**Oral presentations** Sunday, October 5, 2025

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United European Gastroenterology Journal 2025, Vol 13 (S8) | © Author(s) 2025 Reprints and permissions: sagepub.co.uk/journalsPermissions.nav DOI: 10.1002/ueg2.70032 | onlinelibrary.wiley.com/toc/20506414/2025/13/58 WILEY



**Opening Plenary** 13:30-15:00 / Room 6.2B of interest.

## OP025

LITERATURE-BASED HELICOBACTER PYLORI RESISTANCE DATA INTEGRATED INTO THE EUROPEAN REGISTRY ON H. PYLORI MANAGEMENT (HP-EUREG): LIMITED USEFULNESS FOR PREDICTING FIRST-LINE EMPIRICAL TREATMENT EFFECTIVENESS

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Introduction: Helicobacter pylori infection is the primary cause of gastritis, peptic ulcer disease, and gastric cancer. Without an effective vaccine, eradication therapy is essential for disease control. However, rising antibiotic resistance worldwide has compromised treatment effectiveness, highlighting the need to evaluate how literature-based resistance rate data can inform the success of eradication regimens in clinical practice. Aims & Methods: Current study aimed to assess whether such literature-based data could reliably predict the outcomes of first-line empirical eradication therapy. Antibiotic resistance data for clarithromycin, metronidazole, and levo-floxacin were obtained through a systematic review of published studies. Resistance prevalence was calculated for three timeframes: the year of treatment, the preceding year, and a weighted average over the current and previous four years. These rates were matched with data from the European Registry on H. pylori Management (Hp-EuReg), a prospective, real-word study involving firstline empirical H. pylori treatments and their outcomes. Data collected spanned from 2008 to 2024 and encompassed 23 countries. Modified intention-to-treat analyses were conducted using multivariate logistic regression with 10,000 stratified bootstraps, adjust-ing for covariates such as patient age, sex, country, year of prescription, first-line treatment regimen, proton pump inhibitor dosage, treatment duration, compliance, and assigned resistance values. Additional anal-yses assessed whether resistance to a specific antibiotic impacted each treatment effectiveness containing that antibiotic.

**Results:** A total of 18,219 patients from 13 European countries were included in the final analysis. Accounting all first-line empirical treat-ments, resistance to clarithromycin and levofloxacin in the current year influenced treatment effectiveness in opposite directions. Clarithromy-cin resistance was associated with a slight increase in treatment success (OR=1.02, 95%CI 1.00-1.03); whereas levofloxacin resistance was asso-ciated with a slight decrease (OR=0.98, 95%CI 0.97-1.00, respectively). Both associations had minimal effect sizes with questionable clinical rel-evance. Resistance to clarithromycin from the previous year was also par-adoxically associated with improved treatment effectiveness (OR=1.01, 95%CI 1.00-1.02).

For standard clarithromycin-amoxicillin triple therapy, a higher rate of clarithromycin resistance (both current and over the preceding four years) was slightly associated with reduced treatment success (OR=0.99, 95%CI 0.99-1.00).

For clarithromycin-metronidazole triple therapy, resistance rate to clarithromycin was not associated with effectiveness (OR=0.97, 95%CI 0.93-1.01); while metronidazole resistance showed a slightly association with reduced effectiveness (OR=0.96, 95%CI 0.93-1.00).

For all other regimens evaluated, no significant associations were observed between specific antibiotic resistance rates—whether current or past—and the likelihood of successful *H. pylori* eradication.

**Conclusion:** Despite several statistically significant associations between resistance patterns and treatment outcomes, the effect sizes were minimal and of questionable clinical relevance. Thus, the reliability of antibiotic resistance data from external (literature-based) cohorts appears negligible and of limited utility in influencing the clinical choice of first-line therapies for *H. pylori* infection in real-world settings.

Disclosure: Javier P. Gisbert has served as speaker, consultant, and advi-

sory member for or has received research funding from: Mayoly, Allergan/ Abbvie, Diasorin, Richen, Juvisé and Biocodex. 20506414, 2025,

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(Ministerio de Sanidad), Wiley Online Library on [20/10/2025].

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Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

#### **OP026**

LONG-TERM EFFECT OF MACROLIDE CONSUMPTION ON HELICOBACTER PYLORI ERADICATION TREATMENTS: DATA FROM THE EUROPEAN REGISTRY ON H. PYLORI MANAGEMENT (HP-EUREG)

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Introduction: Previous antibiotic use influences the antibiotic resistance of *H. pylori*. However, the specific impact of prior clarithromycin use on the success of eradication therapies remains unclear.

10 UEG Journal | Abstract Book Aims & Methods: The objective of this study was to examine the association between prior macrolide (particularly clarithromycin) consumption in the general population and the effectiveness of *H. pylori* eradication regimens in treatment-naïve patients. A retrospective, observational, multicentre, and ecological study was conducted. Multivariate logistic regression was performed with the modified intention-to-treat effectiveness as the main outcome. Key variables included first-line clarithromycin-based treatments, therapy duration (7, 10, 14 days), proton pump inhibitor dose (low, standard, high), compliance (>90%), and clarithromycin consumption (defined daily doses/1,000 inhabitants/day, from the European Surveillance of Antimicrobial Consumption Network). Nested hierarchical models incorporated macrolide consumption, matched by year and country, and assessed the interaction between consumption and first-line empirical treatments from the European Registry on *H. pylori* Management (Hp-EuReg).

**Results:** The study included 27,549 naïve patients from 23 countries with macrolide consumption data from 2013 to 2022. Higher macrolide consumption, within 0 to 8 years before treatment was associated with reduced treatment effectiveness. The eradication rate consistently decreased as macrolide consumption increased, particularly within the previous four years. The efficacy of triple-clarithromycin-metronidazole, triple-clarithromycin-amoxicillin, and some bismuth-quadruple therapies containing clarithromycin decreased with higher macrolide consumption. The eradication rate decreased from 93% to 82% when clarithromycin consumption occurred 2 years before treatment. Table 1 presents the effects of macrolide consumption delays (0 to 8 years) on treatment effectiveness for each evaluated regimen, revealing consistent patterns

	Years of delay								
	0	1	2	3	4	5	6	7	8
Triple-CA:Macrolides	0.65	0.80			0.76	0.61	0.56	0.72	0.63
Triple-CM:Macrolides	0.35	0.50	0.51	0.55		0.60	0.57		
Conco-CAT CAM:Macrolides			1.25	1.18					
Seq-CAT-CAM:Macrolides	0.78					1.18			
Quad-CAB:Macrolides		0.56	0.53			6.44		88,000	0.009

The table displays significant (<0.05) odds ratios for interaction terms in macrolide-based treatments across delay cases. A: amoxicillin; B: bismuth; C: clarithromycin; M: metronidazole; T: tinidazole.

Table 1. Effect on treatment effectiveness of the interaction between H. pylori eradication treatments and macrolide consumption in the community throughout the full range of delays between macrolide consumption and treatment.

**Conclusion:** Higher macrolide consumption in the general population negatively impacts the effectiveness of first-line *H. pylori* clarithromy-cin-containing eradication treatments, with the effect decreasing after 5 years of exposure.

**Disclosure:** Javier P. Gisbert has served as speaker, consultant, and advisory member for or has received research funding from: Mayoly, Allergan/Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

Poster presentations Sunday, October 5, 2025

#### PP0252

VONOPRAZAN IS HIGHLY EFFECTIVE AND SAFE AS AN ADJUVANT IN DIFFERENT REGIMENS IN FIRST- AND RESCUE-LINE THERAPIES FOR *H. PYLORI* INFECTION IN BRAZIL

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**Introduction:** Data about the effectiveness and safety of vonoprazan (VPZ) as an adjuvant for treating *H. pylori* are lacking in Brazil. Previous studies suggest that greater acid suppression might improve effective-ness, with an acceptable eradication rate around 90%.

Aims & Methods: To evaluate VPZ in eradication therapy in Brazil, as part of the Hp-BrazilReg, WorldHpReg's partner, a multicenter and prospective real-life registry was performed, assessing outcomes of *H. pylori* man-agement by Brazilian gastroenterologists. Data were registered at e-CRF AEG-REDCap from March 2022 to October 2024. The effectiveness was as-sessed by modified intention-to-treat (mITT) analysis. Data were subject to quality review.

**Results:** 2,132 Brazilian patients, with a mean age of 52 years, 61% of whom were women, were included in the mITT analysis. The main treat-ment indications were: 63% dyspepsia, 10% gastroduodenal ulcers, and 5% premalignant gastric lesions. Endoscopy was performed in 95% of the cases, using histology (90%) and/or the rapid urease test (15%) for diagnosing the infection. No pre-treatment bacterial resistance test was performed.

First-line treatments were administered to 73% (n=1,560) of cases, second-line to 18% (n=386), and rescue to 9% (n=186), with 94% of pa-tients receiving 14-day prescriptions. Low-dose (between 4.5 and 27mg of omeprazole equivalent BID), standard-dose (between 32 and 40mg of omeprazole equivalent BID), and high-dose (between 54 and 128mg of omeprazole BID) of proton pump inhibitor (PPIs) as well as 20mg BID of vonoprazan (VPZ) were used in 39%, 38%, 23%, and 15% of treatment cases, respectively.Probiotics were used as adjuvant in 15% of patients. Compliance (>90% drug intake) was reported in 99% of the patients.Eradication was mostly confirmed by endoscopy in 88% (histology [74%] and/or rapid urease test [14%]). The <sup>14</sup>C-urea breath test was used in 8% of the cases. At least one adverse event was reported by 25% of patients, mainly nausea (13%), dysgeusia (8%) and diarrhea (7%).

