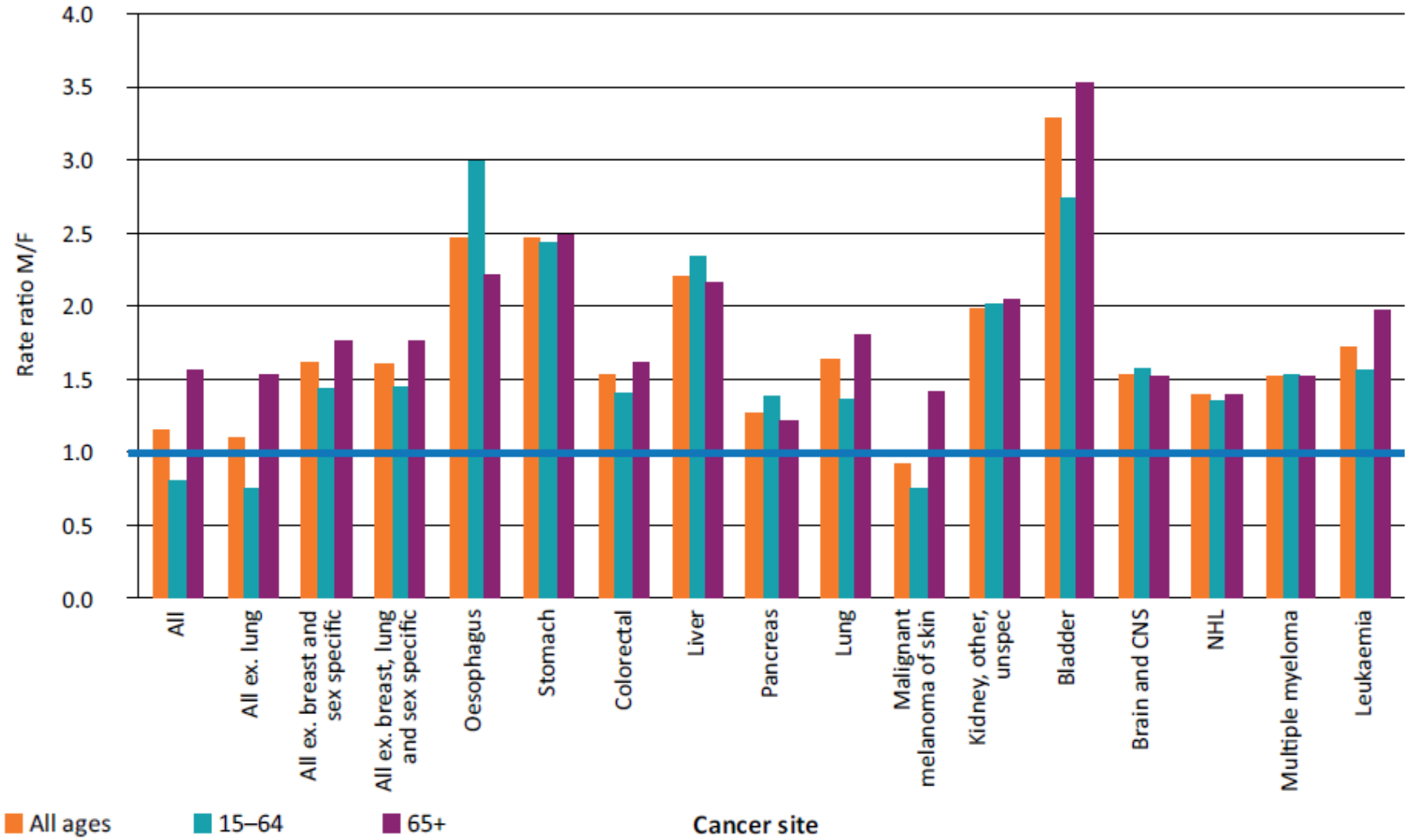
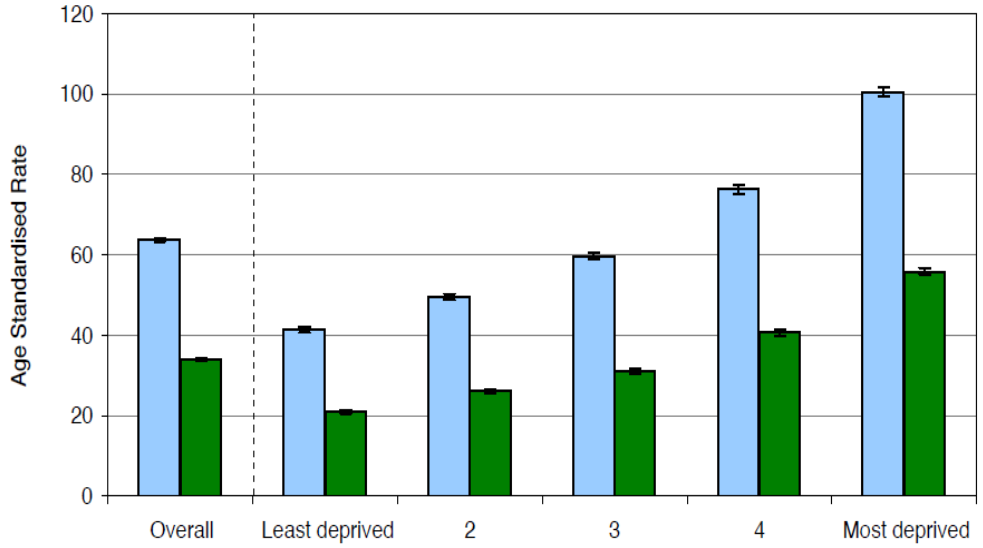
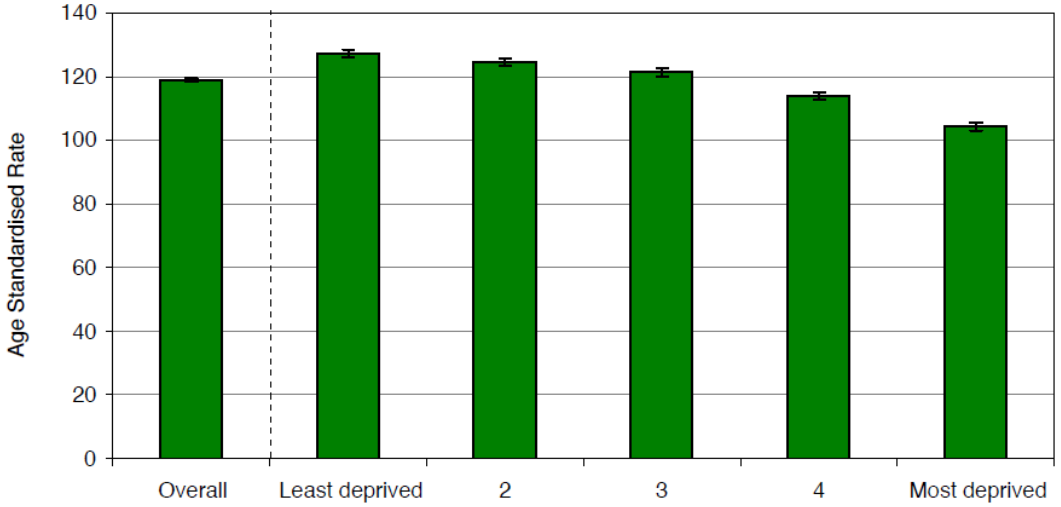


