

Filed Pursuant to Rule 433
Issuer Free-Writing Prospectus Dated July 15, 2019
Relating to Preliminary Prospectus Dated July 15, 2019
Registration No. 333-231399

Jaguar Health, Inc.
(NASDAQ: JAGX)



Overview - July 2019

Forward-Looking Statements

This presentation contains forward-looking statements. All statements other than statements of historical facts contained in this presentation, including statements regarding the Company's plan to file an IND in 2H 2019 for lechlemer for the possible indication of diarrhea caused by cholera, the Company's belief that lechlemer may offer a possible Priority Review Voucher opportunity, the Company's statements regarding planned next steps for clinical trials (including the Company's plan to submit documentation in 2H 2019 to the FDA for the planned formulation of crofelemer for feeding tube administration to support investigation of a pediatric liquid formulation of crofelemer for the possible indication of Congenital Diarrheal Disease (CDD), and the Company's plan to file an IND and initiate the CDD investigator-initiated trial in 2H 2019), the Company's expectation that it will file an IND for the CTD supplemental indication in 2H 2019, the Company's expectations regarding the timing of filings with the SEC, the Company's expectation that it will file the Target Animal Safety Technical Section with FDA in the third quarter of 2019 for Canalevia for treatment of CID in dogs, the Company's plans to pursue additional business development deals in 2H 2019, and the timing of data results from planned proof of concept, field, investigator-initiated trials, and other studies are forward-looking statements. 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. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "aim," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this presentation are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this presentation and are subject to a number of risks, uncertainties and assumptions, some of which cannot be predicted or quantified and some of which are beyond our control. Please see the risk factors identified in our Annual Report on Form 10-K and our other filings with the SEC. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Readers are also advised that our projected sales do not take into account the royalties and other payments we will need to make to our Licensors and strategic partners. Moreover, we operate in a dynamic industry and economy. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties that we may face. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

Statement about Free Writing Prospectus

This presentation highlights basic information about us and the offering. Because it is a summary that has been prepared solely for informational purposes, it does not contain all of the information that you should consider before investing in our company. Except as otherwise indicated, this presentation speaks only as of the date hereof.

This presentation does not constitute an offer to sell, nor a solicitation of an offer to buy, any securities by any person in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation.

Neither the Securities and Exchange Commission (the “SEC”) nor any other regulatory body has approved or disapproved of our securities or passed upon the accuracy or adequacy of this presentation. Any representation to the contrary is a criminal offense.

This presentation includes industry and market data that we obtained from industry publications and journals, third-party studies and surveys, internal company studies and surveys, and other publicly available information. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions that were used in preparing the forecasts from the sources relied upon or cited herein.

We have filed a Registration Statement on Form S-1 (File No. 333-231399) with the SEC, including a preliminary prospectus dated May 10, 2019 and an amended preliminary prospectus on Form S-1/A, dated July 15, 2019 (the “Preliminary Prospectus”), with respect to the offering of our securities to which this communication relates. Before you invest, you should read the Preliminary Prospectus (including the risk factors described therein) and, when available, the final prospectus relating to the offering, and the other documents filed with the SEC and incorporated by reference into the Preliminary Prospectus, for more complete information about us and the offering. You may obtain these documents, including the Preliminary Prospectus, for free by visiting EDGAR on the SEC website at <http://www.sec.gov>.

Alternatively, we or any underwriter participating in the offering will arrange to send you the prospectus if you request it by calling (212) 409-2000 or by email at prospectus@ladenburg.com.

