NASDAQ: EVOK

August 2018

Forward-Looking Statements

Evoke cautions you that statements included in this presentation that are not a description of historical facts 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 negatives of these terms or other similar expressions. These statements are based on the company's current beliefs and expectations. These forward-looking statements include statements regarding: anticipated timing to submit an NDA for Gimoti; Evoke's plans to hold an investor conference call following submission of the NDA for Gimoti; the potential timing of FDA acceptance and approval, if any, of the NDA for Gimoti; and Evoke's projected cash runway. The inclusion of forward-looking statements should not be regarded as a representation by Evoke that any of its plans will be achieved. Actual results may differ from those set forth in this presentation due to the risks and uncertainties inherent in Evoke's business, including, without limitation: the FDA may disagree that the existing safety database and efficacy data is sufficient to allow an NDA submission and approval, including risks associated with Cmax falling below the bioequivalence range in the comparative exposure PK trial and the proposed duration of use for Gimoti being shorter as compared to the maximum approved dosing duration for the referenced listed drug, Reglan Tablets, and the available safety database supporting such duration; ; the FDA may not agree with Evoke's interpretation of the results of clinical trials of Gimoti; later developments with the FDA that may be inconsistent with the already completed pre-NDA meetings; the inherent risks of clinical development of Gimoti; Evoke may spend its available cash faster than it anticipates; Evoke is entirely dependent on the success of Gimoti, and Evoke cannot be certain that it will be able to submit an NDA for Gimoti or obtain regulatory approval for or successfully commercialize Gimoti; Evoke will require substantial additional funding to conduct any new safety trials required by the FDA, and may be unable to raise capital when needed, including to fund ongoing operations; and other risks detailed in Evoke's prior press releases and in the periodic reports it files with the Securities and Exchange Commission. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof, and Evoke undertakes 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. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

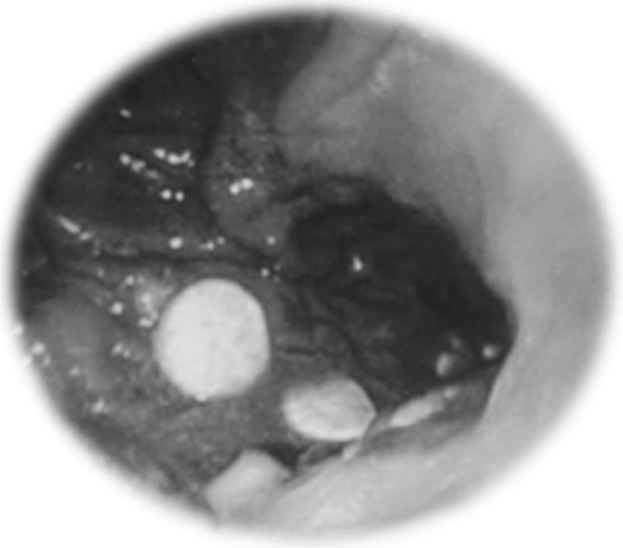
Investment Highlights

Product	• Gimoti™: a novel nasal spray delivery of metoclopramide • Relief of symptoms in adult women with acute and recurrent diabetic gastroparesis
Large, Growing & Unsatisfied Market	• 12-16M patients in US, 80% female, poorly served with limited efficacy from current standard of care • Only 1 FDA-approved product: metoclopramide (oral & injection) • ~4M prescriptions annually for oral metoclopramide
Differentiation versus Oral Medications	• Bypasses the GI tract and enters the bloodstream directly • Predictable absorption despite delayed and erratic stomach emptying • Absorption not affected by vomiting
Compelling Commercial Opportunity	• Peak sales potential of several hundred million dollars depending upon pricing and sales force sizing • Few expected reimbursement impediments • Targeted GI specialty sales force of less than 100 FTE's
Clear Regulatory Pathway	• Positive comparative exposure PK trial results announced October 2017 • Sex-based PK differences for Gimoti announced in February 2018 • FDA Pre-NDA meeting held January 2018 for female-only filing strategy • **NDA submitted June 1, 2018; acceptance for review expected in August**

