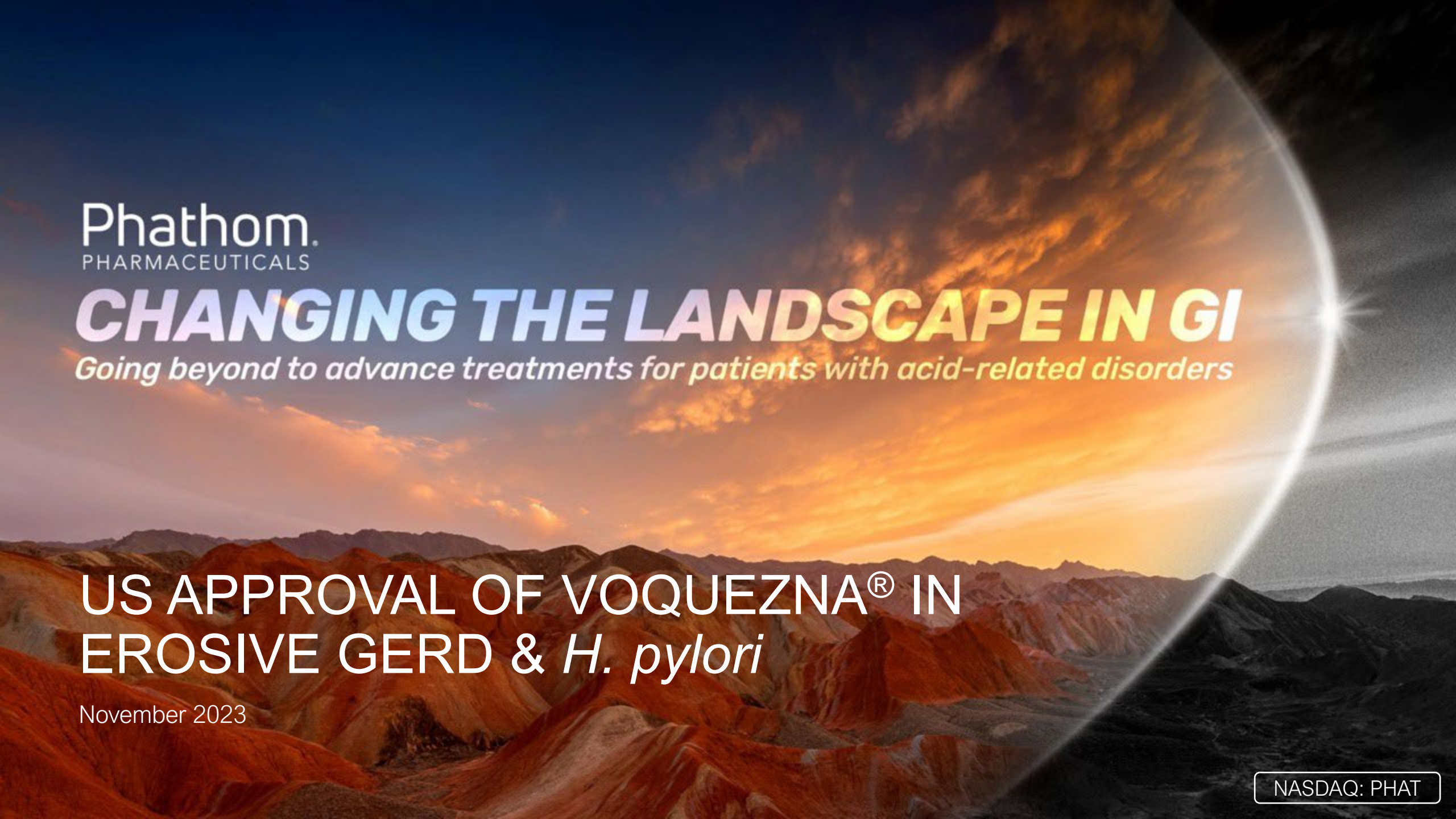


US APPROVAL OF VOQUEZNA® IN EROSIVE GERD & *H. pylori*

November 2023

NASDAQ: PHAT

Safe harbor

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, anticipated milestones, anticipated cash runway, expectations of generating stability data necessary to support the proposed shelf life of vonoprazan, 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: our ability to launch and successfully commercialize approved products containing vonoprazan; our new drug application for non-erosive GERD may not be filed or approved by the FDA; our Phase 3 trial for as need dosing of vonoprazan for non-erosive GERD may not successfully be completed; 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; 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 ability to obtain and maintain intellectual property protection for vonoprazan; our ability to comply with our license agreement with Takeda; 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 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.

Today's Agenda

Introduction
- Terrie Curran, Chief Executive Officer

Erosive GERD & *H. pylori* Disease State & Label
- Terrie Curran, Chief Executive Officer

Commercial Strategy
- Martin Gilligan, Chief Commercial Officer

Question & Answer
- Terrie Curran, Chief Executive Officer
- Martin Gilligan, Chief Commercial Officer
- Azmi Nabulsi, Chief Operating Officer
- Molly Henderson, Chief Financial Officer

Phathom PHARMACEUTICALS

VOQUEZNA® is the first ever innovative acid suppressant to demonstrate superiority compared to a PPI across multiple indications

1st PCAB entrant in US

Belonging to a novel class of therapies called Potassium Competitive Acid Blockers

3 successful Ph 3 programs

Registrational trials across three indications: *H. pylori* (HP), Erosive GERD, & Non-Erosive GERD

Phathom is excited to introduce VOQUEZNA to the US market

Building upon demonstrated success:

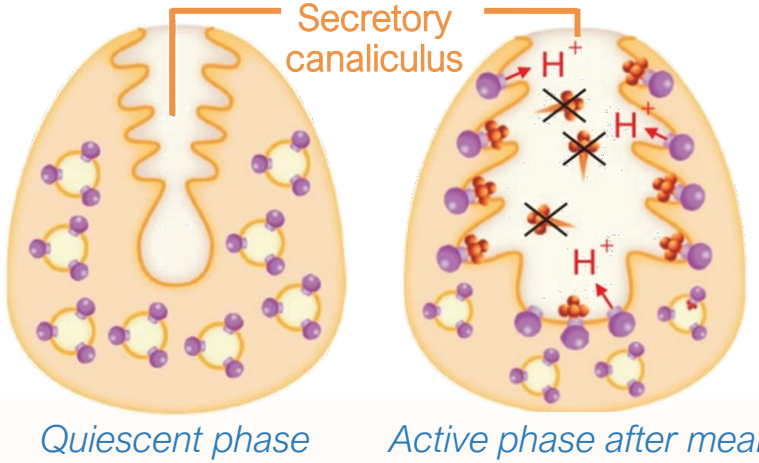
- ✓ Approved in 10+ countries worldwide
- ✓ Tens of millions of patients treated
- ✓ Blockbuster in Japan: #1 prescribed acid suppressant[1]

[1] IQVIA MIDAS as of June 30, 2023, amongst all PPI and PCAB molecules
[2] Published epidemiology studies in combination with company estimates based on its market research