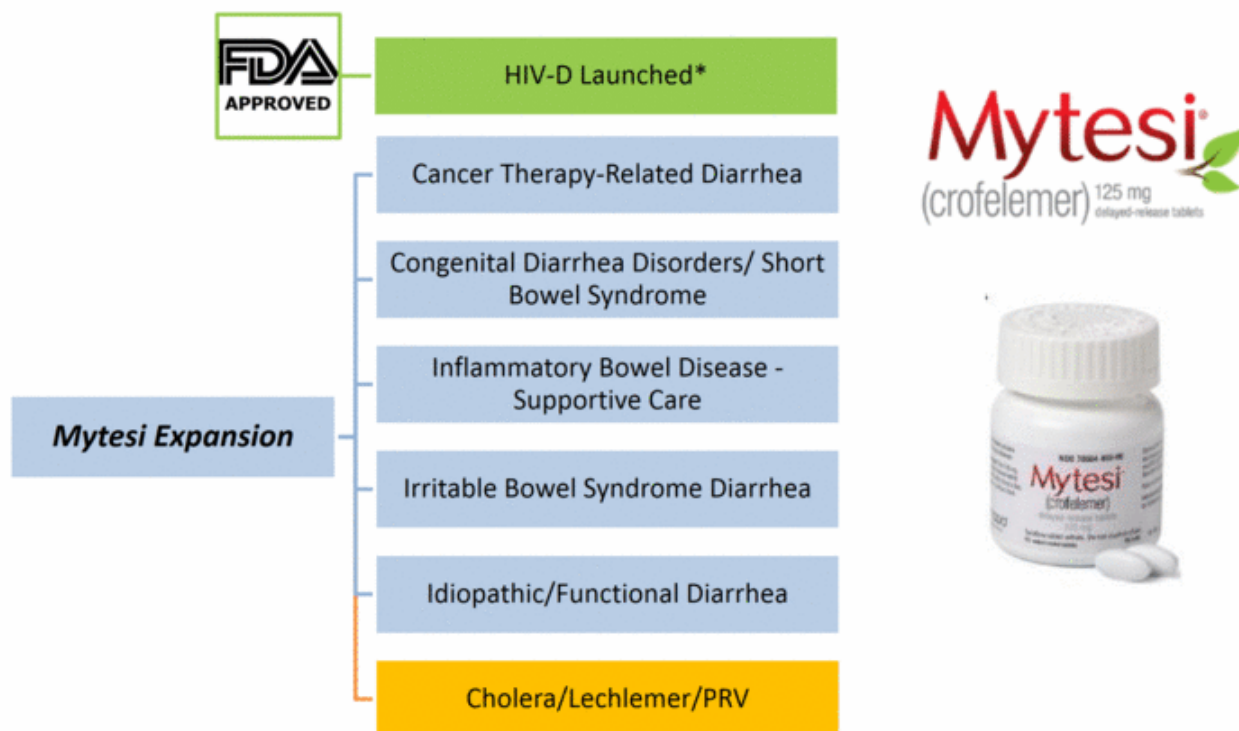
Our Story: From Tree to Bottle

Crofelemer was discovered through the science of ethnobotany



Company Pipeline & Product

➤ Jaguar Health, Inc. is a commercial stage pharmaceutical company focused on gastrointestinal products. Its lead product is Mytesi (crofelemer).



* Symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy

Global Growth Potential

Hold global rights to FDA-approved product with:

- Chronic safety profile
- Commercial manufacturing in place
- Multiple potential follow-on indications addressing large patient populations in need
- Phase 2 and/or proof-of-concept data for most target indications

Build value recognition in Jaguar by all stakeholders:

- “Live within our means”: Mytesi HIV sales
- Business development partnerships to progress pipeline development globally
 - Knight Therapeutics license for Canada and Israel with milestones of approximately \$18M + royalties



Product Portfolio

PRODUCT	INDICATION	DEVELOPMENT STAGE				
		PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	MARKET
Mytesi	Noninfectious diarrhea in adults with HIV/AIDS antiretroviral therapy					
Mytesi	Cancer therapy-related diarrhea (CTD)				<i>Interim data expected Q3 2019; study report expected Q1 2020</i>	
Mytesi	Supportive care for IBD					
Formulation of crofelemer	Rare Disease Short Bowel Syndrome (SBS) & Congenital Diarrheal Disease (CDD)			<i>Orphan-drug status for SBS; applying for Orphan-drug status for CDD</i>		
Mytesi	IBS - Diarrhea Predominant (IBS-D)				<i>Paper submitted to publication</i>	
Mytesi	Idiopathic/functional diarrhea			<i>IRB approval for Jaguar investigator-initiated trial in Q1, 2019</i>		
Lechlemer*	Cholera and other GI indications (second generation anti-secretory agent)		<i>Receiving preclinical services funded by the National Institute of Allergy and Infectious Diseases for dog and rat toxicity studies</i>			

*PRV

How Mytesi Works

NASDAQ:JAGX

How Mytesi Works

➤ Mytesi works differently from other treatments for diarrhea.