Gastroparesis: Unpredictable & Difficult to Treat

Unpredictable symptom flares can lead to costly hospitalizations

Undissolved drug tablets in stomach



Simpson, S.E., Clinical Toxicology, 2011

- Delayed emptying of stomach contents to small intestine (in the absence of an obstruction) interferes with oral absorption
- Vomiting further complicates effectiveness of oral medications
- Signs and symptoms characteristic of flare:

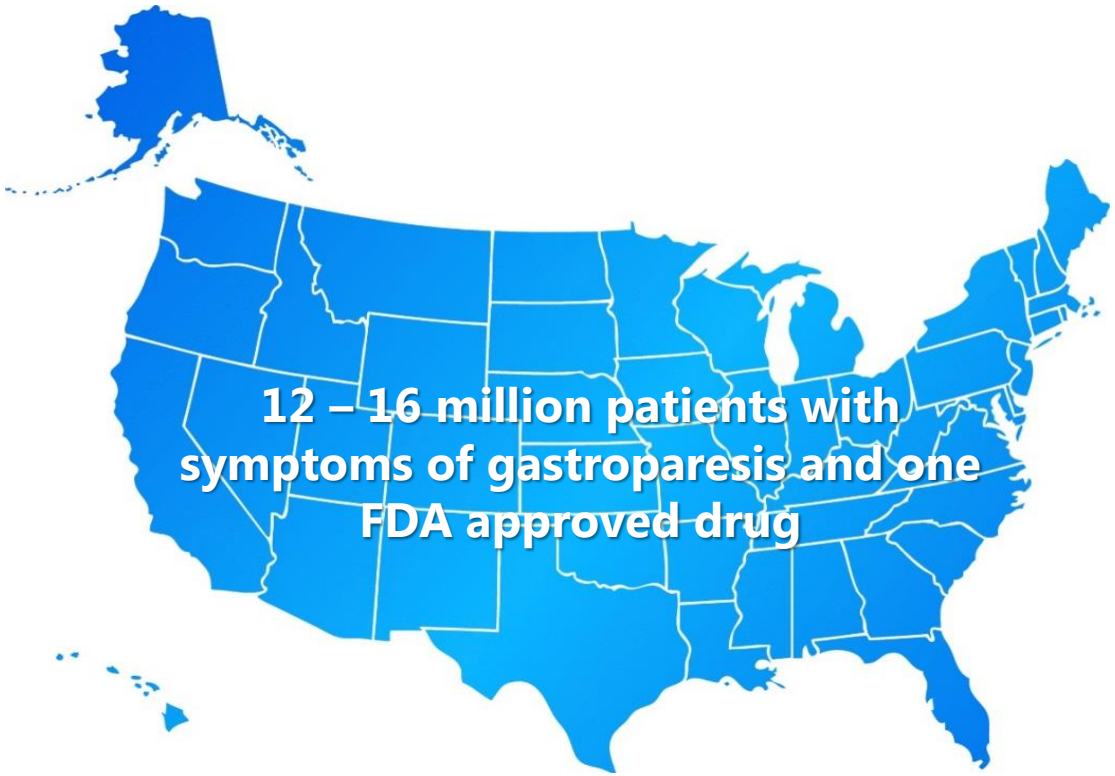
Nausea	Abdominal Pain	Early Satiety
Bloating	Prolonged Fullness	Vomiting

Impact on patients:

Diminished Quality of Life • Malnourishment • Poor Diabetes Control • Hospitalizations (Avg. 6+ days*)

* Wang, YM. Am J of Gastroenterol 2008; 103:313-322

Gastroparesis: Large & Growing Market



- **80% of diabetic gastroparesis patients are women**
  - Diabetes is #1 known cause of gastroparesis
  - ~2-3M patients currently receive treatment
  - Under-diagnosed in part due to lack of awareness
  - Prevalence increasing due to growing diabetes population
- **Estimated $3-4B prescription market**
- **$3.5B in additional hospitalization costs in 2004**

- Wang, Parkman. "Gastroparesis Related Hospitalizations in the United States: Trends, Characteristics and Outcomes 1995-2004" *AM J Gastroenterol* 2008; 103:313-322
- Samsom M, Roelofs J. "Prevalence of Delayed Gastric Emptying in Diabetic Patients and Relationship to Dyspeptic Symptoms." *Diabetes Care*, Vol. 26, No. 11, Nov. 2003, 3116-3122
- Hasler WL. *Current Gastro Reports* 2007; 9: 261-2692007; 9: 270-279
- Intagliato NI, Koch KL. *Current Gastro Reports*
- Soykan I, Sivri B, Sarosiek I, Kiernan B, McCallum RW. Demography, clinical characteristics, psychological and abuse profiles, treatment, and long-term follow-up of patients with gastroparesis. *Dig Dis Sci* 1998;43:2398-404

