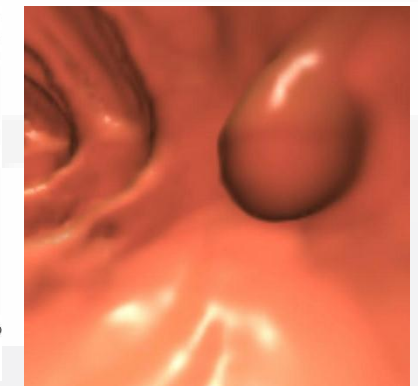
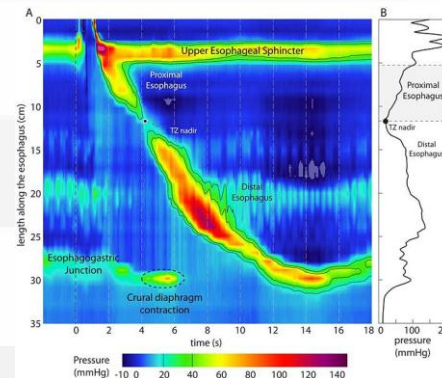
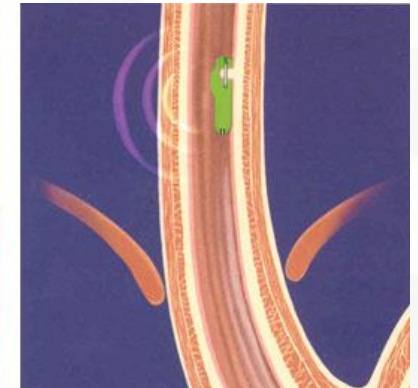
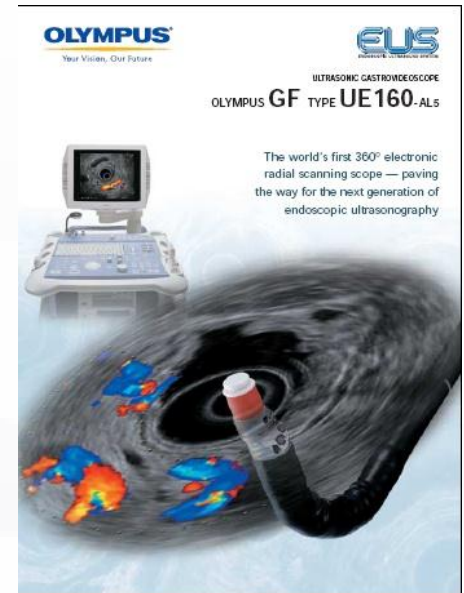
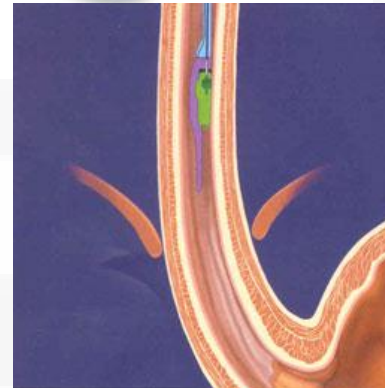


Dr Alasdair Patrick Gastroenterologist



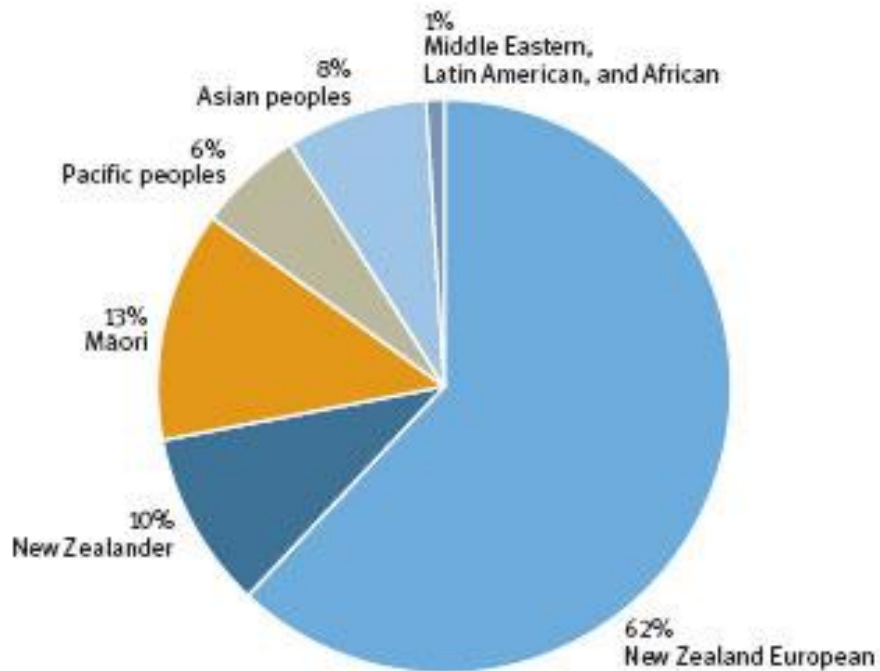
Ethnic differences in GI disease

Dr Alasdair Patrick
Gastroenterologist

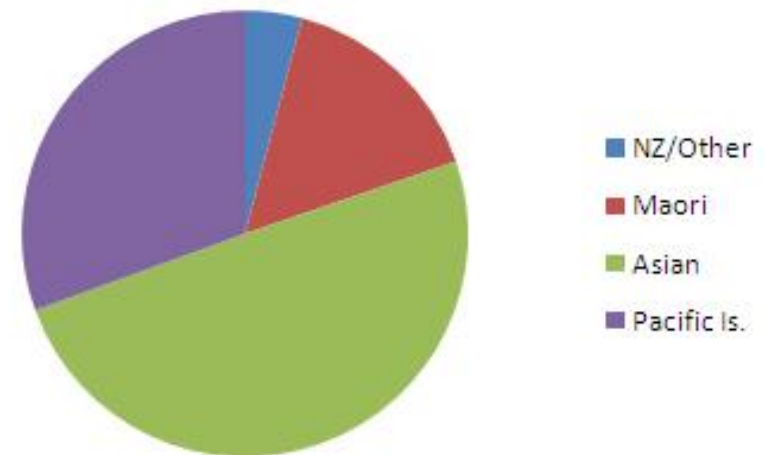
My background



Ethnic breakdown in NZ



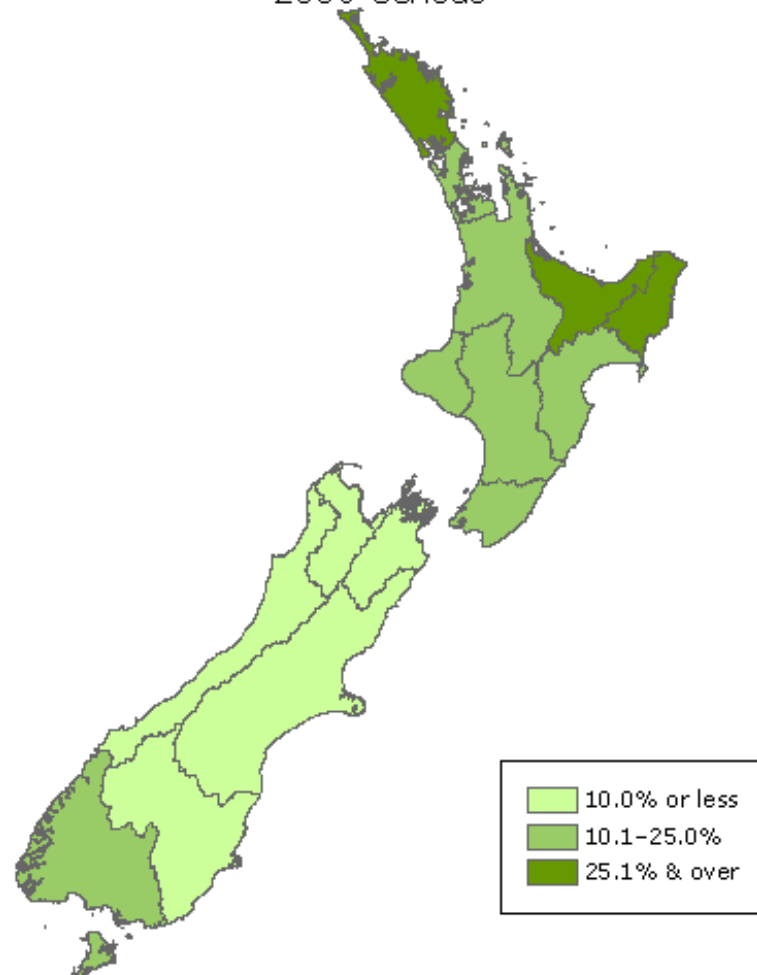
**National population increase
2006-2026 (per cent)**



Statistics NZ 2007

Ethnic breakdown in NZ

Proportion of Māori Ethnic Population by Region
2006 Census



Why is ethnicity relevant?