Phathom PHARMACEUTICALS

PCABs demonstrate mechanistic differences compared to PPIs

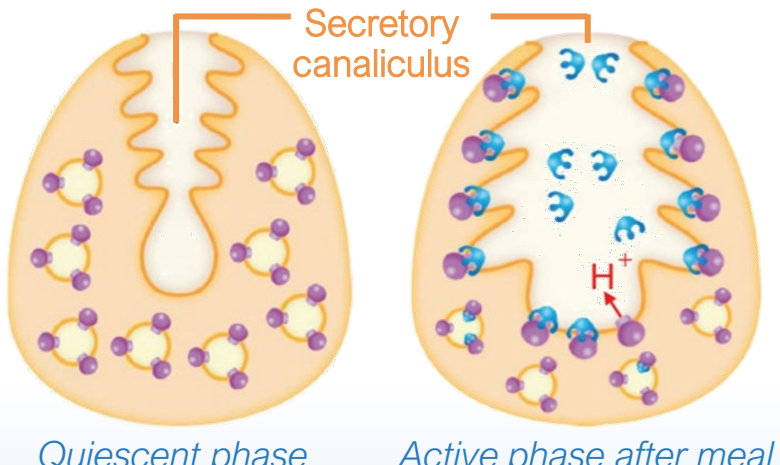
PPI:
COVALENTLY BINDING PRODRUG



- **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

VOQUEZNA:
COMPETITIVE ENZYME INHIBITOR



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

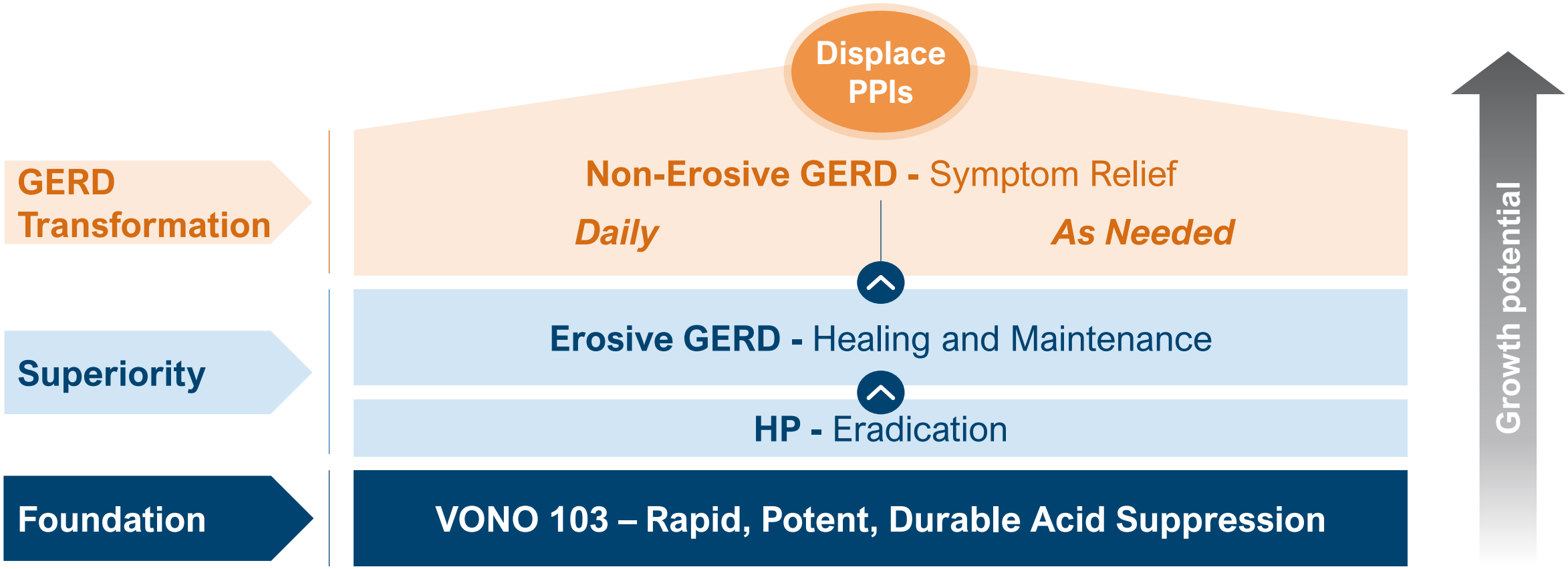
- **Rapid** onset of action
- **Potent** acid control
- **Durable** 24-hr activity

Phathom PHARMACEUTICALS

VOQUEZNA foundation is built on superior acid suppression to transform GERD management

VOQUEZNA US potential peak revenue opportunity >$3B*

Strategy to become the #1 prescribed acid suppressant



* Company estimates based on its market research

Phathom PHARMACEUTICALS

VOQUEZNA® Triple Pak® & VOQUEZNA® Dual Pak® are indicated for the treatment of *Helicobacter pylori (H. pylori)* infection in adults

Product expected to be available in December

H. pylori (HP) Disease State

- **Eradication rates** have fallen to **<80%** in the US[1]
- **Increasing antibiotic resistance & complex regimens** driving treatment failure
- Antibiotic potency increases at higher pH

With superiority claims versus a PPI-based triple therapy in the label,
VOQUEZNA Triple Pak and Dual Pak offer a new approach to possible first line eradication

[1] Based on several retrospective queries of electronic records: Alsamman MA et al. Dig Dis Sci. 2019;64:2893-2898, Tariq H et al. Clin Exp Gastroenterol. 2020;13:25-33, and Argueta EA et al. Gastroenterology. 2021;160:2181-2183

Phathom PHARMACEUTICALS

VOQUEZNA is now the FIRST AND ONLY FDA APPROVED PCAB in the US

Product expected to be available in December

VOQUEZNA is indicated for the healing and maintenance of healing of all grades of erosive esophagitis and relief of heartburn in adults.

VOQUEZNA is a novel, first-in-class, potassium-competitive acid blocker (PCAB) and the first innovative acid suppressant from a new drug class approved in the US in over 30 years.

Phathom PHARMACEUTICALS

The US Erosive GERD market is primed for a new treatment option

Prescription Based

~85% of the total PPI volume-based market is driven by Rx vs. OTC[1]

~110M PPI TRx are written and filled annually (all indications)[2]

Large Population

~7M adults in the US are diagnosed with Erosive GERD and treated with a prescription annually[3]

High Dissatisfaction

Less than 50% of patients are satisfied with current treatment[4]

~60% of patients believe better symptom control can be achieved[4]

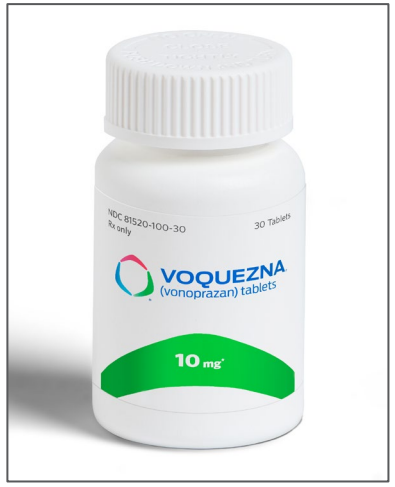
Frequent Switching

~35% of patients treated with a prescription PPI switch to a different PPI after **~3 months**[5]

[1] IQVIA NPA & Consumer Health Care Data Q1-3 2022; [2] IQVIA Xponent retail & mail-order Rx data (2022); [3] Published epidemiology studies in combination with company estimates based on its market research
[4] Vaezi MF, Brunton S, Mark Fendrick A, et al. Patient journey in erosive esophagitis: real-world perspectives from US physicians and patients. BMJ Open Gastroenterology 2022;9:e000941. doi: 10.1136/bmjgast-2022-000941
[5] Phathom data on file, diagnosed Erosive GERD patients between Jan. 2016 - Feb. 2022 (n=265,717)