Gastroparesis: Unmet Clinical Need

Current oral treatment options lack predictable delivery and absorption, leading to inadequate treatment

- Motility & Symptoms
  - Oral Metoclopramide (1st line)
  - Domperidone (not FDA-approved)
- Motility
  - Erythromycin (used off-label)
- Symptoms
  - Odansetron, promethazine (nausea & vomiting)
  - PPI's (abdominal pain)
  - Narcotics (abdominal pain)

All oral medications

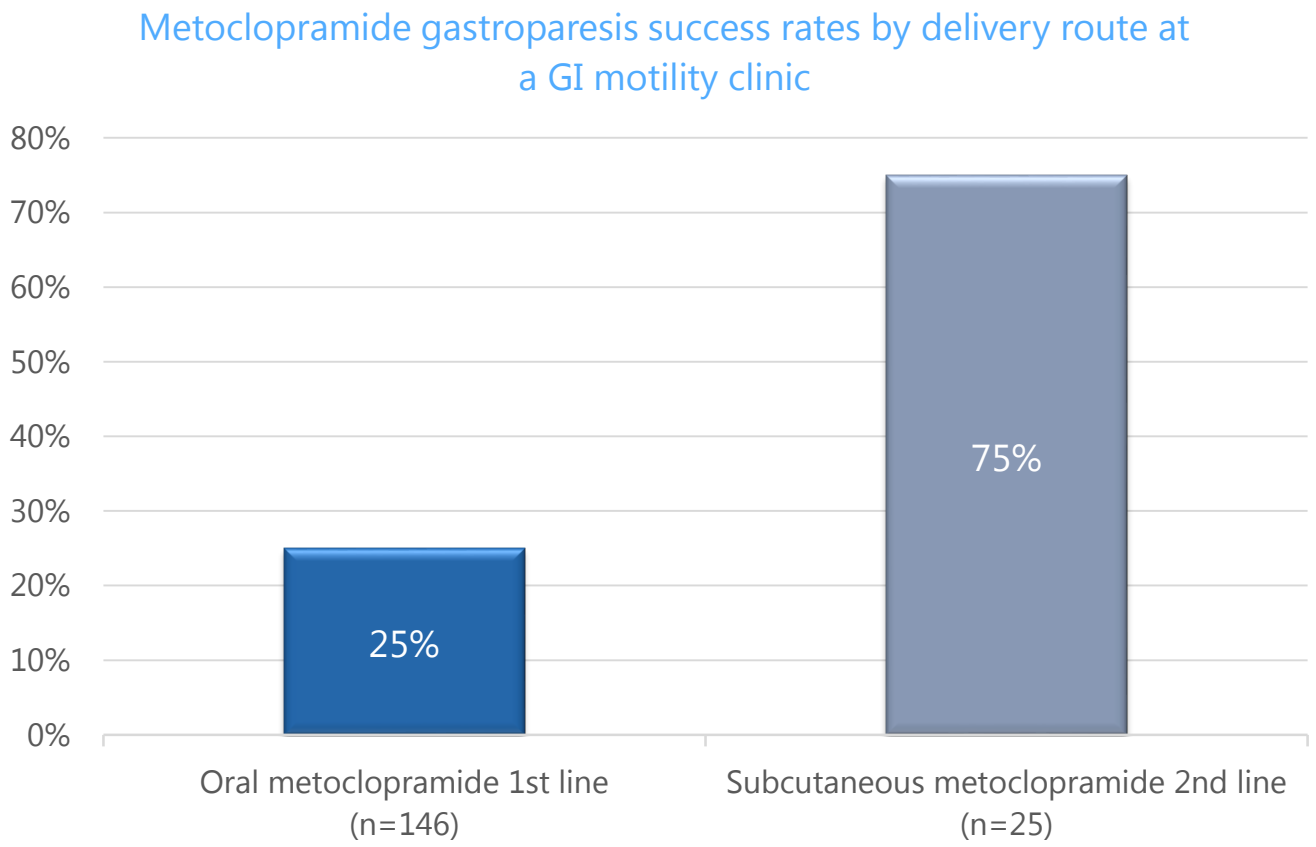
Ineffective Treatments and Inadequate Response