With Mytesi, it's about water flow

Mytesi works to make the amount of water in your GI tract normal



Less water flowing into your GI tract = less watery diarrhea



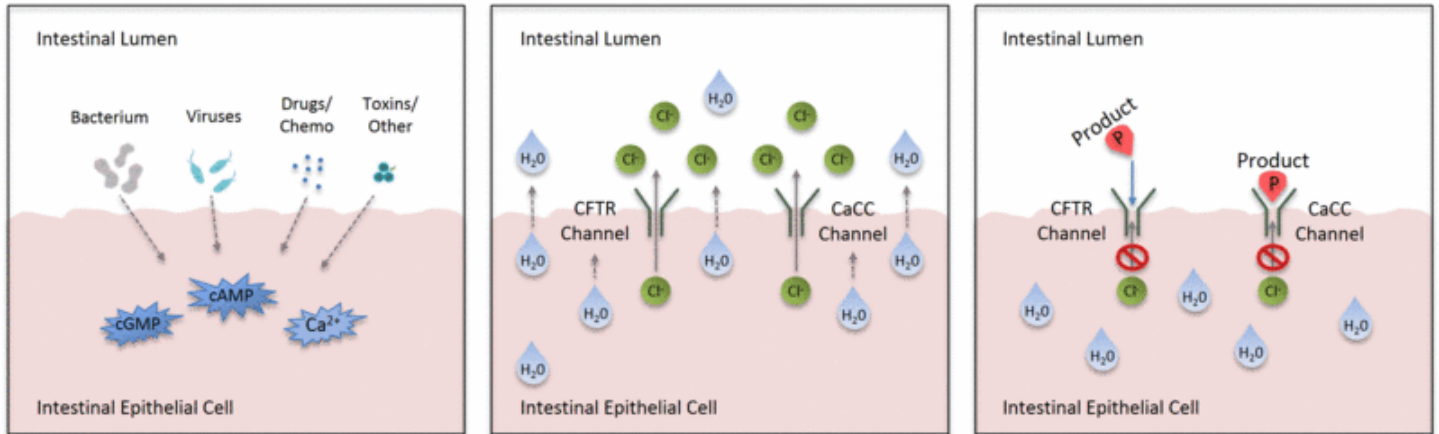
Mytesi only acts in the GI tract. It doesn't travel through your whole body



Most other diarrhea medicines work by slowing down your GI tract, i.e. opioids cause constipation

Unique Anti-Secretory Mechanism of Action in Mammals

*Mytesi (crofelemer) acts at the **common** last step in a physiological pathway, regardless of cause, thereby **normalizing** defective secretion, **specifically mitigating dehydration***



Acts locally in the gut and is minimally absorbed systemically

Expansion of Crofelemer Indications

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Worldwide per Year

14 Million New Cases of Cancer Diagnosed¹

4 Million People Receiving Chemotherapy²

Diarrhea and Cancer Treatments

- Chemotherapy-induced diarrhea in ~50-80% of treated patients³

Culture of Supportive Care in Cancer Market

- Approved drugs for chemotherapy-induced nausea and vomiting (CINV) include Sustol, Aloxi, Akynzeo and Sancuso
- Allied Market Research estimates that global sales of CINV drugs may reach \$2.7 billion by 2022 growing ~7.1% per annum⁴

¹National Cancer Institute. Cancer Statistics: <http://www.cancer.gov/about-cancer/what-is-cancer/statistics>

²<http://www.transparencymarketresearch.com/cinv-market.html>; Transparency Market Research. *CINV Existing and Pipeline Drugs Market: Global Industry Analysis, Size, Share, Growth, Trends and Forecast, 2014-2020*

³<https://www.ncbi.nlm.gov/pmc/articles/PMC3126005>

⁴<https://www.prnewswire.com/news-releases/chemotherapy-induced-nausea-and-vomiting-cinv-market-expected-to-reach-2659-million-by-2022-611755395.html>