The regimens reaching 90% eradication were: dual-VPZ+amoxicillin for first-line and rescue treatments (96% and 100%, respectively), quadru-ple VPZ+bismuth+tetracycline+metronidazole for second- and third-line treatments (92% and 90% respectively), and quadruple PPI+bis-muth+levofloxacin+amoxicillin (100%) for second-line treatment.Prescribing VPZ (vs PPI ) was an independent factor associated with high-er effectiveness both in first-line (OR 2.95; IC 95%: 1.71-5.09) and in sec-ond-line and rescue treatments (OR 2.87; IC 95%: 1.69-5.13). There was no difference in adverse effects between VPZ and PPI-based regimens (p<0.01).

**Conclusion:** VPZ, when prescribed as an adjuvant for treating *H. pyloii* infection, shows highly effective results as part of dual therapy with amox-icillin for first-line and rescue treatments, as well as in quadruple therapy with bismuth+metronidazole+ tetracycline or bismuth+amoxycillin and rifabutin for rescue treatments.

Disclosure: Nothing to disclose.

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# PP0254

TRENDS IN THE PRESCRIPTION OF ERADICATION TREATMENTS AND THEIR EFFECTIVENESS IN NAÏVE PATIENTS OVER 12 YEARS (2013-2024) IN EUROPE: DATA FROM THE EUROPEAN REGISTRY ON HELICOBACTER PYLORI MANAGEMENT (HP-EUREG)

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Contact E-Mail Address: pablo.parra.hlp@gmail.com Introduction: The infection by *H. pylori* can be successfully treated and eradicated if the recommendations from consensus guidelines are correctly followed. It is essential to continuously assess the applicability of these recommendations to ensure their alignment with clinical practice. Aims & Methods: Multicentre, prospective registry evaluating the decisions and outcomes of *Helicobacter pylori* management by European gastroenterologists (Hp-EuReg, Hp-WorldReg's partner). Data were registered at AEG-REDCap e-CRF until December 2024. Modified intention-to-treat (mITT) and time trend analyses were performed.

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Results: Overall, 64,084 (84%) first-line empirical prescriptions were analysed. The total number of different therapeutic regimens prescribed exceeded 100. Triple therapy prescriptions decreased from 58% during 2013/15 to 34% in 2022/24; likewise, non-bismuth concomitant therapy use decreased from 23% in 2013/15 to 14% in 2022/24; while three-in-one single-capsule increased from 0.3% in 2013/2015 to 20% in 2022/24. An increase in the average duration of treatments, from 9.9 to 12.7 days in 2013-2024 was identified, as well as in the use of standard/high-dose of PPIs — defined as a 14-day course with standard or high-dose PPIs at >40mg omeprazole equivalent twice daily —, increasing from 36% to 61% in 2013-2024. Over 12 years of evolution, an overall improvement of =10% in first-line effectiveness was observed, increasing from 86% to 93%, both globally and across geographic regions (Table).

**Conclusion:** European gastroenterological practice is continuously adapting to the latest published evidence and recommendations—reduc-ing the use of triple therapies while increasing both treatment duration and PPI dosage—leading to a progressive improvement in overall effec-tiveness. These changes have remained consistent in recent years.

**Disclosure:** Javier P. Gisbert has served as speaker, consultant, and advi-sory member for or has received research funding from: Mayoly, Allergan/ Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
T												
Treatment Quadruple-C+A+B	1.9%	2.6%	6.5%	19%	12%	25%	13%	14%	16%	14%	17%	17%
Single-capsule*	0.2%	0.2%	0.5%	14%	22%	17%	21%	19%	19%	21%	19%	20%
Quadruple-M+Tc+B	2%	1.8%	0.5%	0.2%	0.3%	0.6%	1.3%	1.3%	1.6%	3.7%	2.4%	2.8%
Concomitant-C+A+M/T	21%	21%	27%	21%	19%	8.5%	1.5%	13%	1.0%	13%	15%	14%
Sequential-C+A+M/T	16%	9.7%	7.4%	1.9%	7.8%	7.2%	5.8%	3.6%	3.6%	3.6%	2.4%	2.1%
Triple-A+L	2.2%	2.1%	3%	1.7%	0.6%	0.6%	1.1%	1.2%	1.2%	2.3%	3%	2.1%
Triple-A+M	3.4%	2.1%	1.5%	1.7 %	1.3%	0.6%	1.6%	1.2 %	1.3%	1.5%	1.6%	1.3%
Triple-C+M	3.4%	6.1%	8.1%	5.7%	1.3%	0.4%	1.0%	6.4%	4.1%	3.9%	2.7%	1.7%
Triple-C+A	46%	50%	40%	29%	30%	30%	36%	33%	33%	28%	25%	21%
<u>'</u>	40%	50%	40%	29%	30%	30%	30%	33%	33%	20%	2376	21%
Therapy length	070/	200/	200/	470/	7.00/	0.40/	0.00/	0.40/	0.00/	0.00/	00/	0.407
7 days	27%	28%	23%	17%	7.3%	2.1%	2.8%	3.4%	2.9%	8.8%	3%	2.1%
10 days	57%	55%	59%	48%	52%	47%	41%	39%	43%	43%	34%	31%
14 days	17%	18%	18%	36%	40%	51%	51%	58%	54%	48%	63%	67%
PPI doses												
Low (4.5 to 27 mg omeprazole												
equivalents b.i.d.)	64%	55%	44%	38%	44%	31%	35%	46%	43%	37%	42%	39%
Standard (32 to 40 mg omeorazole		24%	24%	23%	23%	37%	29%	24%	26%	35%	31%	28%
Standard (32 to 40 mg omeprazole High 154 to 128 mg omeprazole equivalents b.i.d.)	16%											
	20%	22%	31%	39%	33%	32%	37%	30%	31%	29%	27%	33%
equivalents b.i.d.)												
Overall effectiveness												
Eradication rate (mITT)	86%	85%	86%	88%	88%	91%	89%	89%	91%	92%	92%	93%
Effectiveness depending on												
geographical region												
	92%	79%	84%	83%	82%	91%	90%	93%	93%	91%	93%	91%
East	87%	85%	86%	85%	87%	89%	89%	93%	91%	92%	94%	95%
East-Centre	84%	86%	86%	90%	91%	91%	88%	85%	90%	93%	92%	95%
South-West	89%	92%	93%	94%	89%	92%	91%	89%	89%	94%	94%	94%
Wast_Cantra	00,0	000/	000/	000/	000/	770/	0.40/	000/	040/	000/	770/	700/

North

PPI: proton pump inhibitor; mITT: modified intention-to-treat; A – amoxicillin; C – clarithromycin; M – metronidazole; T – tinidazole; L – levofloxacin B; – bismuth salts; Tc – tetracycline; East – Ukraine, Serbia, Bulgaria, Turkey, Russia, Romania, Albania, North Macedonia, Bosnia and Herzegovina, Kosovo, Moldova, Montenegro; East-Centre – Croatia, Poland, Hungary, Latvia, Lithuania, Greece, Slovenia, Czech Rep, Azerbaijan, Slovakia, Malta, Armenia; South-West – Portugal, Spain; West-Centre – France, Austria, Belgium, Germany, Italy; North – The United Kingdom, Finland, The Netherlands, Ireland, Israel, Norway, Switzerland, Sweden, Denmark; \*Three-in-one single-capsule containing metronidazole. tetracycline and bismuth.

Table. Prescriptions and effectiveness trends of first-line empirical treatments in Europe in the period 2013-2024.

# PP0255

EFFECTIVENESS AND SAFETY OF SINGLE-CAPSULE BISMUTH
QUADRUPLE THERAPY IN 12,500 PATIENTS FROM THE EUROPEAN
REGISTRY ON HELICOBACTER PYLORI MANAGEMENT (HP-EUREG)

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**Introduction:** The use of the three-in-one single-capsule formulation of bismuth quadruple therapy (PPI, bismuth, tetracycline, and metronida-zole), introduced several years ago, has become increasingly widespread in Europe. However, the experience with this regimen should be analysed in depth.

**Aims & Methods:** To evaluate the effectiveness and safety of the three-in-one single-capsule in the European Registry on *Helicobacter pylori* Man-agement (Hp-EuReg).

International, multicenter, prospective, non-interventional registry aimed to evaluate the decisions and outcomes of *H. pylori* management by Euro-pean gastroenterologists (Hp-EuReg, Hp-WorldReg's partner). All infected adult patients treated with 10-day single-capsule according to data sheet (3 capsules/6 h) or alternative three times a day (4 capsules/8 h) prescrip-tions were systematically registered at AEG-REDCap e-CRF until Decem-ber 2024. Variables included: Patient's demographics, previous eradica-tion attempts, prescribed treatment, adverse events, compliance and effectiveness. Modified intention-to-treat (mITT) and per-protocol (PP) analyses were performed, and data were subject to quality review. **Results:** Of the 76,042 empirical patients included in the Hp-EuReg, 12,519 (16%) received single-capsule bismuth quadruple therapy. The majority of these patients were naïve (80%), with an average age of 51 years, 63% female and 11% with peptic ulcer. In both the mITT and PP analyses, the single-capsule regimen achieved an eradication rate of 92%. In first-line treatment, effectiveness (mITT) reached 93%, decreasing to 87% in sec-ond-line and to 83% in subsequent lines (3<sup>rd</sup> to 6<sup>th</sup>) (Table 1).

In rescue therapy, even when the regimen was optimised with standard or high-dose PPIs, optimal ( $\geq$ 90%) effectiveness was never achieved. Compliance with treatment (>90% of drug intake) was reported in 97% of cases, and was the factor most closely associated with the effectiveness of treatment (OR: 7.7, 95% CI: 5.8-10.4). Adverse events (21%) were gen-erally mild and transient; with 0.1% of patients reporting serious adverse events, leading to the discontinuation of treatment in 1.7% of patients.

