
Phathom
PHARMACEUTICALS
CHANGING THE LANDSCAPE IN GI
Going beyond to advance treatments for patients with acid-related disorders
CORPORATE OVERVIEW
June 2022

Safe harbor statement

This presentation contains forward-looking statements. All statements other than statements of historical facts contained in this presentation, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, timing and likelihood of success, plans and objectives of management for future operations, and future results of current and anticipated products, are forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplates,” “believes,” “estimates,” “predicts,” “potential” or “continue” or the negative of these terms or other similar expressions. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These risks, uncertainties and other factors include, without limitation: the inherent risks of clinical development of vonoprazan; our dependence on third parties in connection with product manufacturing, research and preclinical and clinical testing; regulatory developments in the United States and foreign countries; our ability to successfully launch and commercialize vonoprazan; unexpected adverse side effects or inadequate efficacy of vonoprazan that may limit its development, regulatory approval and/or commercialization, or may result in recalls or product liability claims; our QIDP designations may not actually lead to extended exclusivity; our ability to obtain and maintain intellectual property protection for vonoprazan; our ability to comply with our license agreement with Takeda; our ability to maintain undisrupted business operations due to the ongoing spread of the COVID-19 coronavirus, including delaying or otherwise disrupting its clinical trials, manufacturing and supply chain and launch and commercialization efforts; our ability to achieve and maintain adequate levels of coverage and reimbursement for vonoprazan; the availability of additional funds under our revenue interest financing agreement and term loan agreement, the sufficiency of our capital to fund our operations, and other risks described in our filings with the Securities and Exchange Commission (SEC), including our Annual Report on Form 10-K and any subsequent filings with the SEC. You are cautioned to place undue reliance on these forward-looking statements, which speak only as of the date hereof, and we undertake no obligation to revise or update this presentation to reflect events or circumstances after the date hereof. All forward-looking statements are qualified in their entirety by this cautionary statement, which is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions, and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

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Going Beyond

to advance treatments for patients with acid related disorders

HEADQUARTERS
Florham Park, NJ

FORMED IN 2019
Listed on NASDAQ: PHAT

FDA APPROVED PRODUCTS
VOQUEZNA™ Triple Pak™
VOQUEZNA™ Dual Pak™

Vonoprazan: First innovative therapy for acid-related disorders in more than 30 years

Approved in U.S. for ***H. pylori infection*** in adults;

Erosive Esophagitis (EE) **NDA** PDUFA action date Jan 11, 2023

US launch in ***H. pylori*** anticipated Q3 2022

EE launch planned for Q1 2023

Successful Ph 3 trials in ***H. pylori*** & **EE**

Positive Ph 2 trial in **non-erosive reflux disease (NERD)**

US / Europe / Canada rights licensed from **TAKEDA**

Approved in and marketed by Takeda in **16** **COUNTRIES** across Asia & Latin America

~$850M

Annual net sales in Japan.[1] Achieving market leadership of 43% sales-based market share

[1] US dollars based on conversion rate of 0.0090 dollars to one yen. Sales for the twelve-months ended Dec. 31, 2021

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Phathom pipeline: promising late-stage opportunities for unmet GI needs

	Target Indications	Phase 1[1]	Phase 2[1]	Phase 3	Milestones	Approved
H. pylori infection	**Vonoprazan + antibiotics** — VOQUEZNA TriplePak (vonoprazan tablets 20 mg | amoxicillin capsules 500 mg | clarithromycin tablets 500 mg); VOQUEZNA DualPak (vonoprazan tablets 20 mg | amoxicillin capsules 500 mg)			pHalcon hp	*U.S. launch anticipated Q3 2022*	☑ FDA Approved May 2022
GERD (Erosive)	**Vonoprazan** — Healing of Erosive Esophagitis (EE) and relief of heartburn; Maintenance of healing of EE and relief of heartburn			pHalcon ee	*Positive topline results* ***PDUFA action date Jan 11, 2023***	
GERD (Non-erosive)	**Vonoprazan (daily dosing)** — Daily dosing treatment of heartburn associated with NERD			pHalcon nerd continuous	*Trial initiated Feb 2022* ***Topline results expected 2023***	
GERD (Non-erosive)	**Vonoprazan (as needed)** — As-needed treatment of heartburn associated with Non-Erosive Reflux Disease (NERD)		pHalcon nerd on demand		*Positive Phase 2 topline results* ***Phase 3 trial design underway***	

Phathom has development and commercialization rights to vonoprazan in the United States, Europe, and Canada

[1]Phase 1 and 2 studies supporting application for healing of Erosive Esophagitis, maintenance of healing of Erosive Esophagitis, and *H. pylori* treatment conducted by Takeda

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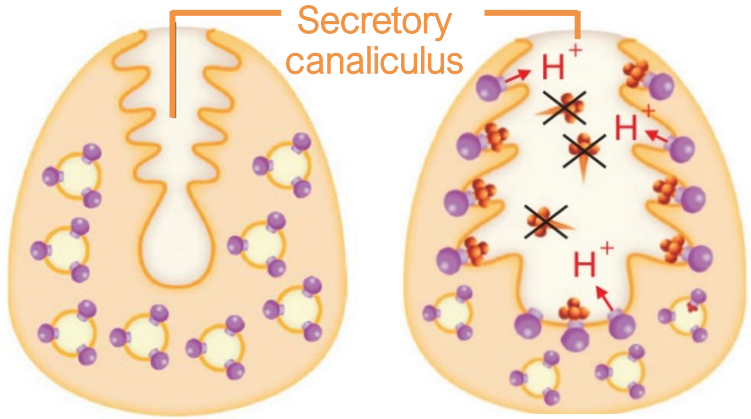
Mechanistic differences between PPIs and P-CABs

PPI: COVALENTLY BINDING PRODRUG

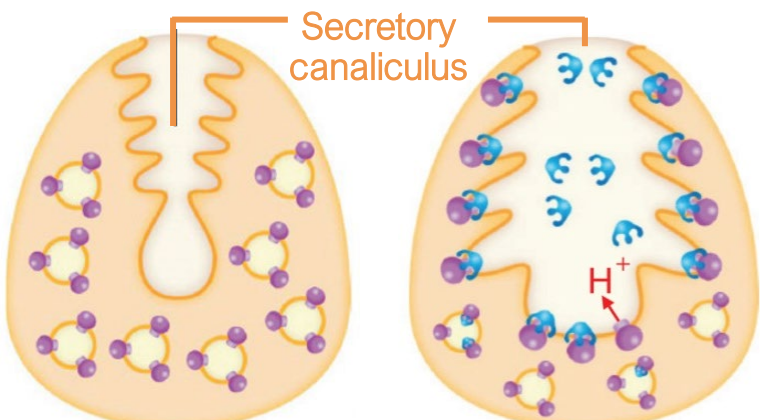


- Short plasma half-life
- Acid needed for activation but unstable in presence of acid
- Meal required to stimulate pumps

→

- ✗ **Slow** onset of action
- ✗ **Limited** potency
- ✗ **Limited** duration of activity

Vonoprazan: COMPETITIVE ENZYME INHIBITOR



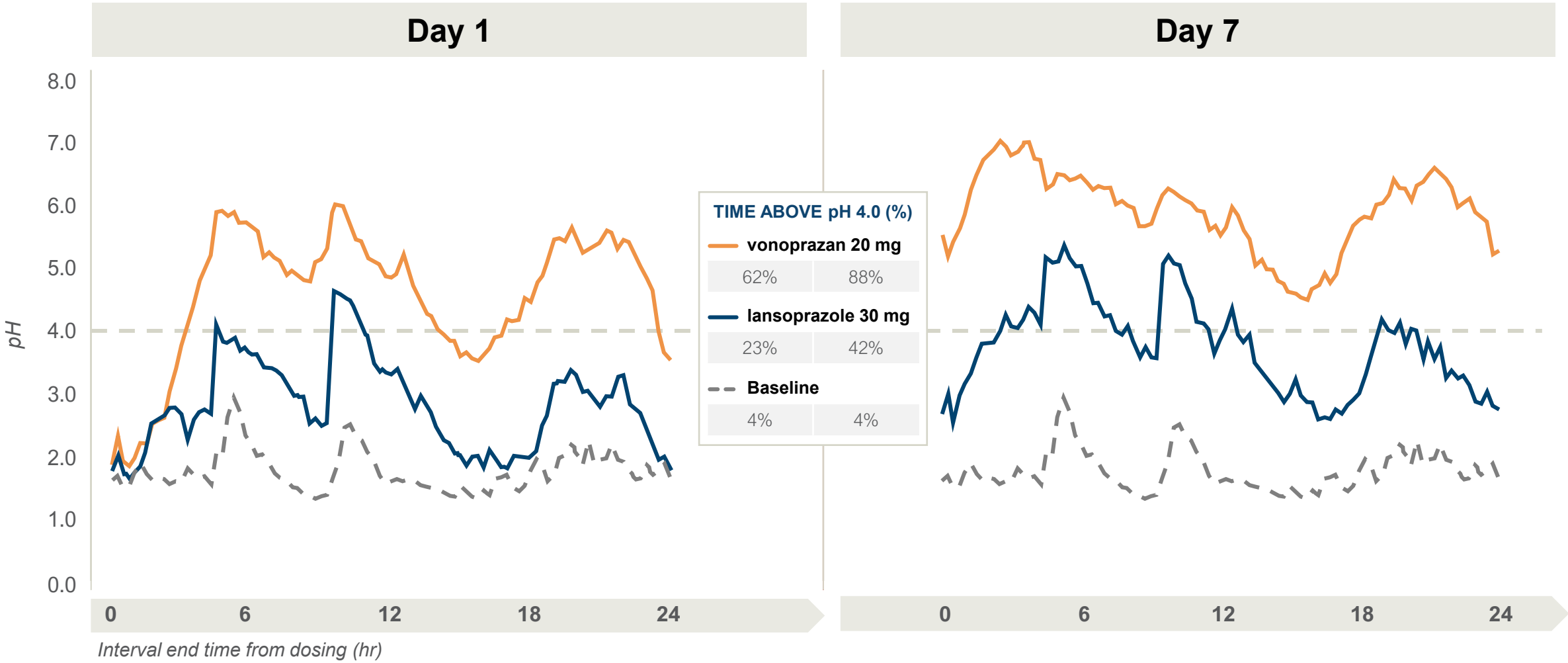
- Long plasma half-life
- Stable in acid
- High accumulation in canaliculus
- Very slow dissociation rate

→

- ✓ **Rapid** onset of action
- ✓ **Potent** acid control
- ✓ **Durable** 24-hr activity

Vonoprazan demonstrated improved acid control versus lansoprazole

VONO-103: Mean 0-24 hour gastric pH profiles



Mean gastric pH profiles for vonoprazan were higher than lansoprazole on both Days 1 and 7