Phathom PHARMACEUTICALS

Overview of VOQUEZNA prescribing information



Products	VOQUEZNA 10mg (30-ct) & VOQUEZNA 20mg (30-ct)
Indications & Usage	VOQUEZNA is a potassium-competitive acid blocker indicated for the: • Healing of all grades of erosive esophagitis and relief of heartburn associated with erosive esophagitis in adults. • Maintenance of healing of all grades of erosive esophagitis and relief of heartburn associated with erosive esophagitis in adults. • In combination with amoxicillin and clarithromycin for the treatment of *Helicobacter pylori (H. pylori)* infection in adults. • In combination with amoxicillin for the treatment of *H. pylori* infection in adults.
Dosage and Administration	Recommended Dosage: • *Healing of Erosive Esophagitis:* 20 mg once daily for 8 weeks. • *Maintenance of Healed Erosive Esophagitis:* 10 mg once daily for up to 6 months. • *Treatment of H. pylori Infection:* see full prescribing information. • See also full prescribing information for the recommended dosage by indication for patients with renal or hepatic impairment. Administration Instructions: • Take with or without food. • Swallow whole; do not chew or crush.
Adverse Reactions	Most common adverse reactions in VOQUEZNA-treated patients are: • Healing of Erosive Esophagitis (≥2%): gastritis, diarrhea, abdominal distension, abdominal pain, and nausea. • Maintenance of Healed Erosive Esophagitis (≥3%): gastritis, abdominal pain, dyspepsia, hypertension, and urinary tract infection. • Treatment of *H. pylori* Infection (≥2%): diarrhea, dysgeusia, vulvovaginal candidiasis, abdominal pain, headache, hypertension, and nasopharyngitis.

For full prescribing and safety information, please visit VOQUEZNA.com

Phathom PHARMACEUTICALS

Erosive GERD label includes multiple superiority claims

Healing

Healing of All Grades of Erosive Esophagitis

The primary endpoint, was endoscopically confirmed complete healing of all grades of erosive esophagitis at Week 2 or Week 8, as shown in Table 12.

Table 12: Rates of Healing of All LA Grades of Erosive Esophagitis at Week 2 or Week 8

Timepoint	Treatment Group		Treatment Difference (95% Confidence Interval)
	VOQUEZNA 20 mg Once Daily N=514 %	Lansoprazole 30 mg Once Daily N=510 %	
Week 2 or 8	93	85	8[a] (4.5, 12.2)
Week 2	74	68	

[a] Demonstrated noninferiority to lansoprazole.

Healing of Erosive Esophagitis in Subgroups with LA Grade C or D Esophagitis

For the secondary endpoint of complete healing of erosive esophagitis at Week 2, superiority was demonstrated in the subgroup of patients with LA Grade C or D disease, 70% of 177 VOQUEZNA treated patients and 53% of 174 lansoprazole treated patients achieved healing (18% treatment difference; 95% CI 7.4, 27.4).

Complete healing of erosive esophagitis at either Week 2 or Week 8 in the subgroup of patients with LA Grade C or D disease was 92% in patients treated with VOQUEZNA and 72% in patients treated with lansoprazole. This endpoint was not statistically significant under the prespecified multiple testing procedure.

Relief of Heartburn in Patients with Erosive Esophagitis During the Healing Phase

The percentage of 24-hour heartburn-free days through Week 8 was evaluated as a secondary endpoint and results are shown in Table 13.

Table 13: Percentage of 24-Hour Heartburn-Free Days in Patients with Erosive Esophagitis through Week 8

Parameter	Treatment Group		Treatment Difference (95% Confidence Interval)
	VOQUEZNA 20 mg Once Daily N=514 %	Lansoprazole 30 mg Once Daily N=510 %	
Mean ± SD	67 ± 35	64 ± 35	3[a] (-1.6, 7.0)
Median	81	78	

[a] Demonstrated noninferiority to lansoprazole.

Maintenance of Healing

Maintenance of Healed Erosive Esophagitis

The primary endpoint was maintenance of healed erosive esophagitis (all grades) through Week 24. A secondary endpoint was maintenance of healed erosive esophagitis in the subgroup of patients with LA Grade C or D disease prior to randomization in the healing phase of the study.

The maintenance rates of healed erosive esophagitis are shown in Table 14.

Table 14: Maintenance Rates of Healed Erosive Esophagitis in Adults through Week 24

Baseline Severity	Treatment Group		Treatment Difference (95% Confidence Interval)
	VOQUEZNA 10 mg Once Daily	Lansoprazole 15 mg Once Daily	
All LA Grades:	N=293	N=294	
Week 24	79%	72%	7[a] (0.2, 14.1)
LA Grade C or D:	N=95	N=96	
Week 24	75%	61%	13[b] (0.02, 26.1)

[a] Demonstrated non-inferiority and superiority to lansoprazole.
[b] Demonstrated superiority to lansoprazole.

Relief of Heartburn During Maintenance of Healed Erosive Esophagitis

The percentage of 24-hour heartburn-free days through Week 24 was evaluated for non-inferiority as a secondary endpoint as shown in Table 15.

Table 15: Percentage of 24-Hour Heartburn-Free Days through Week 24

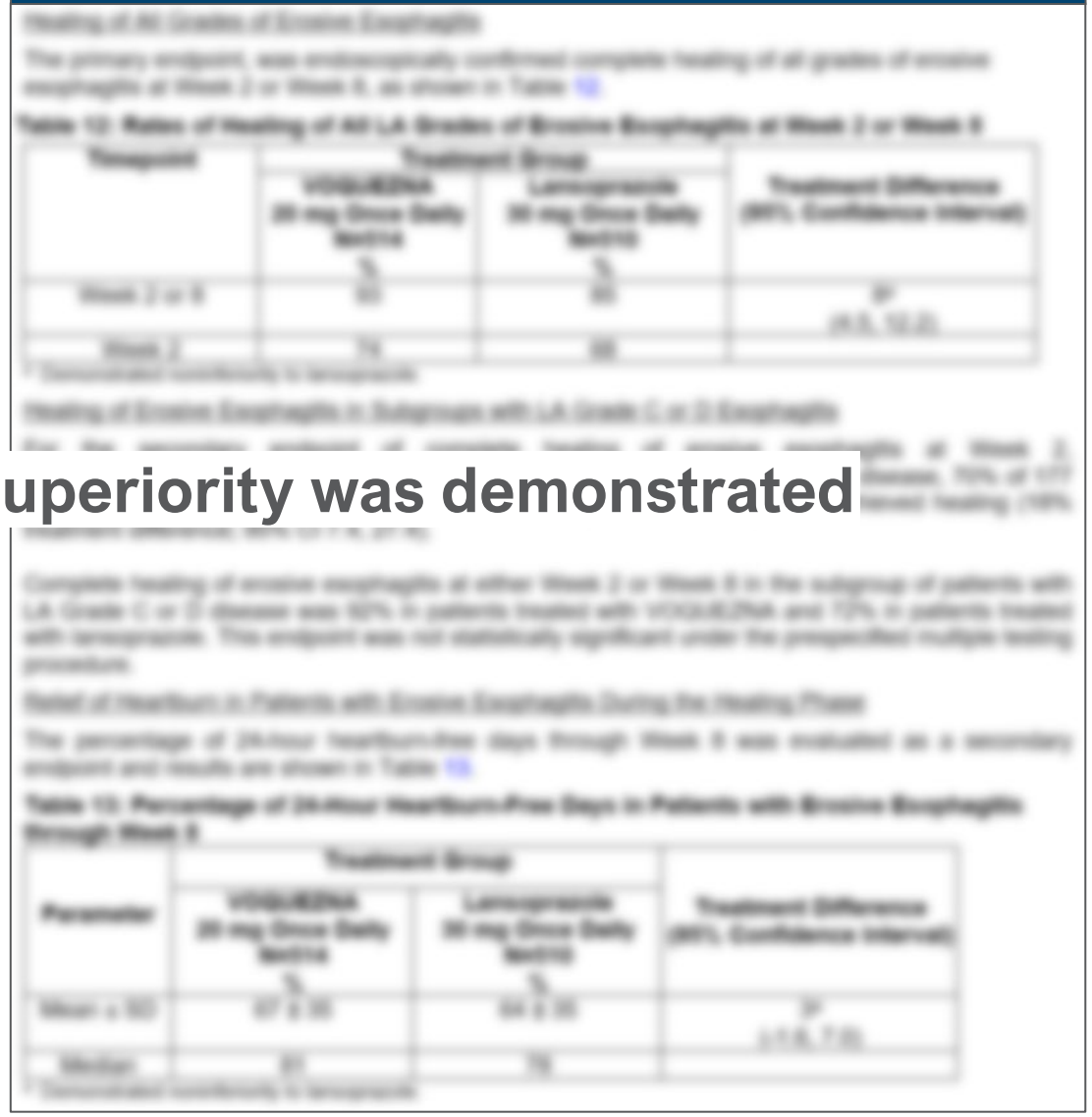
Parameter	Treatment Group		Treatment Difference (95% Confidence Interval)
	VOQUEZNA 10 mg Once Daily N=293 %	Lansoprazole 15 mg Once Daily N=294 %	
Mean ± SD	81 ± 29	79 ± 27	2[a] (-2.3, 6.8)
Median	95	89	