Incidence - Deprivation



Lung cancer incidence increases with deprivation. This is also seen in cervical, liver, stomach, kidney, bladder, colorectal (m), pancreatic, mesothelioma (f) and some head and neck cancers

Breast cancer decreases with deprivation. This is also seen in malignant melanoma, prostate, testicular, brain (m), NHL (m) and Myeloma (m)



Mortality - age

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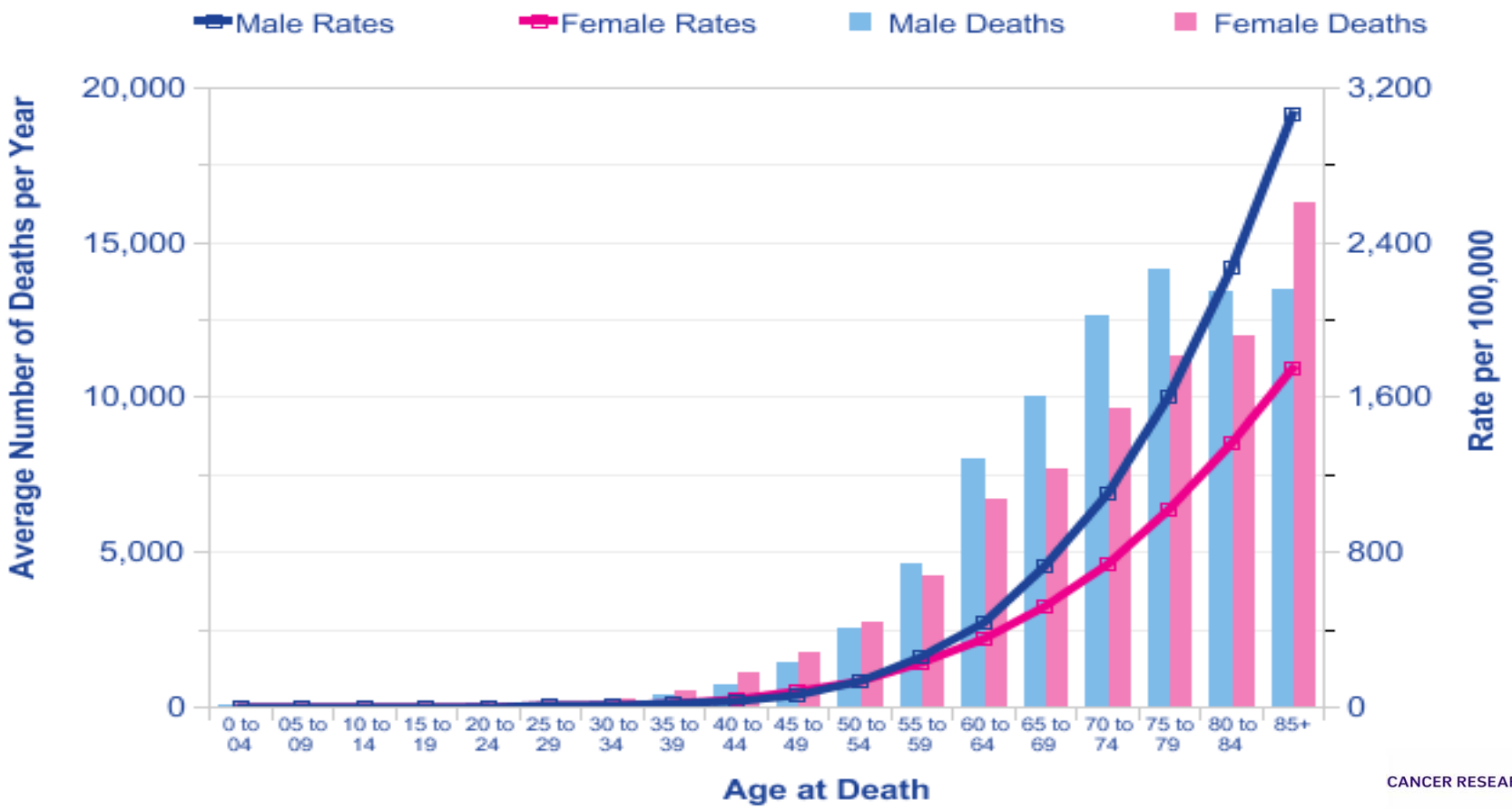
All Cancers (C00-C97): 2007-2009



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Mortality - sex

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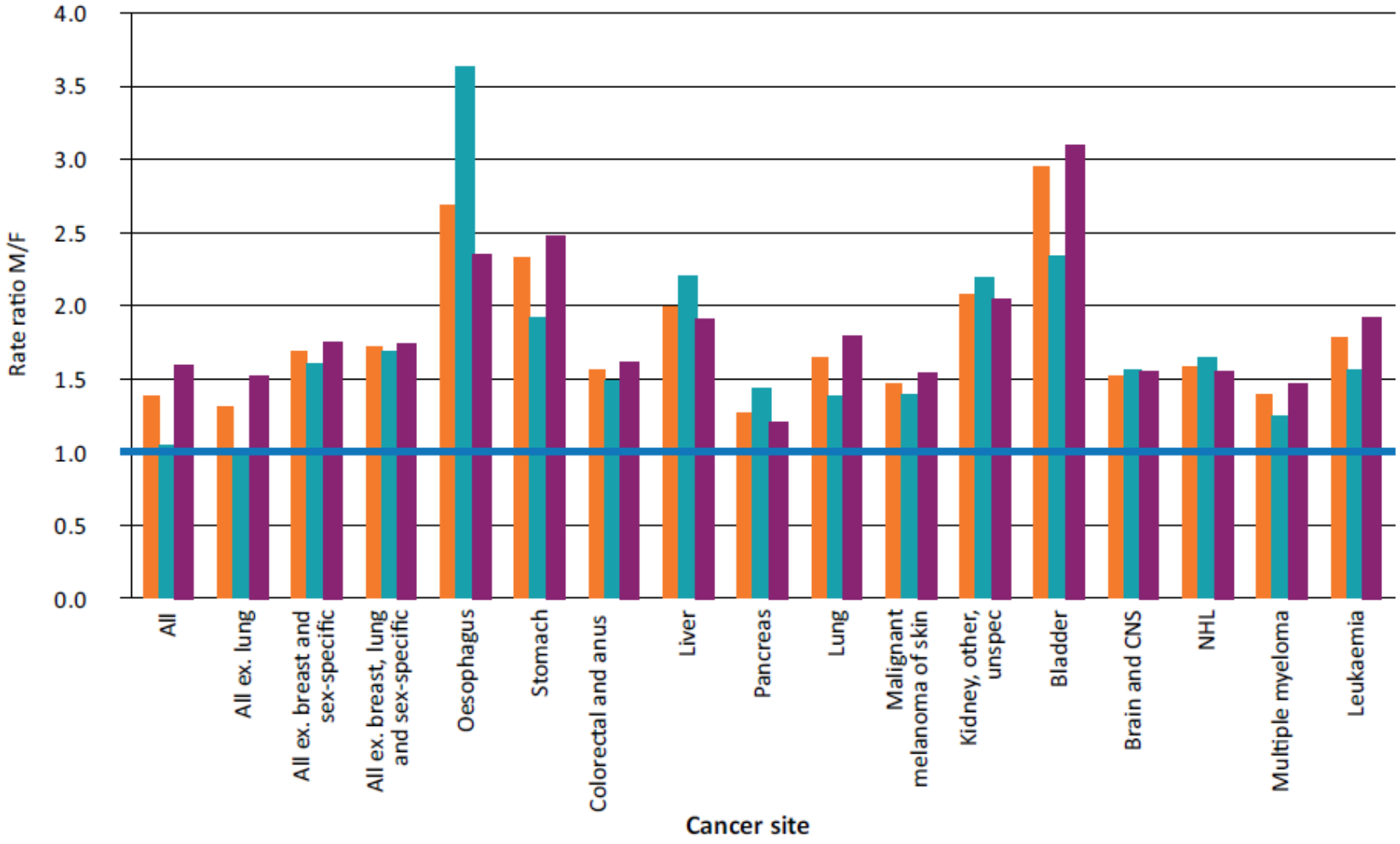