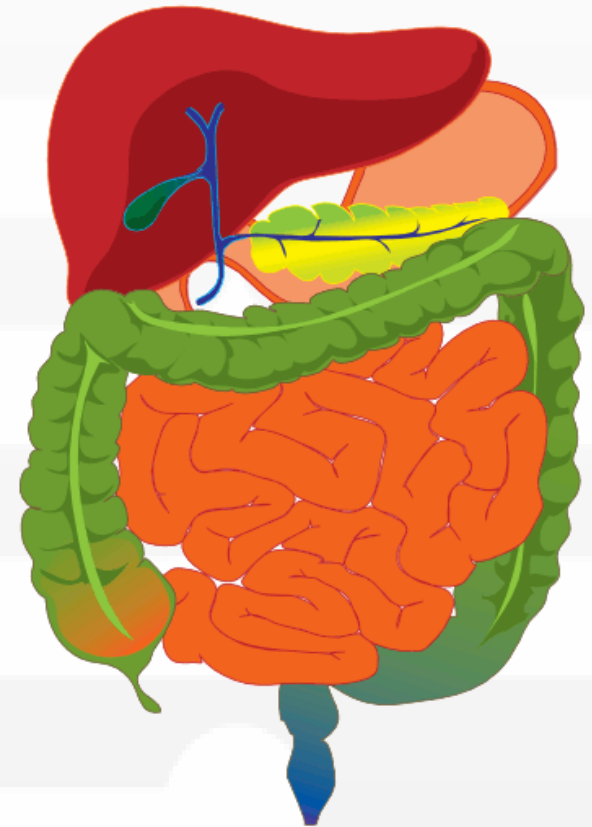
- There are ethnic differences in presentation for the same disease
- Different races have different rates of disease
 - Need to be aware of this to guide investigation
- Some therapies have different rates of success in different ethnicities

Disclaimer



Outline of this talk

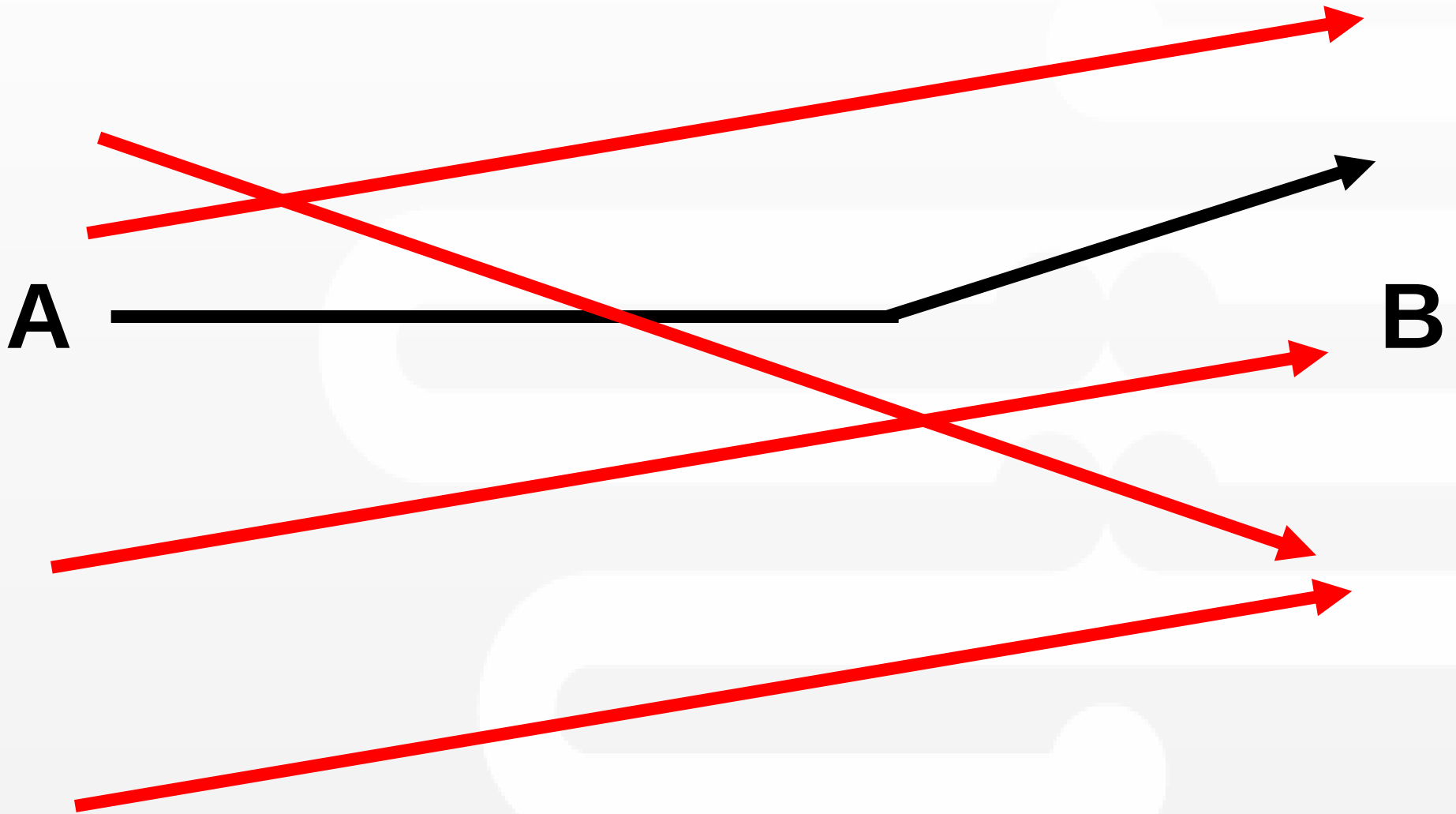
- Presentation of disease
- Different diseases
 - Upper GI tract
 - Dyspepsia
 - H pylori
 - Gastric cancer
 - Coeliac disease
 - Small bowel tumours
 - Liver
 - Hepatitis B
 - Alcohol
 - Colonic disease
 - Diverticular disease
 - Colorectal cancer