- Erratic absorption of oral drugs* (significant delay, multi-dose dumping) or no absorption due to vomiting
- Unpredictable efficacy and potential safety concerns
- Lack of compliance due to nausea and other GI symptoms

* Gastroparesis: Clinical Evaluation of Drugs for Treatment FDA Guidance for Industry. July 2015

Study Shows Improved Efficacy with Non-Oral Treatment

Success rate for alternative administration shown to be 3x higher than oral



- "This non-oral route generates a constant plasma level of the metoclopramide when:
  - Patients are vomiting
  - Unpredictable absorption limits the value of any orally administered agent"
- Clinical study only: Subcutaneous metoclopramide not commercially available and not FDA approved

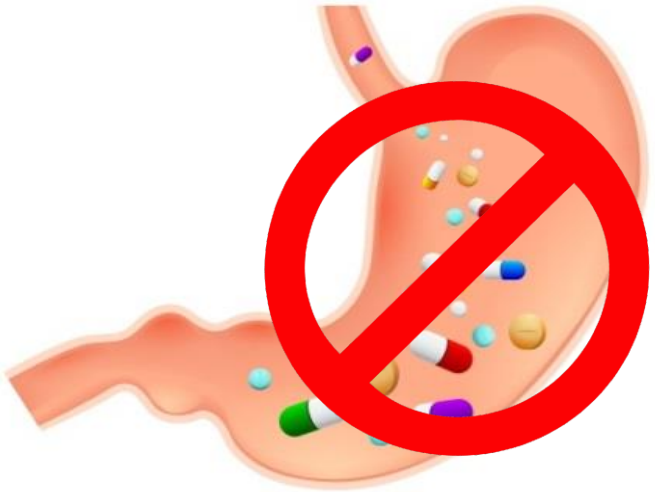
Soykan. et al Digestive Diseases and Sciences, Vol. 43, No. 11 (November 1998)

Gimoti™: Our Treatment Solution

Novel approach for symptomatic relief of acute & recurrent diabetic gastroparesis in women

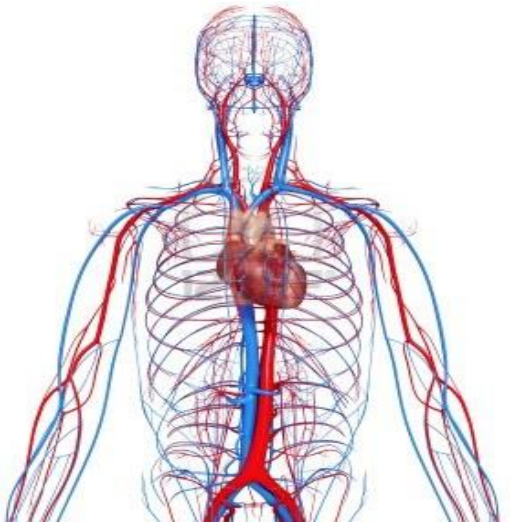
Spray delivered and absorbed in the nasal cavity

Gimoti™
(metoclopramide nasal spray)



Provides:

- Predictable absorption regardless of gastric emptying delays
- Symptom relief even during flares

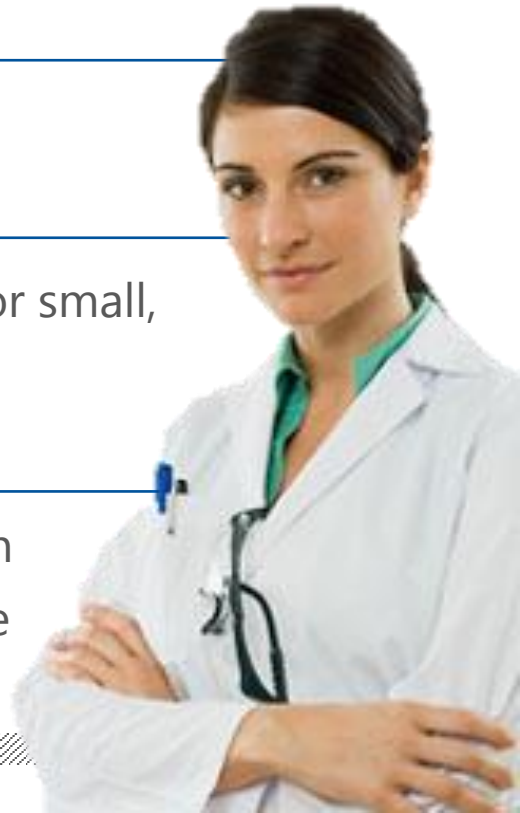


Unlike oral medications, nasal delivery:

- Bypasses the GI tract to directly enter the bloodstream
- Ensures predictable absorption despite vomiting and gastric emptying delays

Compelling Commercial Opportunity

Significant Unmet Need	• Physicians and patients report broad interest in non-oral treatment alternatives to address unpredictable absorption • No new FDA approved therapies for gastroparesis since 1980
Ready-made Market	• 4M prescriptions of oral metoclopramide annually • 20-50% of patients use off-label treatments or go untreated
Potential for Premium Pricing	• 30 national and regional plans indicate limited reimbursement impediments based upon various pricing scenarios
Appropriate for Specialty Salesforce	• ~7,200 metoclopramide prescribing gastroenterologists allows for small, targeted salesforce • Significant referrals for diagnosis/treatment from specialists
Rapid Uptake Possible	• No expected competitive sales force for several years after launch • Market research shows rapid incorporation into treatment regime

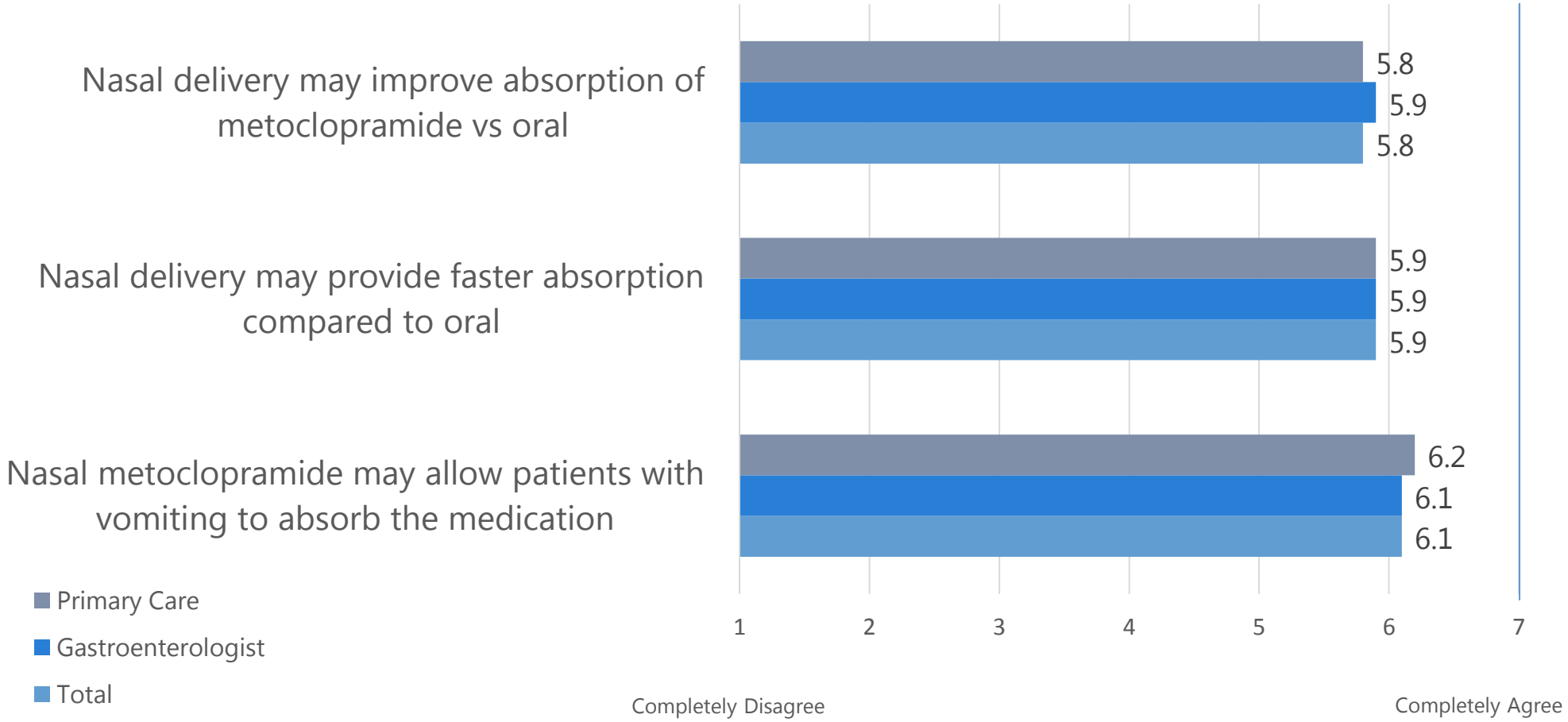


Current Competitive Landscape

Product	Class	Route	Company	Development Status
Gimoti	**Dopamine antagonist & mixed 5-HT$_3$ antagonist/ 5-HT$_4$ agonist**	**Nasal**	**Evoke Pharma**	**505(b)(2) NDA submitted June 2018** Positive comparative exposure PK study results and discovery of sex-based differences Phase 3 (n=205): Statistical significance achieved in women with moderate to severe gastroparesis symptoms at baseline. Did not meet primary endpoint for ITT.