[a] Demonstrated non-inferiority to lansoprazole.

Phathom PHARMACEUTICALS

Erosive GERD label includes multiple superiority claims

Healing



superiority was demonstrated

Maintenance of Healing

superiority to lansoprazole.

Demonstrated superiority

Phathom PHARMACEUTICALS

VOQUEZNA's US safety profile is supported by expansive global clinical and post-marketing data

VOQUEZNA has demonstrated a well tolerated safety profile

Global Safety Database

- Thousands of patients with experience via clinical trials
- No dose-related increase in adverse events was observed

- Tens of millions of patients with experience via commercial usage

For full prescribing and safety information, please visit VOQUEZNA.com

Phathom PHARMACEUTICALS

Significant market opportunity and attractive commercial dynamics signal blockbuster potential

Large market with highly dissatisfied patients

First US approved acid suppressant with a new MOA in over 30 years

Differentiated profile with superiority claims versus a PPI

Strong physician interest with no branded competition

Phathom PHARMACEUTICALS

Commercial Strategy

- Martin Gilligan, Chief Commercial Officer

Phathom PHARMACEUTICALS

VOQUEZNA has a differentiated mechanism of action as the first and only approved PCAB in the United States

Rapid

Increased pH within 2-3 hours,
reaching pH >4 within 4 hours

Potent

Achieved strong acid suppression on Day 1,
with a mean pH of 4.6

Durable

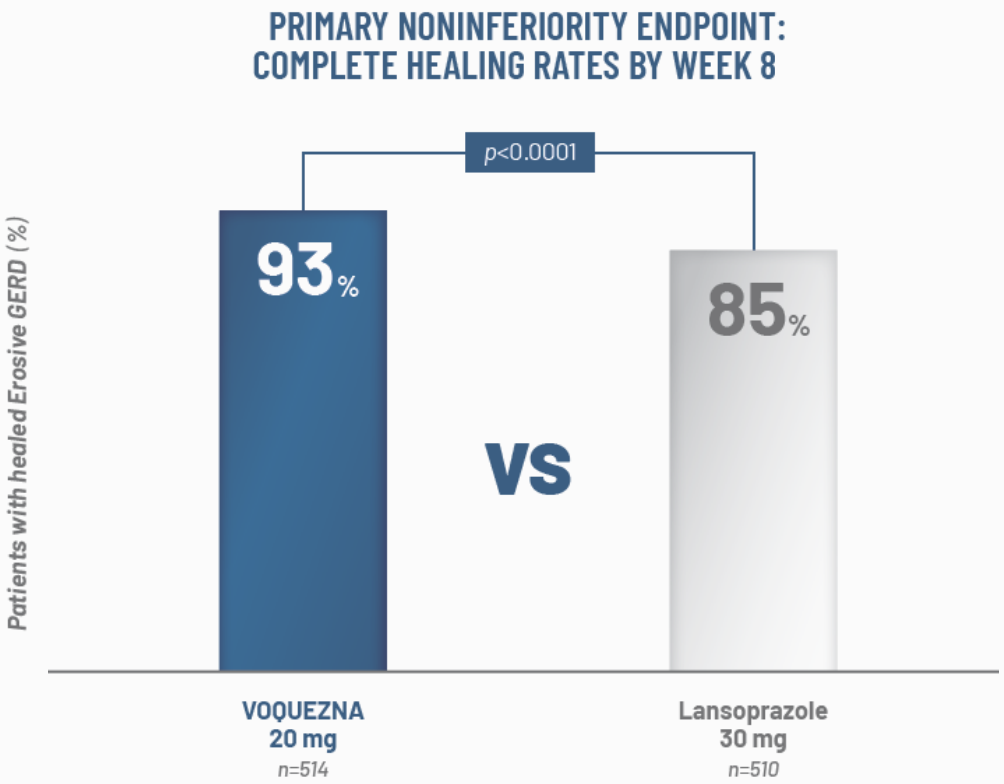
Maintains continuous acid suppression over 24 hours

Phathom PHARMACEUTICALS

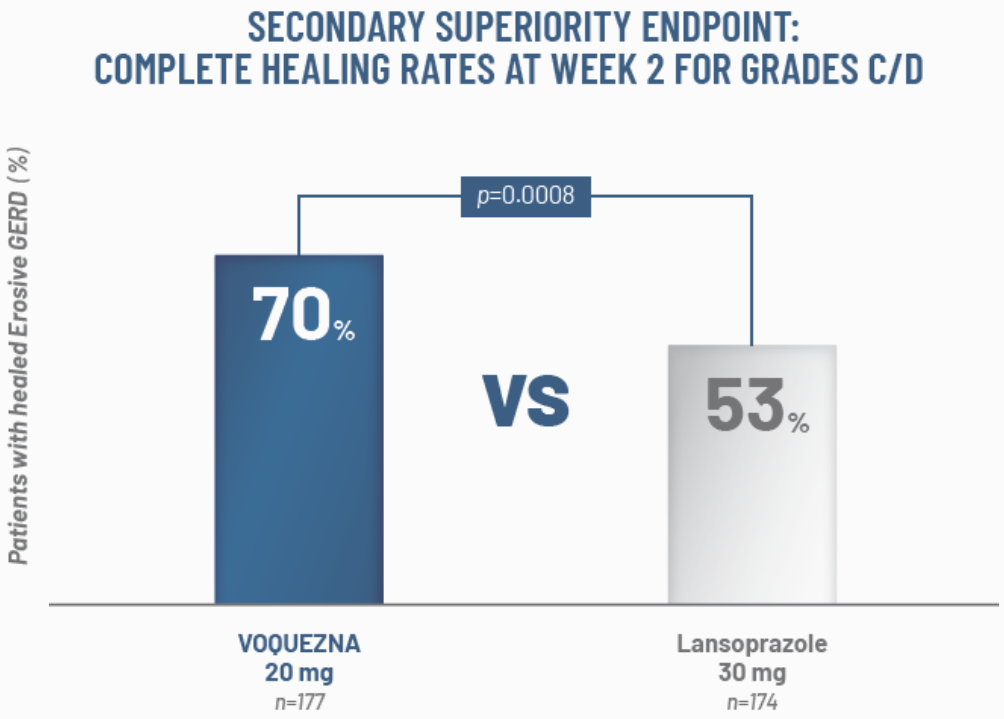
Strong healing rates vs. standard of care resonates with physicians[1]