European patient history



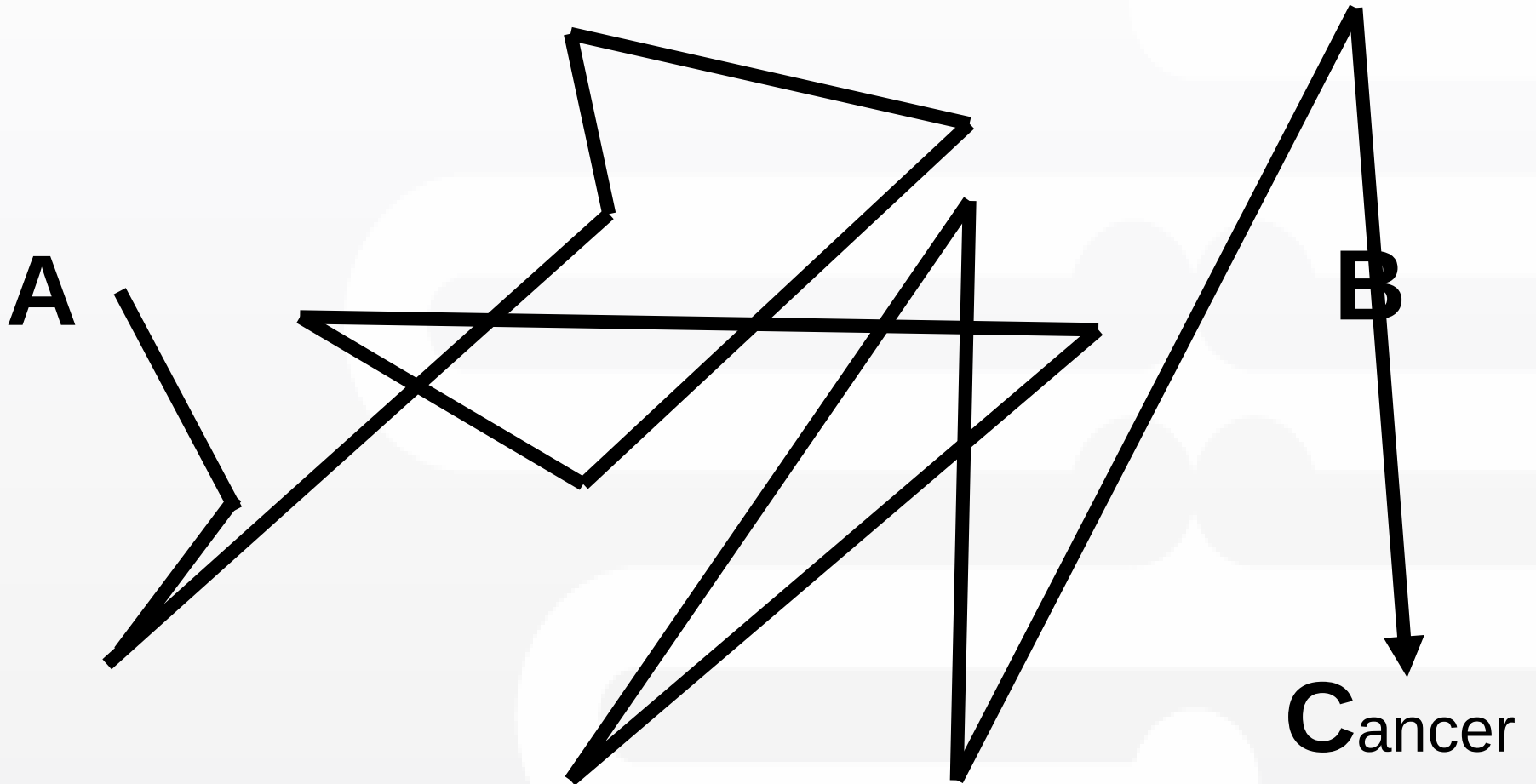
Maori patient history



Pacific island patient history

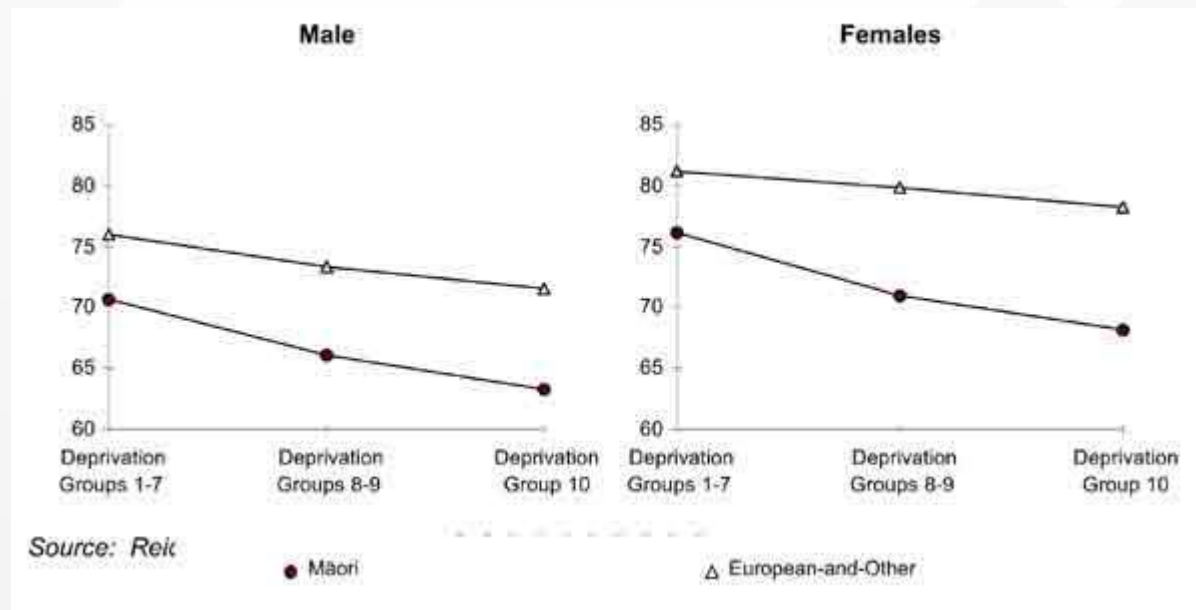


Asian patient history



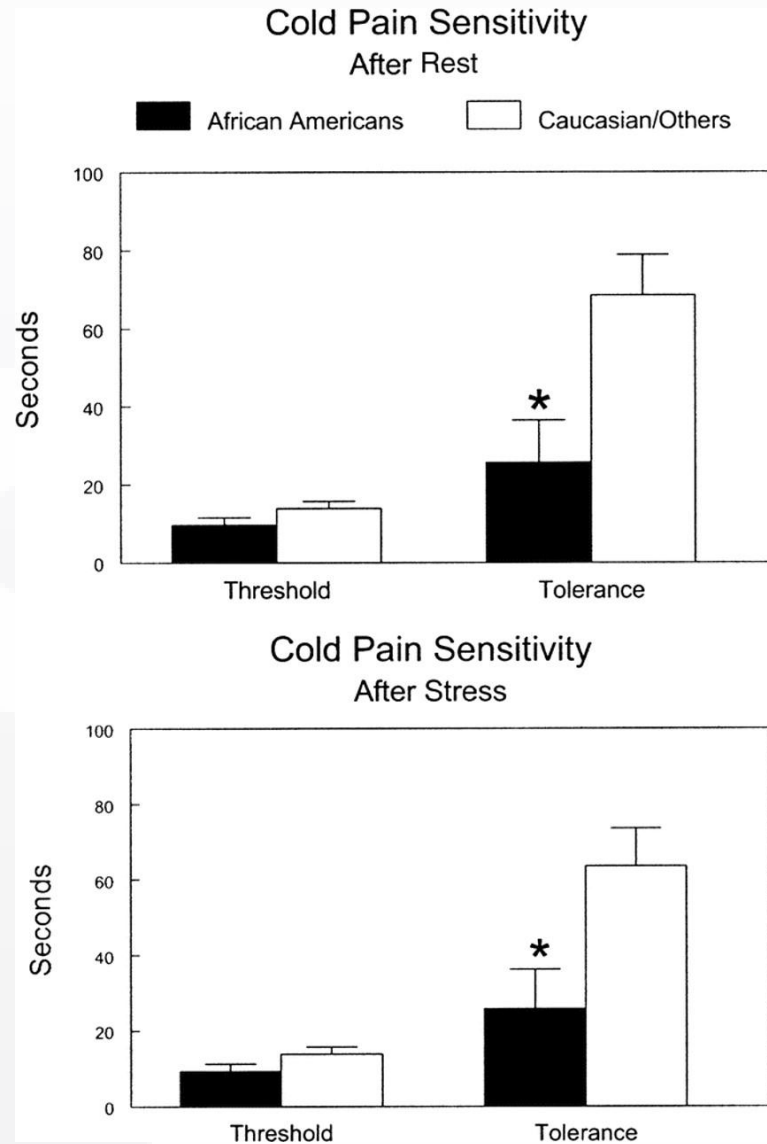
Consultation behaviour

- Statistics clearly show reduced consultation and outcomes for Maori and deprivation



- Case example from MMH

Pain thresholds

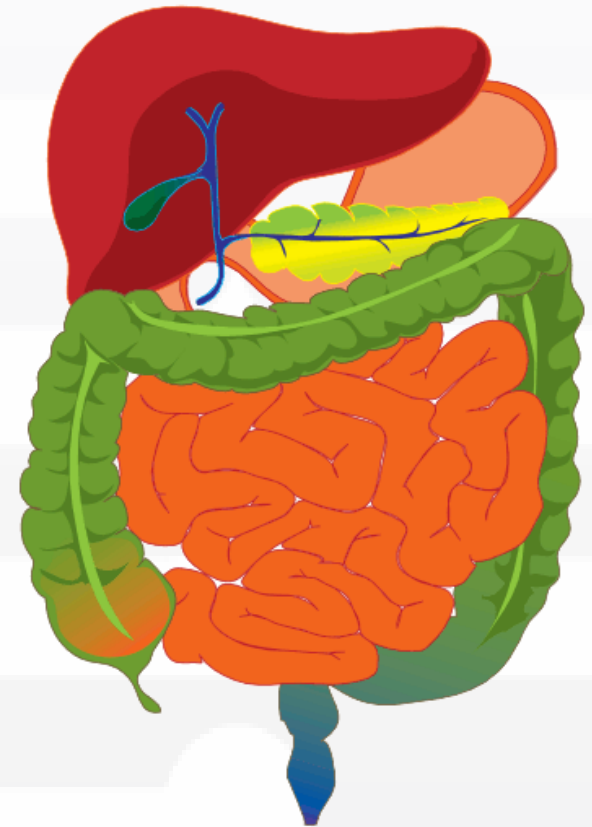


Practical advice- Presentation

- Be aware of possible ethnic differences in history style and disclosure
- Be aware of potential ethnic variation in health seeking thresholds
 - Investigate earlier in stoic Non Europeans

Outline of this talk

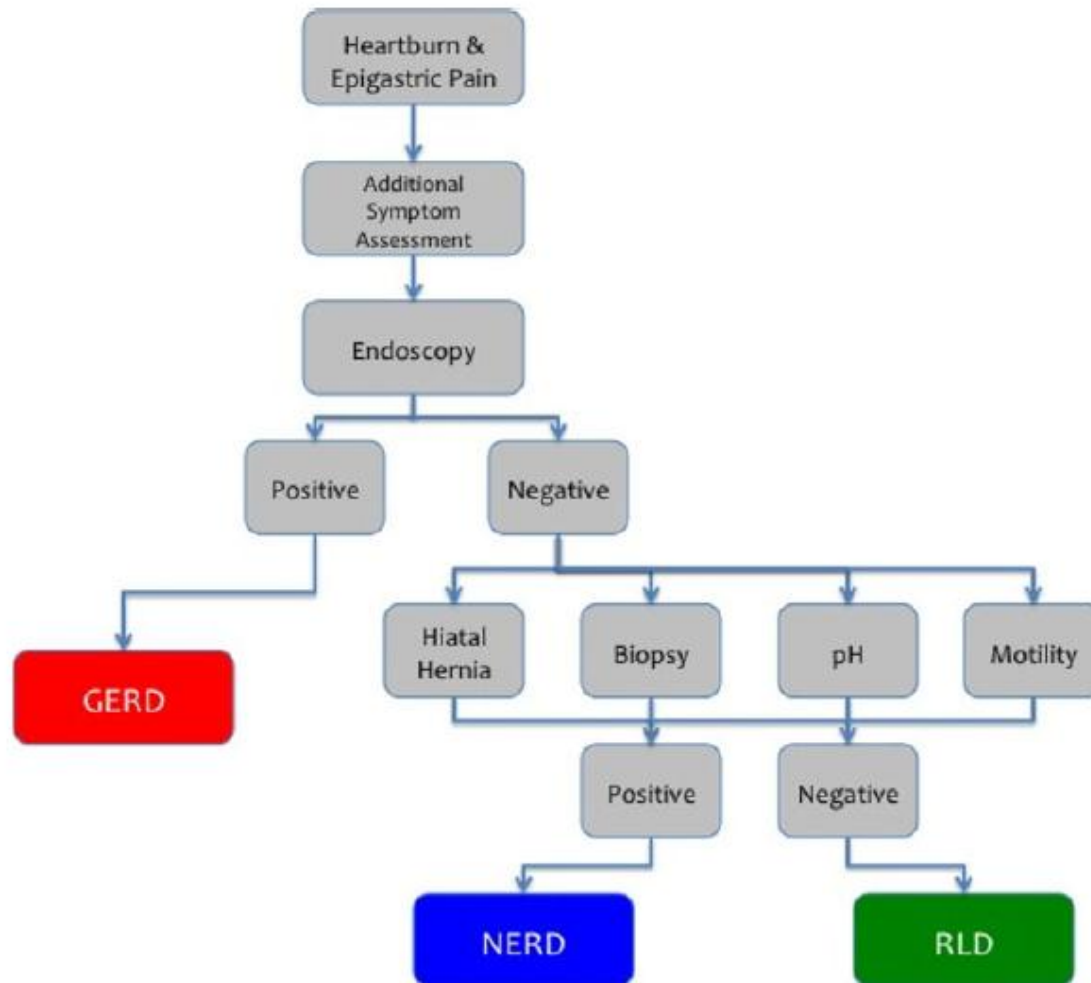
- Presentation of disease
- Different diseases
 - Upper GI tract
 - Dyspepsia
 - H pylori
 - Gastric cancer
 - Coeliac disease
 - Small bowel tumours
 - Liver
 - Hepatitis B
 - Alcohol
 - Colonic disease
 - Diverticular disease
 - Colorectal cancer