Relamorelin	Ghrelin agonist	Sub Cutaneous	Allergan	**Phase 3 (enrolling)** results expected in 2020 Phase 2b results: Failed to meet primary endpoint in symptomatic relief of vomiting reduction. Phase 2a results: Failed to meet secondary symptom endpoint with either dose
Velusetrag	5-HT$_4$ agonist	Oral	Takeda/ Theravance	**Phase 2b (n = 232)** Mixed results with three doses (5, 15, and 30 mg). No dose response. More side effects with higher doses. Phase 2a (n=34) results: No results reported for symptom relief
Tradipitant	NK-1 antagonist	Oral	Vanda	**Phase 2 (enrolling):** No prior results in gastroparesis
Renzapride	5-HT4 agonist and 5HT-3 antagonist	Oral	EndoLogic	**Phase 2a (completed 2008):** No results reported for symptom relief (gastric emptying only)
ATC-1906	D2/D3 receptor antagonist	Oral	Takeda	**Phase 1 (ongoing):** No known results
NG-101	D2/D3 receptor antagonist	Oral	Neurogastrx	**Phase 1:** No gastroparesis results

Addressing Physician Concerns

Mode of Delivery Attributes

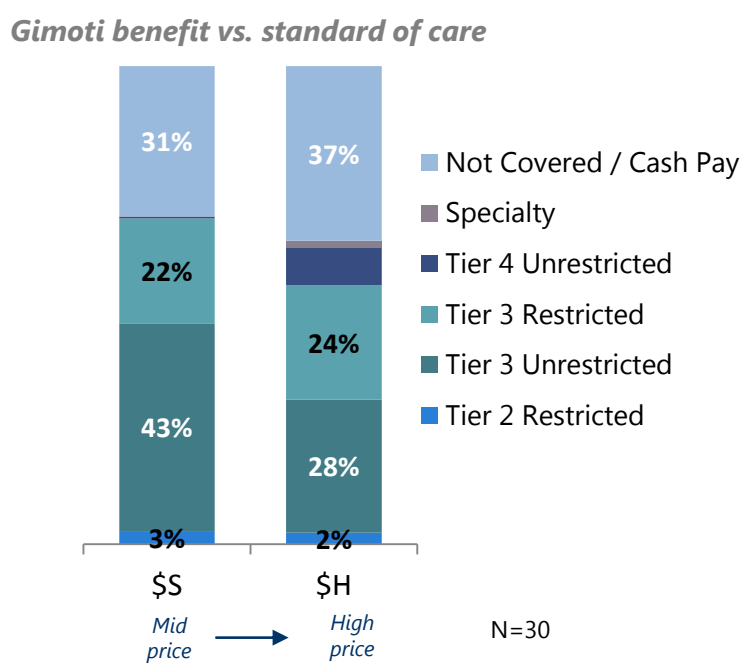


Source: ZS Associates Gastroparesis quantitative survey (n=121), Question 4Q5: How much do you agree with each of the following statements?
Totals weighted based on average metoclopramide TRx's per high/medium segment

