High use of maintenance therapy after triple therapy regimes in Ireland

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Background

- *Helicobacter pylori* is one of the most common bacterial infections. About 20% of under 40 year olds, and 50% of over 60 years have *H pylori* infection.
- The major cause of gastric and duodenal ulcers is by *H pylori.*
- Guidelines recommending eradication of *H. pylori* using various regimens have reported success rates of over 90% and recurrence rates as low as 1% per year.

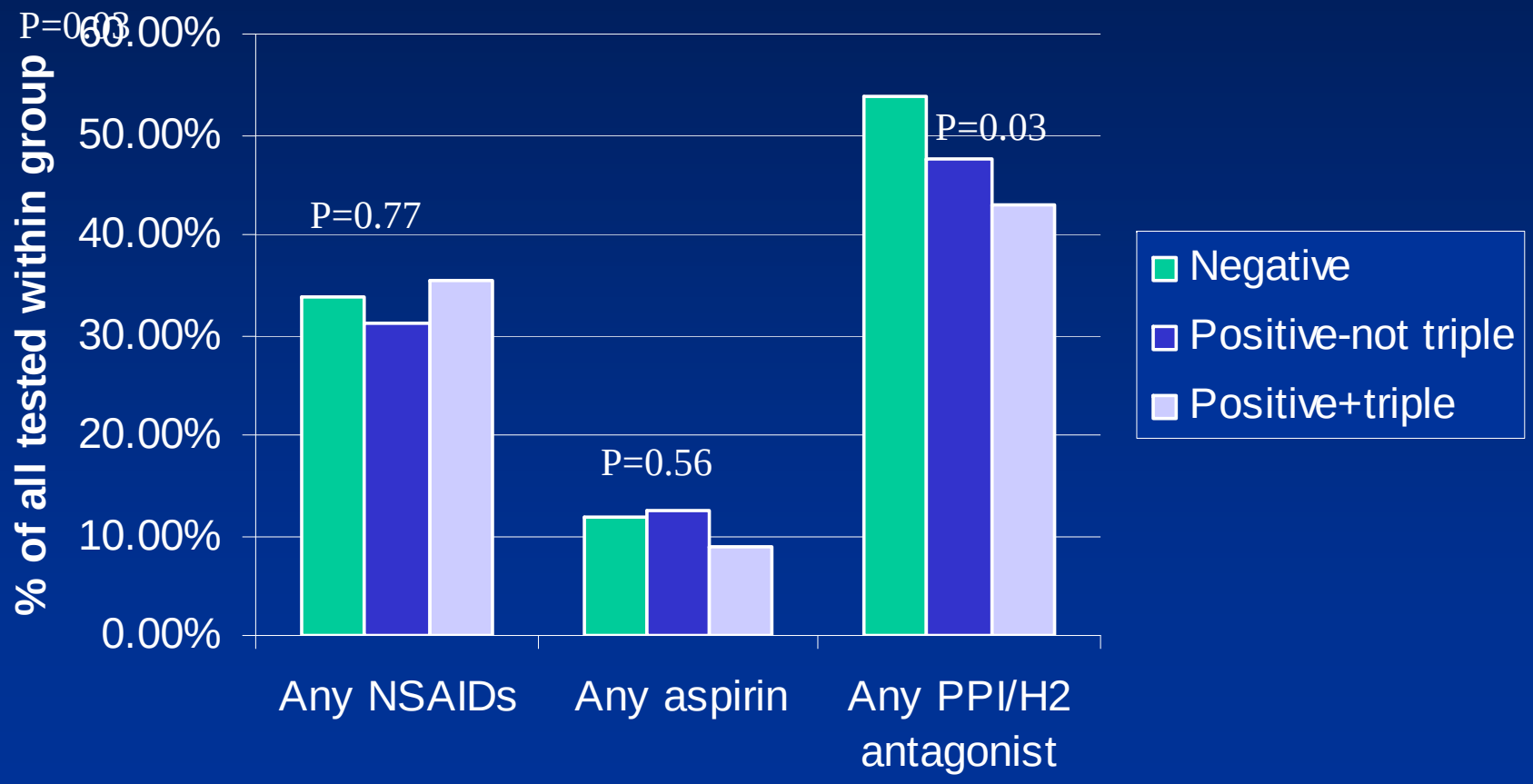
Background

- Optimal treatment: 2 week course triple therapy involves taking 2 antibiotics plus a H_2 receptor antagonist or proton pump inhibitor (PPI).
- BNF Sept 2004 states ‘There is normally no need to continue antisecretory treatment (with a PPI or H_2-receptor antagonist) after eradication unless the ulcer is complicated by haemorrhage or perforation’.
- Prolonged use of PPI may be required for gastro-oesophageal reflux disease (GORD) in a few cases, but at a low maintenance dose.