Mortality - deprivation

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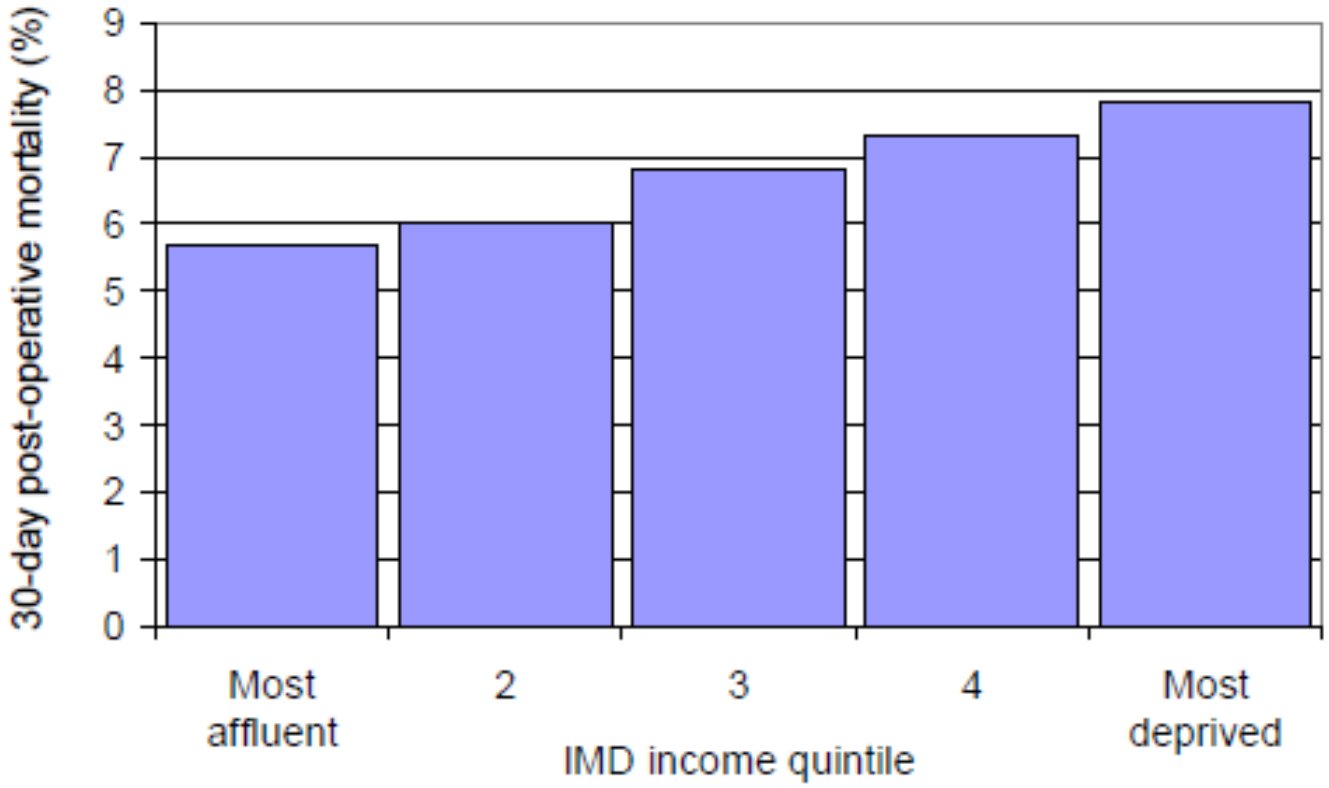
30 day post-operative mortality by deprivation quintile – colorectal cancer