Strong Pricing Potential

Anticipate Gimoti to be widely available to commercial plan members

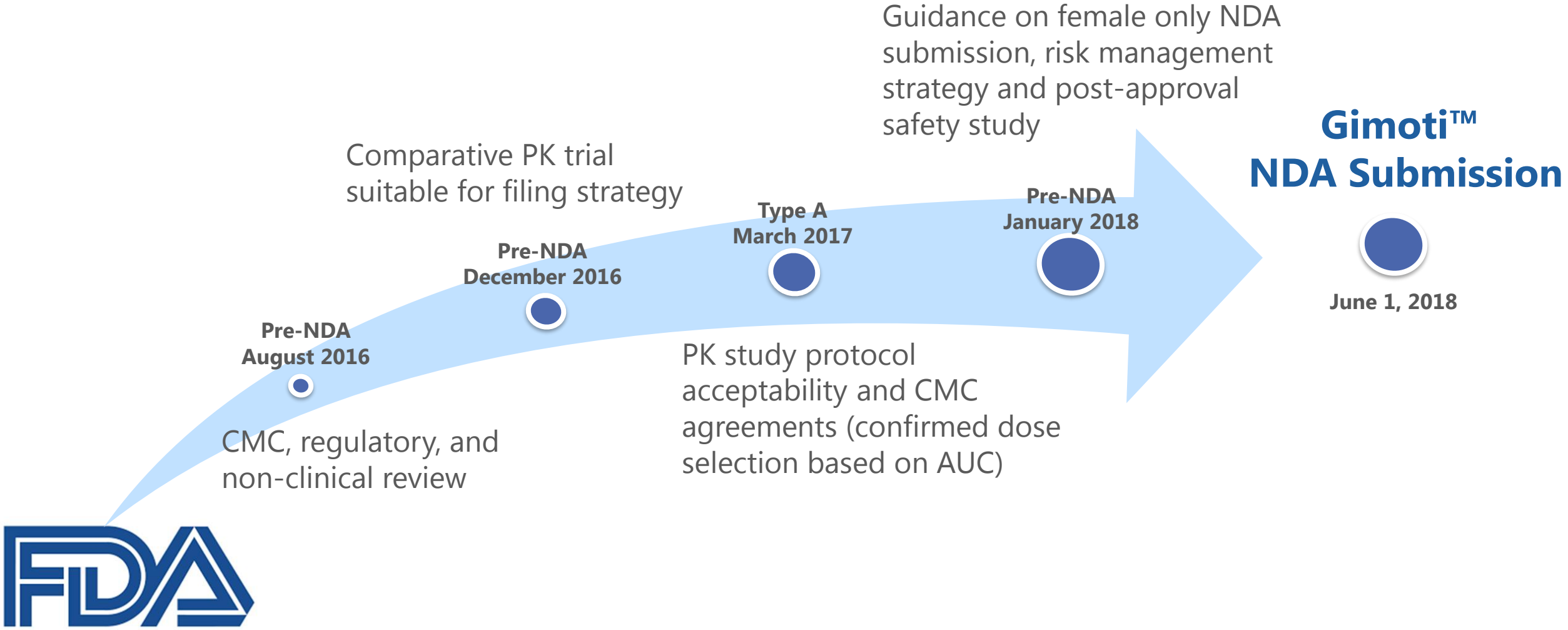
Management of Gimoti at Evaluated Prices
(Coverage by Percentage of Lives)



- Mostly Tier 3 "Unrestricted" or "Restricted" coverage projected (typical for branded products)
  - Typical co-pay for most branded products
  - Little difference in coverage at similar ($S) or high ($H) price to current branded GI products
- Similar reimbursement regardless of label differentiation
- Ample commercial insurance reimbursement expected due to:
  - Lack of competitive products
  - Large unmet need
  - Significant current medical costs for hospitalization

Source: Campbell Alliance Web-based surveys with 18 pharmacy directors and 12 medical directors. April 29 through May 26, 2015.