Study evaluating the PK, PD, safety and tolerability of vonoprazan in comparison to lansoprazole in 41 healthy adult subjects

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Approved May 2022 – VOQUEZNA Triple Pak and Dual Pak

U.S. launch anticipated Q3 2022

[1] Important Safety Information and the full Prescribing Information available at http://www.phathompharma.com/wp-content/uploads/VOQUEZNA-TRIPLE-PAK-and-VOQUEZNA-DUAL-PAK-FDA-Final-Label-3.pdf

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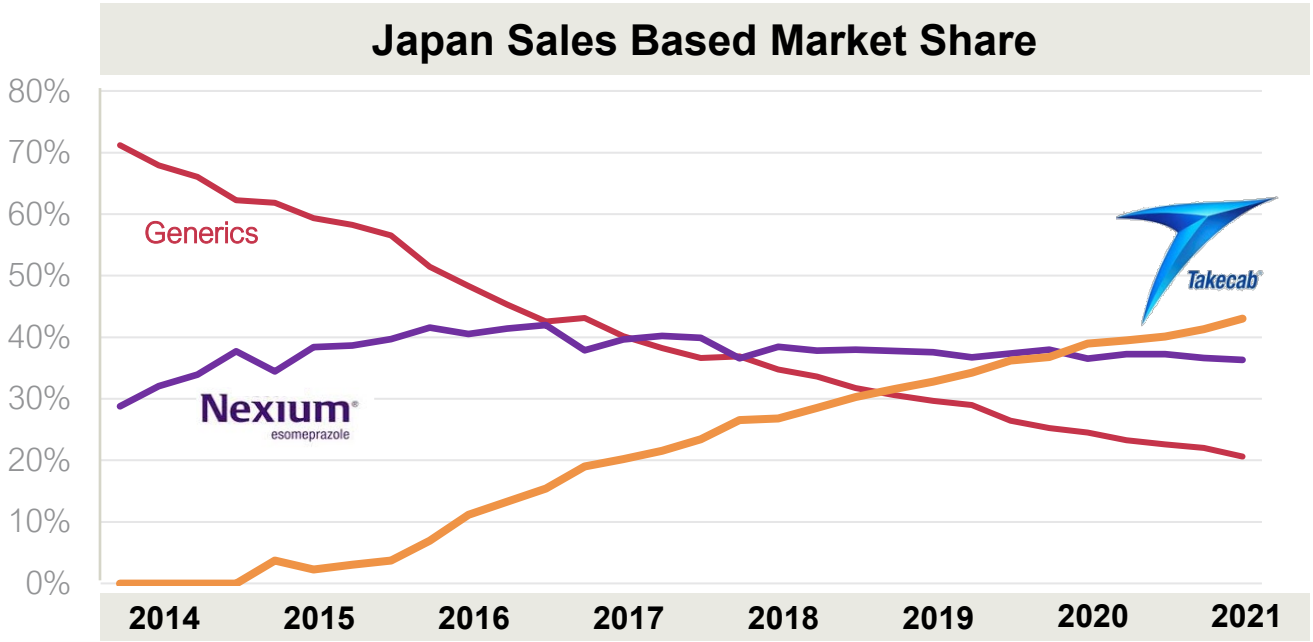
Vonoprazan has been highly successful in Japan

Current US market has similarities to the Japanese market at launch of Takecab (vonoprazan)



MARKET LEADER IN JAPAN

DOCUMENTED COST-EFFECTIVENESS

PREMIUM BRANDED PRICE

JAPAN EXPERIENCE

Vonoprazan has achieved ~$850M in annual net sales[1]

Driven predominantly by volumetric gains from generic competitors

Majority of vonoprazan sales are in GERD

[1]US dollars based on conversion rate of 0.0090 dollars to one yen. Sales for the twelve-month period, ended Dec. 31, 2021

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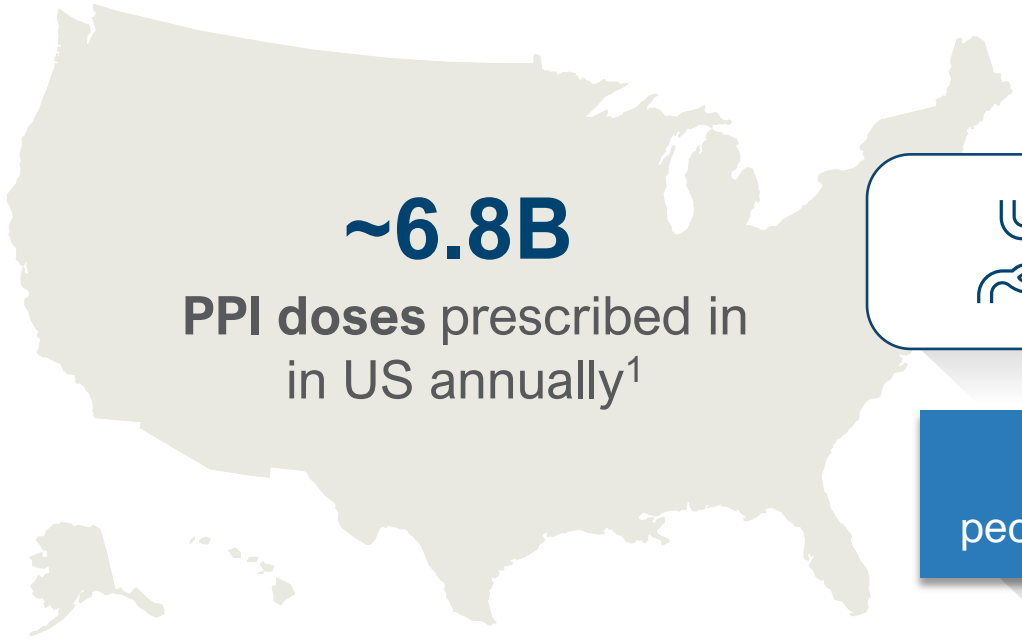
Acid related disorders represent a large U.S. market with high unmet need



~6.8B

PPI doses prescribed in in US annually[1]

~65M people in the US with GERD

~20M
people with EE

~45M
people with NERD

of EE & NERD
patients progress lines of therapy annually[2]

[1] For the 12 months ended October 31, 2020; IQVIA data
[2] Symphony APLD claims analyses

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Clinically meaningful results from PHALCON-EE study

PHALCON-EE outcomes expected to support submission of NDA with important indications

- Healing of EE and relief of heartburn
- Maintenance of EE healing and relief of heartburn

Superiority data provides clinical differentiation from lansoprazole, a proton pump inhibitor (PPI)

- Superior healing at 2 weeks in patients with moderate-to-severe disease[1]
- Superior maintenance of healing in all patients
- Superior maintenance of healing in patients with moderate-to-severe disease

[1]Healing rate in all patients was also numerically greater at week 2 but could not be formally tested based on pre-specified testing hierarchy

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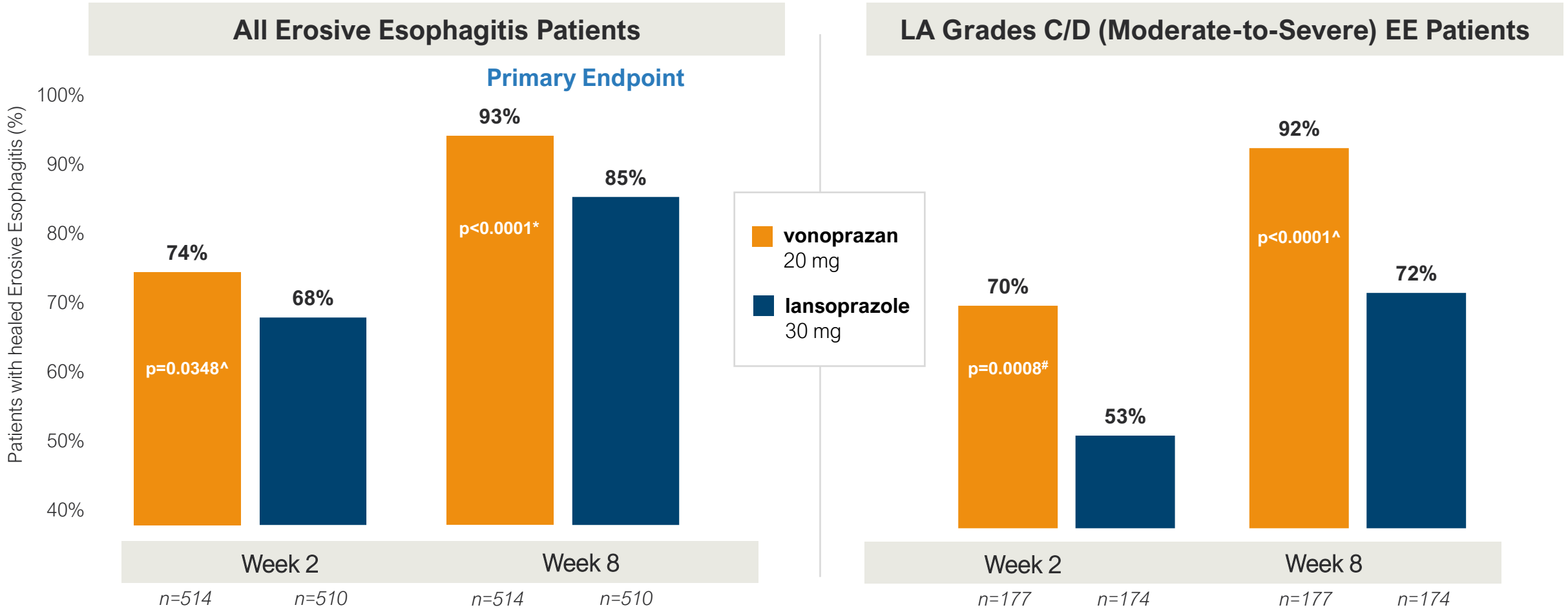
PHALCON-EE met primary and key secondary healing endpoints



^nominal p-value presented, superiority comparison, not formally tested based on pre-specified testing hierarchy
*p-value for both primary non-inferiority endpoint and unadjusted p-value for exploratory superiority comparison
#p-value for pre-specified secondary endpoint superiority comparison