Chemotherapy Regimens and Targeted Agents Commonly Associated with Incidence of Diarrhea¹

Agent / Regimen	All Grades	Grade 3/4
Erlotinib	55%	6%
Gefitinib	34-47%	<1-4%
Afatinib	96%	15%
Lapatinib	48%	7%
Idelalisib	43%	13%
Lapatinib + capecitabine	65%	14%
Capecitabine + docetaxel		14%
Pertuzumab, trastuzumab + docetaxel	67%	8%
Pertuzumab, trastuzumab, docetaxel + carboplatin	72%	12%
Panobinostat, bortezomib + dexamethasone	68%	25%
Irinotecan	76-82%	16-36%
5-Fluorouracil/leucovorin		
Bolus (Mayo Clinic)	58-64%	12-21%
Bolus (Roswell Park)	79%	29-30%
Infusional (LV5FU2)	44-48%	4-7%
FOLFORSX4	46-61%	5-12%
FOLFIRI	59-63%	10-14%
FOLFOXIRI	78%	20%
Capecitabine	46-48%	11-12%
XELOX	60-65%	19-20%
Bevacizumab + FOLFIRI	57%	11-14%
Cetuximab + FOLFIRI	63%	11-16%
Cetuximab + irinotecan	81%	21-28%
Panitumumab + FOLFIRI		14%
Neratinib	86 - >95%	40%



Puma Biotechnology (NASDAQ: PBYI) - neratinib

- The main adverse event of targeted therapy is diarrhea
- Diarrhea occurrence ranges from 86% to >95% in all grades and 40% in grade 3 and over



- Genentech, a member of the Roche Group, funding investigator-initiated trial in breast cancer patients receiving regimens of Herceptin (trastuzumab) and Perjeta (pertuzumab)

¹<https://www.gotoper.com/publications/ajho/2015/2015nov/effective-management-and-prevention-of-neratinib-induced-diarrhea>; Effective Management and Prevention of Neratinib-Induced Diarrhea

Next Steps:

- Interim data from Georgetown investigator-initiated Phase 2 trial expected Q3 2019; final study report expected Q1 2020

Funded By: Genentech/Roche

Genentech
A Member of the Roche Group



Georgetown
University

- Investigator initiated Phase 2 trial in breast cancer patients receiving regimens of Herceptin (trastuzumab) and Perjeta (pertuzumab)
- **“Positive Interim Result” means threshold to continue study beyond 23 patients has been met**
 - ❖ Threshold: If the power for the observed difference at the end of evaluation of 23 patients is < 20%, the trial will be considered futile
 - ❖ 51 patients to complete study

Next Steps (continued): Agreement with FDA on single pivotal trial for Phase 3 CTD

- **Jaguar's March 28, 2019 meeting with FDA, *Current status*:**
 - ❖ Crofelemer safety studies acceptable and no new nonclinical studies required
 - ❖ Chemistry, manufacturing and controls (CMC) data acceptable
 - ❖ No additional requirements for drug interaction studies for the CTD program
- **Finalizing agreement on enrollment criteria and endpoint statistics for single Phase 3 protocol, incorporating "basket" of chemotherapy and targeted agents**
- **Features of proposed Phase 3 pivotal trial:**
 - ❖ **Expected number of patients required to achieve 80% power:** 256
 - ❖ **Planned Label:** Symptomatic relief of diarrhea in adult patients with solid tumors receiving targeted cancer therapies with or without cycle chemotherapy
 - ❖ **Treatment Plan:** Crofelemer administered concomitantly with targeted cancer therapy agent
 - ❖ **Primary Endpoint(s):** Proportion of responders achieving a pre-specified number of weekly watery bowel movements over the 12-week double-blind treatment period AND/OR Proportion of diarrhea-free days i.e. number of patient-days having zero watery bowel movements over the 12-week period
 - ❖ **Inclusion Criteria:** Targeted cancer therapies reported to have significant incidence of diarrhea
 - ❖ **Principal Investigator & Co-Investigators Identified**