Disease differences- Dyspepsia

- Definition of Dyspepsia
 - Rome III criteria are one or more of:
 - Post-prandial fullness
 - Early satiety
 - Epigastric pain/burning
- Trial of PPI therapy is indicated
 - If partial response or red flags then warrant referral

Dyspepsia algorithm



Disease differences- Dyspepsia

- RLD/FD much more common in Asian pts
- GORD and NERD are European diseases
 - 2-7% Asian
 - 10-20% European
- No accurate figures for Maori and PI

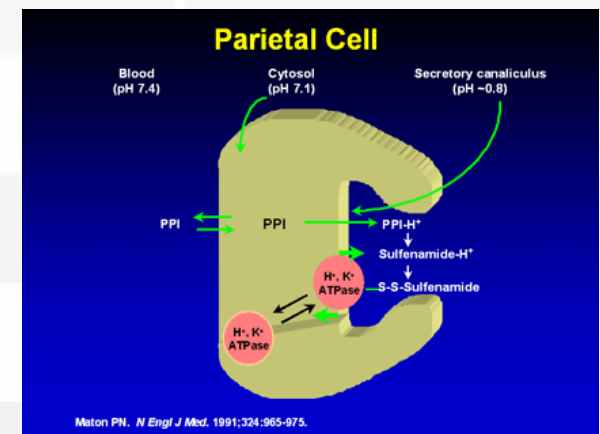
Disease differences- Dyspepsia

- Why less GORD in Asian patients
 - Less obesity
 - Less hiatus hernia
 - Less dysmotility
 - More H pylori
 - Less awareness
 - Less consultation



Practical advice- Dyspepsia

- Functional dyspepsia more common in Asian patients
 - Less response to PPIs
 - Try for 6 weeks and if does not work then refer
- Asian patients have less parietal cell mass
 - Need less PPI



Practical advice- Dyspepsia

- Asian patients use Chinese medicines that often contain NSAIDs
 - Ask about these and stop them
- PI patients have high NSAID use
- Asian patients more likely to use OTC medications
- Asian patients more likely to alter diet (congee) than seek medical attention

Practical advice- Dyspepsia

- Non European patients more likely to get atypical symptoms

Medscape®

www.medscape.com

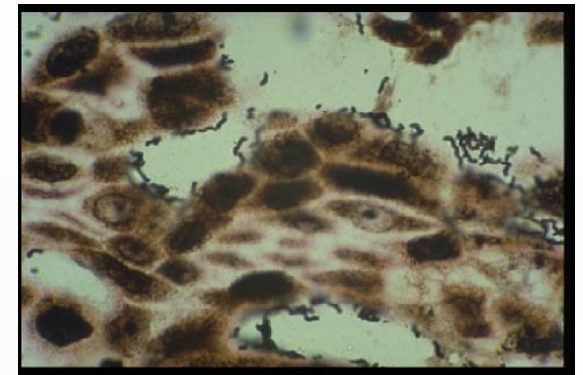
ATYPICAL MANIFESTATIONS OF GERD

ENT	Pulmonary	Cardiac	Other
laryngitis sinusitis otitis ulcers granuloma polyps laryngeal CA (hoarseness, throat clearing, globus, sore or burning throat)	asthma chronic cough pneumonia bronchitis interstitial fibrosis	chest pain sinus arrhythmia	dental erosions halitosis

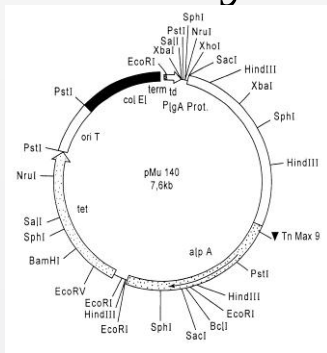
Practical advice- Dyspepsia

- Non European patients less forthcoming
 - Need to be more vigilant about GI symptoms and alarm symptoms in this group
- ?Non European have higher smoking and alcohol use
 - Increased risk of SCC

H pylori



- Discovered by an Aussie (Marshall 1985)
 - Originally classified as a Campylobacter (clo test)
- Spread faecal-oral
- Symptoms occur < 10%
- Many different strains



MICROBIOLOGY

1. Gram negative, spiral, flagellated (motile) bacilli
2. Slow growing, requires complex media, microaerophilic
3. Oxidase and catalase positive
4. Produces urease

Urea to ammonia

5. Noninvasive; proliferates in mucus overlying gastric type mucosa
6. Not cleared by host immune response

Flagella

bacterial mobility & chemotaxis
to colonize under mucosa

Urease

neutralize gastric acid
gastric mucosal injury (by ammonia)

Lipopolysaccharides

adhere to host cells
inflammation

Outer proteins

adhere to host cells

Exotoxin(s)

- **vacuolating toxin (vacA)**
gastric mucosal injury

Secretory enzymes

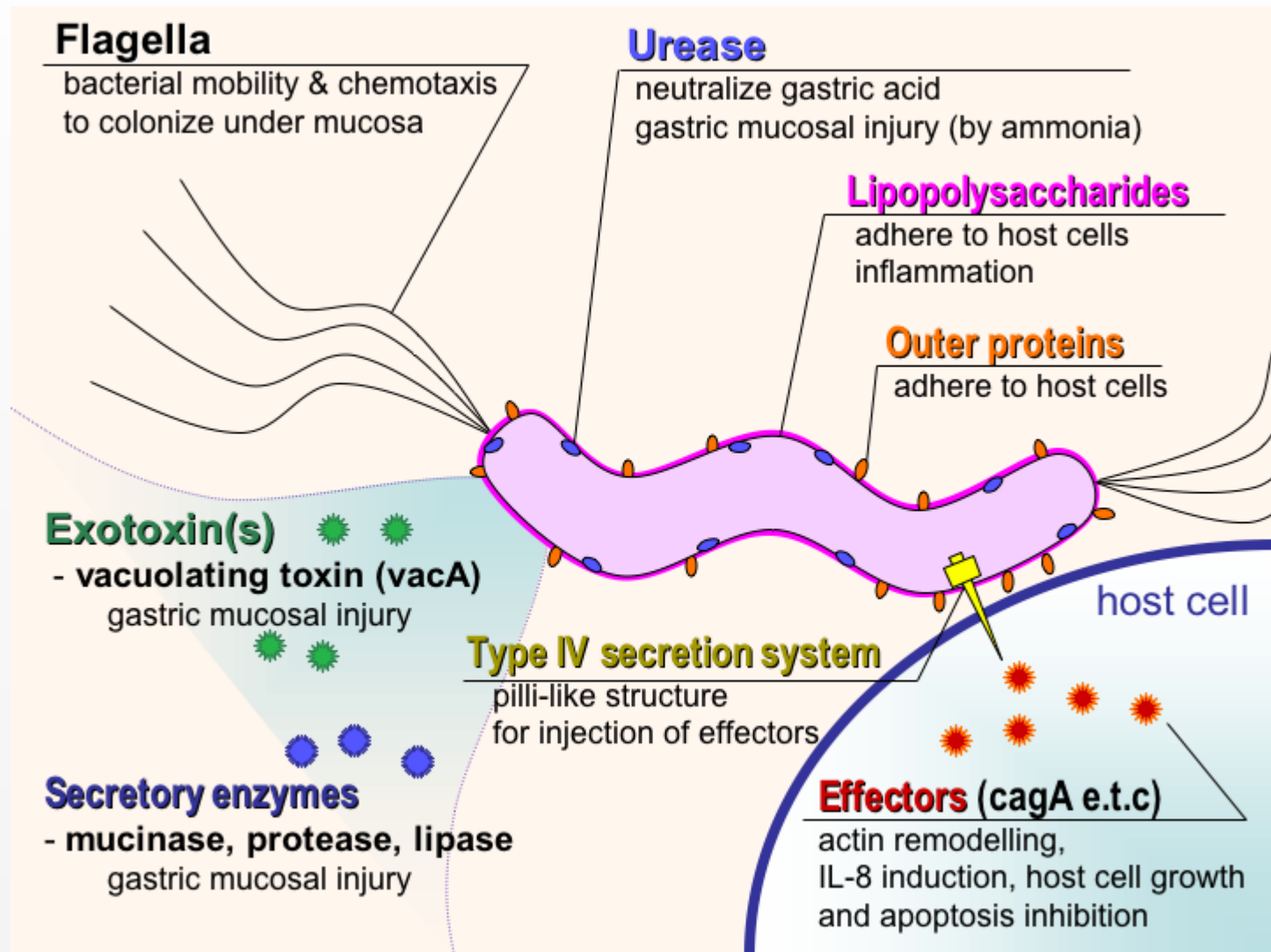
- **mucinase, protease, lipase**
gastric mucosal injury