Emergency presentations – why are they important?

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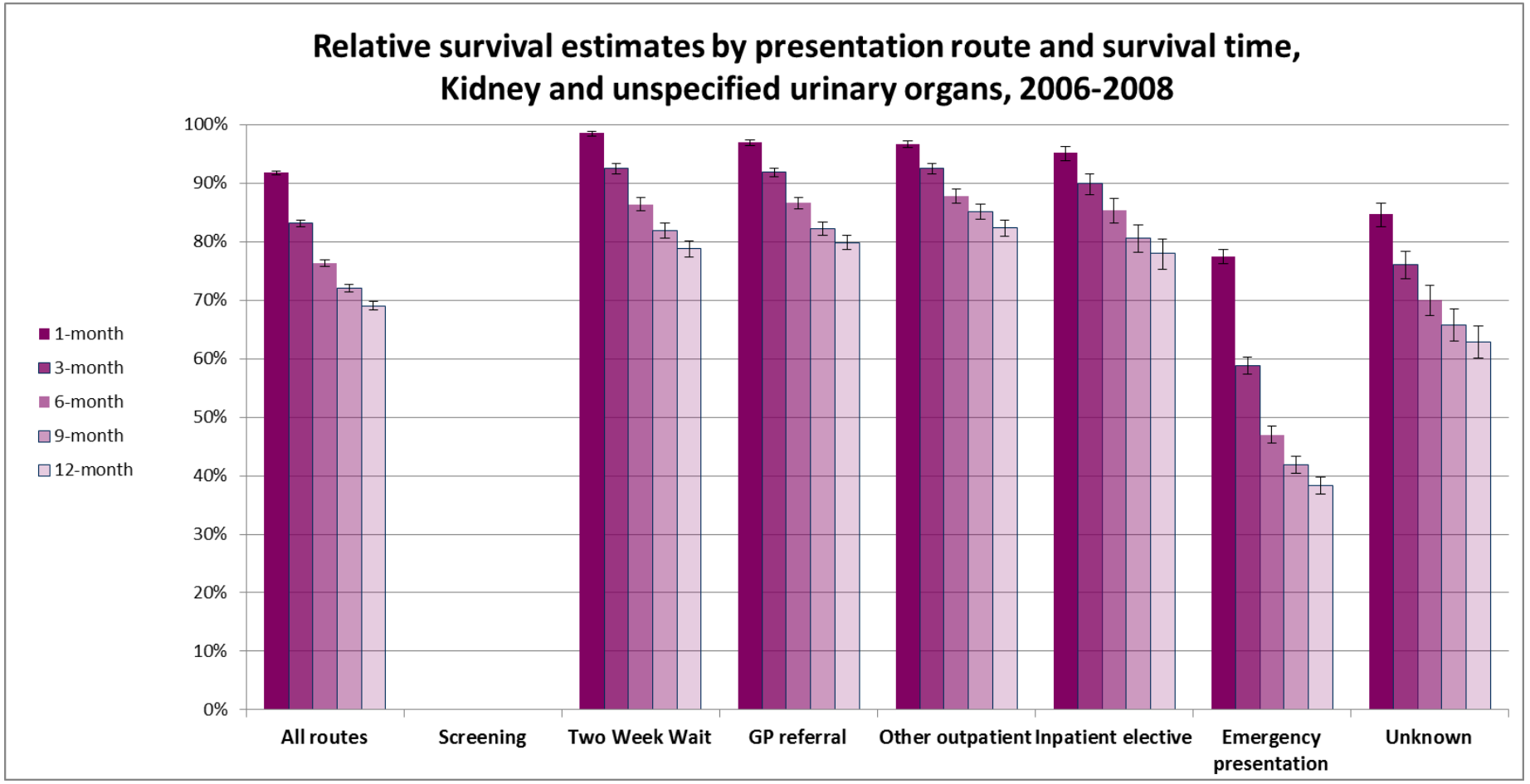