\*Of the total of treatments included in the Hp-EuReg up to January 2025 (i.e., N= 77,954); mITT: modified intention-to-treat; PP: per-protocol; N: total number of patients analysed; CI: confidence interval; AEs: adverse events.

Table 1. Three-in-one single-capsule effectiveness, compliance and safety in first-line and rescue treatment lines.

**Conclusion:** The 10-day treatment with single-capsule bismuth quadru-ple therapy achieves *H. pylori* eradication in approximately 90% of pa-tients by mITT in real-world clinical practice, both as a first-line and rescue treatment, with a favourable safety profile. **Disclosure:** Javier P. Gisbert has served as speaker, consultant, and advi-sory member for or has received research funding from: Mayoly, Allergan/ Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Riocodex

## PP0257

EFFECTIVENESS OF FIRST-LINE EMPIRICAL HELICOBACTER PYLORI TREATMENT OUTSIDE EUROPE: RESULTS OF 10,000 CASES FROM THE WORLD-WIDE REGISTRY ON H. PYLORI MANAGEMENT (WORLDHPREG)

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 $\textbf{Aims \& Methods:} \ \, \textbf{This study aimed to assess the effectiveness of empiri-cal first-line therapies for \textit{H. pylori} infection outside Europe.}$ 

The WorldHpReg, an international, multicenter, prospective registry, was created to evaluate the management and clinical outcomes of *H. pylori* infection by gastroenterologists world-wide. Data were collected via the AEG-REDCap e-CRF from March 2022 to April 2025. Modified inten-tion-to-treat (mITT) and per-protocol (PP) analyses were performed to as-sess therapy effectiveness. A regimen was considered optimally effective if the mITT cure rate was ≥90%. The data were stratified by country and by specific first-line therapeutic regimen.

**Results:** A total of 9,973 cases were collected, with 7,738 (78%) first-line empirical prescriptions analysed across several non-European countries including: Latin America (LATAM), Brazil, Africa, Australia, Canada, Egypt, India, Jordan, Pakistan, and Saudi Arabia. Overall, 90 different first-line

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therapeutic regimens were prescribed, achieving an overall mITT and PP effectiveness of 84% and 85%, respectively. Optimal (≥90%) mITT cure rates were achieved, overall, in Australia (95%), India (99%), Jordan (96%) and Saudi Arabia (91%). Optimal treatment effectiveness was observed in LATAM with following therapies: non-bismuth quadruple therapy con-taining amoxicillin-clarithromycin-metronidazole (91%) or with various combinations of bismuth-containing quadruple therapies, such as amoxi-cillin-metronidazole (94%), metronidazole-doxycycline (90%), and amox-icillin-doxycycline (97%). Additionally, high effectiveness was achieved also in LATAM with the single-capsule formulation (94%) and with the combination of metronidazole-tetracycline in the classical format (91%), this latter also obtaining optimal results in Brazil (97%). Standard triple therapy with amoxicillin-clarithromycin achieved over 90% mITT cure rates in Africa (92%), Australia (95%), Egypt (100%), India (100%), and Jordan (100%), although the number of patients was still very low. The remaining regimens provided suboptimal results. Complete results by treatment scheme and country are detailed in Table 1.

Country	LATAM	Brazil	Africa	Australia	Canada	Egypt	India	Jordan	Pakistan	Saudi Arabia
Treatment <sup>(a)</sup>					N (%	mITT)				
Triple-C+A	1,041	1,826	25	19	NA	4	61	14	53	7
Concomitant-	(/5%)	(80%)	(92%)	(95%)	6	(100%)	(100%)	(100%)	(59%)	(86%)
C+A+M	013	1	NA	NA	(83%)	NA	NA	29	NA	NA
	(91%)	(100%)	NA	NA	NA	NA	NA	(86%)	NA	NA
Dual-A	340	116	NA	NA	NA	NA	NA	NA	NA	NA
Quadruple-	(86%)	(89%)	NA	NA	NA	NA	NA	NA	NA	1
A+M+B	259	NA	NA	NA	NA	45	NA	NA	12	(100%)
Quadruple-	(3470)	2	1	NA	1	(100%)	NA	NA	(42%)	11
M+D+B	201	(100%)	(100%)	NA	(100%)	NA	NA	NA	NA	(100%)
	(90%)	16	NA	NA	NA	NA	NA	NA	NA	2
Triple-A+L	126	(69%)	NA	NA	NA	NA	NA	NA	NA	(100%)
Quadruple-	(82%)	30	NA	NA	NA	NA	NA	1	NA	NA
M+Tc+B	177	(97%)	43	NA	NA	NA	80	(100%)	NA	NA
0	(90%)	6	(67%)	19	3	27	(99%)	NA	93	40
Quadruple-	187	(100%)	3	(95%)	(67%)	(100%)	141	50	(74%)	(88%)
C+A+B	(78%)	NA	(100%)	. ,	10	76	(99%)	(100%)	158	NA
Quadruple-	177	NA	72		(80%)	(100%)		94	(67%)	3
A+D+B	(A(P)	2,1018/2	(78%)					(96%)		(100%)
Triple-C+T	483	(81%)								
Single-	104	85								64

<sup>&</sup>lt;sup>(a)</sup>Treatments were categorised in 11 categories encompassing over 90% of first-line prescriptions world-wide.

LATAM: Latin America; ASEAN: Association of South-East Asian Nations; A: amoxicillin; B: bismuth salts; C: clarithromycin; D: doxycycline; L: levofloxacin; M: metronidazole; T: tinidazole; Tc: tetracycline; "Three-in-one single-capsule containing metronidazole, tetracycline and bismuth; N: total number of patients analysed; %: total number of patients with H. pylori eradicated; mITT: modified intention-to-treat.

Table 1. Modified intention-to-treat effectiveness of most frequent first-line empirical treatments world-wide.

**Conclusion:** In this large, real-world cohort from several non-European countries, first-line *H. pylori* empirical eradication therapies yielded un-satisfactory overall results. However, optimal (≥90%) eradication rates were consistently observed in Australia, India, Jordan, Egypt and Saudi Arabia. In LATAM and Brazil, the highest cure rates were predominantly obtained with bismuth and non-bismuth quadruple therapies. Triple ther-apy with amoxicillin-clarithromycin remained highly effective in select-ed regions. These findings reinforce the importance of tailoring first-line empirical therapy to regional performance in order to optimise *H. pylori* eradication success.

**Disclosure:** Javier P. Gisbert has served as speaker, consultant, and advi-sory member for or has received research funding from: Mayoly, Allergan/ Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

#### PP0266

INDICATIONS FOR FIRST-LINE HELICOBACTER PYLORI ERADICATION IN
GERMANY: INSIGHTS FROM THE EUROPEAN REGISTRY ON H. PYLORI
MANAGEMENT (HP-EUREG) WITH A FOCUS ON GASTRIC CANCER
PREVENTION

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of gastric cancer. However, real-world data on how these recommendations are implemented in clinical practice remain lim-ited. Additionally, data on the use and effectiveness of different first-line eradication regimens in Germany are sparse.

**Aims & Methods:** We conducted a retrospective analysis of patients who received first-line empirical *H. pylori* eradication therapy across five Ger-man university-based centers participating in the European Registry on

H. pylori Management (Hp-EuReg). Three centers contributed the majority of cases. Demographic and clinical data were extracted from databases. Data were collected in AEG-REDCap from June 2013 to January 2025. In-dications were categorized by symptom profile, endoscopic findings, and cancer risk. A descriptive analysis was performed. Eradication rates were compared between treatment regimens and durations using the № test. A particular focus was placed on evaluating how the recommendations of the German S3 guidelines regarding gastric cancer prevention were imple-mented in clinical practice.

Results: Of the 448 patients (53% male, median age 55) ncluded, the most common indications were non-investigated dyspepsia (33%) and dyspep-sia with normal endoscopy (30%). Peptic ulcer disease was reported in 18%: duodenal ulcer (5%) and gastric ulcer (13%). Five percent under-went eradication for gastric cancer prevention; these included patients with preneoplastic lesions (0.4%), prior gastric cancer resection (0.9%), first-degree relatives of gastric cancer patients (2.0%), and individuals un-dergoing screening (1.3%). Other indications included unexplained iron deficiency anemia (4.0%), vitamin B12 deficiency (0.7%), and MALT lym-phoma (0.2%). The most frequent first-line therapies were triple therapy with amoxicillin and clarithromycin (54%) and a three-in-one single-cap-sule containing metronidazole, tetracycline, and bismuth (41%). Therapy commonly lasted 7 (19%) or 10 days (72%). No difference in eradication rates between the two regimens was observed when given for 10 days (97.8% vs. 97.0%, respectively).

**Conclusion:** In this multicenter German cohort from dedicated *H. pylori* centers, most eradication therapies were prescribed for dyspeptic symp-toms. Notably, a significant proportion of treatments aimed at gastric cancer prevention, aligning with the approach outlined in the current Ger-man S3 guidelines. Both recommended first-line therapies—triple therapy with amoxicillin and clarithromycin, and the three-in-one single-capsule bismuth-based quadruple therapy—were widely used and achieved simi-larly high eradication rates when administered for 10 days. These findings underline the importance of implementing guideline-based indications in intermediate-risk countries like Germany, where targeted eradication in high-risk individuals remains a cornerstone of gastric cancer prevention. **Disclosure:** Nothing to disclose

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**Introduction:** Helicobacter pylori (H. pylori) infection is a well-established risk factor for gastric cancer. While high-incidence countries promote population-based test-and-treat strategies, Germany—classified as an intermediate-risk country—follows a more targeted approach. According to the latest German S3 guidelines, H.pylori eradication is strongly recommend in specific high-risk groups, including first-degree relatives of gastric cancer patients and individuals who have undergone surgical or endoscopic resection

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**Moderated posters** Sunday, October 5, 2025

#### **MP505**

PRESCRIPTION OF FIRST-LINE EMPIRICAL TREATMENTS FOR HELICOBACTER PYLORI INFECTION OUTSIDE EUROPE: RESULTS OF 10,000 CASES FROM THE WORLD-WIDE REGISTRY ON H. PYLORI MANAGEMENT (WORLDHPREG)

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**Introduction:** *H. pylori* infection remains a major global health issue, and although effective treatment exists, changing clinical practices and regional differences require ongoing review of treatment guidelines. **Aims & Methods:** This study aimed to assess the various first-line empirical therapies used for *H. pylori* infection in regions outside Europe.