Type IV secretion system

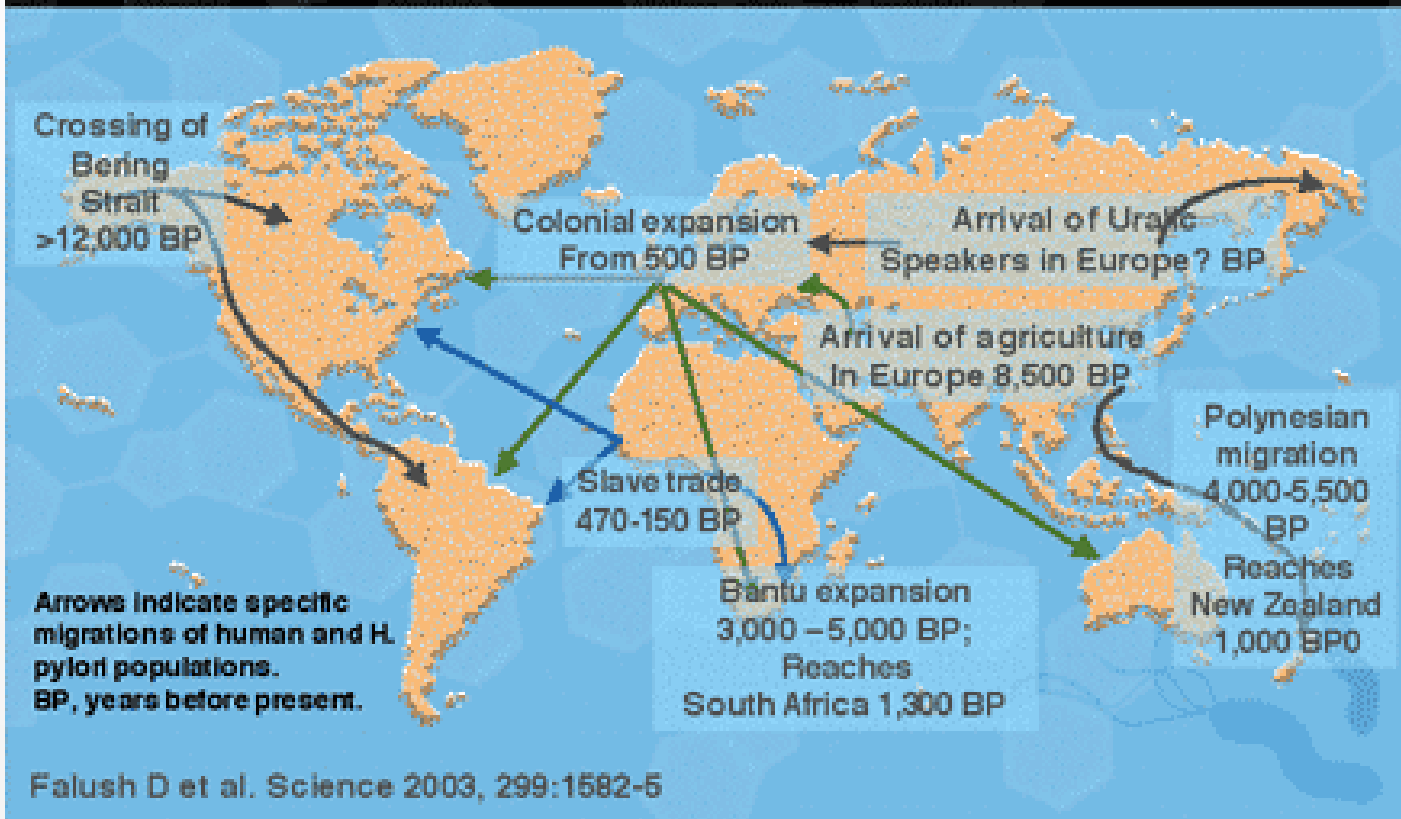
pilli-like structure
for injection of effectors

Effectors (cagA e.t.c)

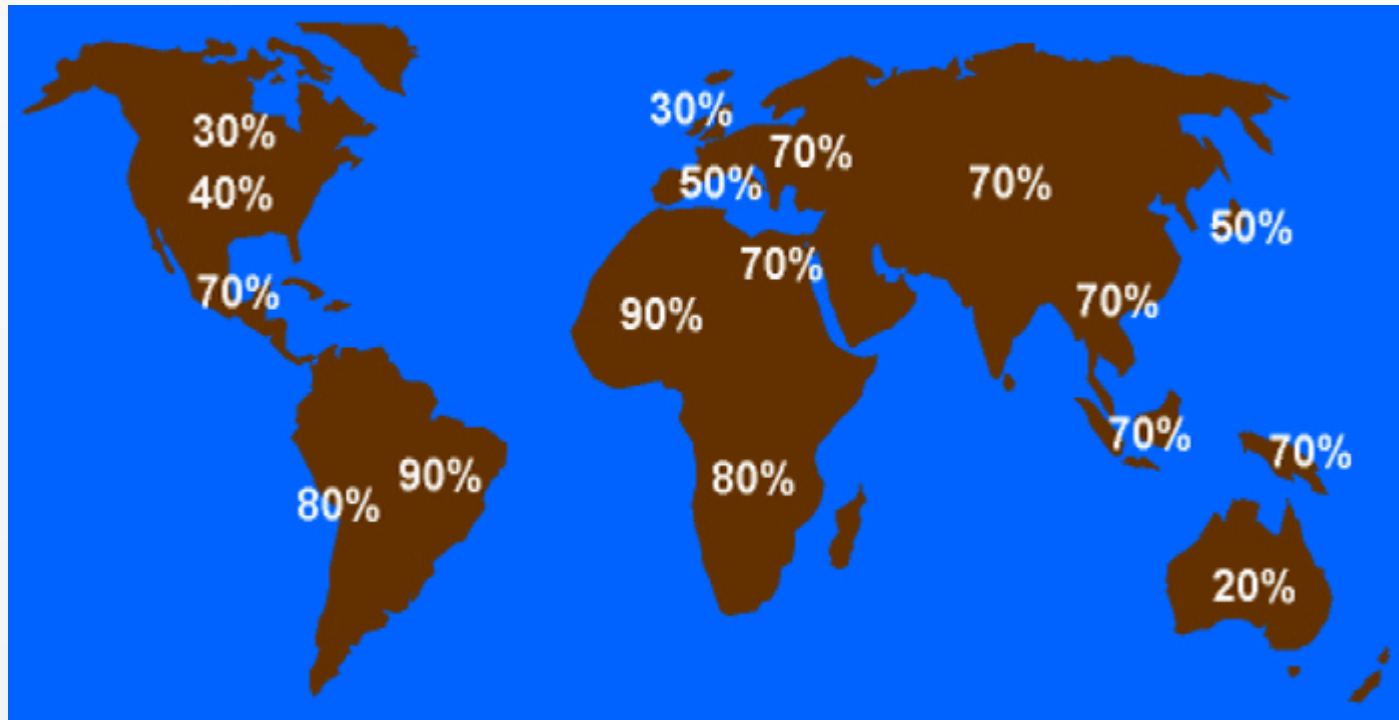
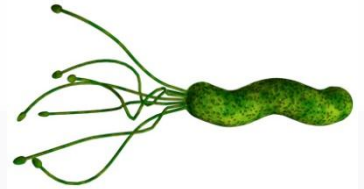
actin remodelling,
IL-8 induction, host cell growth
and apoptosis inhibition

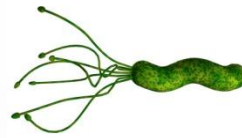


Putative Modern and Ancient Migration of *H. pylori*



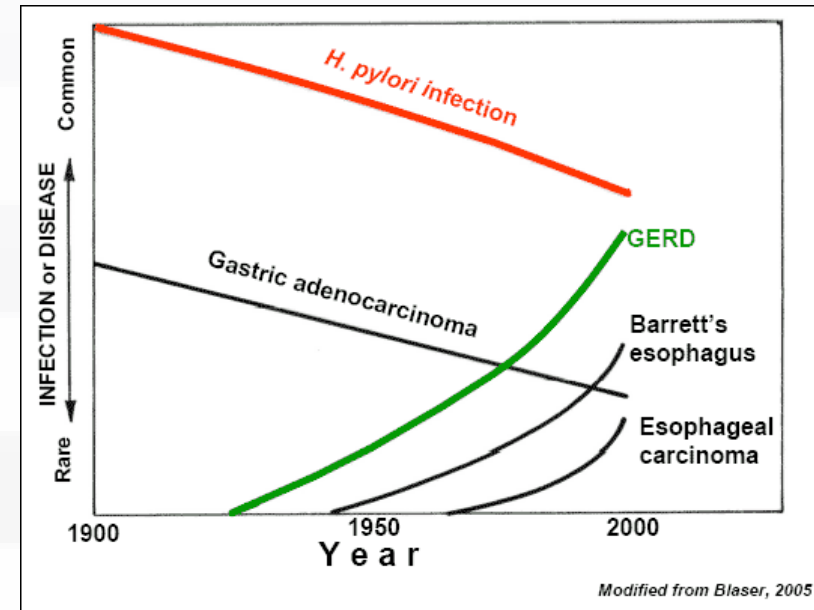
Disease differences- H pylori





Disease differences- H pylori

- Facts about H pylori infection
 - It protects against reflux symptoms
 - RF for gastric cancer
 - Strains found in Asia are more oncogenic
 - Cag A