VOQUEZNA for the Healing of Erosive GERD in Adults

93% of VOQUEZNA patients achieved healing



Achieved superior healing rates in patients with moderate-to-severe disease



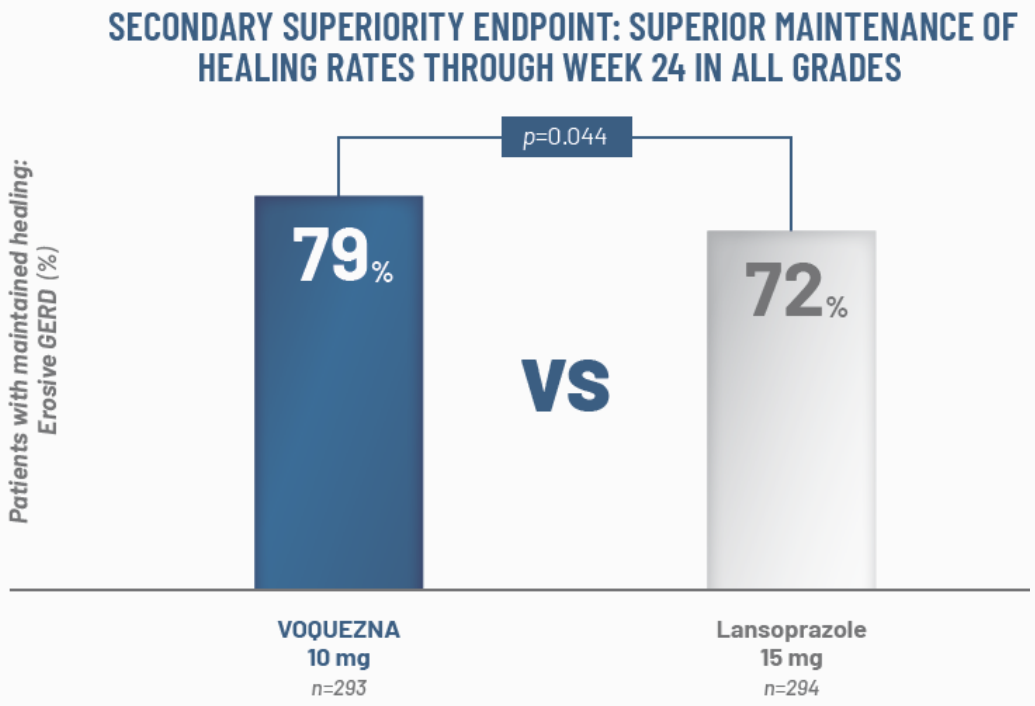
[1] Phathom market research, data on file

Phathom PHARMACEUTICALS

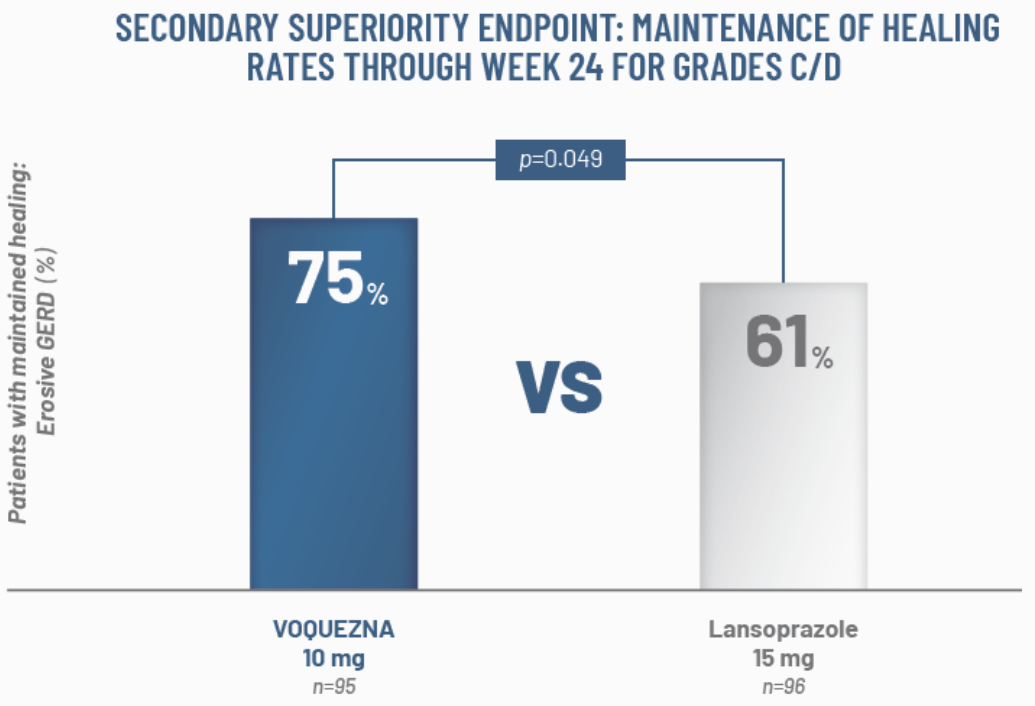
Superior maintenance of healing data differentiates VOQUEZNA

VOQUEZNA for the Maintenance of Healing of Erosive GERD in Adults

Superior rates of sustained healing in all grades with VOQUEZNA vs a PPI



Superior sustained healing rates with VOQUEZNA vs a PPI in patients with moderate-to-severe disease