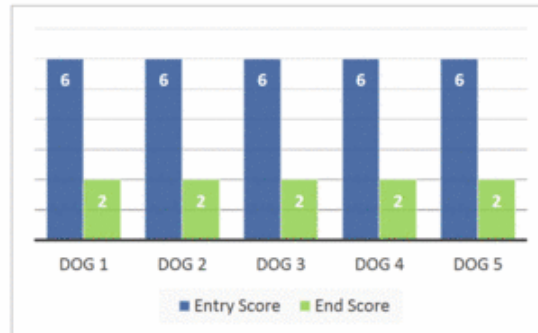
Clinical Study Evaluating Effect of Mytesi on the Microbiome

- **Study will examine possible benefits of Mytesi on gut health**, including bloating and abdominal discomfort, in people living with HIV (PLWH)
- Clinical research organization **Integrium, LLC** will provide clinical development services
- Since the microbiome is an important contributor to gut health, the evaluation of changes in the microbiome in PLWH who experience symptomatic relief from diarrhea is expected to allow further insights into Mytesi's effects on gut health
- **Study funded by an investment in Jaguar by California-based PoC Capital, LLC**



Chemotherapy-Induced Diarrhea (CID) in Dogs (MUMS): A Model for Human Development

- **Canalevia™ is a canine-specific formulation of crofelemer**
 - ❖ We estimate that over 230,000 dogs receive chemotherapy in US each year, and that approximately 25% of these dogs suffer from CID
 - ❖ Most receive human chemo agents or Palladia (targeted therapy approved in dogs)
- **Target Animal Safety Study: Canalevia safe in adult dogs & puppies**
- **All 5 dogs that entered studies with unformed stools responded, based on a fecal scoring scale of 1 (very hard and dry) to 6 (has texture but no defined shape)**



Key: End scores of 2 or 3 considered ideal

Next Steps:

- **Pilot study in dogs completed to support future clinical investigations evaluating crofelemer for treatment of noninfectious diarrhea in human cancer patients receiving tyrosine kinase inhibitors (TKIs)**
- **Mid-2019: File final technical section (Target Animal Safety) with FDA**
- **With receipt of conditional approval, expect to launch Canalevia CA-1, 1H 2020**

Pediatric Orphan-Drug Indications

➤ Congenital Diarrheal Disease (CDD)

Rare Congenital Chronic Intestinal Channel Disease Occurring in Early Infancy

- Severe, lifelong diarrhea; Incidence more prevalent in regions with consanguineous marriage

Treatment Options¹ and Unmet Needs

- Lifelong need for nutritional intake either parenterally or a feeding tube

➤ Short Bowel Syndrome (SBS)

Complex condition characterized by malabsorption of fluids and nutrients, as well as watery diarrhea, due to congenital deficiencies or surgical resection of small bowel segments

- Debilitating diarrhea, malnutrition, dehydration and imbalances of fluids and salts
- ~10k-20k people in the U.S. have SBS²
- Gattex (mfr. NPS Pharma), a subcutaneous injection for SBS patients who need additional nutrition or fluids from parenteral support, annual estimated cost per patient is \$378k-\$451k³
- Incidence more prevalent in regions with consanguineous marriage

Next Steps:

➤ Submitting IND for CDD

➤ Starting investigator-initiated Phase 2 trial at Sheikh Khalifa Medical City for CDD & SBS

¹www.cincinnatichildrens.org/health/c/congenital-diarrheal-disorders

²www.crohnscolitisfoundation.org/sites/default/files/legacy/assets/pdfs/short-bowel-disease-crohns.pdf

³www.ahip.org/wp-content/uploads/2016/04/HighPriceDrugsReport.pdf

Investigator-Initiated Trial for Congenital Diarrheal Disease

Submit FDA documentation in 2H 2019 for crofelemer formulation for feeding tube administration

NEXT STEP:

- Initiation of investigator-initiated trial in 2H 2019

Diarrheal diseases account for 1/9 child deaths worldwide, making diarrhea the second leading cause of death among children under the age of 5¹



“With the early and extreme morbidity and mortality suffered by CDD patients, we welcome the opportunity to participate in the investigation of a novel drug to address the devastating diarrhea and dehydration caused by this lifelong disease for which there is currently no available treatment except parenteral nutrition, and help limit the suffering of patients and their family members.”