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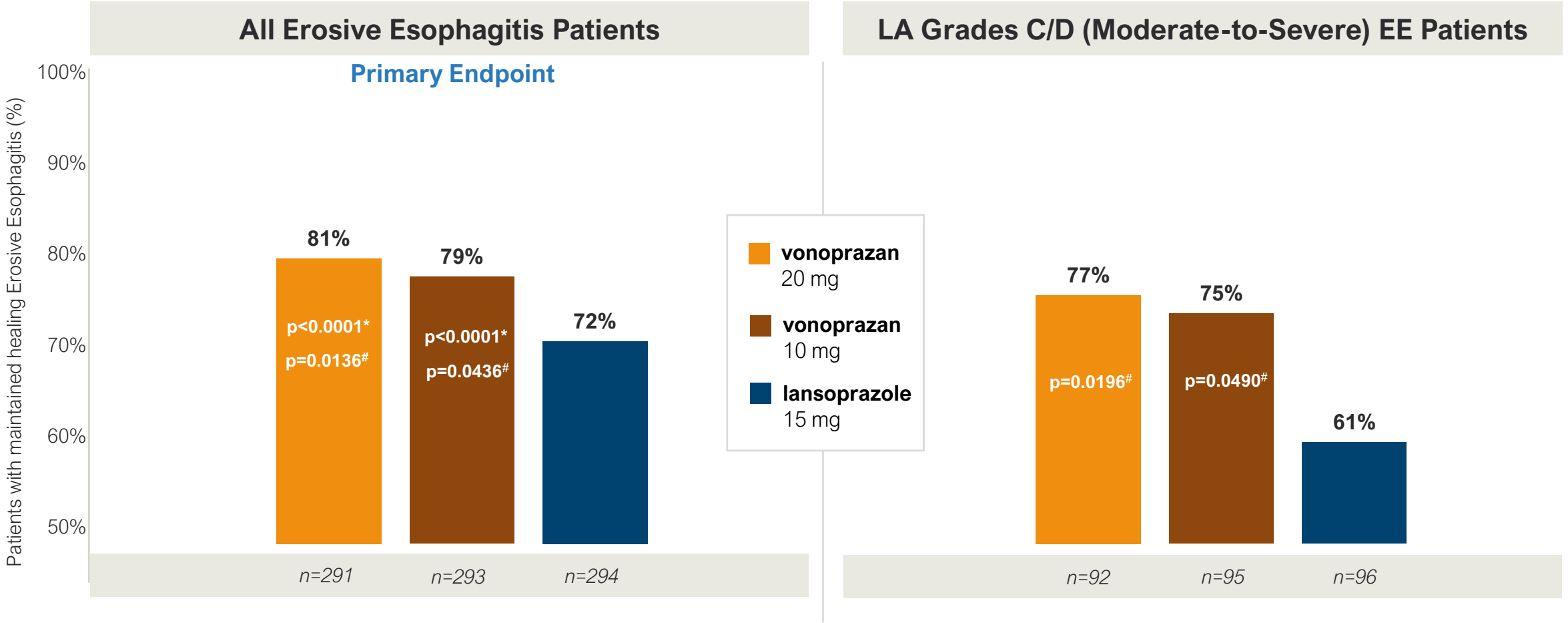
PHALCON-EE met primary and all maintenance of healing endpoints



*p-value for primary endpoint non-inferiority comparison
#p-value for pre-specified secondary endpoint superiority comparison

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Summary of PHALCON-EE & PHALCON-HP safety data

Overall, the safety results for vonoprazan observed in both pivotal PHALCON phase 3 trials were consistent with those observed in prior clinical studies

pHalcon ee
A research study for Erosive Esophagitis

Healing Phase

Most common adverse events

% (n)	Vonoprazan 20 mg	Lansoprazole 30 mg
Diarrhea	2.1% (11)	2.5% (13)

Maintenance Phase

Most common adverse events (≥ 5%)

% (n)	Vonoprazan 20 mg	Vonoprazan 10 mg	Lansoprazole 15 mg
Abdominal Pain	5.4% (16)	4.1% (12)	2.4% (7)
Gastritis	2.7% (8)	6.4% (19)	2.7% (8)
COVID-19	10.1% (30)	6.1% (18)	6.7% (20)

Both Phases

Serious adverse events (>1 patient)

	Vonoprazan 20 mg	Vonoprazan 10 mg	Lansoprazole 15 mg
COVID-19* (n)	5	2	0

pHalcon hp
A research study for H. pylori infection

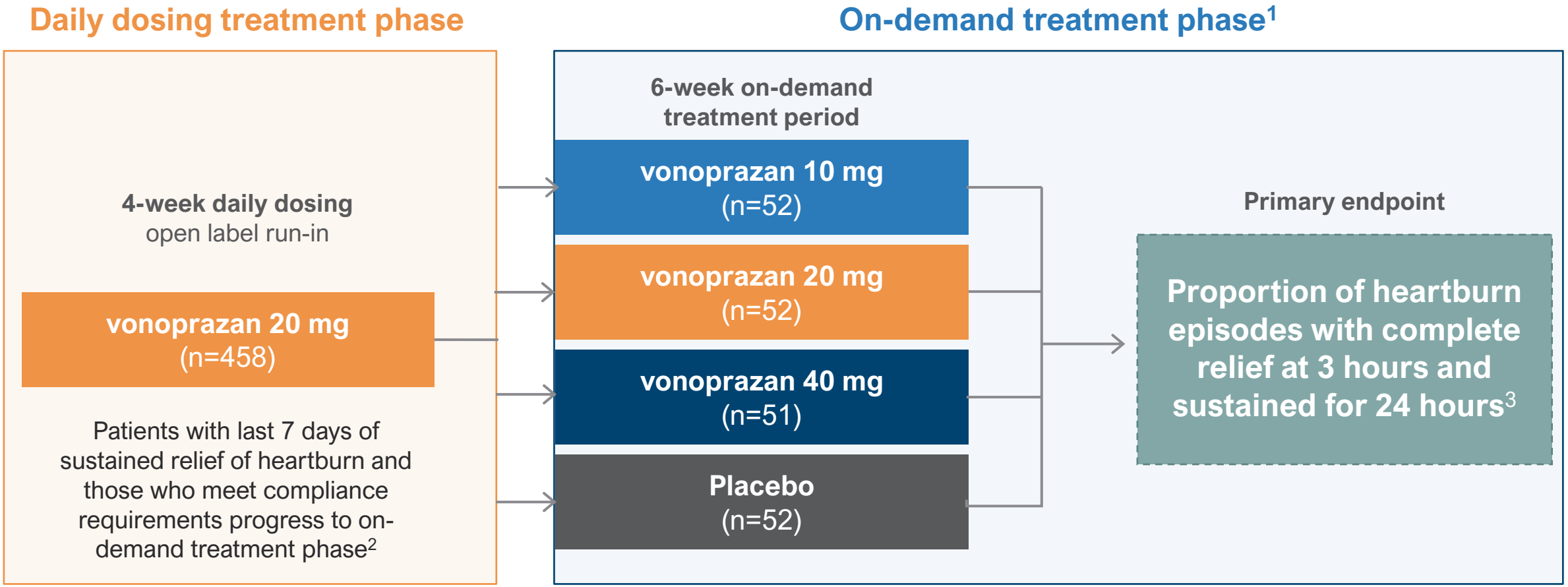
Most frequent (>2.0%) adverse events in

% (n) with adverse event	Vonoprazan triple therapy (n=346)	Vonoprazan dual therapy (n=348)	Lansoprazole triple therapy (n=345)
Diarrhea	4.0% (14)	5.2% (18)	9.6% (33)
Nausea	1.7% (6)	1.7% (6)	2.6% (9)
Dysgeusia	4.3% (15)	0.6% (2)	6.1% (21)
Headache	2.6% (9)	1.4% (5)	1.4% (5)
Vaginal infection	2.3% (8)	0.9% (3)	0.3% (1)

Safety Set: All subjects who received at least one dose of study medication
*No COVID-19 SAEs were deemed related to the study drug by the investigator

Millions of patients have received vonoprazan since approval in Japan 7+ years ago
> 8,000 patients have received vonoprazan in clinical trials

PHALCON-NERD-201 phase 2 trial design



[1] Dosing initiated at onset of a heartburn episode; rescue antacid medication allowed after 3 hours of taking test medication
[2] Patients must meet study drug and diary completion compliance requirements
[3] Primary endpoint for NERD phase 2 trial is complete heartburn relief at 3 hours that is sustained for 24 hours. Primary endpoint for phase 3 trial will be based on NERD phase 2 results and subsequent FDA discussions

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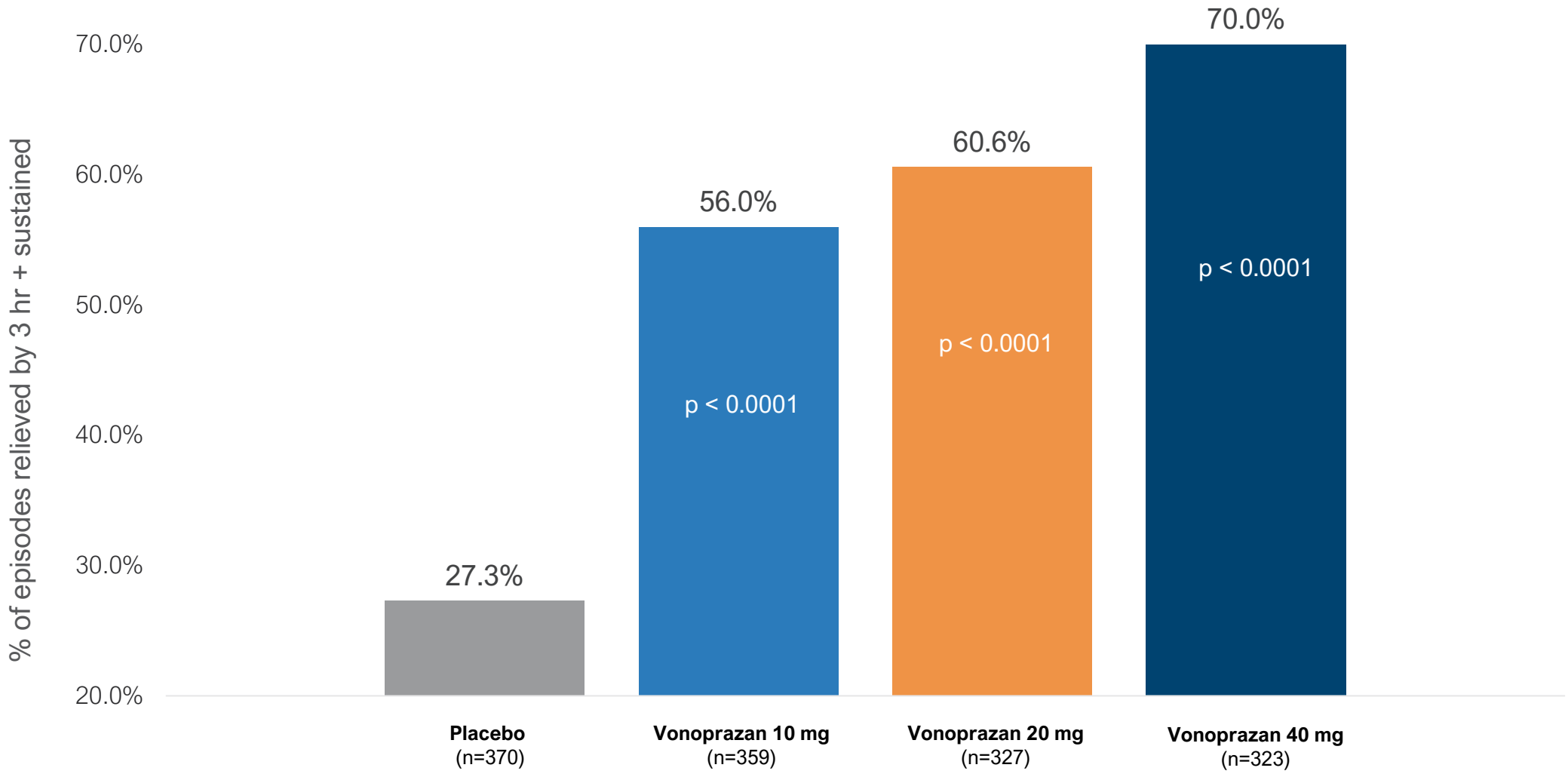
PHALCON-NERD-201 met the primary endpoint for all doses