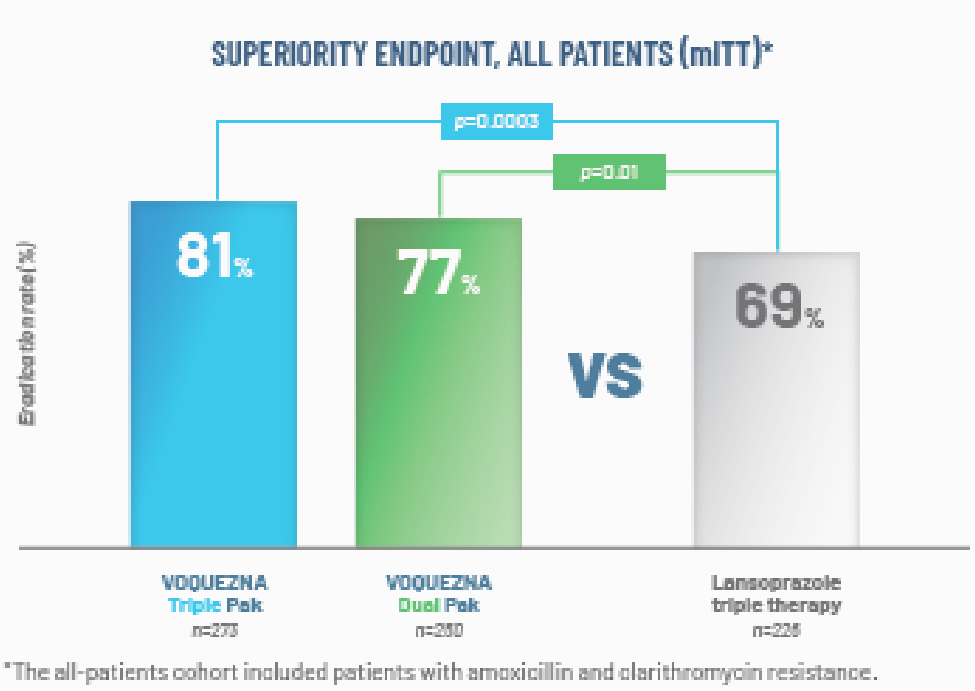


Phathom PHARMACEUTICALS

H. pylori superiority data addresses high unmet need

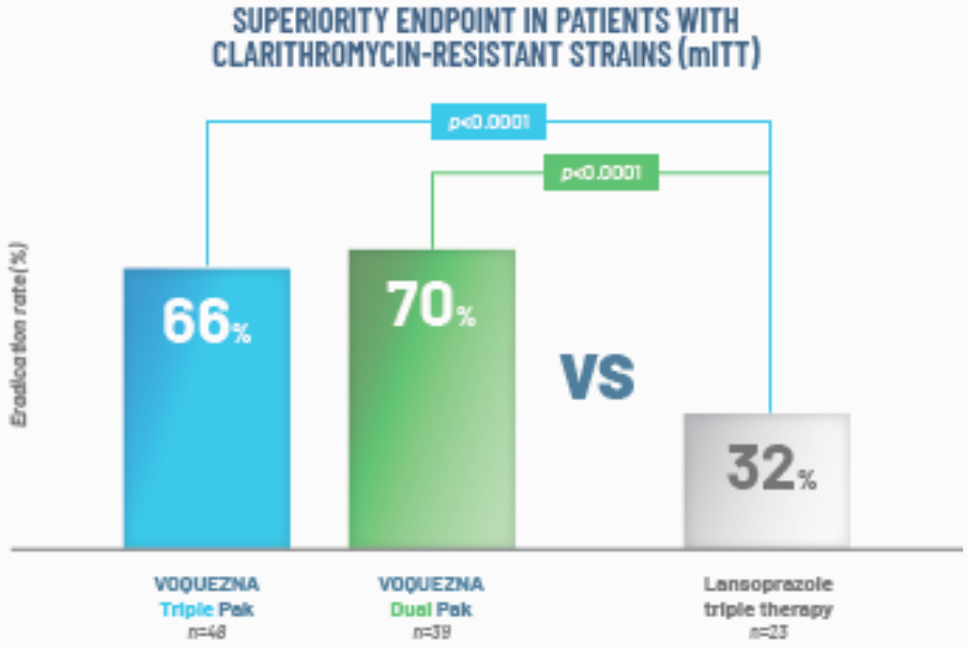
VOQUEZNA Triple & Dual PAK for the Treatment of *H. pylori* in Adults

Superior eradication rates in the all-patients cohort



*The all-patients cohort included patients with amoxicillin and clarithromycin resistance.

More than 2x the eradication rate in clarithromycin-resistant strains



Note: Data above reflects secondary endpoints; Primary endpoint measured non-inferiority in patients without antibiotic resistance; All pre-specified primary and secondary endpoints demonstrated statistical significance

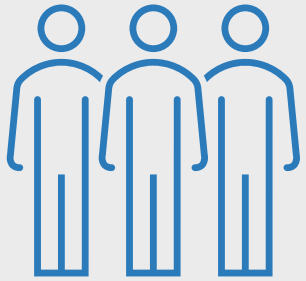
Phathom PHARMACEUTICALS

Unique and differentiated profile resonates across all customer segments

RAPID, POTENT, & DURABLE ACID SUPRESSION

Physician

Establish VOQUEZNA as a treatment of choice in Erosive GERD and HP



Consumer

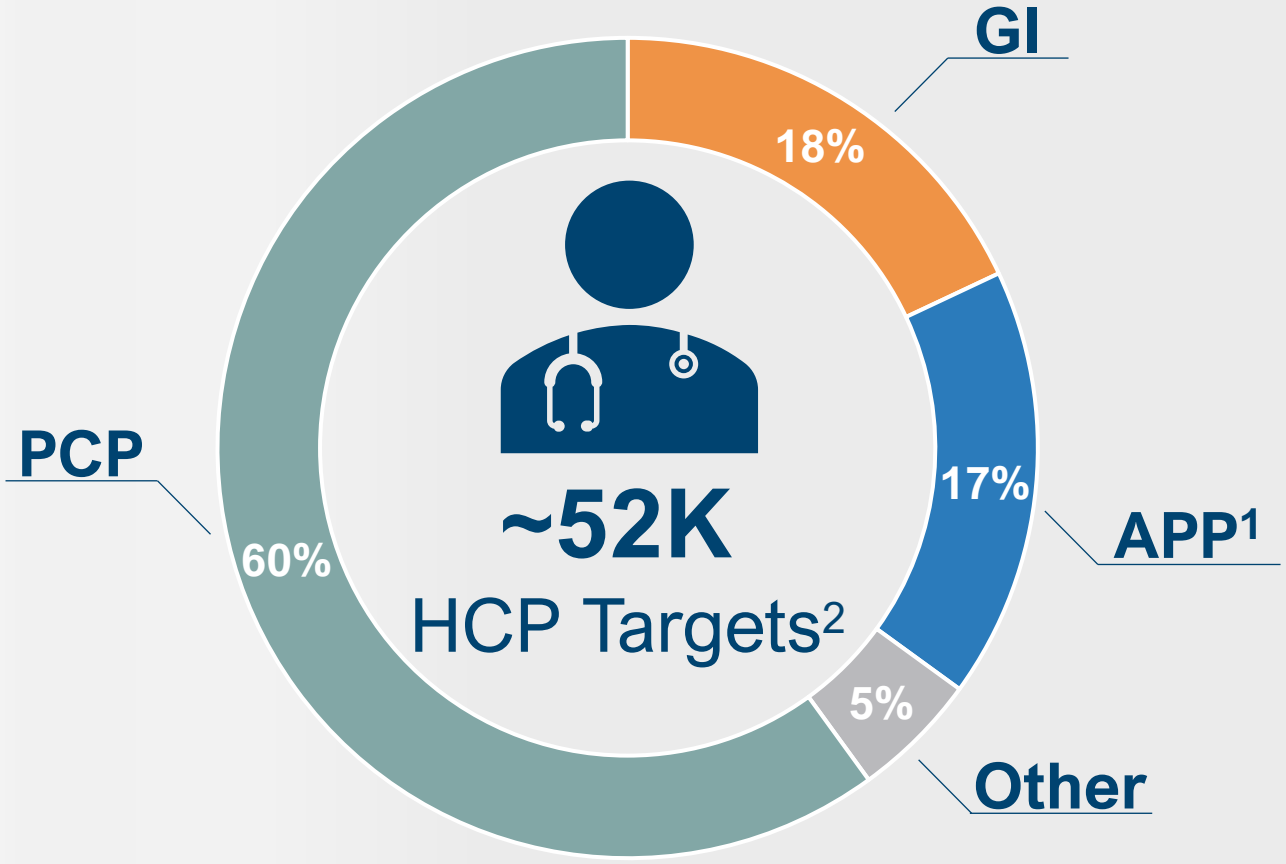
Drive patient demand

Payer

Secure formulary access for PPI experienced patients

Phathom PHARMACEUTICALS

VOQUEZNA sales force to target high volume PPI prescribers



Targeting high prescribing physicians who write an average **~1,200 PPI TRx annually[2]**