The WorldHpReg is a global, multicenter, prospective registry designed to assess how gastroenterologists manage *H. pylori* infection and its clinical outcomes. Data were collected at AEG-REDCap e-CRF from March 2022 to April 2025, with descriptive analyses and Chi-square tests used to evaluate associations.

Results: Overall, 9,973 cases, with 7,738 (78%) first-line empirical prescriptions were analysed across several non-European countries, including: Latin America (LATAM), Brazil, Africa, Association of South-East Asian Nations (ASEAN), Australia, Canada, Egypt, India, Jordan, Pakistan, and Saudi Arabia. The average patient was 50 years old, with 62% being women. Ethnicities included Caucasian (33%), Asian (15%), Black (6.1%), and others (40%). Most patients (85%) had never smoked, while 11% were cur-

rent smokers. At baseline, 38% used concurrent medications, primarily proton pump inhibitors (PPIs) (27%). Common symptoms were dyspepsia (59%) and heartburn (23%). H. pylori diagnosis was mainly by histology (75%), with limited use of 13C-urea breath test (5.8%), stool antigen test (4.7%), and culture (2%). A total of 90 different first-line therapeutic regimens were prescribed, with triple therapy using either Potassium-Competitive Acid Blockers (P-CABs) or PPIs plus amoxicillin-clarithromycin being the most common (41%), especially in Brazil (87% of their prescriptions), India (45%) and LATAM (27%). Quadruple non-bismuth concomitant therapy with PPI-amoxicillin-clarithromycin-metronidazole was the second most common (9% overall), with higher usage in Canada (77% of their prescriptions), Jordan (30%) and LATAM (16%). Bismuth quadruple therapy using a single-capsule formulation of PPI-metronidazole-tetracycline was prescribed in LATAM (2.7% of their prescriptions) and Saudi Arabia (60%); while bismuth quadruple therapy with P-CABs or PPIs and other antibiotic combinations was less common (3% globally). Region-specific alternatives like triple therapy with PPI-amoxicillin-levofloxacin were prescribed in LATAM or Egypt, and PPI-clarithromycin-tinidazole was more frequent in Africa. Dual therapy with P-CAB or PPI plus amoxicillin was prescribed overall in 6.2% of cases, mainly in LATAM and Brazil (Table 1). Most treatments lasted 14 days (86%), with PPIs prescribed at either low-dose (20 mg omeprazole equivalent b.i.d.) in 42% of cases or highdose (80 mg omeprazole equivalent b.i.d.) in 36% of cases. Vonoprazan, tegoprazan and fexuprazan were prescribed in 5%, 2% and 1.3% of cases.

Country		LATAM	Brazil	Africa	ASEAN	Australia	Canada	Egypt	India	Jordan	Pakistan	Saudi Arabia
Treatment <sup>(a)</sup>	N (%)											
Triple-C+A	3,187	1,069	1,907	39	NA	19	1	4	69	15	53	11
	(41%)	(27%)	(87%)	(17%)		(100%)	(3.2%)	(5.1%)	(45%)	(14%)	(34%)	(14%)
Concomitant-	692	635	1		1		24			31		
C+A+M	(8.9%)	(16%)	(0%)	NA	(0.1%)	NA	(77%)	NA	NA	(30%)	NA	NA
Dual-A	476	360	116	NA	NA	NA	NA	NA	NA	NA	NA	NA
Quadruple- A+M+B	(6.2%) 273 (3.5%)	(9.2%) 273 (7%)	(5.3%) NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Quadruple- M+D+B	272 (3.5%)	269 (6.9%)	2 (0.1%)	NA	NA	NA	NA	NA	NA	NA	NA	1 (1.3%)
	,	. ,	, ,					46	NA	1	12	13
Triple-A+L	221 (2.9%)	133 (3.4%)	16 (0.7%)	NA	NA	NA	NA	(59%)		(1%)	(7.6%)	(16.3%)
Quadruple-	221	178		1	NA	NA	1	NA	NA	NA	NA	3
M+Tc+B	(2.9%)	(4.5%)	38 (1.7%)	(0.4%)			(3.2%)		1			(3.8%)
Quadruple- C+A+B	204 (2.6%)	197 (5%)	6 (0.3%)	NA	NA	NA	NA	NA	(0.7%)	NA	NA	NA
Quadruple- A+D+B	177 (2.3%)	177 (4.5%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Single- capsule*	153 (2%)	104 (2.7%)	NA	NA	NA	NA	NA	NA	NA	1 (1%)	NA	48 (60%)
Triple-C+T	128 (1.7%)	NA 2016	NA	128 (57%)	NA 791**	NA 19	NA 31	NA 78	NA 152	NA 104	NA 158	NA 80
Overall	7,736 (100%)	3,916 (51%)	2,183 (28%)	224 (2.9%)	(10%)	(0.2%)	(0.4%)	(1%)	(2%)	(1.3%)	(2%)	(1%)

<sup>(</sup>a) Treatments were categorised in 11 categories encompassing over 90% of first-line prescriptions world-wide; LATAM: Latin America; ASEAN: Association of South-East Asian Nations; A: amoxicillin; B: bismuth salts; C: clarithromycin; D: doxycycline; L: levofloxacin M: metronidazole; T: tinidazole; Tc: tetracycline. \*Three-in-one single-capsule containing metronidazole, tetracycline and bismuth; N: number of prescriptions; NA: non-available. \*\*From other treatment combinations.

Table 1. Most frequent first-line empirical treatments worldwide.

**Conclusion:** WorldHpReg reveals substantial heterogeneity in first-line empirical H. pylori treatments, with standard triple therapy predominating mainly in Africa, India, Pakistan, Latin America and Brazil; while quadruple therapies were underutilised in most regions except in Latin America, Jordan, Saudi Arabia and Canada. These findings highlight a critical need for region-specific protocols to optimise *H. pylori* eradication outcomes globally.

#### **MP506**

**EFFECTIVENESS OF HELICOBACTER PYLORI ERADICATION TREATMENTS** IN PRIMARY CARE: INSIGHTS FROM A NATIONAL REAL-WORLD COHORT

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**Introduction:** Helicobacter pylori (H. pylori) infection is the most prevalent infection worldwide, affecting more than half of the global population. It is the primary cause of chronic gastritis, peptic ulcer disease, and gastric cancer. Currently, most H. pylori eradication treatments are prescribed in Primary Care settings and are highly heterogeneous.

However, the effectiveness of these treatments in real-world Primary Care settings remains suboptimal. Therefore, evaluating their effectiveness is essential to ensure optimal patient outcomes.

**Aims & Methods:** To assess the effectiveness of the different eradication

treatment combinations prescribed in Primary Care, we conducted an ep-

idemiological cohort study using data from BIFAP, a Spanish healthcare database containing real-world data on the clinical practice of Primary Care physicians.

A cohort study was conducted using real-world data from patients aged

≥18 years with a recorded *H. pylori* infection and a concomitant treatment

prescription between 2003 and 2023. Treatment regimens were based on

guideline-based recommendations compiled from Spanish and European Consensus Conferences between 1997 and 2022. Validated algorithms identified H. pylori infections and treatment patterns.

Effectiveness was assessed based on stool antigen or breath test results documented within 12 months following treatment completion. A validation process was conducted to confirm the accuracy of laboratory test records through a manual review of a random sample of electronic health records. Effectiveness comparisons among treatments were made using

Disclosure: Javier P. Gisbert has served as speaker, consultant, and advisory member for or has received research funding from: Mayoly, Allergan/ Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

Pearson's c<sup>2</sup> test.

A logistic regression was conducted to adjust for clinical factors associated with the success of each treatment combination. First-line treatment effectiveness was compared with that of the European Registry on H. pylori Management (Hp-EuReg) to contrast Primary and Specialised (Gastroenterologists) Care.

**Results:** A total of 211,972 patients with a recorded *H. pylori* infection, and, at least, one prescribed treatment pattern, were identified. Of these, 30,693 subjects (14%) met the criteria for inclusion in the effectiveness analysis. The median age was 55 years (IQR, 44–66), and 65% were women.

The most frequently prescribed first-line regimen in both Primary and Specialised Care was proton pump inhibitor plus a single-capsule with bismuth, tetracycline and metronidazole (Pylera\*) (PPI+ScBQT). Pearson's  $c^2$  test confirmed significant (p < 0.01) differences in eradication rates among the regimens. PPI+ScBQT had the highest eradication rate (91%), followed by PPI + clarithromycin (C) + amoxicillin (A) + metronidazole (M) (88%), PPI+C+A (70%), and PPI+C+M (61%).

The results aligned with data from Specialised care in the context of the Hp-EuReg. A logistic regression analysis was conducted to assess treat-ment effectiveness adjusted for relevant covariates, including age, sex, obesity, history of peptic ulcer, chronic kidney disease, and smoking sta-tus.

After adjustment, PPI+ScBQT was confirmed as the most effective option, with significantly higher odds of eradication compared to the other regimens. The adjusted odds ratios (AOR) [95% confidence intervals] were: 0.15 [0.13-0.19] compared to PPI+C+M; 0.23 [0.21-0.24] compared to PPI+C+A; and 0.72 [0.66-0.79] compared to PPI+C+A+M.