% of evaluable episodes* with complete and sustained heartburn relief within 3 hours



*Evaluable episode (n) = heartburn episode for which subject completes a minimum of one timed assessment

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Unique development strategy for treatment of NERD

	Vonoprazan *NERD Phase 3 strategic development objectives*	**PPI class** *historical data*
Foundational claim	**NERD-301 Phase 3 placebo-control trial** daily dosing x 4 week ☑	All have **4 weeks placebo-control** ☑
Unique data – 6-months durability	**NERD-301 extension period** controlled daily dosing efficacy data x 6 month ☑	No controlled chronic efficacy data ✗
Differentiated treatment opportunity	**Anticipated Phase 3 on-demand trial** On-demand (as needed) dosing ☑	PK/PD profile not suitable for on-demand use ✗

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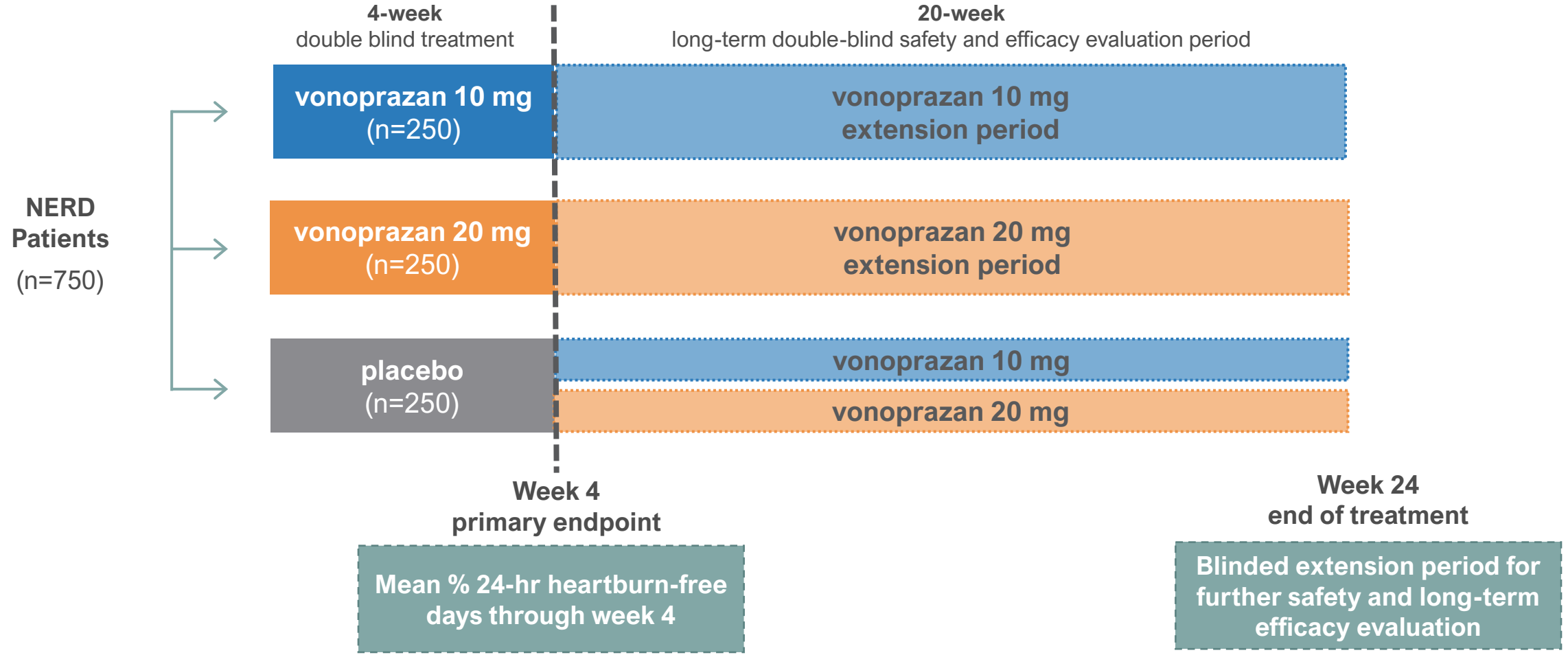
PHALCON-NERD-301 phase 3 daily dosing trial design

Topline data expected 2023



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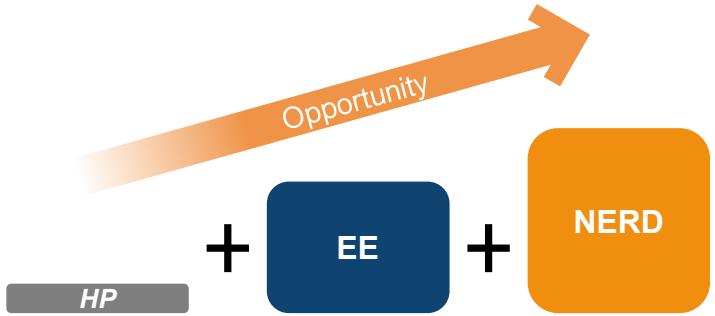
Significant opportunity and attractive commercial dynamics

~65M people in the US with GERD

~6.8B PPI doses prescribed in in US annually[1]



Large Populations + Unmet Need

Strong Physician Preference + Concentrated High Prescribers

Minimal Branded Competition + Share of Voice Ownership

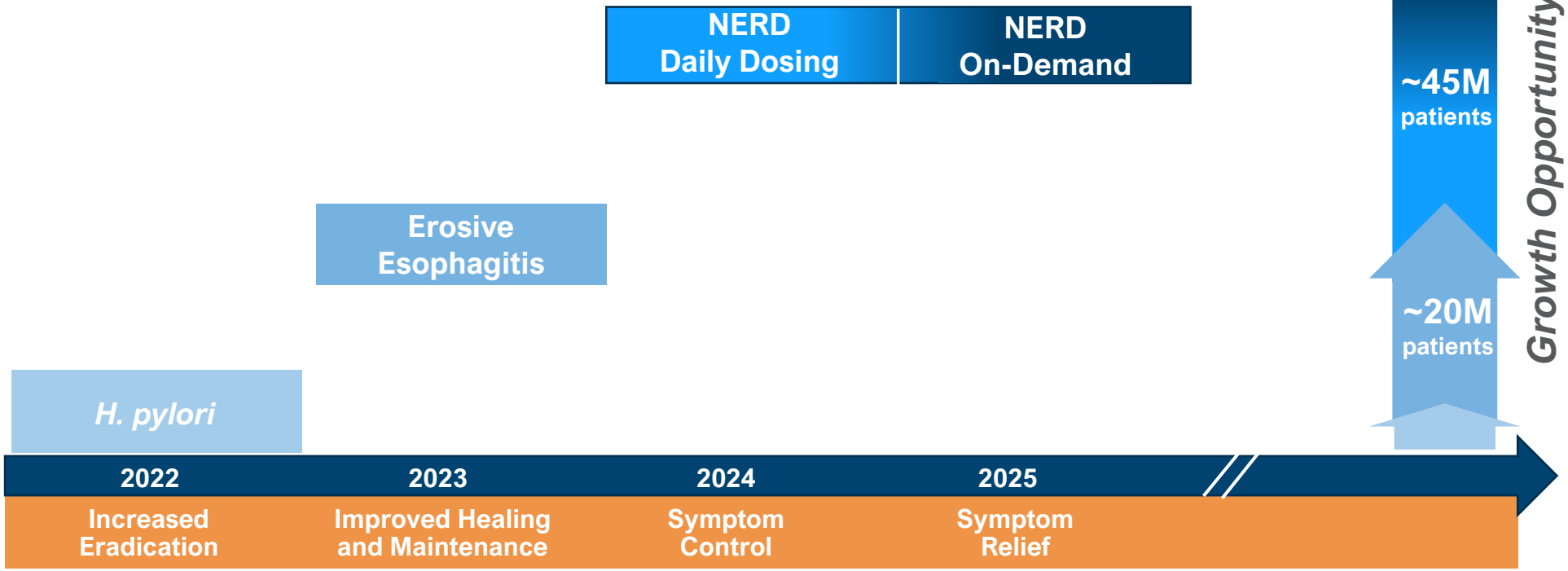
Clinical Differentiation & Value

[1] For the 12 months ended October 31, 2020; IQVIA data;

Vonoprazan vision builds on each indication with the potential to transform the landscape of acid-related disorders

Vonoprazan Vision: Groundbreaking Acid Resolution
Displace PPIs to become the #1 prescribed acid suppressant

- Rapid, Potent, Durable acid suppression supports collective unmet needs
- Consistent prescriber targets (GI, APPs & PCP)



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High unmet need across the *H. pylori* patient journey

73%

61%

Agree that **increased eradication rates** are the **most important need** in the management of *H. pylori* infection[1]

Acid suppression plays an important role in **HP eradication;** antibiotic potency increases at higher pH[2]