[1] APPs = advanced practice provider (i.e., nurse practitioners and physician assistants)
[2] IQVIA APLD (Nov 2020 – Oct 2022) and IQVIA Xponent (Dec 2020 – Nov2022); Annual PPI prescription metric is based on total prescribing across all indications

Phathom PHARMACEUTICALS

Ready to begin physician promotion today

Field Force Onboarding

320
Sales Reps

Expansive Live / In-Person Education

Comprehensive Educational Speaker Program

>200
Speakers

High Reach and Frequency

Targeted HCPs will see VOQUEZNA

will receive digital messaging

>50x per month

Broad Presence at Physician Conferences in 2024

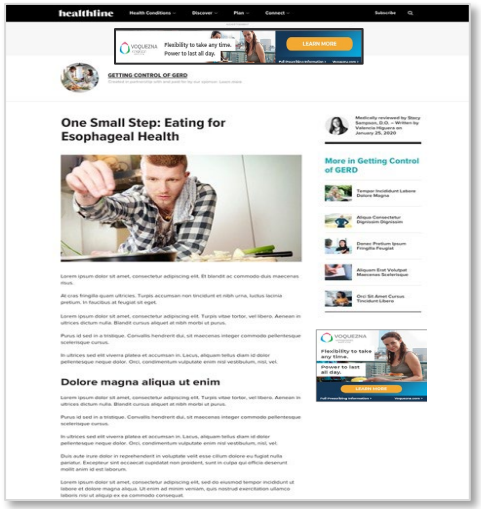
GI ReConnect
FOUNDATION FOR RESEARCH AND EDUCATION IN ESOPHAGEAL AND FOREGUT DISEASE
primed West
UNITED DIGESTIVE
GASTRO HEALTH
OneGI
DDW 2024
Digestive Disease Week®
AMERICAN FOREGUT SOCIETY
primed East
GUILD Hawaii
GI Alliance
AMERICAN COLLEGE OF GASTROENTEROLOGY
Advancing Gastroenterology, Improving Patient Care
ACP American College of Physicians® Leading Internal Medicine, Improving Lives
GHAPP
aga American Gastroenterological Association
GUILD Caribbean

Phathom PHARMACEUTICALS

Consumer activity coincides with availability of VOQUEZNA in pharmacies

Targeted Online Promotion

Promotion on Education Searches



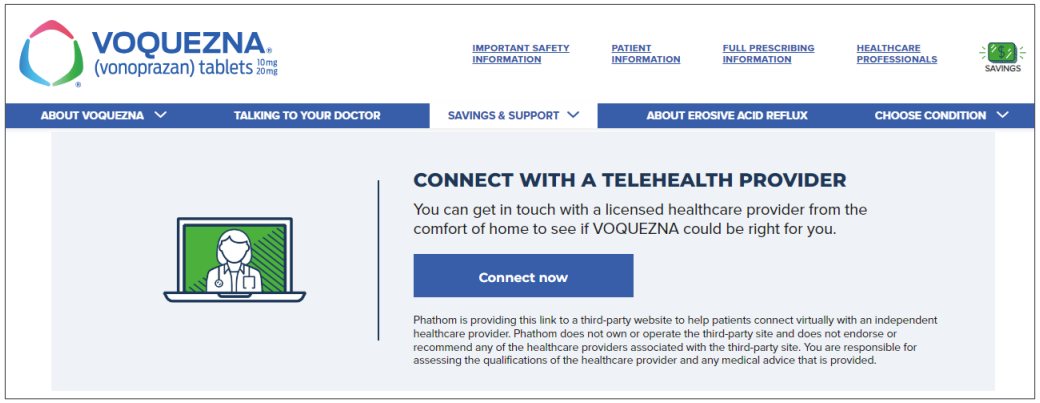
WebMD

EVERYDAYHEALTH

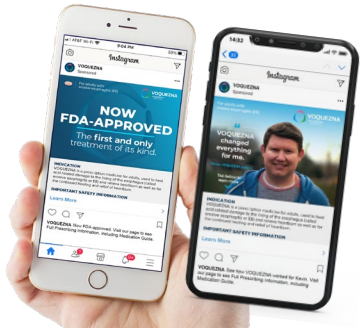
Remedy HEALTH

healthline

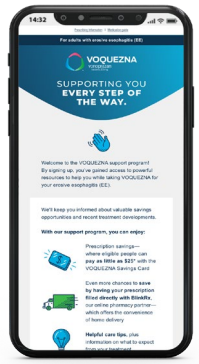
Connect with a Telehealth Provider



Social Ads



Ongoing Engagement



Phathom PHARMACEUTICALS

Payer strategy leverages strong HP Pak foundation

Superiority Data + Branded Price + Discount for Placement = **ACCESS**

HP Paks established a strong base

VOQUEZNA TriplePak®
vonoprazan tablets 20 mg
amoxicillin capsules 500 mg
clarithromycin tablets 500 mg

VOQUEZNA DualPak®
vonoprazan tablets 20 mg
amoxicillin capsules 500 mg

65%
commercial coverage[1]

Extending the strategy to GERD

VOQUEZNA®
(vonoprazan) tablets 10 mg 20 mg

Price:	$650 WAC (30-ct bottle)
Value:	Superiority vs. standard of care
Access:	Assuming 1-step through PPI
Goal:	Secure coverage for bottle NDCs

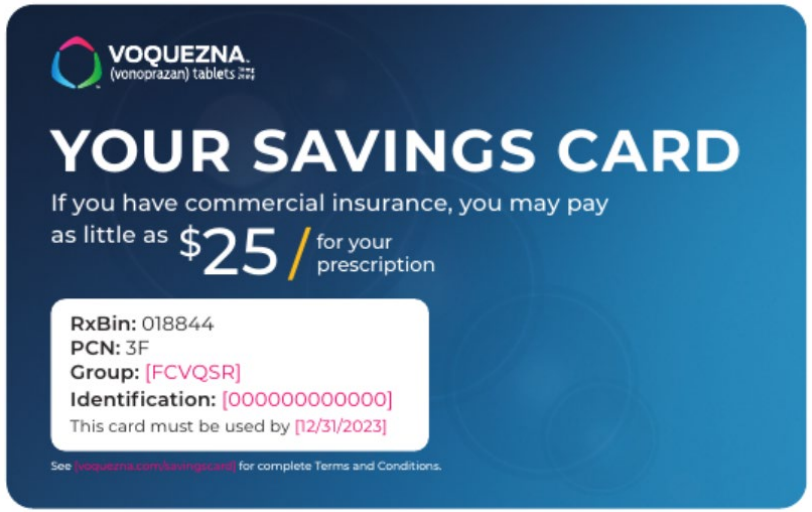
[1] Per MMIT formulary lookup tool as of September 29, 2023
Note: VOQUEZNA Triple Pak and VOQUEZNA Dual Pak wholesale acquisition cost is $812 per treatment course; VOQUEZNA component is taken BID during the 14-day regimen (i.e., 28 VOQUEZNA pills per therapy)

Phathom PHARMACEUTICALS

Support in place for commercial patients who face coverage or affordability challenges