**Conclusion:** In the Primary Care setting, single-capsule bismuth quadruple therapy showed the highest effectiveness, followed by non-bismuth concomitant quadruple therapy (PPI+C+A+M). These results were consistent with those reported in the Gastroenterology setting.

**Disclosure:** Javier P. Gisbert has served as speaker, consultant, and advisory member for or has received research funding from: Mayoly, Allergan/ Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

## **MP507**

EFFECTIVENESS OF REPEATED USE OF AMOXICILLIN—CLARITHROMYCIN TRIPLE THERAPY AND BISMUTH QUADRUPLE THERAPY AFTER PRIOR FAILURE: PRELIMINARY RESULTS FROM THE EUROPEAN REGISTRY ON HELICOBACTER PYLORI MANAGEMENT (HP-EUREG)

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**Introduction:** After an initial attempt to eradicate *Helicobacter pylori* (*Hp*), around 20% of patients remain infected. As treatment failures accumulate, the effectiveness of subsequent *Hp* therapies tends to decrease. Therefore, current clinical guidelines discourage repeated use of the same treatment regimen following an initial failure.

**Aims & Methods:** To evaluate the use and effectiveness of the triple therapy with amoxicillin-clarithromycin and of the bismuth quadruple therapy (either classical and as single-capsule format) when empirically prescribed as retreatment, despite previous eradication failure with the same regimen.

All patients registered at e-CRF AEG-REDCap as part of the European Registry on *Hp* management (Hp-EuReg) from 2013-2024, who had received triple therapy with amoxicillin-clarithromycin or bismuth quadruple therapy (either classical or as single-capsule) in at least 2 different treatment lines (not necessarily consecutive), were analysed separately.

Results: Triple therapy with amoxicillin-clarithromycin: Out of 518 patients treated with triple therapy from 2<sup>nd</sup> to 6<sup>th</sup> rescue treatment line, 230 cases received the same therapy at least in 2 different treatment lines: 199 re-treatments in 2<sup>nd</sup> line having previously failed in 1<sup>st</sup> line with this therapy; 19 re-treatments in 3<sup>rd</sup> line (of which 9 had previously received the same therapy only in the 1<sup>st</sup> line and 10 had received the same therapy in both 1<sup>st</sup> and 2<sup>nd</sup> line); 4 in 4<sup>th</sup> line; 5 in 5<sup>th</sup> line; and further 3 in 6<sup>th</sup> line. The overall effectiveness of triple therapy with amoxicillin-clarithromycin when empirically prescribed repeatedly in 2<sup>nd</sup> line was 74%. When the effectiveness was subanalysed by treatment length, there were increasing efficacy rates according to it: 50% with 7 days, 72% with 10 days, and 82% with 14 days. The cases retreated in 3<sup>rd</sup> line had an overall effectiveness of 56%.

Bismuth quadruple classical therapy: Out of 672 patients treated with bismuth quadruple classical therapy from 2<sup>nd</sup> to 6<sup>th</sup> rescue treatment line, 13 cases received the same therapy at least in 2 different treatment lines: 6 re-treatments in 2<sup>nd</sup> line, having previously failed in 1<sup>st</sup> line; 2 re-treatments in 3<sup>rd</sup> line, both had previously received the same therapy in 2<sup>nd</sup> line; 2 in 4<sup>th</sup> line; 1 in 5<sup>th</sup> line; and further 2 in 6<sup>th</sup> line. The effectiveness of bismuth quadruple classical therapy when empirically prescribed repeatedly in the 2<sup>nd</sup> line was 69%, although the number of patients in this cohort was limited.

Bismuth quadruple therapy as single-capsule: Out of 2,579 patients treated with the single-capsule from  $2^{nd}$  to  $6^{th}$  rescue treatment line, 101 cases received the same therapy at least in 2 different treatment lines: 67 re-treatments in  $2^{nd}$  line having previously failed in  $1^{st}$  line with the single-capsule; 16 re-treatments in  $3^{rd}$  line, of which 12 had previously received this same therapy in  $2^{nd}$  line; 11 in  $4^{th}$  line; 4 in  $5^{th}$  line; and further 3 in  $6^{th}$  line. The effectiveness of bismuth quadruple therapy as single-capsule when empirically prescribed repeatedly in  $2^{nd}$  line was over 90%, and achieved almost 80% in all cases retreated in the  $3^{rd}$  line.

**Conclusion:** Repeated use of triple therapy with amoxicillin-clarithromycin in patients with prior eradication failures with the same regimen demonstrated notable success rates, particularly in 2<sup>nd</sup> line re-treatments lasting 14 days (>80%). On the other hand, bismuth quadruple therapy as single-capsule, when prescribed as re-treatment in 2<sup>nd</sup> line after previous failure with the same therapy, achieved optimal effectiveness (>90%).

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**Disclosure:** Olga P. Nyssen has served as a speaker or has received research funding from Allergan, Mayoly Spindler, Richen, Biocodex and Juvisé

Javier P. Gisbert has served as speaker, consultant, and advisory member for or has received research funding from Mayoly, Allergan/Abbvie, Diasorin, Richen, Juvisé, Biocodex.

The remaining authors declare no conflicts of interest.

# **MP508**

THE NEED TO OPTIMISE HELICOBACTER PYLORI MANAGEMENT IN THE UK – RESULTS FROM 462 PATIENTS FROM THE EUROPEAN REGISTRY ON H. PYLORI MANAGEMENT (HP-EUREG)

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**Introduction:** Although national guidance on the management of *Helicobacter pylori* (*H. pylori*) infection in the UK is reviewed regularly, the recommendations on treatment and follow-up are not aligned with guidance in the rest of Europe. This is mainly due to the issue that there are no up to date data available on *H. pylori* prevalence or primary resistance to drugs usually used in eradication regimens.

Aims & Methods: Aim of this study was to analyse the current UK practice on *H. pylori* management to highlight areas that warrant improvement. UK data collected at AEG-REDCap e-CRF until January 2025 from the Euro-pean Registry on *H. pylori* management (Hp-EuReg) were analysed. Mod-ified intention-to-treat (mITT) and per protocol (PP) analyses were per-formed and the Fisher's exact test was used for comparison of categorical data (significance for p<0.05).

**Results:** Data on 462 patients from 3 different centres across the UK was analysed. The mean age of the patients was 55 years (SD 16 years). The indication to test for *H. pylori* was non-investigated dyspepsia in 47%, dyspepsia with normal endoscopy in 21%, iron deficiency anaemia in 10%, duodenal ulcer in 9.7%, gastric ulcer in 6.9%, and gastric preneoplastic conditions in 1.3%. Of the 257 patients for whom data on regular concurrent medication was available, 222 (87%) took proton pump inhibitors (PPI) daily. Standard triple therapy regimens were given in 97.6% with 90.9% of these having undergone a 7-day regimen, 1.7% a 10-day regimen

and 7.4% a 14-day regimen. Most commonly prescribed regimens were amoxicillin-clarithromycin-PPI (75.5%), amoxicillin-metronidazole-PPI (11.1%) and clarithromycin-metronidazole-PPI (9.1%). In the majority of cases, PPI was prescribed at low dose (76%); standard dose was giv-en in 21%, and high dose in 3% of patients. The incidence of at least one adverse event due to treatment was reported in 31% of cases. Tests to confirm eradication success were done in 85% of patients, with practice varying between the different sites (p<0.001).

This was also confirmed for the length of prescribed treatment (p<0.001) and the PPI dose used (p<0.001). Eradication was successful in 71% in the mITT analysis, and in 71% of the PP analysis. Patients treated for 7 days showed treatment success in 70% in the mITT analysis, and 69.4% in the PP analysis, compared to 93% (both mITT and PP) in those treated for 14 days (p<0.01). Adverse events were associated with reduced eradication treatment success (mITT: 62 vs 76%; PP: 63 vs 76%; p<0.01).

The effect was more pronounced for compliance, with only 5 patients having reported not to have completed >90% of their course of treatment (PP: 29% vs 80%, p<0.05). Second-line treatment was documented for 109 patients, with 20 different regimens having been prescribed. The overall mITT success of second-line treatment was 48.5%.

Conclusion: Clarithromycin-based triple therapy remains the standard in the UK, despite a treatment failure of ≈30%. While adherence to national British or European guidelines on treatment duration and PPI dosage varies by centre, this does not uniformly affect treatment success. Despite British guidance advocating to assess treatment success based on symptom response, eradication was confirmed in the majority of patients.

A review of national guidance on *H. pylori* management in the UK is required, along with efforts to generate national data on prevalence and resistance patterns.

**Disclosure:** JB: Advisory fee by Flynn Pharma LTD UK and Juvise Pharmaceuticals France

OPN: Speaker fee or research funding from Allergan, Mayoly Spindler, Richen, Biocodex and Juvisé.

JPG: Speaker or consultancy fees, advisory board member or research funding form Mayoly, Allergan/Abbvie, Diasorin, Richen, Juvisé, Biocodex. IB, MCS, ACC, PP, LM, FM, COM, and PP have no conflict of interest to declare.

## **MP509**

IMPACT OF DRUG DOSAGES ON THE EFFECTIVENESS OF FIRST-LINE BISMUTH QUADRUPLE THERAPY: RESULTS FROM 11,000 PATIENTS FROM THE EUROPEAN REGISTRY ON HELICOBACTER PYLORI MANAGEMENT (HP-EUREG)

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**Introduction:** There is limited evidence regarding how the dosage of each individual drug affects the effectiveness of the different first-line bis-muth-based quadruple therapy regimens.

Aims & Methods: To analyse the effectiveness of first-line bismuth quadruple regimens according to the dosage of the different drugs used. Prospective, non-interventional registry of the clinical practice of European gastroenterologists on the management of *H. pylori* infection (Hp-EuReg) between 2013 and 2024. Only first-line bismuth quadruple regimens with more than 100 cases were included, and effectiveness was analysed by modified intention-to-treat (mITT) based on the different dosages.