1. Study of Acid Related Disorders (SOARD)
2. Shah SC et al. Gastroenterology. 2021;160:1831–1841

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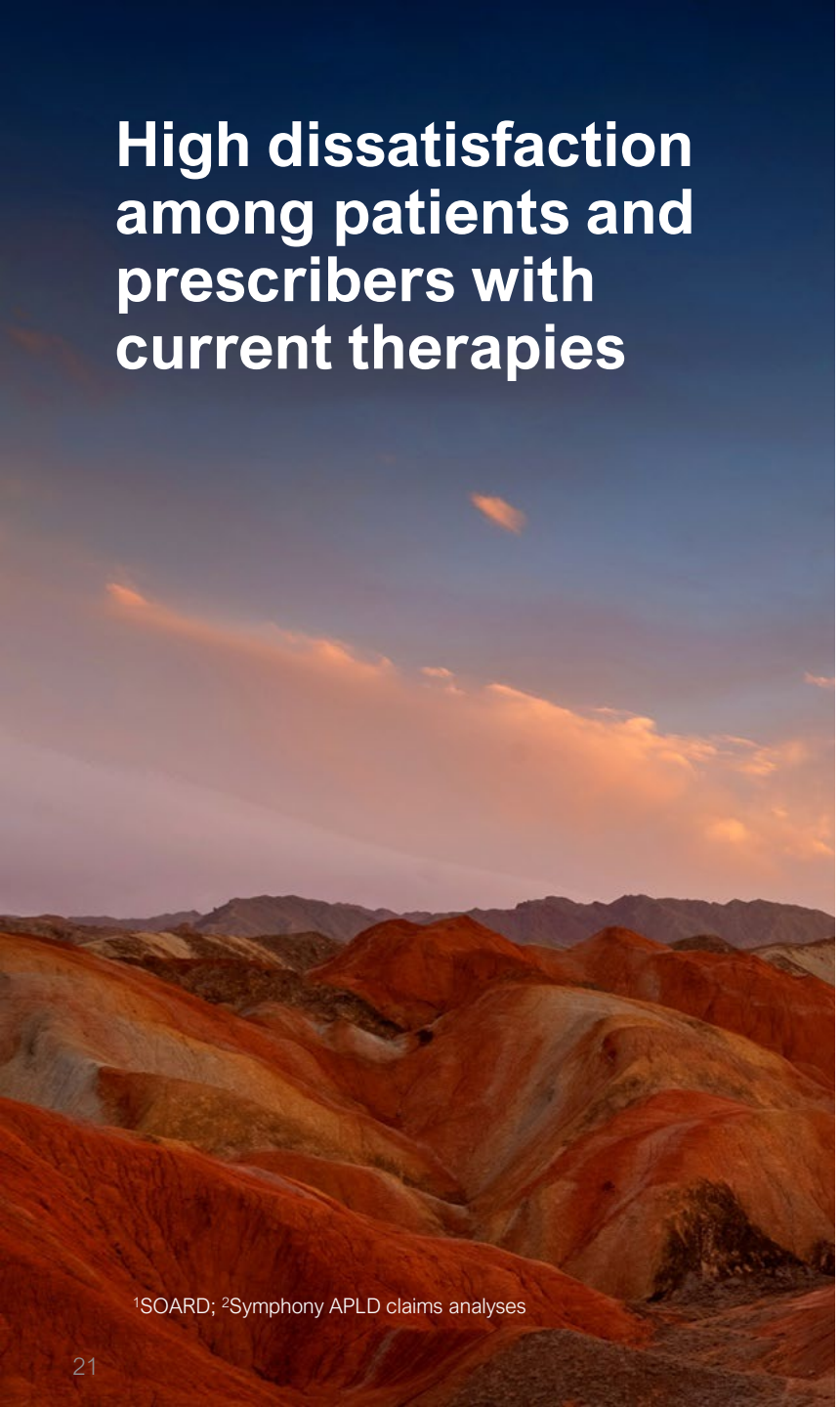
High dissatisfaction among patients and prescribers with current therapies



<1/3 **of HCPs are satisfied** with current treatment options for their patients[1]

of patients believe better control can be achieved, regardless of satisfaction with current treatment[1]

of EE & NERD patients progress lines of therapy annually[2]

[1]SOARD; [2]Symphony APLD claims analyses

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70%

a different **MOA**

HCPs agree vonoprazan is differentiated vs. existing treatments by having…

62%

superiority in healing of EE erosions among moderate-to-severe patients

58%

superiority efficacy in maintenance of healed esophageal erosions

SRI Buying Process, October 23, 2020

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Highly concentrated prescriber base allows for focused targeting of impactful HCPs

HP: Early Focus on GIs

GIs constitute over 75% of the initial HP field force targets

EE: Strong Overlap Between Indications

~85% of initial HP field force targets are future EE targets

65 Sales Representatives

~11,000 Targets

330 Sales Representatives

~45,000 Targets

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Financial Highlights (as of March 31, 2022)

$138.1M
cash and cash equivalents

Recently announced up to **$300M** in royalty financing[1]

~39M shares outstanding

Cash, cash equivalents, and other expected capital provides **runway expected through 2024** and includes funding launch for *H. pylori* and Erosive Esophagitis[2]

[1] Revenue interest financing agreement for up to $260M with option upon same terms to obtain additional $15M in funding upon EE approval and an additional cash payment up to $25M upon achievement of a sales milestone, totaling $300M

[2] Assumes up to $260M from royalty financing, full drawdown under remaining term loan, anticipated future product sales, pursuant to management operating plan

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Expected milestones

- Positive Ph 3 results for PHALCON-HP
- *H. pylori* NDAs submitted to FDA
- Positive Ph 3 results for PHALCON-EE

1Q22

- Positive topline Ph 2 results for NERD on-demand trial
- Erosive Esophagitis NDA submission

1H22

- *H. pylori* approval

3Q22

H. pylori US launch

2023

Erosive Esophagitis approval

Erosive Esophagitis US launch

Topline Ph 3 results for NERD daily dosing trial

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Appendix: **Phathom's Clinical Trial Results**

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pHalcon-HP

Phase 3 trial for *H. pylori* infection

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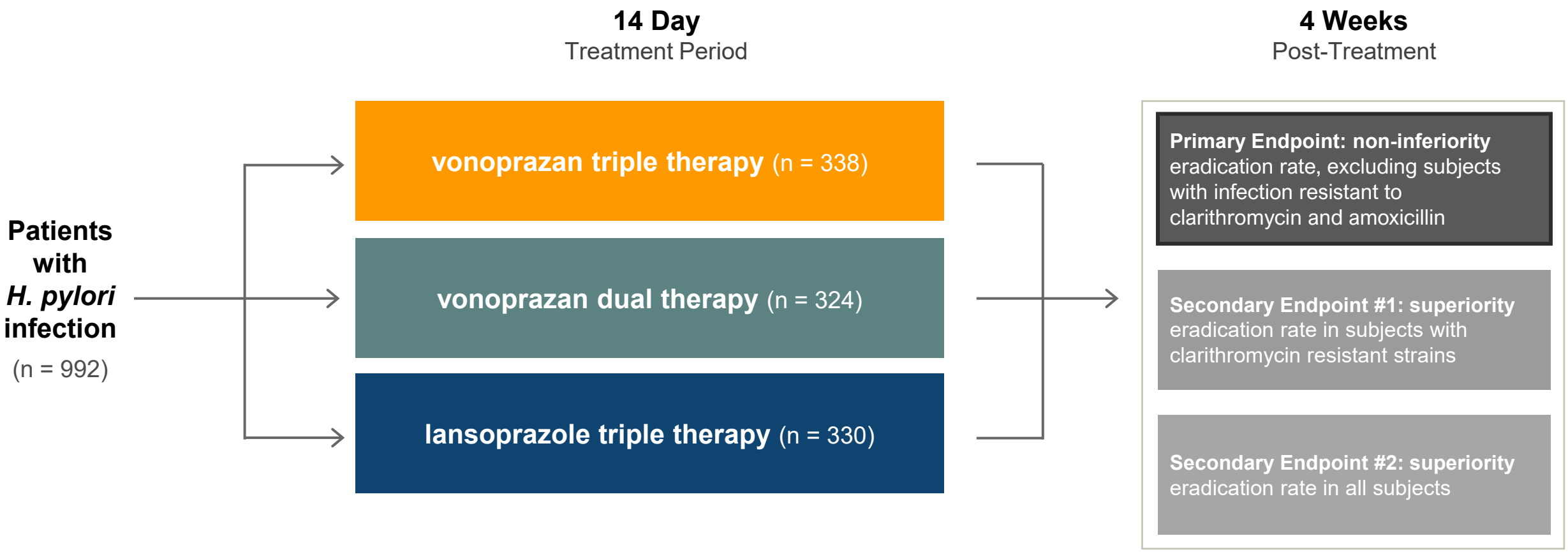
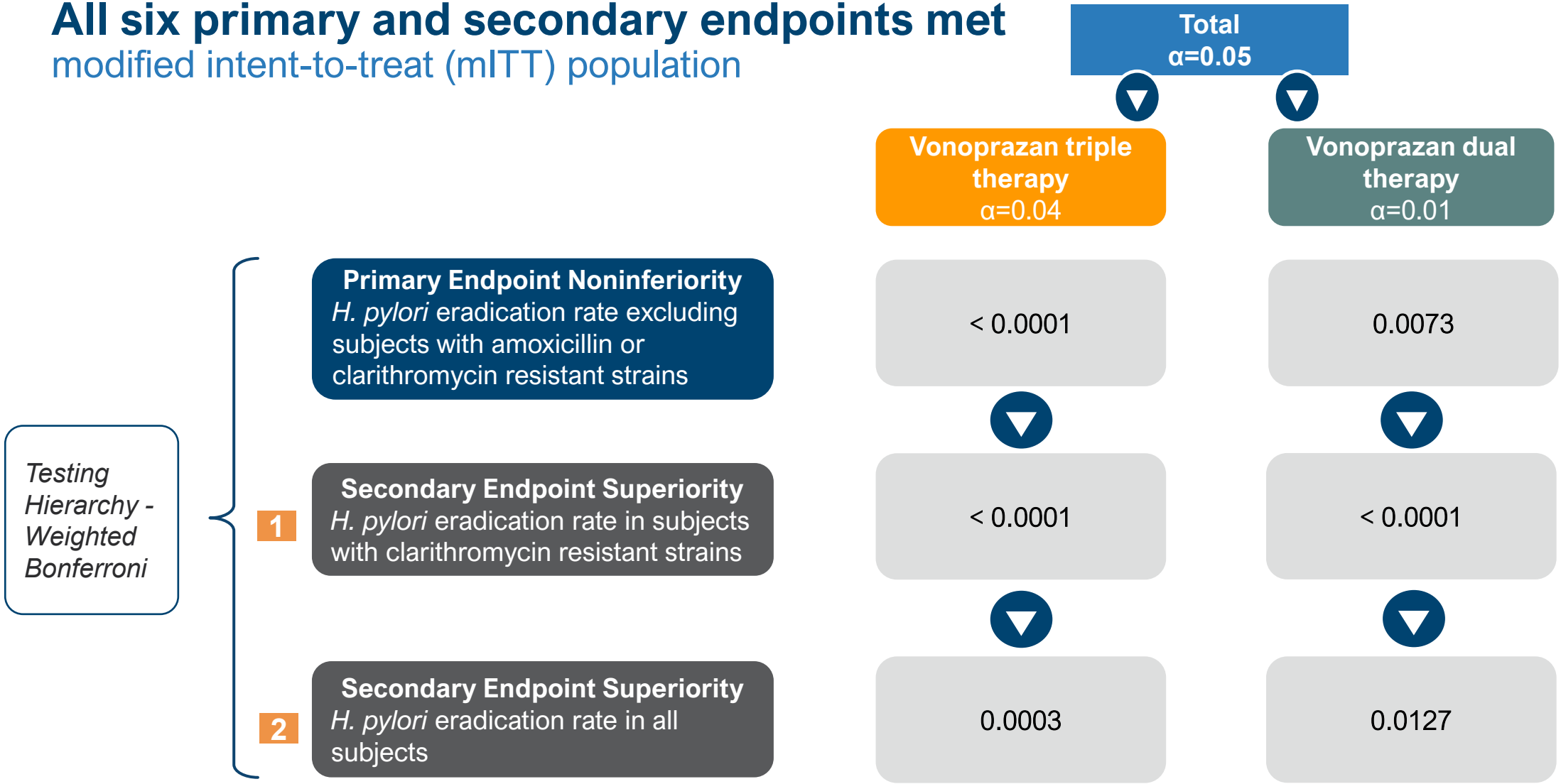
pHalcon-HP phase 3 study design