Background

- Previously conducted a study of 805 patients, having undergone a hospital-based urea breath test during January 2001-December 2002 (first test).
- Results of whether the test was positive or negative for *H. pylori* were communicated to the referring GP.
- These data were linked to subsequent prescribing by the GP.

Any prescribing of PPI/H2 antagonist in the year *after H pylori* testing



Aim

- To examine the use of maintenance proton pump inhibitor (PPI) therapy after a triple therapy regime in a large population-based study.

Methods

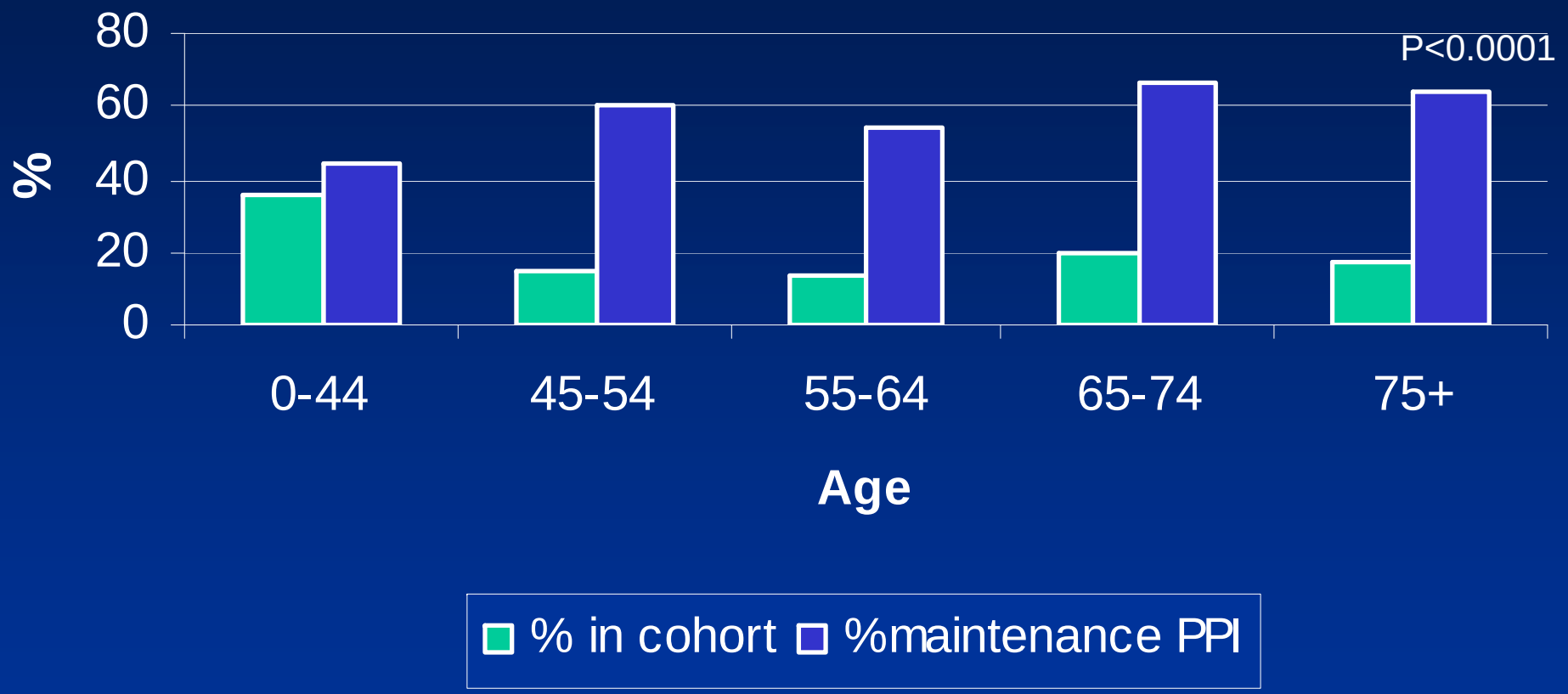
- The General Medical Services (GMS) scheme provides free healthcare (including medicines) to approximately 31% of the population and accounts for approximately 65% of all prescribing.
- The GMS prescription database provides detailed information on all dispensed prescriptions within the scheme.
- Data from the largest (Eastern) region of Ireland were used.
- Chi-square tests and non-parametric analyses were performed.