Emergency Presentations - age

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Colorectal		Screen detected	Two Week Wait	GP referral	Other Outpatient	Inpatient Elective	Emergency presentation	Death Certificate Only	Unknown	Number of cases
2006-2008	Under 50		17%	23%	11%	13%	25%	0%	10%	4,579
	Confidence interval		*16% 19%*	*22% 24%*	*10% 12%*	*12% 14%*	*24% 27%*	*0% 1%*	*9% 11%*	
	50-59	0%	28%	22%	8%	12%	20%	0%	9%	9,912
	Confidence interval	*0% 0%*	*27% 29%*	*21% 23%*	*8% 9%*	*11% 12%*	*19% 21%*	*0% 0%*	*9% 10%*	
	60-69	8%	29%	19%	8%	9%	19%	0%	6%	22,317
	Confidence interval	*8% 8%*	*29% 30%*	*19% 20%*	*8% 9%*	*9% 10%*	*18% 19%*	*0% 0%*	*6% 6%*	
	70-79	1%	30%	22%	10%	9%	24%	0%	4%	29,295
	Confidence interval	*1% 1%*	*30% 31%*	*21% 22%*	*10% 10%*	*8% 9%*	*24% 25%*	*0% 1%*	*4% 5%*	
	80-84	0%	26%	20%	9%	7%	32%	1%	5%	13,405
	Confidence interval	*0% 0%*	*25% 27%*	*19% 21%*	*9% 10%*	*7% 8%*	*31% 33%*	*1% 1%*	*4% 5%*	
	85+	0%	19%	17%	7%	6%	43%	2%	6%	11,908
	Confidence interval	*0% 0%*	*18% 20%*	*16% 17%*	*6% 7%*	*6% 6%*	*42% 44%*	*2% 3%*	*6% 7%*	

Emergency Presentations - sex

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Liver		Two Week Wait		GP referral		Other Outpatient		Inpatient Elective		Emergency presentation		Death Certificate Only		Unknown		Number of cases
2006-2008	Male	8%		19%		13%		5%		46%		2%		7%		5,391
	Confidence interval	*7%*	*9%*	*18%*	*20%*	*12%*	*14%*	*5%*	*6%*	*45%*	*48%*	*2%*	*2%*	*6%*	*8%*	
	Female	9%		15%		11%		5%		52%		2%		6%		3,185
	Confidence interval	*8%*	*10%*	*14%*	*17%*	*10%*	*12%*	*5%*	*6%*	*50%*	*53%*	*1%*	*2%*	*5%*	*7%*	

Perceived differences in emergency presentations by sex are determined greatly by differences in age distributions between sexes. For liver cancer, 22% of cases in males occur people aged 80 and over compared to 36% of female cases occurring in people aged 80 and over

Emergency Presentations - deprivation

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Pancreas		Two Week Wait		GP referral		Other Outpatient		Inpatient Elective		Emergency presentation		Death Certificate Only		Unknown		Number of cases
2006-2008	1 (least deprived)	**13%**		**17%**		**10%**		**8%**		**43%**		**2%**		**8%**		3,847
	Confidence interval	*12%*	*14%*	*16%*	*18%*	*9%*	*11%*	*7%*	*9%*	*42%*	*45%*	*1%*	*2%*	*7%*	*9%*	
	2	**12%**		**17%**		**9%**		**6%**		**48%**		**1%**		**7%**		4,353
	Confidence interval	*11%*	*13%*	*16%*	*18%*	*8%*	*10%*	*5%*	*7%*	*46%*	*49%*	*1%*	*2%*	*6%*	*7%*	
	3	**11%**		**16%**		**10%**		**6%**		**50%**		**1%**		**6%**		4,373
	Confidence interval	*10%*	*12%*	*15%*	*17%*	*9%*	*10%*	*6%*	*7%*	*49%*	*52%*	*1%*	*2%*	*6%*	*7%*	
	4	**10%**		**15%**		**9%**		**5%**		**54%**		**1%**		**5%**		3,966
	Confidence interval	*9%*	*11%*	*14%*	*16%*	*8%*	*10%*	*4%*	*6%*	*52%*	*56%*	*1%*	*2%*	*5%*	*6%*	
	5 (most deprived)	**9%**		**14%**		**9%**		**4%**		**56%**		**2%**		**5%**		3,357
	Confidence interval	*8%*	*10%*	*13%*	*16%*	*9%*	*11%*	*3%*	*5%*	*54%*	*58%*	*1%*	*2%*	*5%*	*6%*	