Diagnosis of infection and test of cure confirmed by 13C-urea breath test
Vonoprazan dual therapy = vonoprazan 20 mg BID + amoxicillin 1 g TID
Vonoprazan triple therapy = vonoprazan 20 mg BID + amoxicillin 1 g BID + clarithromycin 500 mg BID
Lansoprazole triple therapy = lansoprazole 30 mg BID + amoxicillin 1 g BID + clarithromycin 500 mg BID

All six primary and secondary endpoints met

modified intent-to-treat (mITT) population



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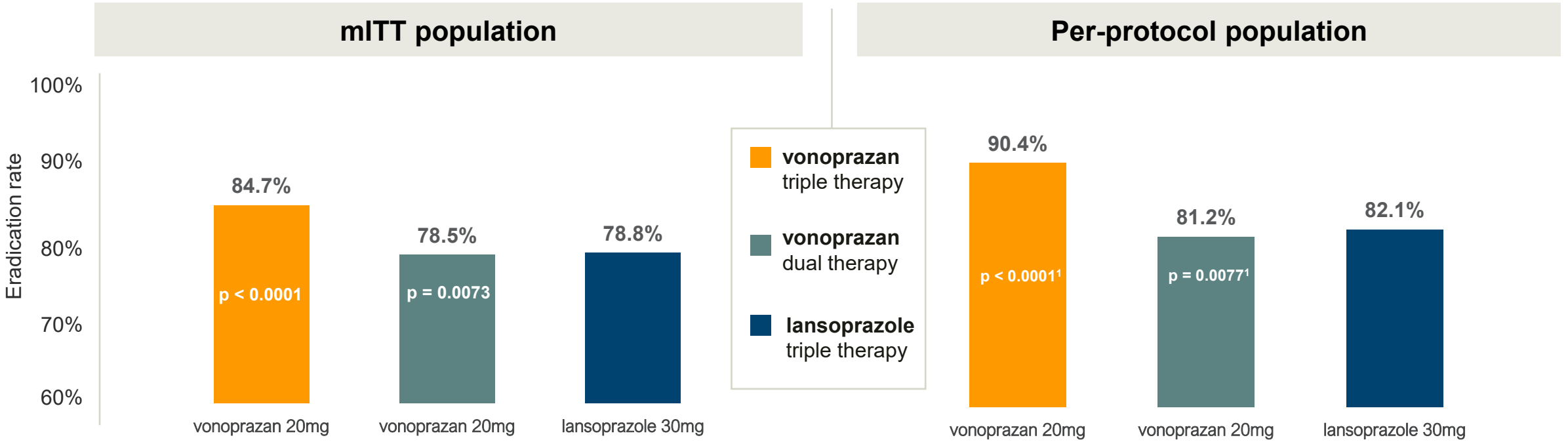
PHALCON-HP met primary endpoints

Eradication rates (%) among patients without clarithromycin- or amoxicillin-resistant strains



[1] Not adjusted for multiple comparisons

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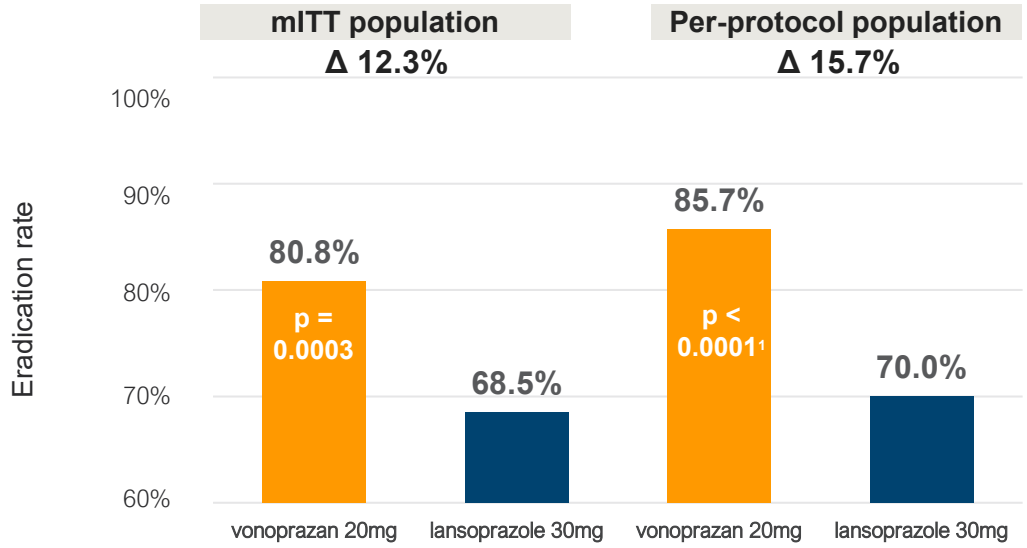
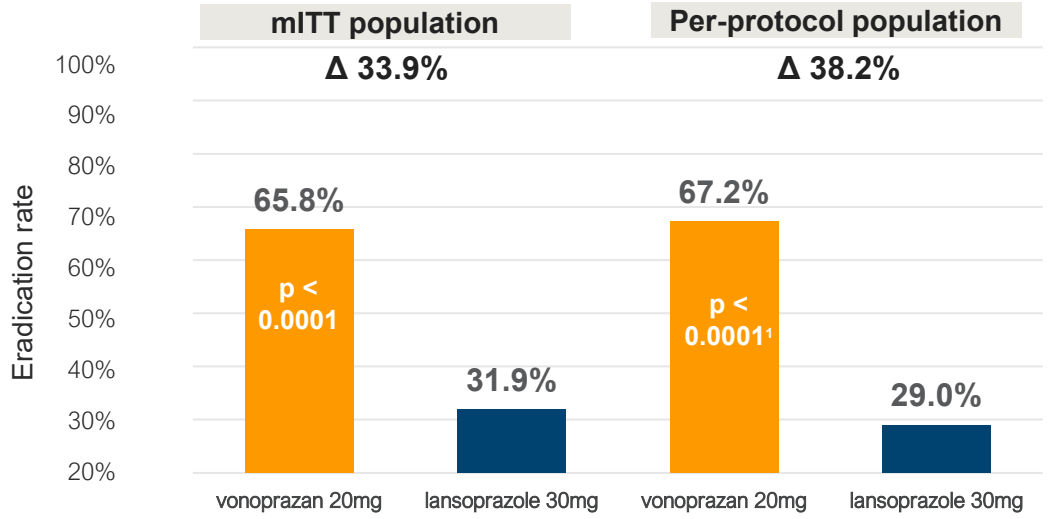
Both vonoprazan-based therapies met superiority for secondary endpoints

Vonoprazan triple therapy

all subjects

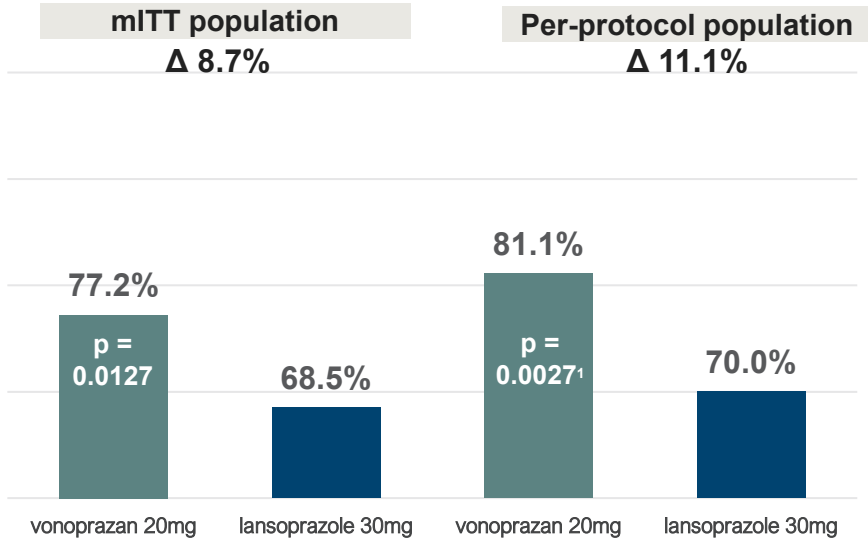


subjects with clarithromycin resistant strains

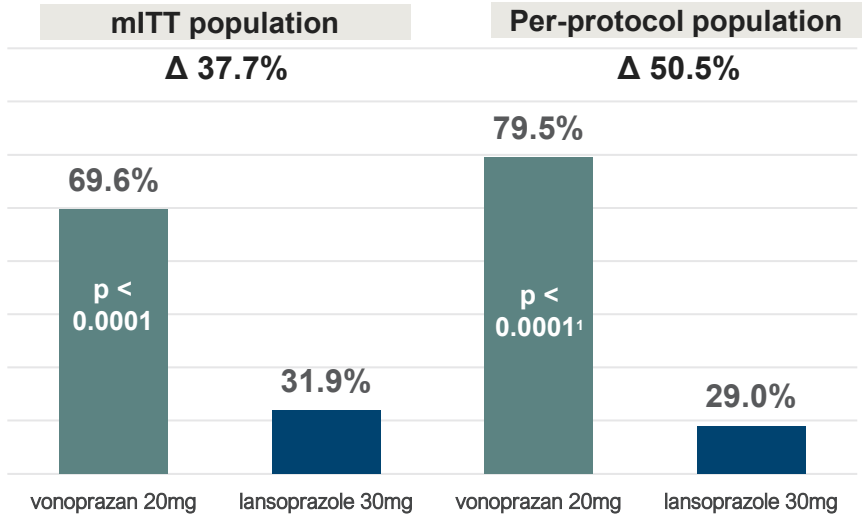


Vonoprazan dual therapy

all subjects



subjects with clarithromycin resistant strains



[1] Not adjusted for multiple comparisons

Safety profile

vonoprazan-based regimens generally well tolerated; comparable to lansoprazole triple therapy