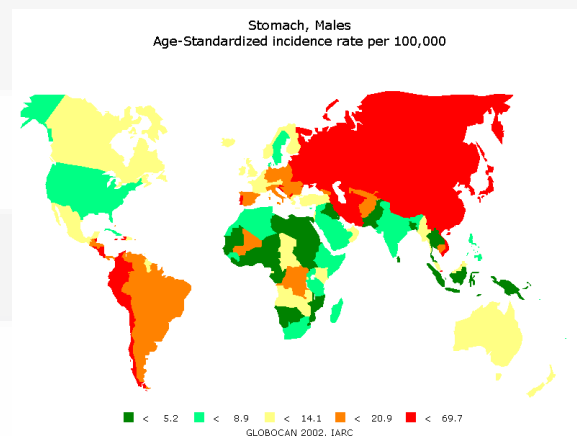
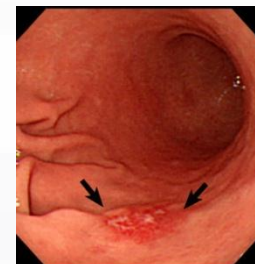
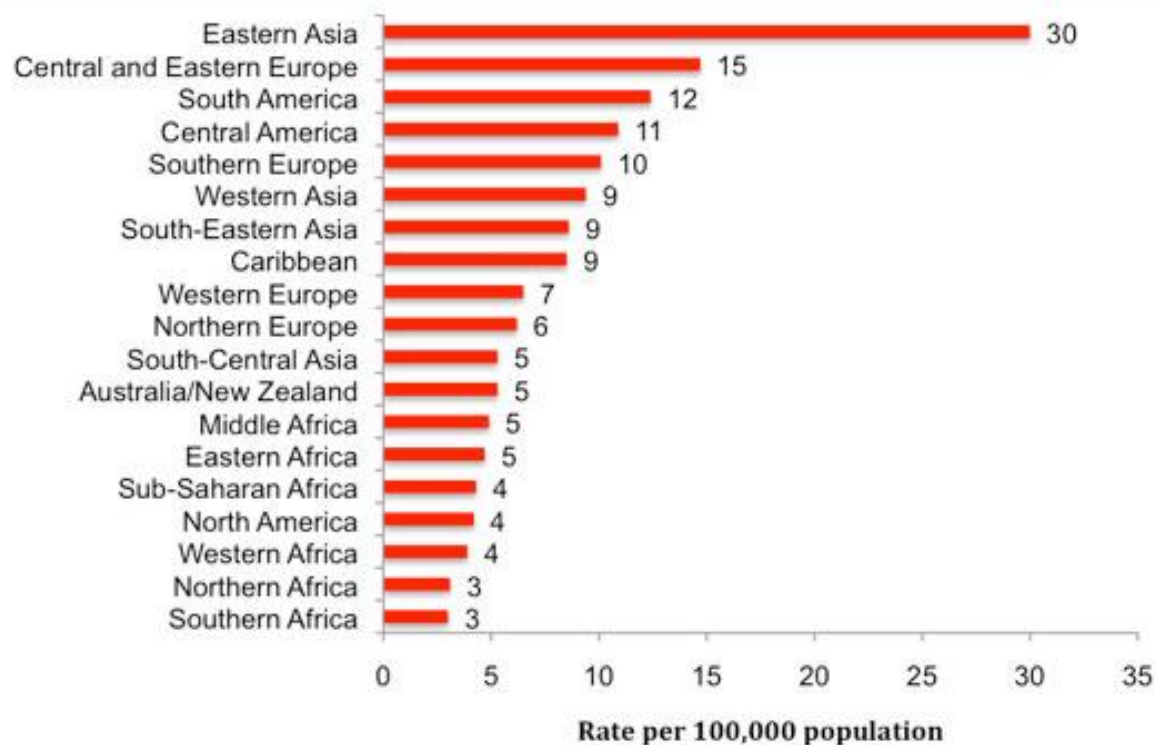
Disease differences- H pylori

- NZ data lacking
 - Old data 35% Euro, 57% Maori, 73% PI
 - Currently undertaking large study at MMH
 - Will determine carriage and resistance rates
- Our pilot observational study of 150 consecutive clo positive patients
 - 54% female
 - Europeans under represented
 - 60% treatment rate
 - 27.5% resistance to first line
 - » Patrick et al NZSGC 2011

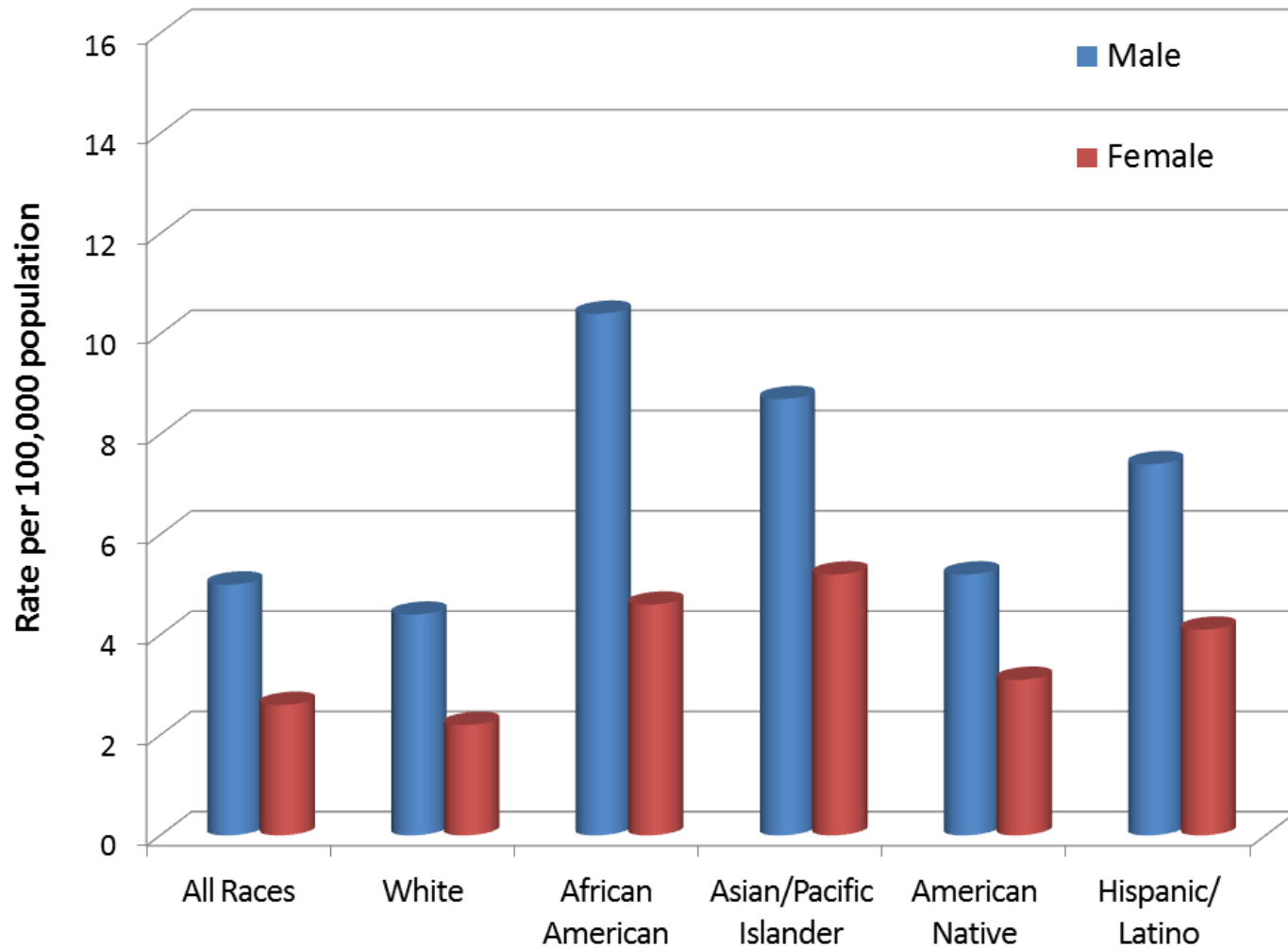
Practical advice- H pylori

- Test especially Non European patients for H pylori when there are upper GI symptoms
 - No indication for screening
 - Best test is serology for non-treated patients
 - Stool test as follow up
- Await resistance data from our study