Results: A total of 10,767 first-line records were analysed (Table 1). The clarithromycin-amoxicillin-bismuth (CAB) quadruple regimen showed effectiveness >90% regardless of the daily dose of bismuth, using A and C at standard doses. The tetracycline-metronidazole-bismuth (TMB) quadruple regimen achieved effectiveness >90% with T doses of at least 1,500 mg/day, M 1,500 mg/day, and bismuth at least 480 mg/day, with no improvement seen when the bismuth dose was increased further. The amoxicillin-metronidazole-bismuth (AMB) quadruple regimen showed mITT >90% with A at 2,000 mg/day, M at least 1,000 mg/day, and bismuth at 480 mg/day, without relevant improvement when increasing the M dose. The clarithromycin-metronidazole-bismuth (CMB) regimen showed mITT ≥90% with M doses of 800 mg/day or higher, C 1,000 mg/day, and bismuth 480 mg/day, with no improvement seen with higher daily doses of bismuth. In the amoxicillin-levofloxacin-bismuth (ALB) quadruple therapy,

mITT was >90% across all regimens, with no differences observed when increasing the L dose above 500 mg/day. The rest of the regimens studied did not reach mITT >90%.

-			
Scheme (N)	Dose of antibiotic/bismuth per	mITT	
Dosage description [n (%)]	intake (mg)/number of intakes (total daily dose in mg/day)	success n (%)	p-value
CAB (N= 7.471)	Bi 120 mg/2 times (240 mg/day)	113 (95.8)	
- (	Bi 120 mg/3 times (360 mg/day)	411 (99.0)	
7,439 (99.6%) C 1,000 mg/day	Bi 120 mg/4 times (480 mg/day)	706 (95.4)	< 0.001
7,416 (99.3%) A 2,000 mg/day	Bi 240 mg/2 times (480 mg/day)	4.517 (92.7)	
	Bi 240 mg/3 times (720 mg/day)	129 (100.0)	
TMB (N= 963)			
227 (23.6%) M 1,500 mg/day	Bi 420 mg/4 times (1,680 mg/day)	109 (92.4)	
and T 1,500 mg	3 3 3 ( ,,,,,	,	
	Bi 240 mg/2 times (480 mg/day)	90 (94.7)	
511 (53.1%) M 1,500 mg/day	Bi 120 mg/4 times (480 mg/day)	254 (93.0)	< 0.001
and T 2,000 mg/day	Bi 262 mg/4 times (1.048 mg/day)	69 (77.5)	
ABJ (N= 712)*			
704 (98.9%) Bi 480 mg/día		612 (88 3%)	
696 (97.8%) J 2,000 mg/día		612 (88.3%)	-
710 (99.7%) A 2,000 mg/día			
AMB (N= 609)			
	Bi 240 mg/2 times (480 mg/day)	52 (85.2)	0.093ª
383 (62.3%) A 2,000 mg/day and M 1,000 mg/day	Bi 120 mg/4 times (480 mg/day)	32 (97.0)	
	Bi 240 mg/2 times (480 mg/day)	66 (88.0)	0.038
161 (26.4%) A 2,000 mg/day and		68 (97.1)	
M 1,500 mg/day	3 ( 3 )	, ,	
CMB (N= 504)			
188 (37.3%) C 1,000 mg/day	Bi 240 mg/2 times (480 mg/day)	93 (94.9)	-
and M 800 mg/day	3 ( 37	,	
	Bi 120 mg/3 times (360 mg/day)	52 (92.9)	1.000a
183 (36.3%) C 1,000 mg/day	Bi 240 mg/2 times + 120 mg/4	80 (89.9)	1.000
and M 1,000 mg/day	times (480 mg/day)**	00 (03.3)	
	Bi 240 mg/2 times + 120 mg/4	84 (94.4)	-
93 (18.5%) C 1,000 mg/day and	times (480 mg/day)**		
M 1,200 mg/day	times (400 mg/day)		
ALB (N= 310)	L 500 mg/day (Bi 240 mg/2	73 (92,4)	
	times (480 mg/day) in 129 cases		
299 (96.5%) A 2,000 mg/day	[90.2%])		0.572***
	1 1 000 mm/day/Di 400 mm/day/in	128 (94.1)	
	L 1,000 mg/day (Bi 480 mg/day in 137 cases [84%])		
MDB (N= 101)			
, ,	M 500 mg/2 times + 250 mg/4	38 (84.4)	
91 (90.1%) D 200 mg/day	times (1,000 mg/day)		0.006
90 (89%) Bi 480 mg/day		11 (52.4)	
	M 500 mg/3 times + 250 mg/6		
BAT (N= 97)	times (1,500 mg/day)		
(ii vi)			
93 (95.9%) A 2,000 mg/day	Bi 120 mg/4 times	14 (77.8)	0.479 <sup>a</sup>
81 (84%) T 2,000 mg/day	Bi 300 mg/4 times	58 (85.3)	

**Conclusion:** Several first-line bismuth quadruple regimens (CAB, TMB, AMB, CMB, and ALB) are highly effective (>90%) in clinical practice in Europe. Increasing the daily dose of bismuth above 480 mg did not yield additional benefit, supporting the use of standard bismuth dosages in routine management.

**Disclosure:** Dr. Javier P. Gisbert has served as a speaker, a consultant and advisory member for or has received research funding from Mayoly, Allergan, Diasorin, Biocodex, Juvisé and Richen. Dr. Olga P. Nyssen has served as a speaker or has received research funding from Mayoly, Allergan, Diasorin, Biocodex, Juvisé and Richen. Dr. Samuel J. Martínez-Domínguez has served as a speaker for Juvisé. Dr. Ángel Lanas has served as a speaker for Juvisé. The remaining authors declare no conflicts of interest.

## **MP510**

PRESCRIPTIONS AND EFFECTIVENESS OF ALTERNATIVE AND INFREQUENT HELICOBACTER PYLORI ERADICATION REGIMENS: INSIGHTS FROM THE EUROPEAN REGISTRY ON H. PYLORI MANAGEMENT (HP-EUREG)

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**Introduction:** Despite the availability of clinical guidelines, a wide range of alternative *Helicobacter pylori (H. pylori)* eradication regimens continue to be used in routine clinical practice. Data on the frequency and effectiveness of these less frequently prescribed regimens remain limited.

**Aims & Methods: Aim:** To evaluate the prescription patterns and effectiveness of less frequently prescribed eradication regimens within the European Registry on *Helicobacter pylori* Management (Hp-EuReg).

**Methods:** International, multicentre, prospective, non-interventional registry on the management of *H. pylori* infection, ongoing since 2013. For this analysis, treatment regimens prescribed in fewer than 5% of all cases were classified as ,less frequently prescribed'. Additionally, therapies not previously categorized in the registry database were also included. Treatment effectiveness was assessed using modified intention-to-treat (mITT) and per-protocol (PP) analyses.

**Results:** Overall, 260 less frequently prescribed regimens were identified, representing 5.5% of all recorded prescriptions (82,510). A total of 2,853 (63%) of these regimens were used as first-line therapy. Among these less

frequently prescribed regimens, the most frequently used first-line treatments encompassed bismuth-containing quadruple therapy with PPIclarithromycin-metronidazole-bismuth (20%), followed by non-bismuth hybrid quadruple therapy with clarithromycin-amoxicillin-metronidazole (9.5%), and dual therapy with PPI-amoxicillin (8.6%). In second-line, the most common regimens were triple therapies, such as the PPI-amoxicillin-moxifloxacin (16%), PPI-clarithromycin-levofloxacin (11%), and PPI-metronidazole-levofloxacin (9.5%). In third-line, the most frequently used regimes were bismuth-based quadruple regimens including PPImetronidazole-doxycycline-bismuth (27%), followed by triple therapies with PPI-clarithromycin-levofloxacin (6.8%) and PPI-amoxicillin-moxifloxacin (5.6%). In the fourth-line, the most frequent prescriptions were: bismuth-based quadruple therapies including PPI-amoxicillin-rifabutin-bismuth (30%) and PPI-metronidazole-doxycycline-bismuth (11%). Finally, the fifth treatment-line accounted for some less common treatments, such as the dual therapy with PPI-amoxicillin (19%) and the triple therapy with PPI-amoxicillin-bismuth (18%). Effectiveness and frequency of use in first-, second- and third-line of treatment are described in Table 1. Antibiotic-free regimens such as the combination of a PPI with a probiotic —generally Lactobacillus bulgaricus or Lactobacillus reuteri—were prescribed as alternative therapeutic approaches in 104 cases (2.3%), achieving 74% mITT and 76% PP overall effectiveness.

		Frequency, n (%)	Effectiveness mITT	Effectiveness PP
	Quadruple-PPI+C+M+B	597 (13.2)	90.4%	90.7%
Overall	Dual-PPI+A	339 (7.5)	70.8%	70.8%
	Quadruple-PPI+M+D+B	309 (6.8)	67.1%	67.7%
	Quadruple-PPI+C+M+B	580 (20.3)	90.2%	90.5%
First-line	Hybrid-PPI+C+A+M	270 (9.5)	94.2%	94.2%
	Dual-PPI+A	244 (8.6)	76.1%	76.1%
	Triple-PPI+A+Mx	153 (15.8)	91.8%	91.8%
Second-line	Triple-PPI+C+L	104 (10.7)	76.9%	76.7%
	Triple-PPI+M+L	92 (9.5)	75%	75%
	Quadruple-PPI+M+D+B	106 (26.8)	62.7%	63.3%
Third-line	Triple-PPI+C+L	27 (6.8)	52%	50%
	Triple-PPI+A+Mx	22 (5.6)	63.3%	63.3%
Antibiotic	PPI+Lactobacillus bulgaricus	55 (52.8)	87.3%	87.3%
free- regimens	PPI+Lactobacillus reuteri	22 (21.15)	40%	40.9%

n, number of patients receiving a prescription; C, clarithromycin; M, metronidazole; B, bismuth; A, amoxicillin; D, doxycycline; L, levofloxacin; Mx, moxifloxacin; R, rifabutin; PPI, proton pump inhibitor; mITT, modified intention to treat; PP, per protocol.