Emergency Presentations - ethnicity

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	Lung	Two Week Wait		GP referral		Other Outpatient		Inpatient Elective		Emergency presentation		Death Certificate Only		Unknown		Number of cases
2006-2008	Asian	16%		23%		12%		5%		38%		0%		6%		791
	Confidence interval	*13%*	*19%*	*20%*	*26%*	*10%*	*14%*	*4%*	*7%*	*35%*	*42%*	*0%*	*1%*	*4%*	*8%*	
	Black	19%		20%		9%		4%		41%		0%		7%		566
	Confidence interval	*16%*	*22%*	*17%*	*24%*	*7%*	*12%*	*3%*	*6%*	*37%*	*45%*	*0%*	*1%*	*5%*	*9%*	
	Chinese	24%		23%		10%		4%		33%				6%		118
	Confidence interval	*17%*	*32%*	*16%*	*31%*	*6%*	*17%*	*2%*	*10%*	*25%*	*42%*			*3%*	*12%*	
	Mixed	23%		19%		12%		4%		39%				4%		181
	Confidence interval	*17%*	*29%*	*14%*	*26%*	*8%*	*17%*	*2%*	*8%*	*32%*	*46%*			*2%*	*8%*	
	White	25%		18%		10%		4%		39%		0%		3%		80,042
	Confidence interval	*25%*	*25%*	*18%*	*19%*	*10%*	*11%*	*4%*	*5%*	*39%*	*39%*	*0%*	*0%*	*3%*	*3%*	
	Other ethnic group	23%		18%		10%		5%		36%		0%		8%		513
	Confidence interval	*20%*	*27%*	*15%*	*21%*	*7%*	*12%*	*4%*	*7%*	*32%*	*41%*	*0%*	*1%*	*6%*	*10%*	
	Unknown	18%		12%		5%		4%		37%		7%		17%		14,524
	Confidence interval	*17%*	*18%*	*12%*	*13%*	*5%*	*6%*	*4%*	*4%*	*36%*	*38%*	*7%*	*7%*	*17%*	*18%*	

Patient Experience Survey- ethnicity

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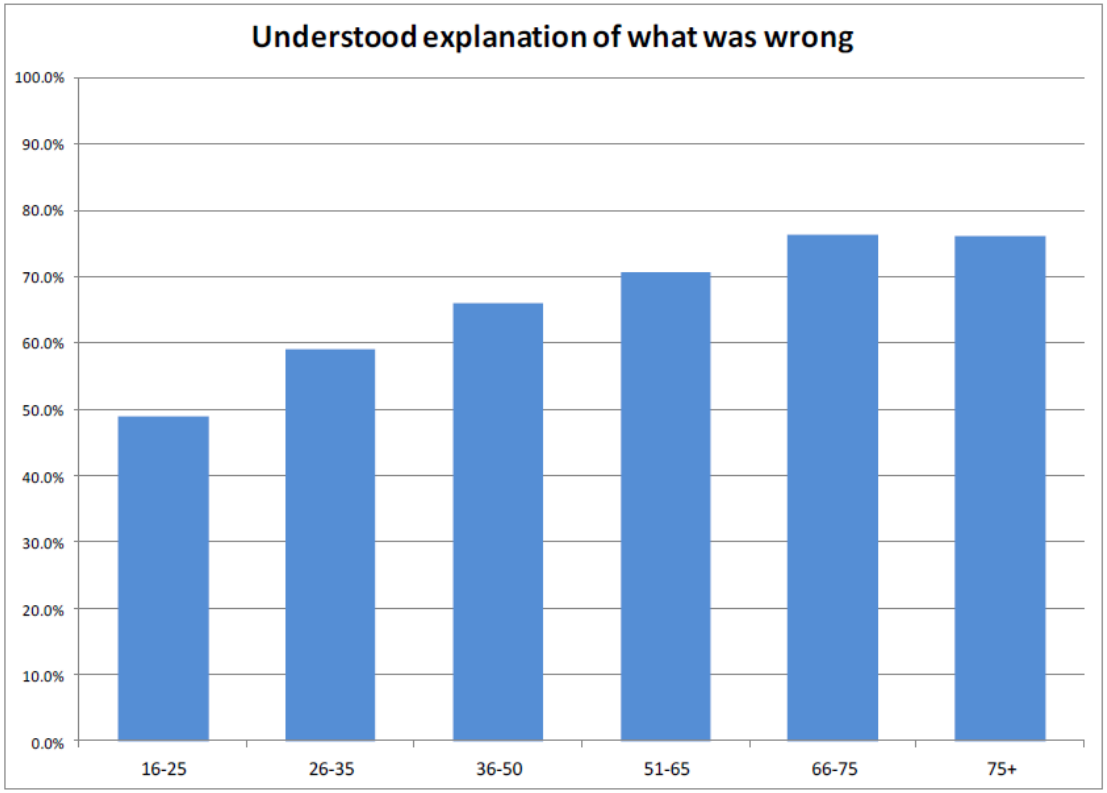
- 25 questions showed statistical differences with all differences showing more negative results from ethnic minority cancer patients than for white patients including:
  - Saw GP once or twice only before being told needed to go to hospital
  - Patient felt they were seen as soon as necessary
  - Completely understood the explanation of what was wrong with them
  - Given easy to understand written information about their cancer
  - Patient often thought doctors / nurses were deliberately not telling them certain things
  - Overall rating of care excellent / very good