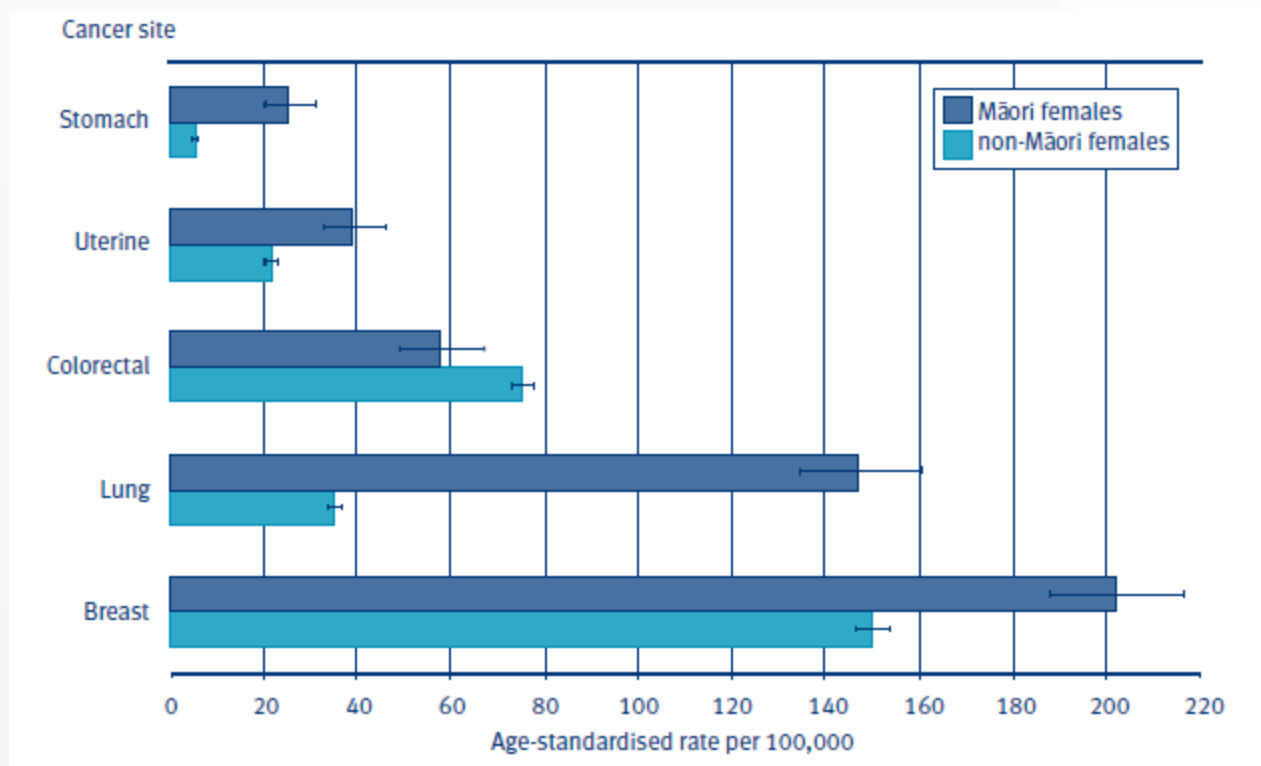
Disease differences- Gastric cancer



Disease differences- Gastric cancer



Disease differences- Gastric cancer

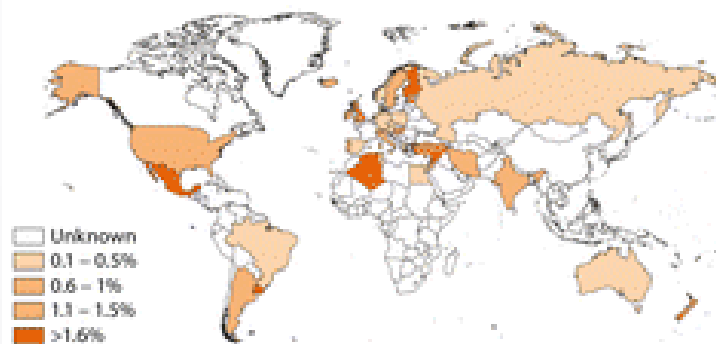


Practical advice- Gastric cancer

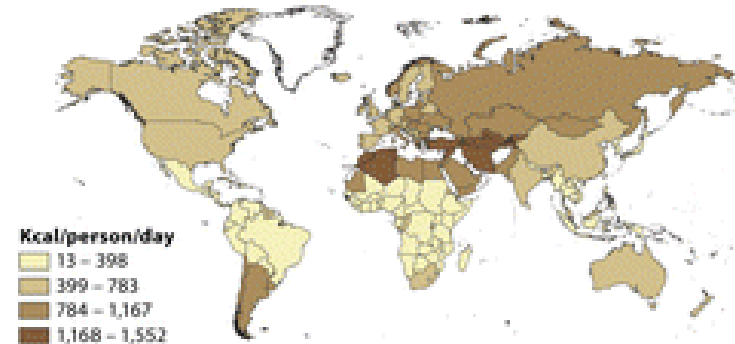
- Non European patients are at higher risk and are often aware of this risk
- Lower threshold for gastroscopy
 - Reflected in our tertiary grading criteria
 - If over 40 refer for OGD

Disease differences- Coeliac disease

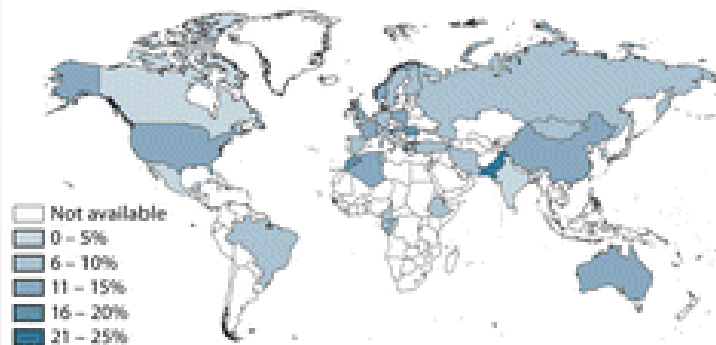
a Prevalence of celiac disease



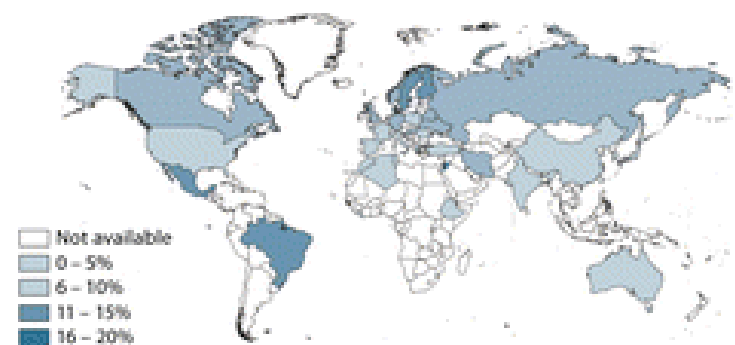
b Wheat consumption



c Haplotype frequency of DR3-DQ2



d Haplotype frequency of DR4-DQ8

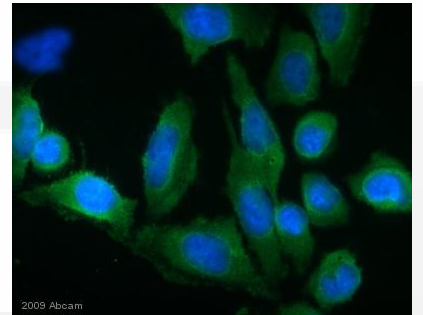


Abadie V, et al. 2011.

Annu. Rev. Immunol. 29:493–525

Disease differences- Coeliac disease

- Northern China has higher rates of coeliac disease
 - Noodles/gluten is part of staple diet
- Generally only think about screening in the symptomatic European patient
 - HLA
 - Transglutaminase antibodies



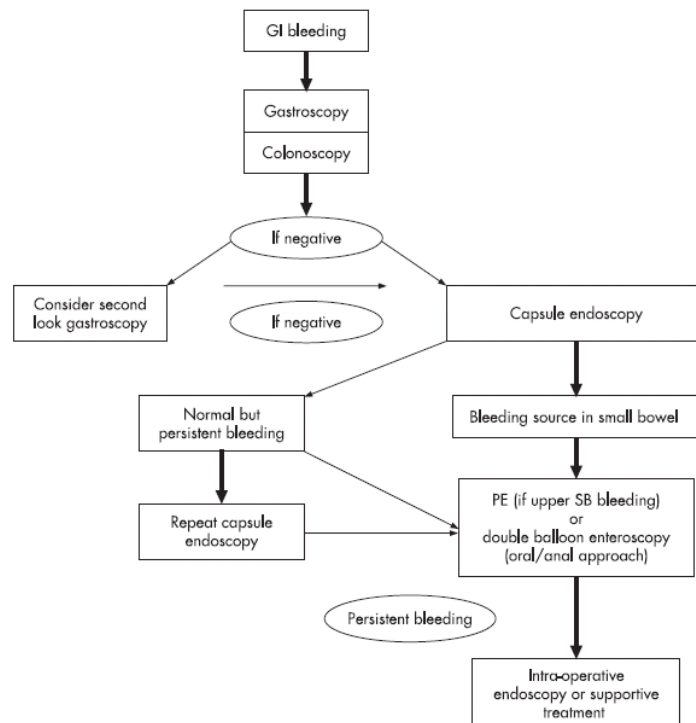
Disease differences- Small bowel tumours

- Asians have increased risk
- Europeans more likely to have AVM

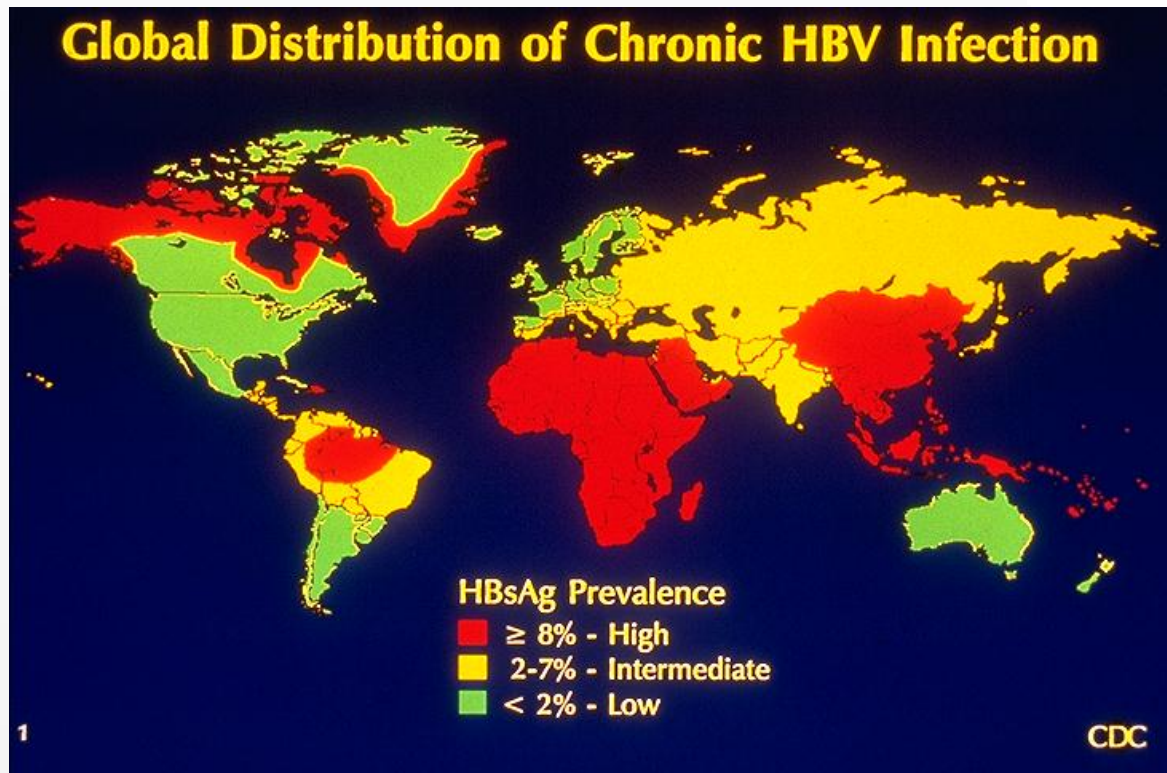


Practical advice- Small bowel

- Standard guidelines for all ethnicities
 - Men or non menstruating woman IDA need full investigation