Table 1. Frecuency of use and effectiveness of alternative and infrequent prescriptions in first-, second- and third-line treatments.

**Conclusion:** Among the various less frequently used *H. pylori* eradication regimens, only a few (such as the PPI-clarithromycin-metronidazole-bismuth regimen and the hybrid regimen including clarithromycin-amoxicillin-metronidazole) achieved first-line eradication rates above 90%. In subsequent treatment lines, effectiveness was highly variable and often suboptimal. These findings highlight the importance of evidence-based treatment selection to optimize treatment outcomes.

Disclosure: Conflict of interest statement

Olga P. Nyssen has served as a speaker or has received research funding from Allergan, Mayoly Spindler, Richen, Biocodex and Juvisé.

Javier P. Gisbert has served as speaker, consultant, and advisory member for or has received research funding from Mayoly, Allergan/Abbvie, Diasorin, Richen, Juvisé, Biocodex.

The remaining authors declare no conflicts of interest.

#### **MP511**

investigators.

EMPIRICAL SECOND-LINE TREATMENTS IN EUROPE: DATA FROM 9,000 CASES FROM THE EUROPEAN REGISTRY ON HELICOBACTER PYLORI MANAGEMENT (HP-EUREG)

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Monday, October 6, 2025

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**Contact E-Mail Address:** pablo.parra.hlp@gmail.com **Introduction:** After a first eradication attempt, a relevant proportion of patients fail to cure *Helicobacter pylori* infection.

Aims & Methods: To evaluate the effectiveness of second-line empirical treatment.

A systematic, prospective, registry of the clinical practice of European gastroenterologists (38 countries) on *H. pylori* management was established (Hp-EuReg, Hp-WorldReg's partner).

All infected adult patients were systematically registered at AEG-REDCap e-CRF until January 2025. Modified intention-to-treat (mITT) and per-protocol (PP) analyses were performed.

**Results:** Overall, 8,901 patients received a second-line empirical therapy. Mean age was 51 years, 67% were women, and 4.7% had penicillin allergy. Most frequent treatment indications were dyspepsia (74%) and gastroduodenal ulcer (13%). Overall effectiveness was 82% (both by mITT and PP). Overall, 96.5% of patients were compliant. Adverse events were reported in 19% of the cases, most of them mild. The overall effectiveness of most frequent empirical second-line treatments is shown in Table 1. showing that uniquely bismuth quadruple therapies, either with metronidazole-tetracycline or clarithromycin-amoxicillin, when prescribed for 14 days and with high-dose PPIs provided over 90% success rates. After failure of first-line clarithromycin-containing therapy, the most effective second-line treatments were triple therapy with amoxicillin and either rifabutin or levofloxacin providing 85% and 80% effectiveness, respectively. Additionally, bismuth quadruple therapy with regimens containing tetracycline-metronidazole in single-capsule and classical formulation, with clarithromycin-amoxicillin and with levofloxacin-amoxicillin achieved 87%, 84%, 88% and 85% cure rates, respectively. Within the same subgroup but in patients receiving optimised therapy —defined as a 14-day course with standard or high-dose PPIs at >40mg omeprazole equivalent twice daily —, certain regimens yielded even higher cure rates. Among these, triple therapy with amoxicillin-levofloxacin obtained 87% success rate, while non-bismuth concomitant therapy with amoxicillin-clarithromycin-metronidazole reached 86%. Bismuth quadruple therapy with either tetracycline-metronidazole (administered either as a single capsule or in the classical prescription) reported 89% success; but with amoxicillin-metronidazole or clarithromycin-amoxicillin highest effectiveness was reported, that is, 91% and 92%, respectively. After failure of bismuth quadruple therapy either in the classical format or when prescribed as the single-capsule, bismuth quadruple therapy with clarithromycin-amoxicillin achieved 95.5% and 95% cure rates, respectively; whereas, the single capsule obtained 93% and 89%, respectively.

Treatment	N	Use (%)	mITT, N (%)	(95% CI)	PP, N (%)	(95% CI)
Triple-A+L	2,100	24	1,853 (79%)	(78-81)	1,831 (80%)	(78-82)
Single-capsule*	1,850	21	1,721 (87%)	(85-89)	1,684 (88%)	(86-89)
Quadruple-A+L+B	1,271	14	1,022 (86%)	(83-88)	1,002 (86%)	(84-88)
Quadruple-C+A+M	553	6.2	527 (81%)	(78-85)	514 (82%)	(79-86)
Quadruple-M+Tc+B	480	5.4	426 (84%)**	(80-88)	407 (86%)	(82-89)
Triple-C+A	436	4.9	344 (74%)	(69-79)	338 (74%)	(69-79)
Quadruple-C+A+B	390	4.4	267 (89%)**	(85-93)	257 (89%)	(86-93)
Triple-A+R	218	2.4	195 (82%)	(76-87)	193 (82%)	(76-88)
Triple-A+M	204	2.3	178 (57%)	(50-65)	177 (58%)	(50-65)
Other	1,229	14	NA	NA	NA	NA
Overall	8,731	100	7,601 (82%)	(81-83)	7,451 (82%)	(81-83)
Overall (optimised conditions)	1,913	22	1,641 (87%)	(85-89)	1,604 (87%)	(86-89)
East	1,404	16	1,147 (83%)	(81-86)	1,111 (84%)	(81-86)
East-Centre	1,645	18	1,158 (85%)	(83-87)	1,145 (85%)	(83-87)
South-West	4,046	45	3,834 (81%)	(80-83)	3,756 (82%)	(81-83)
West-Centre	1,163	13	1,043 (84%)	(82-86)	1,028 (84%)	(82-87)
North	643	7.2	566 (70%)	(66-74)	548 (72%)	(68-75)
Total	8,901	100	7,748 (82%)	(81-83)	7,588 (82%)	(81-83)

95% CI –confidence interval; mITT: modified intention-to-treat; PP: per-protocol, N: total number of patients analysed; C – clarithromycin; M – metronidazole; A – amoxicillin; L – levofloxacin; B – bismuth salts; Tc – tetracycline; R – rifabutin; Other – Other second-line empirical treatments with less than 150 patients treated in each category; East – Ukraine, Serbia, Bulgaria, Turkey, Russia, Romania, Albania, North Macedonia, Bosnia and Herzegovina, Kosovo, Moldova, Montenegro; East-Centre – Croatia, Poland, Hungary, Latvia, Lithuania Greece, Slovenia, Czech Rep, Azerbaijan, Slovakia, Malta, Armenia; South-West – Portugal, Spain; West-Centre – France, Austria, Belgium, Germany, Italy; North – The United Kingdom, Finland, The Vetherlands, Ireland, Israel, Norway, Switzerland, Sweden, Denmark; \*three-in-one single-capsule containing tetracycline, metronidazole and bismuth; \*\*achieved over 90% effectiveness when optimised (high-dose PPIs and 14-days).

Table 1. Second-line empirical treatment prescriptions and effectiveness by treatment scheme and geographical region.

Monday, October 6, 2025

Conclusion: In Europe, empirical second-line treatment overall effectiveness is generally suboptimal (<90%); however, successful results were obtained with bismuth quadruple therapies, either with tetracycline-metronidazole or clarithromycin-amoxicillin, when prescribed for 14 days and with high-dose PPIs. Optimization of regimen selection, treatment duration, and PPI dosing is necessary after first-line therapy failure.

**Disclosure:** Javier P. Gisbert has served as speaker, consultant, and advisory member for or has received research funding from: Mayoly, Allergan/Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

#### **MP513**

EMPIRICAL ERADICATION THERAPY FOR HELICOBACTER PYLORI INFECTION IN SECOND AND SUBSEQUENT TREATMENT LINES: EXPERIENCE FROM 500 CASES OF THE BRAZILIAN REGISTRY ON H. PYLORI MANAGEMENT (HP-BRAZILREG)

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**Introduction:** The effectiveness of anti-Helicobacter pylori treatment decreases as therapy failure accumulates. Different consensuses recommend knowing the regional performance of therapeutic regimens to achieve better eradication results in real clinical practice.

**Aims & Methods:** To evaluate the effectiveness of empirical therapy in second and subsequent treatment lines in Brazil.

Real-life, multicenter, prospective, non-interventional registry evaluating outcomes of *H. pylori* management by Brazilian gastroenterologists (Hp-BrazilReg, WorldHpReg's partner). Data were registered at e-CRF AEG-RedCap from March 2022 to October 2024. The effectiveness was evaluated by modified intention-to-treat (mITT) analysis. Data were subject to quality review.

**Results:** 572 patients, with a mean age of 52 years, 64% women, were evaluated. The main treatment indications were dyspepsia (64%) and gastroduodenal ulcer (9.2%). 386 (67%) patients received a second-line therapy, and 186 (32%) received third-line or subsequent therapy. Low-dose (between 4.5 and 27 mg of omeprazole equivalent BID), standard-dose (between 32 and 40 mg of omeprazole equivalent BID), and high-dose (between 54 and 128 mg of omeprazole BID) proton pump inhibitor (PPIs) were used in 40%, 10%, and 24%, respectively. Vonoprazan (VPZ) 20 mg BID, was used in 26% of cases. With the second-line treatment, the overall eradication rate was 74%. The most frequently used regimen was the triple therapy with PPI+amoxicillin+levofloxacin for 10-14 days, in 55% of the patients. This regimen, recommended as an alternative by the Brazilian Consensus, achieved an eradication rate of 84% (14 days) and 55% (10 days). By adding bismuth to this same 14-day regimen the effectiveness increased to 100% (p=0.016). Regarding the third-line, the regimen containing PPI-bismuth-tetracycline-metronidazole was used in 24% of the cases, achieving 87% mITT cure rate. Within the fourth-line, dual therapy including amoxicillin-VPZ was the most common regimen (33%), achieving 100% eradication, followed by bismuth quadruple therapy with PPI+bismuth+amoxicillin+rifabutin (14%), showing 100% effectiveness. Dual therapy with VPZ+amoxicillin was also the most used regimen in the fifth-line and subsequent treatment lines, encompassing 43% of the cases, and achieving also 100% effectiveness. Overall, 23% of the patients presented mild adverse events being nausea the most frequent (14%), and compliance was 99%.