More than 32.3m prescriptions items were paid for by the GMS Payments Board in 2003 with a drug expenditure of approximately €637m.

Methods

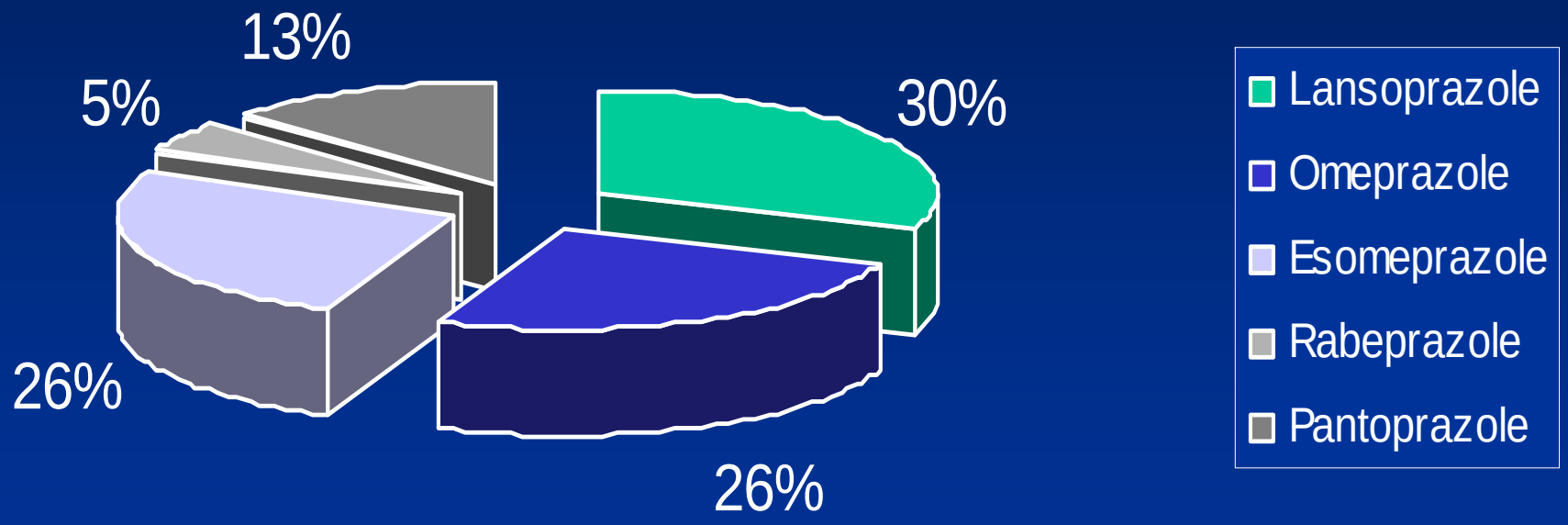
- A cohort of patients dispensed triple therapy on the same prescription claim during 2002 were identified (n=2239). This included:
  - Receipt of amoxicillin with clarithromycin and a PPI
  - PPI one of: esomeprazole, pantoprazole, lansoprazole, rabeprazole, or omeprazole.
- The cohort was followed for 1 year subsequent to triple therapy to determine whether they were:
  - Asymptomatic (no further treatment)
  - Symptomatic (requiring either second line therapy, in form of PPI+clarithromycin+metronidazole, or a maintenance PPI).

Demographics



47.5% of cohort Male, 52.5% Female. No difference in % receiving maintenance PPI.

PPI used in triple therapy regime



Results

PPI in triple therapy	Maintenance therapy	Switched PPI
Lansoprazole	54.6% (371)	44.7%
Esomeprazole	52.2% (299)	37.5%
Omeprazole	57.5% (329)	38.9%
Rabeprazole	52.7% (58)	53.4%
Pantoprazole	56.3 (166)	42.8%
All PPIs	54.6%(1223)	42%
Chi-square, p	*0.9*	*0.09*