PES - Gender

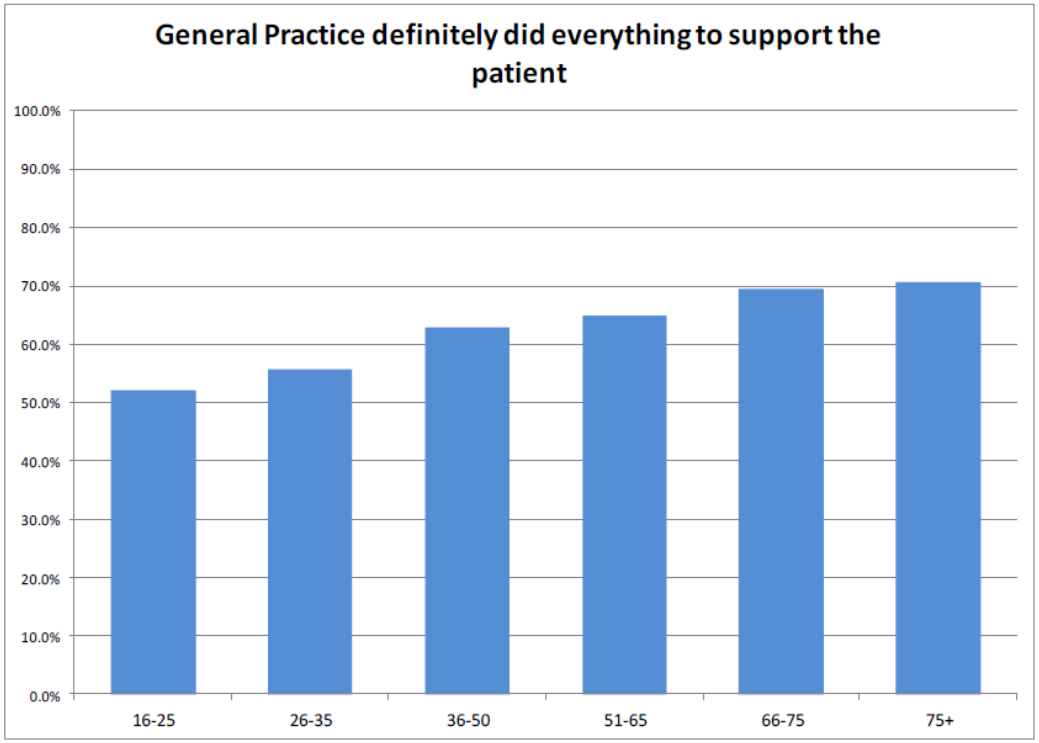
- There were 46 questions which showed differences between sexes, with men being more positive than women on 31 of these:
  - Men are more positive about staff and staff working well together than are women
  - Men are more positive about privacy, being given respect and dignity, being told enough about their condition and treatment, and about being treated as a person rather than as a set of symptoms
  - Women were more likely to say that they saw their GP only once or twice before being referred on to hospital
  - Women were more likely to say that their health stayed the same in the waiting period before seeing a hospital doctor

PES - Age

- On many questions, the youngest age group (16-25) is the least positive, with the most positive group usually being those patients in the middle years of life or early old age



PES - Age



- On most issues, the normal age distribution is for the youngest age cohort to be the most critical of the services they have received.
- Oldest age group was least likely to say they were given the name of a CNS

PES – sexual orientation

- Less positive views from non-heterosexual patients compared to heterosexual patients on 16 questions including:
  - Saw GP only once or twice before being sent to hospital
  - Seen as soon as necessary by a hospital doctor
  - Received understandable answers from hospital doctor on important questions the patient had asked
  - Always treated with respect and dignity by hospital staff
  - Given enough privacy when discussing condition and treatment
  - Given enough privacy when examined or treated