Patient Co-Pay Assistance

Eligible patients with commercial insurance can pay as little as $25 for their VOQUEZNA prescription[1]



Enhanced Patient Access

BlinkRx is a digital fulfillment channel that ensures the lowest out of pocket cost for patients and free home delivery

VOQUEZNA® (vonoprazan) tablets 10mg 20mg

+

BLINKRx

[1] Eligible, commercially insured patients may pay as little as $25 per prescription fill of VOQUEZNA; Offer not valid for patients enrolled in Medicare, Medicaid, or other federal or state healthcare programs; See VOQUEZNA.com for full program eligibility terms and conditions

Phathom PHARMACEUTICALS

Goal to displace PPIs and become the #1 selling acid suppressant

VOQUEZNA® (vonoprazan) tablets 10 mg 20 mg

RAPID | **POTENT** | **DURABLE**

Note: For full prescribing and safety information, please visit VOQUEZNA.com

Phathom PHARMACEUTICALS

Expected build towards a potential blockbuster opportunity

4Q ‘23

+ Product in market
+ Sales force onboarding
+ Limited access/coverage
+ HCP & consumer digital campaign launch

1Q ‘24

+ Full sales force in field
+ Erosive GERD formulary reviews begin
+ Ramp up of educational speaker programs

2Q ‘24

+ Growth in commercial access/coverage
+ Increasing script volume as access is secured
+ Initiate broader DTC campaign

2H ‘24

+ Anticipated Non-Erosive Daily PDUFA target date
+ Accelerating script volume due to broader addressable population

Phathom PHARMACEUTICALS

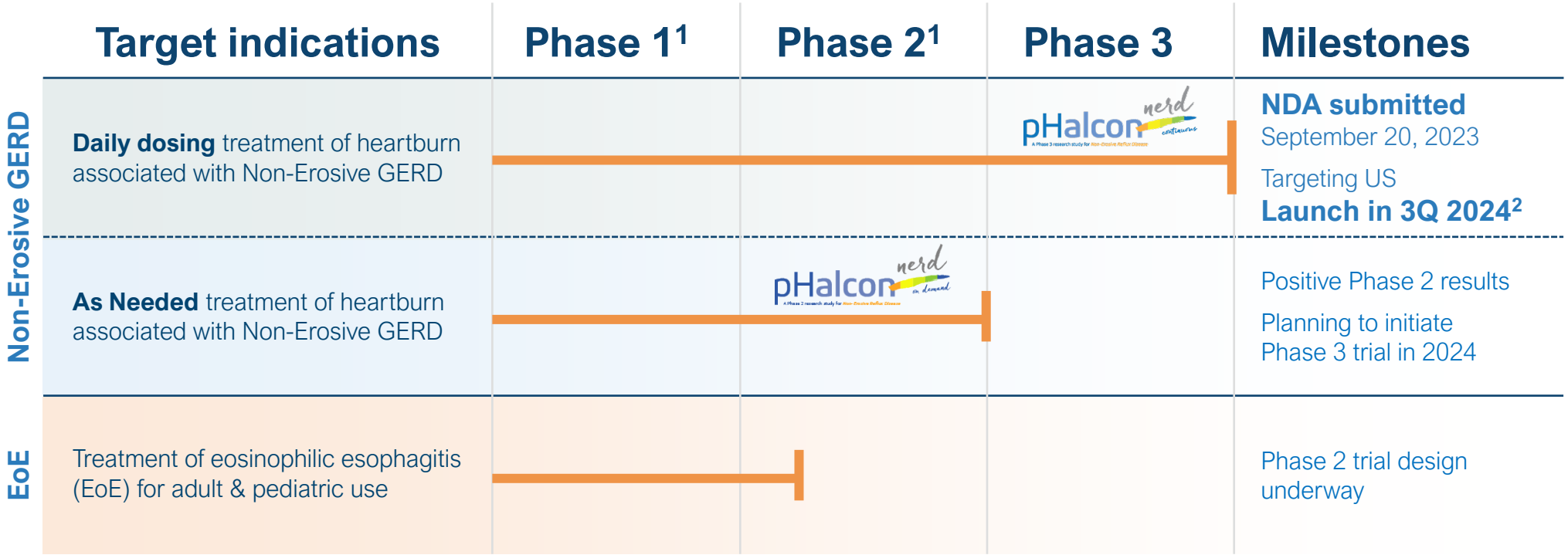
Three approved products across two indications, with more anticipated

NOW APPROVED – Product expected in December

VOQUEZNA® (vonoprazan) tablets 10 mg 20 mg

VOQUEZNA TriplePak®
vonoprazan tablets 20 mg
amoxicillin capsules 500 mg
clarithromycin tablets 500 mg

VOQUEZNA DualPak®
vonoprazan tablets 20 mg
amoxicillin capsules 500 mg



[1] Phase 1 and 2 studies supporting applications for Erosive GERD and *H. pylori* were conducted by Takeda; Phathom has development & commercialization rights to vonoprazan in the US, Europe, & Canada
[2] Pending FDA acceptance of filing and approval

Phathom PHARMACEUTICALS

Question & Answer

- Terrie Curran, Chief Executive Officer
- Martin Gilligan, Chief Commercial Officer
- Azmi Nabulsi, Chief Operating Officer
- Molly Henderson, Chief Financial Officer

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Appendix

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Overview of VOQUEZNA Triple Pak & Dual Pak prescribing information

Products	VOQUEZNA Triple Pak	VOQUEZNA Dual Pak
Indications & Usage	Co-packaged product containing vonoprazan, a potassium-competitive acid blocker (PCAB), amoxicillin, a penicillin class antibacterial, and clarithromycin, a macrolide antimicrobial, indicated for the treatment of *Helicobacter pylori (H. pylori)* infection in adults.	Co-packaged product containing vonoprazan, a PCAB, and amoxicillin, a penicillin class antibacterial, indicated for the treatment of *H. pylori* infection in adults.
	To reduce the development of drug-resistant bacteria and maintain the effectiveness of VOQUEZNA TRIPLE PAK, VOQUEZNA DUAL PAK and other antibacterial drugs, VOQUEZNA TRIPLE PAK and VOQUEZNA DUAL PAK should be used only to treat or prevent infections that are proven or strongly suspected to be caused by bacteria.	
Dosage and Administration	The recommended dosage regimen is vonoprazan 20 mg plus amoxicillin 1,000 mg plus clarithromycin 500 mg, each given twice daily (morning and evening, 12 hours apart), with or without food, for 14 days.	The recommended dosage regimen is vonoprazan 20 mg twice daily (morning and evening) plus amoxicillin 1,000 mg, three times a day (morning, mid-day, and evening), with or without food, for 14 days.
Dosage Forms & Strengths	Carton of 14 daily administration packs for morning and evening dosing, each containing the following three drug products: • Tablets: Vonoprazan 20 mg • Tablets: Clarithromycin 500 mg • Capsules: Amoxicillin 500 mg	Carton of 14 daily administration packs for morning, mid-day and evening dosing, each containing the following two drug products: • Tablets: Vonoprazan 20 mg • Capsules: Amoxicillin 500 mg
Adverse Reactions	Most common adverse reactions (≥ 2%) were dysgeusia, diarrhea, vulvovaginal candidiasis, headache, abdominal pain, and hypertension.	Most common adverse reactions (≥ 2%) were diarrhea, abdominal pain, vulvovaginal candidiasis and nasopharyngitis.

For full prescribing and safety information, please visit VOQUEZNA.com

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