Most frequent (>2.0%) adverse events in pHalcon-HP subjects

% (n) with adverse event	Vonoprazan triple therapy (n=346)	Vonoprazan dual therapy (n=348)	Lansoprazole triple therapy (n=345)
Diarrhea	4.0% (14)	5.2% (18)	9.6% (33)
Nausea	1.7% (6)	1.7% (6)	2.6% (9)
Dysgeusia	4.3% (15)	0.6% (2)	6.1% (21)
Headache	2.6% (9)	1.4% (5)	1.4% (5)
Vaginal infection	2.3% (8)	0.9% (3)	0.3% (1)

Safety Set: All subjects who received at least one dose of study medication

pHalcon-EE

Phase 3 trial for Erosive Esophagitis (EE)

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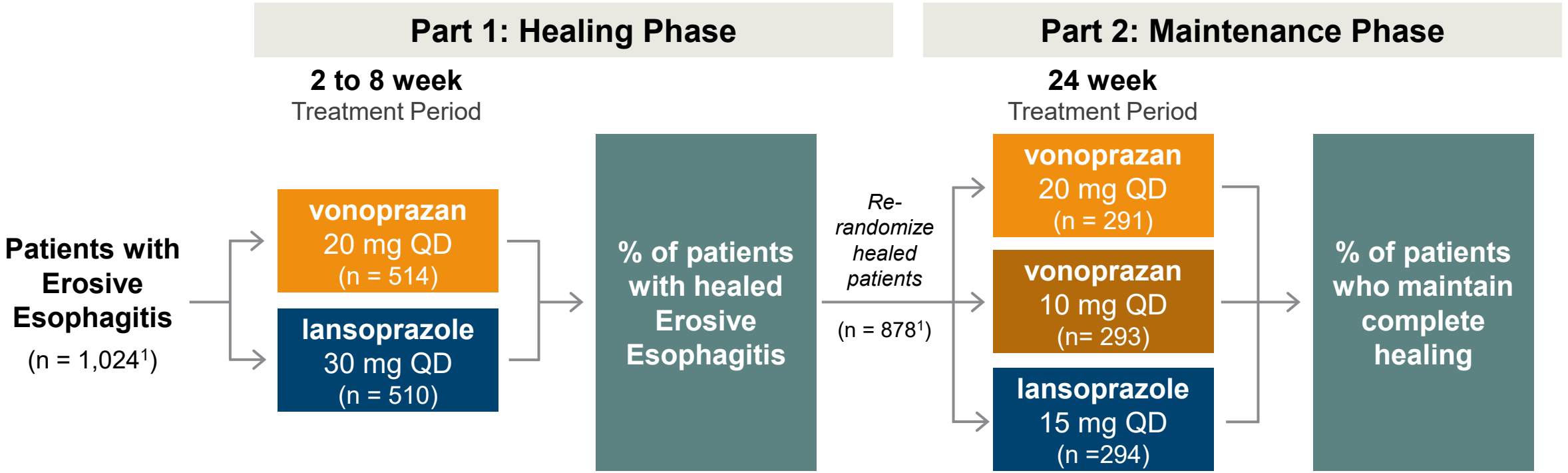
PHALCON-EE phase 3 study design

US/Europe study in Erosive Esophagitis

pHalcon ee
A research study for Erosive Esophagitis



[1] Represents modified intent to treat (mITT) population

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PHALCON-EE met primary and key secondary endpoints

Healing Phase

	Vonoprazan 20mg
☆ *Noninferiority:* % of subjects with complete healing of EE by Week 8	p<0.0001*
Noninferiority: % of 24-hour heartburn-free days over the Healing Period	95%CI: (-1.60,7.03)
Superiority: % of Grades C/D subjects who have healing at Week 2	p=0.0008
Superiority: % of subjects with onset of sustained resolution of heartburn by Day 3	p=0.4392
Superiority: % of Grades C/D subjects who have healing by Week 8	*not tested in hierarchy* p<0.0001 (nominal)
Superiority: % of subjects (All Grades) who have healing at Week 2	*not tested in hierarchy* p=0.0348 (nominal)

Maintenance Phase

	Vonoprazan 20mg	Vonoprazan 10mg
☆ *Noninferiority:* % of subjects who maintained healing through Week 24	p<0.0001^	p<0.0001^
Superiority: % Grades C/D maintain healing through Week 24	p=0.0196	p=0.0490
Superiority: % all Grades maintain healing through Week 24	p=0.0136	p=0.0436
Noninferiority % of 24-hour heartburn-free days through Week 24	95%CI: (-2.63, 6.72)	95%CI: (-2.27, 6.84)

☆ Denotes primary endpoints tested for noninferiority; endpoints were also tested for superiority

*Healing phase primary endpoint, exploratory superiority comparison, nominal p<0.0001
^Maintenance phase primary endpoint, prespecified secondary superiority comparison: vonoprazan 20 mg: p=0.0136; vonoprazan 10 mg p=0.0436
#Sustained resolution of heartburn is defined as seven (7) consecutive days without heartburn symptoms. For this test to be satisfied a patient must commence the seven consecutive day period on either day 1, 2 or 3 and last, respectively, up to day 7, day 8 or day 9.

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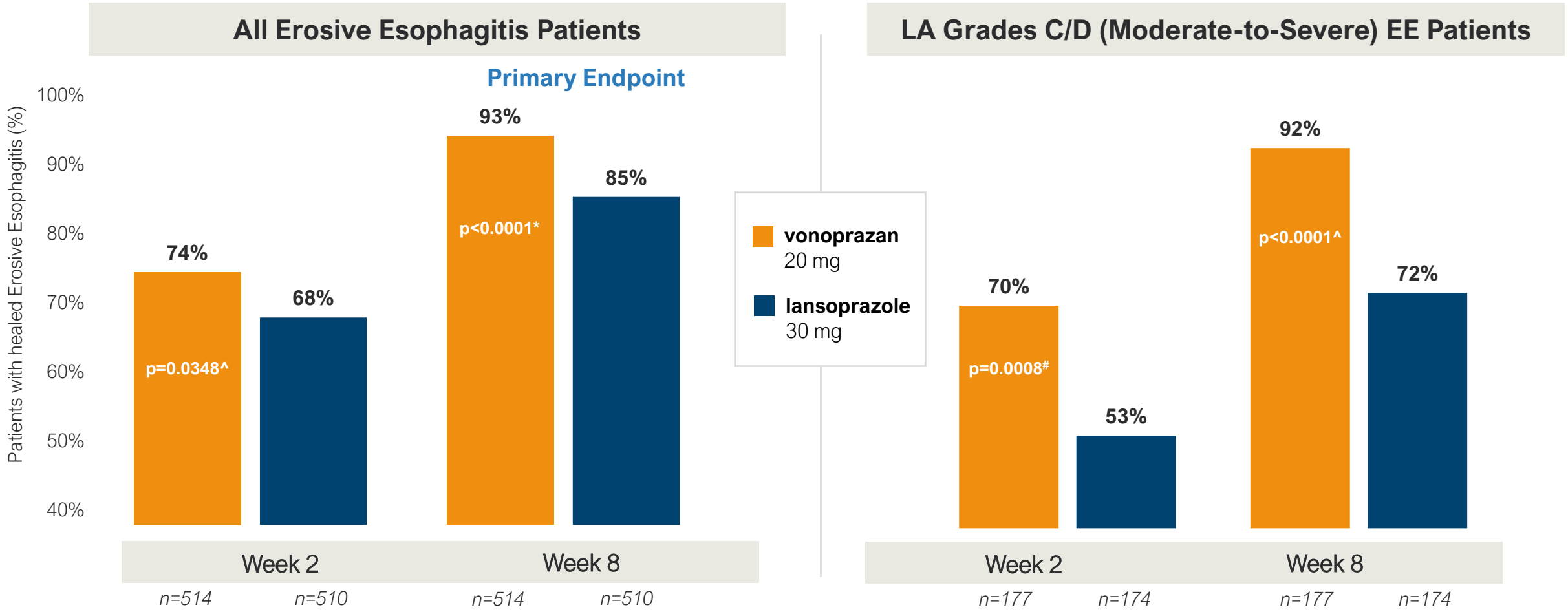
PHALCON-EE healing endpoints



^nominal p-value presented, superiority comparison, not significant based on pre-specified testing hierarchy
*p-value for both primary non-inferiority endpoint and nominal p-value for exploratory superiority comparison
#p-value for pre-specified secondary endpoint superiority comparison

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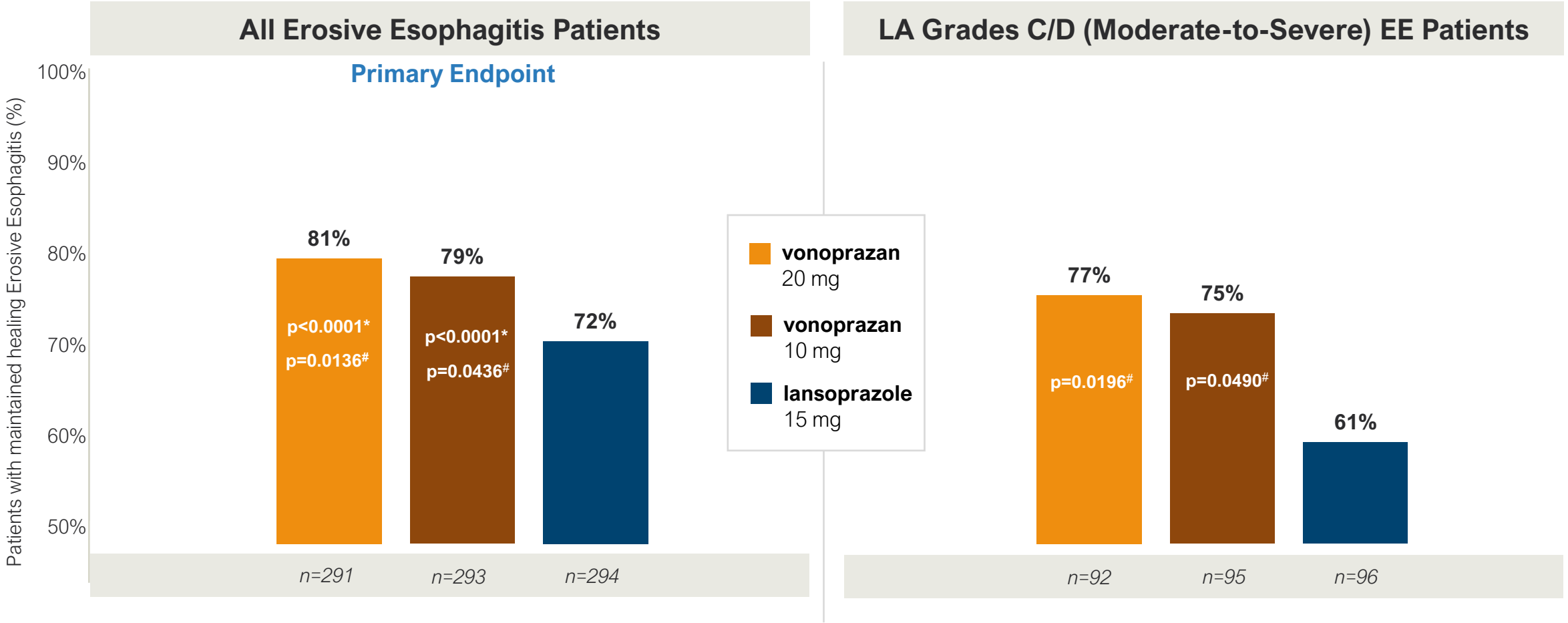
PHALCON-EE maintenance of healing endpoints