Disease differences- Hepatitis B



Disease differences- Hepatitis B

- **Prevalence of HBV infection in Asia-Pacific**

– China	8-20%
– Hong Kong	10%
– India	4%
– South Korea	6%
– Malaysia	5%
– Philippines	12%
– Taiwan	15%
– Vietnam	15%
– New Zealand	3%
– Australia	0.1%

Practical advice- Liver

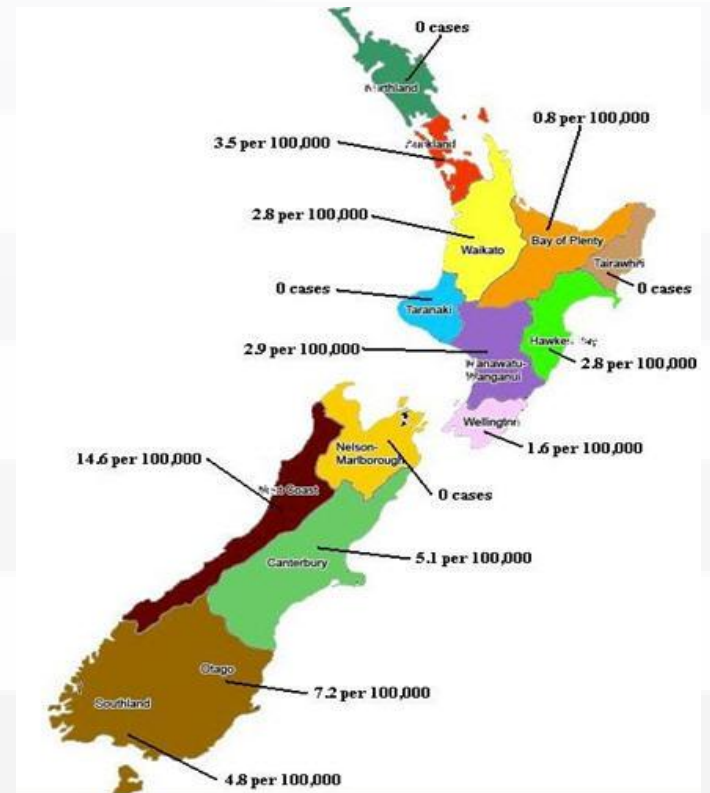
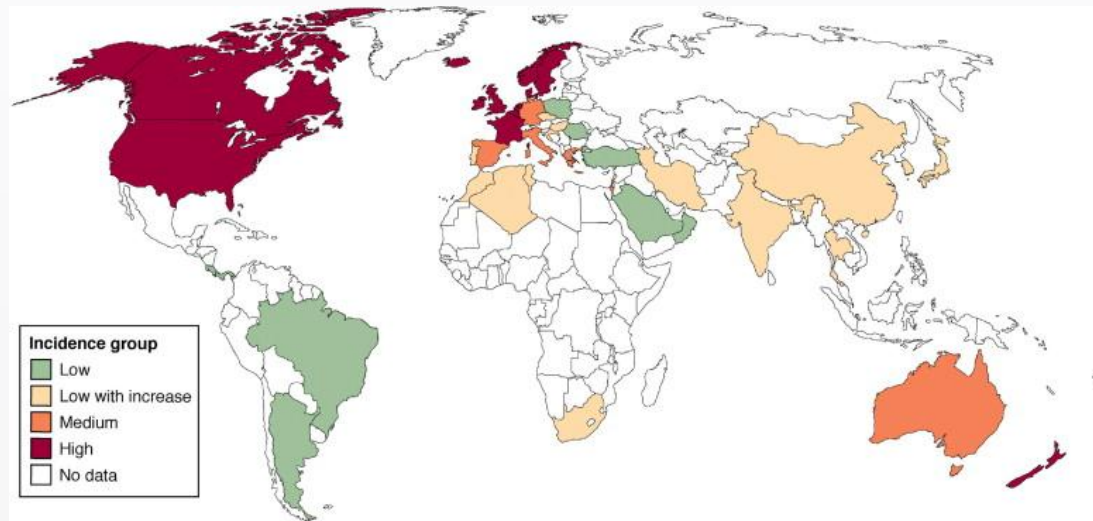
- Asian patients likely to self medicate HBV
- Remember Chinese herbs, OTC meds and abnormal LFTs
- ETOH use higher in certain ethnic and socio-economic groups



Disease differences-Colonic disease

- Commonest cause of lower GI bleeding in Europeans is Diverticular disease
 - Rare in Asia
- IBD in Asia – a rising problem but still rare
 - CD 1989 0.3/100,000 -2001 1/100,000
 - NZ IBD study 2004 CD 16/100,000
 - Rare in Pacific Islanders

Disease differences- IBD



Disease differences- CRC

- Good data from Asia/pacific to show incidence = West
- Non European less participation in screening

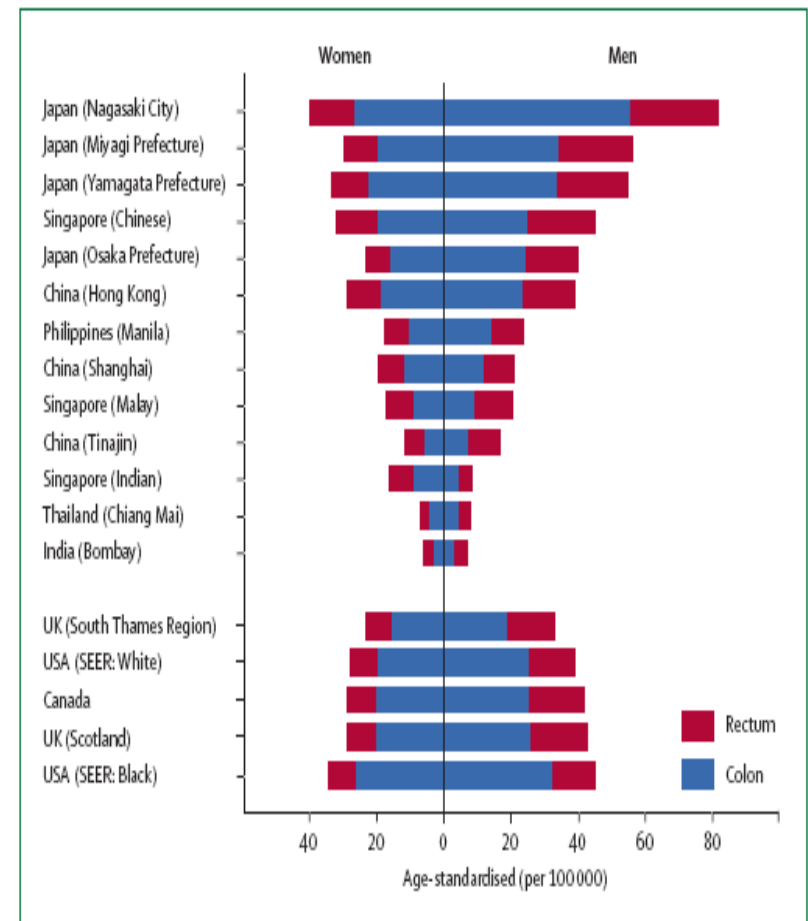
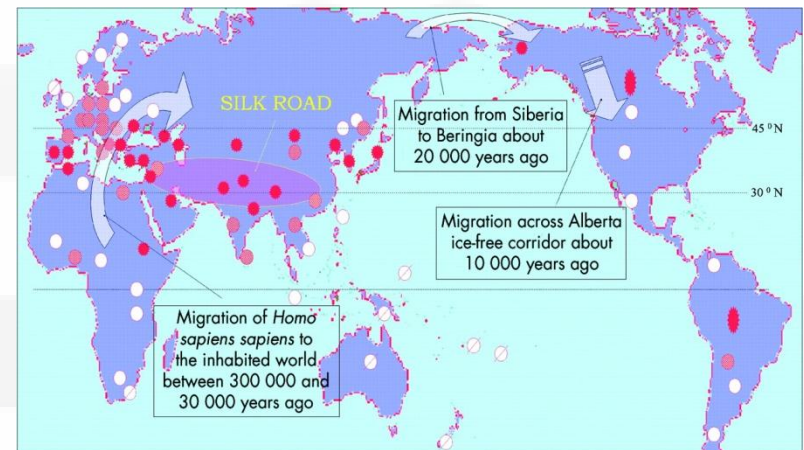


Figure 2: Incidence of cancer in the colon and rectum in Asian populations compared with US and UK populations (1993-97)

Data extracted from *Cancer Incidence in Five Continents* volumes I-VIII, IARC CancerBase number 7, Lyon, 2005.

Behcets disease

- A multi-system vasculitis that presents like Crohns disease
 - Often presents with muco-cutaneous ulcers
- Found in East Asians, Middle Eastern and Mediterranean patients
- Treated like Crohns



HLA-B51 prevalence in healthy ethnic control populations:

○ Absent ○ Low: 1 - 10% ● Intermediate: 11 - 15% ● High: > 15%

Practical advice- Lower GI

- Asians at same risk of bowel cancer
- Asian risk of IBD low but increasing
- Remember Bechets disease
- ?Non-Europeans less likely to participate in screening

Conclusion

- Different ethnic groups have different diseases and presentations
- Functional dyspepsia more common in Asian patients
- Non Europeans have higher rates of gastric cancer and Hep B
- Consider referring Non-Europeans earlier