**Conclusion:** In Brazil, the overall effectiveness of second-line therapy showed suboptimal (≤90%) cure rate; however, the combination of bismuth-amoxicillin-levofloxacin prescribed for 14 days reported successful effectiveness. In the third-line, the classical bismuth-quadruple therapy

with metronidazole-tetracycline provided encouraging results (87%). Alternatively, dual therapy with VPZ and amoxicillin and rifabutin-based bismuth quadruple therapy showed promising results in third- and fifth-line rescue treatment.

Disclosure: Nothing to disclose.

## **MP514**

HELICOBACTER PYLORI ERADICATION PRESCRIPTIONS IN PRIMARY CARE: INSIGHTS FROM OVER 200,000 PATIENTS IN A NATIONAL REAL-WORLD COHORT

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**Introduction:** *Helicobacter pylori* (*H. pylori*) is the most widespread infection globally and the main cause of chronic gastritis, peptic ulcer disease, and gastric cancer. Its eradication is primarily managed in primary care. Assessing real-world clinical management practices of *H. pylori* infection and their adherence to clinical guidelines is essential to inform and optimize treatment strategies.

Aims & Methods: To assess the current *H. pylori* management strategies followed in Primary Care, we conducted an epidemiological cohort study using data from BIFAP, a Spanish healthcare database containing real-world data on the clinical practice of Primary Care physicians.

Patients aged ≥18 years with a recorded *H. pylori* infection between January 1, 2003, and June 30, 2023, and a prescription for infection treatment were selected. Two algorithms were developed: one to identify potential cases of *H. pylori* infection, based on ICD-9/10, and SNOMED CT codes, supplemented by clue words; and another to detect prescribed treatment patterns, constructed from guideline-based recommendations compiled from Spanish and European Consensus Conferences between 1997 and 2022, encompassing 19 possible combinations. A validation process was conducted to confirm the accuracy of infection records through manual review of a random sample of electronic health records. Treatment prescriptions were validated based on active ingredients recorded.

We analysed the treatment prevalence stratified by clinical and demographic factors. Continuous and categorical variables were summarized using medians and proportions, respectively. First-line treatments were compared with those of the European Registry on *H. pylori* Management (Hp-EuReg) to contrast Primary and Specialised (that is, gastroenterologists) Care, respectively.

**Results:** A total of 211,972 subjects were identified with a *H. pylori* infection record and, at least, one of the possible treatment patterns. The median age at infection diagnosis was 55 years (IQR, 44-66), with women representing 65%. The most frequent first-line treatments included: proton pump inhibitor (PPI) plus a single-capsule containing bismuth, tetracycline and metronidazole (Pylera®) (PPI+ScBQT) with 36% of cases; PPI, clarithromycin, amoxicillin (PPI+C+A) with 30%; and the combination PPI, clarithromycin, amoxicillin, metronidazole (PPI+C+A+M), with 26%. The most commonly used first-line combination among individuals aged 18-

64 years was PPI+ScBQT, as well as in those with a recorded diagnosis of obesity, chronic kidney disease, and in current smokers. However, among individuals aged ≥65 years, as well as in those with a recorded diagnosis of peptic ulcer, the most frequent first-line treatment was PPI+C+A. Comparison between Specialised and Primary Care showed that, since 2013, the use of PPI+C+A by Gastroenterologists has decreased from 40% to less than 1% by 2023, with a similar trend observed in Primary Care, although it remains prescribed in over 10% of cases in 2023. The use of non-bismuth quadruple therapy (PPI+C+A+M) significantly increased since 2015, with a higher proportion in Specialised (40%) compared to Pri-mary Care (30%). ScBQT is currently the most widely prescribed regimen, accounting for approximately 60% of prescriptions in both settings.

**Conclusion:** *H. pylori* eradication treatments in Primary Care are heterogeneous, with single-capsule bismuth quadruple therapy being the most prescribed. The use of first-line treatment guidelines has generally aligned with Spanish and European recommendations, although their adoption in Primary Care has been slower than in Specialised Care.

**Disclosure:** Javier P. Gisbert has served as speaker, consultant, and advisory member for or has received research funding from: Mayoly, Allergan/Abbvie, Diasorin, Richen, Juvisé and Biocodex.

Olga P. Nyssen received research funding from: Mayoly, Allergan/Abbvie, Richen, Juvisé and Biocodex.

#### **MP734**

FACTORS ASSOCIATED WITH THE LACK OF FOLLOW-UP IN
HELICOBACTER PYLORI ERADICATION TREATMENT: RESULTS FROM THE
EUROPEAN REGISTRY ON H. PYLORI MANAGEMENT (HP-EUREG)

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**Introduction:** The Maastricht VI/Florence Consensus recommends eradication of all *Helicobacter pylori* (*Hp*) infections. However, retreatment strategies after therapeutic failure remain inconsistent.

**Aims & Methods:** To evaluate the reasons and associated factors for non-retreatment after a failure of *Hp* eradication treatment.

Systematic, prospective, multicenter, non-interventional registry of clinical practice by European gastroenterologists on the management of *Hp* infection (Hp-EuReg). Patients who failed eradication treatment between 2013-2024 and were registered in AEG-REDCap were analysed and categorised into two groups: retreatment (control group) and non-retreatment. Reasons for no retreatment were also classified according to either the medical or the patient perspective. Multivariate logistic regression was conducted to identify factors associated with no retreatment from both the patient and medical perspectives, each compared with the control group.

**Results:** Overall, 6,904 patients were evaluated; 950 (14%) were not retreated: 41% due to a medical decision, 50% due to a patient decision, and 9% due to other reasons. The most frequent reasons for no retreatment were: previous poor tolerance, unclear indication, multiple prior eradica-

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tion attempts, and previous non-compliance. From the medical perspective, factors significantly associated with no retreatment were: age  $\geq 71$  years (OR 1.49; 95% CI 1.04-2.13), previous non-compliance (OR 4.27; 95% CI 2.64-6.93), number of previous attempts (OR 2.07-9.25; 95% CI from 1.57-2.73 to 6.15-13.93) and previous treatment discontinuation due to adverse events (OR 2.06; 95% CI 1.19-3.56). From the patient perspective, the factors significantly associated with no retreatment included: being male (OR 1.34; 95% CI 1.10-1.63), having undergone two to four previous eradication attempts (OR 1.69-3.60; 95% CI from 1.16-2.44 to 1.75-7.41) and previous non-compliance (OR 10.04; 95% CI 7.37-13.68).

		No retreatment	P value	No retreatment	P value	No retreatment	P value
	Retreatment	Overall	OR (95% CI) if applicable	Medical perspective	OR (95% CI)	Patient perspective	OR (95% CI)
	N=5,954	N=950	.,,	N=393		N=474	.,,
Sex							
Male	2,100 (35.3%)	386 (40.6%)	0.000	147 (37.4%)	0.116	206 (43.5%)	0.004
Female	3,850 (64.7%)	564 (59.4%)	1.30 (1.12-1.50)	246 (62.6%)	-	268 (56.5%)	1.34 (1.10-1.63)
Age	5 455 (O4 CO()	054 (00 50()	0.045	050 (00 40)	0.000	400 (00 70()	0.282
18-70	5,455 (91.6%)	851 (89.5%)	0.015	350 (89.1%)	0.028	430 (90.7%)	0.202
> 70	475 (7.9%)	96 (10.1%)	1.35 (1.06-1.72)	40 (10.2%)	1.49 (1.04-2.13)	44 (9.3%)	
Number of							
previous			p < 0.05 in all		p < 0.05 in all		p < 0.05 only in
eradication							2-4 attempts
attempts							
One	1.054 (17.7%)	181 (19.1%)	1.57 (1.30-1.89)	82 (20.9%)	2.07 (1.57-2.73)	82 (17.3%)	-
Two	334 (5.6%)	105 (11.1%)	2.82 (2.21-3.61)	61 (15.5%)	4.89 (3.54-6.74)	26 (5.5%)	1.69 (1.16-2.44)
Three	115 (1.9%)	63 (6.6%)	5.05 (3.63-7.03)	39 (9.9%)	9.25 (6.15-13.93)	21 (4.4%)	2.91 (1.78-4.76)
Four	42 (0.7%)	27 (2.8%)	6.00 (3.61-9.96)	12 (3.1%)	7.84 (3.96-15.53)	10 (2.1%)	3.60 (1.75-7.41)
Five	28 (0.5%)	13 (1.4%)	4.04 (4.97-7.41)	5 (1.3%)	4.73 (1.75-12.77)	5 (1.1%)	-
Treatment	5,647 (94.8%)	739 (77.8%)	0.000	303 (77.1%)	0.000	358 (75.5%)	0.000
compliance*	(= 11010)	,,	6.07 (4.97-7.41)	()	4.27 (2.64-6.93)	( )	10.04 (7.37-13.6
Interruption			0.053		0.010		0.000
due to AE	183 (3.1%)	109 (11.5%)		68 (17.3%)	2.06 (1.19-3.56)	39 (8.2%)	0.34 (0.22-0.55