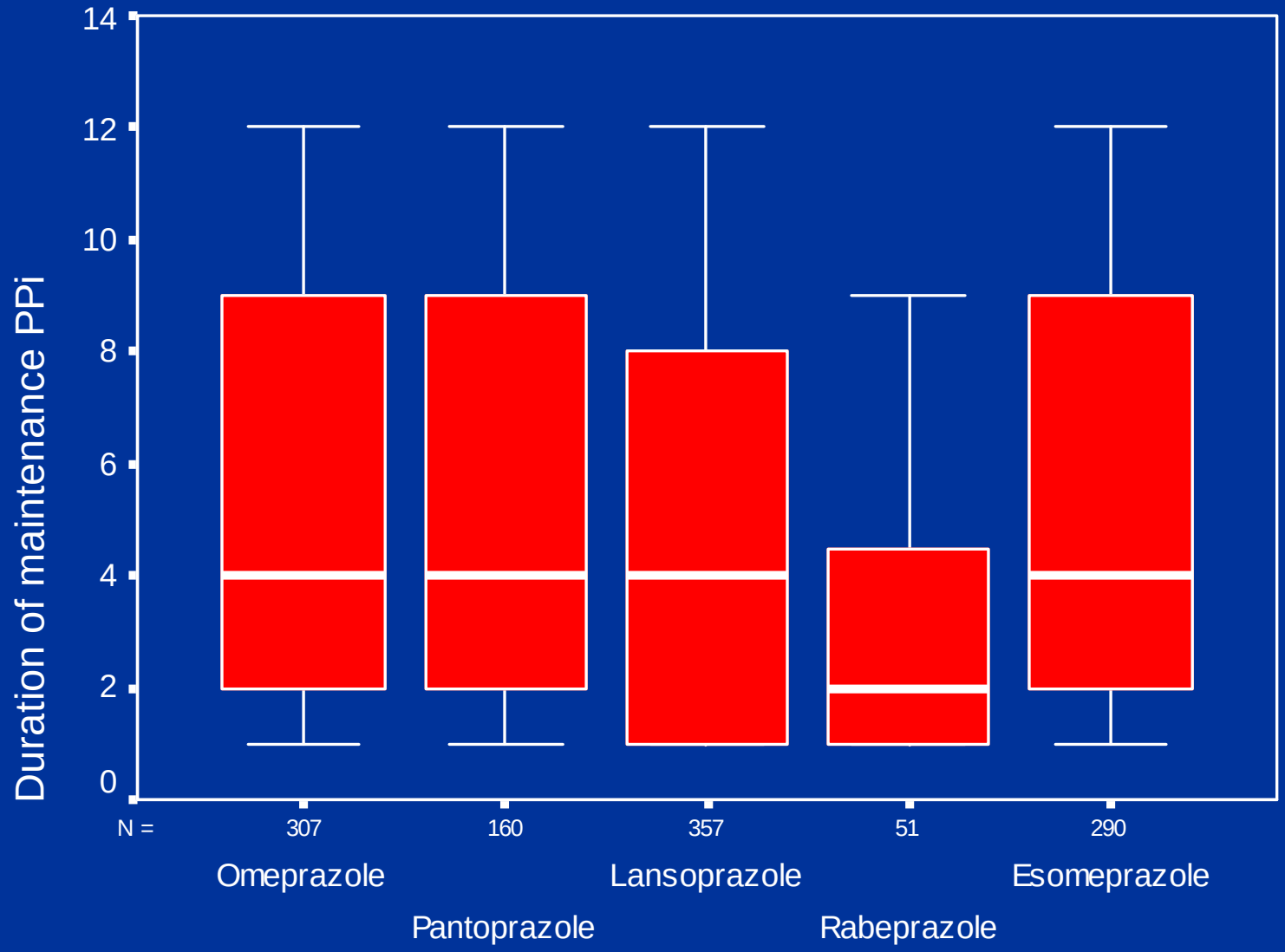
2.1% second line therapy

Dose of maintenance PPI after triple therapy

Maintenance PPI	Low/Intermediate (maintenance) dose	High dose
Lansoprazole	15mg; 12%	30mg; 88%
Esomeprazole	20mg; 60%	40mg; 40%
Omeprazole	10/20mg; 93%	40mg; 7%
Rabeprazole	10mg; 11%	20mg; 89%
Pantoprazole	20mg; 24%	40mg; 76%
All PPIs	49%	51%

Chi square, $p<0.001$

Duration on maintenance therapy



Triple therapy regime (PPI used)

P=0.03

Conclusion

- *H. pylori* eradication should not be regarded as a cure for all dyspeptic symptoms, particularly as some patients continue to complain of dyspeptic symptoms after successful treatment.
- The persistent symptoms may be attributed to the unmasking or development of GORD, or NSAID-induced peptic ulcer disease.