*p-value for primary endpoint non-inferiority comparison
#p-value for pre-specified secondary endpoint superiority comparison

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Summary of PHALCON-EE safety data

Overall, the safety results for vonoprazan observed in PHALCON-EE were consistent with those observed in prior clinical studies

Healing Phase

Most Common Adverse Events

% (n)	Vonoprazan 20 mg	Lansoprazole 30 mg
Diarrhea	2.1% (11)	2.5% (13)

Maintenance Phase

Most Common Adverse Events (≥ 5%)

% (n)	Vonoprazan 20 mg	Vonoprazan 10 mg	Lansoprazole 15 mg
Abdominal Pain	5.4% (16)	4.1% (12)	2.4% (7)
Gastritis	2.7% (8)	6.4% (19)	2.7% (8)
COVID-19	10.1% (30)	6.1% (18)	6.7% (20)

Both Phases

Serious Adverse Events (>1 patient)

	Vonoprazan 20 mg	Vonoprazan 10 mg	Lansoprazole 15 mg
COVID-19* (n)	5	2	0

*No COVID-19 SAEs were deemed related to the study drug by the investigator | Safety Set: All subjects who received at least one dose of study medication

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pHalcon-NERD-201

Phase 2 trial for non-erosive reflux disease (NERD)

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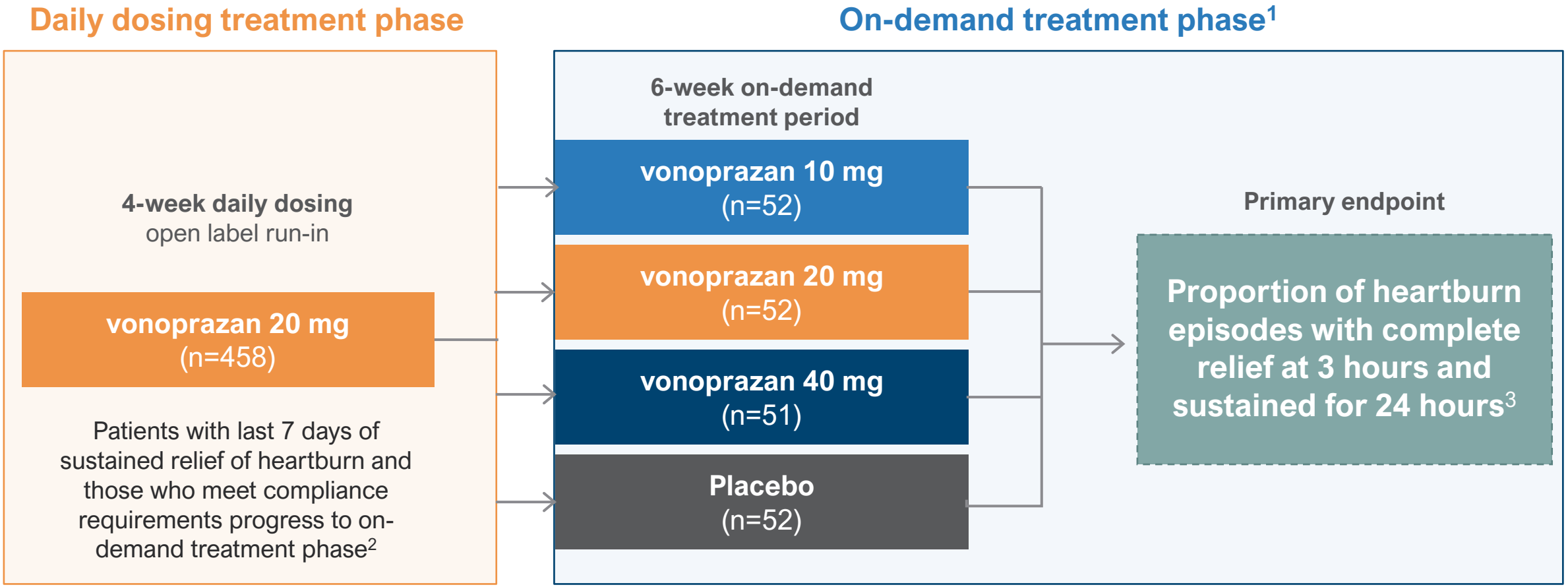
PHALCON-NERD-201 phase 2 trial design



[1] Dosing initiated at onset of a heartburn episode; rescue antacid medication allowed after 3 hours of taking test medication
[2] Patients must meet study drug and diary completion compliance requirements
[3] Primary endpoint for NERD phase 2 trial is complete heartburn relief at 3 hours that is sustained for 24 hours. Primary endpoint for phase 3 trial will be based on NERD phase 2 results and subsequent FDA discussions

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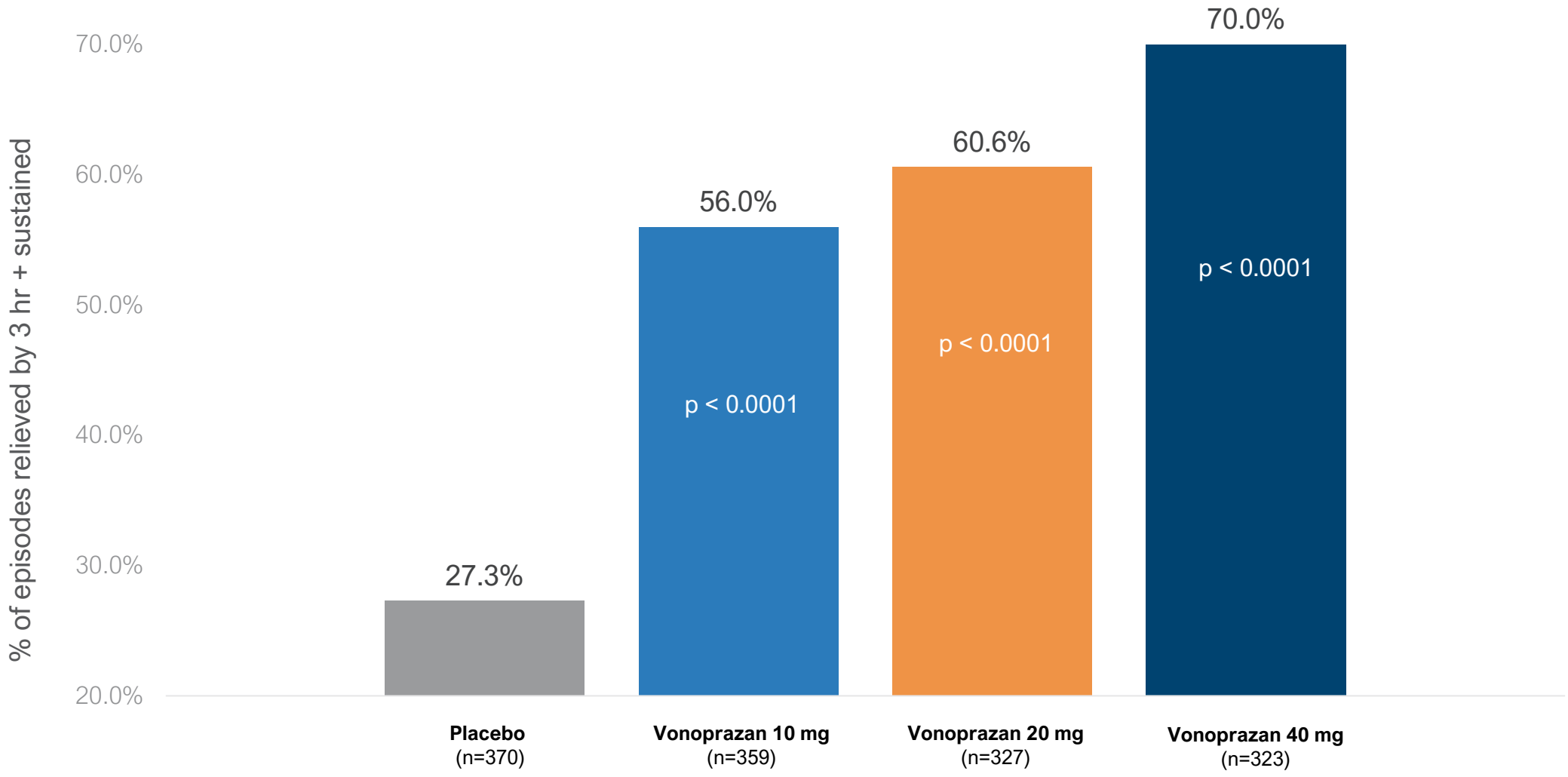
PHALCON-NERD-201 met the primary endpoint for all doses

% of evaluable episodes* with complete and sustained heartburn relief within 3 hours



*Evaluable episode (n) = heartburn episode for which subject completes a minimum of one timed assessment

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PHALCON-NERD-201 daily dosing, run-in period

Percentage of 24-hour heartburn free days over 4 weeks

Total # of Patients = 458	
Heartburn-Free Days	Mean: 65.4%
	Median: 76.0%

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PHALCON-NERD-201 safety data

The safety data for all vonoprazan arms were comparable to placebo and consistent with what was reported in previous studies

Daily dosing treatment phase

Vonoprazan 20 mg QD

- Most commonly reported events (> 1% of subjects)
  - Abdominal distension 1.3%
  - Diarrhea 1.5%
  - Nausea 1.3%
- 4 SAEs
  - 1 study drug related SAE (anaphylactic reaction)

On-demand treatment phase

	Placebo (n=52)	Vonoprazan 10 mg (n=52)	Vonoprazan 20 mg (n=52)	Vonoprazan 40 mg (n=51)
% (n) of subjects with at least 1 AE	21.3% (10)	16.3% (8)	18.4% (9)	16.7% (8)

- No individual AE was reported by more than one subject in a treatment group
- No SAEs

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