NDA Recently Submitted



Comparative Exposure Pharmacokinetic Study

Design & Topline results

EVOKE PHARMA

Objective: Identify a Gimoti dose with systemic exposure equivalent to Reglan Tablets (the reference listed drug)

- A 4-period, 4-treatment, 4-sequence randomized crossover study of the bioavailability and PK of Gimoti and Reglan Tablets
- ~100 male & female healthy volunteers for PK analysis, 90% power
- Doses
  - 3 Gimoti strengths
  - Reglan Tablets 10 mg

Results

- Gimoti dose achieved equivalent exposure for AUC
  - Previously discussed with FDA dose selection based on AUC = between 80%-125%
- C_{max} was slightly lower than the RLD
  - Results anticipated for different route of administration and discussed with FDA prior to trial
  - Reference: 21 CFR Part 320.23 Bioavailability and Bioequivalence Requirements allow for variations in rate of absorption (C_{max})

Discovery of sex-based PK differences for Gimoti

- Exposure differences in women and men given same metoclopramide dose
  - Statistically significantly lower AUCs in men
  - Not attributable to body mass index (BMI) or weight
  - Regardless of the route of administration (nasal, oral, IV)
- PK differences may explain sex-specific efficacy results
  - Gimoti reduced symptoms of gastroparesis in women, but not men
- Female-only NDA filed June 1, 2018
  - Equivalent exposure to Reglan Tablets
- Patents filed
  - Dosing by sex (Comparative PK data)
  - Efficacy by sex (Differential efficacy Phase 2 & 3)
    - Granted in EU and Mexico thus far

Commercialization Preparations for Gimoti

- Manufacturing
  - Considerable Chemistry, Manufacturing & Controls data developed to date
  - Ongoing stability testing (3 years stability from prior batches)
  - Commercial manufacturing agreement announced with Patheon (ThermoFisher)
- Distribution
  - Currently evaluating firms for commercial relationship
  - Targeting wholesale and pharmacy providers for beneficial partnering
- Marketing & Sales
  - Ongoing relationship with Syneos Health (formerly inVentiv Health) for marketing sales and other commercial capabilities
  - Capabilities for multiple aspects of commercial infrastructure

Long-Term IP Protection

- Current patents provide protection against:
  - Delivering metoclopramide into the nose to treat symptoms associated with gastroparesis; and
  - Using a spectrum of stable liquid formulations containing metoclopramide
- Granted gender specific patents in the European Union and Mexico with coverage until 2032

U.S. Granted Patents		
Patent #	U.S. 6,770,262	U.S. 8,334,281
Title	Nasal Administration of Agents for the Treatment of Gastroparesis	Nasal Formulations of Metoclopramide
Expires	2021	2030

PCT Application	
Application #	PCT/US2012/052096
Title	Treatment of Symptoms Associated with Female Gastroparesis
Expires	2032 (if granted)

Gimoti Clinical & Regulatory Milestones

Event	Timeline	Completed
Topline comparative exposure PK data	Q4, 2017	✓
Pre-NDA meeting with FDA	Q1, 2018	✓
NDA submission	Q2, 2018	✓
NDA acceptance	Q3, 2018	
PDUFA goal date	H1, 2019	

Selected Financial Data

$2.4M PDUFA fee waiver granted for Gimoti NDA

Cash runway extended into April 2019

Income Statement Data (in USD)

1Q 2018	(Ended March 31, 2018)
Operating Expenses	
Research & Development	$1.4M
General Administrative	$1.0M
Total Operating Expense	$2.4M
Other (Income) Expense	($0.4M)
Net Loss	$2.0M

Cash (in USD) and Equity Data

	March 31, 2018
Cash Balance	$5.4M
Common Shares Outstanding	15.7M
Warrants	2.8M
Stock Options	2.8M

Summary Highlights

- **Gimoti™:** novel nasal delivery of metoclopramide for the symptomatic relief of acute and recurrent diabetic gastroparesis in women
- **Serves unmet clinical need:** Provides predictable absorption despite gastroparesis symptoms or stomach emptying status; bypasses the GI tract
- **Large market opportunity:** ~12-16M patients with symptoms (80% women); ~2-3M currently treated in US given limited efficacy from few available treatment options
- **Only one FDA-approved therapy for gastroparesis:** Metoclopramide (oral & IV) still has ~4M million prescriptions of the oral medication prescribed annually
- **Positive data from pivotal comparative exposure PK study:** Gimoti demonstrated AUC equivalence
- **Female only 505(b)(2) NDA:** Submitted June 1, 2018