~ Dr. Mohamad Miqdady

¹Diarrhea: Common Illness, Global Killer; www.cdc.gov/healthywater/global/diarrhea-burden.html

Worldwide per Year

Up to 4 million cases of Cholera¹

Up to 143K deaths¹



- Crofelemer vs placebo 1 hour after Azithromycin in cholera:²
 - ❖ Reduced amount of watery stool, 25-30%
P = 0.025
- Indian patient study in adults with severe watery diarrhea:³
 - ❖ Crofelemer statistically significant in all 7 prospectively defined endpoints
 - ❖ Crofelemer superior for overall clinical success, 79% vs. 28%

Lechlemer: Second-Generation Anti-Secretory Agent in Development for Cholera

- June 2019: Jaguar received preclinical services funded by the National Institute of Allergy and Infectious Diseases



¹<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4455997>

²Bardhan, et.al., '08 US-Japan Cholera Conf.

³Bardhan PK EID,'09

Cholera Tropical Disease Priority Review Voucher (TDPRV) Opportunity: Lechlemer (Second Generation Anti-Secretory Agent)

- Lechlemer, which has the same mechanism of action as crofelemer, and is significantly less costly to produce, may receive a TDPRV, which may be sold to another developer

Priority Review Voucher Transactions			
Date	Market Value (\$M)	Purchaser	Seller
Jul 2014	\$67	Sanofi (SNY)	BioMarin (BMRN)
Nov 2014	\$125	Gilead (GILD)	Knight Therapeutics (KHTRF)
May 2015	\$245	Sanofi (SNY)	Retrophin (RTRX)
Aug 2015	\$350	AbbVie (ABBV)	United Therapeutics (UTHR)
Feb 2017	\$125	Gilead (GILD)	Sarepta Therapeutics (SRPT)
Q3 2017	\$150	Teva Pharma (TEVA)	Undisclosed
Nov 2017	\$125	Undisclosed	BioMarin (BMRN)
Dec 2017	\$130	Novartis (NVS)	Ultragenyx (RARE)
Apr 2018	\$110	Jazz Pharm (JAZZ)	Spark Therapeutics (ONCE)
Jul 2018	\$81	Undisclosed	Ultragenyx (RARE)
Nov 2018	\$80	Eli Lilly (LLY)	Siga Technologies (SIGA)
Mar 2019	\$105	Biohaven Pharma (BHVN)	GW Pharma (GWPRF)
Average	\$141		

Next Steps

- File IND in 2H 2019 (subject to funding)

Source: <https://www.raps.org/regulatory-focus/news-articles/2017/12/regulatory-explainer-everything-you-need-to-know-about-fdas-priority-review-vouchers>

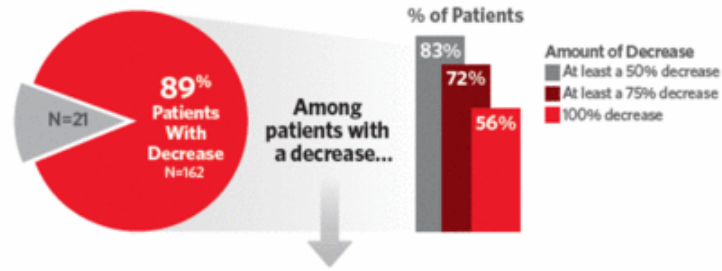


RELIEF, PURE AND SIMPLE

Mytesi (crofelemer 125mg delayed-release tablets) is FDA-approved for symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy.

Adults Living with HIV/AIDS & Take ARTs

Week 20 on Mytesi 125-mg BID



83% of patients had at least a **50% decrease** in watery stools
Over half of patients had no watery stools at all (**100% decrease**)

1 in 5 people living with HIV has diarrhea



MacArthur RD, Clay P, Blick G, et al. Long-Term Crofelemer Provides Clinically Relevant Reductions in HIV-Related Diarrhea. Poster presented at: 9th IAS Conference on HIV Science (IAS 2017); 2017 July 23-26; Paris, France.



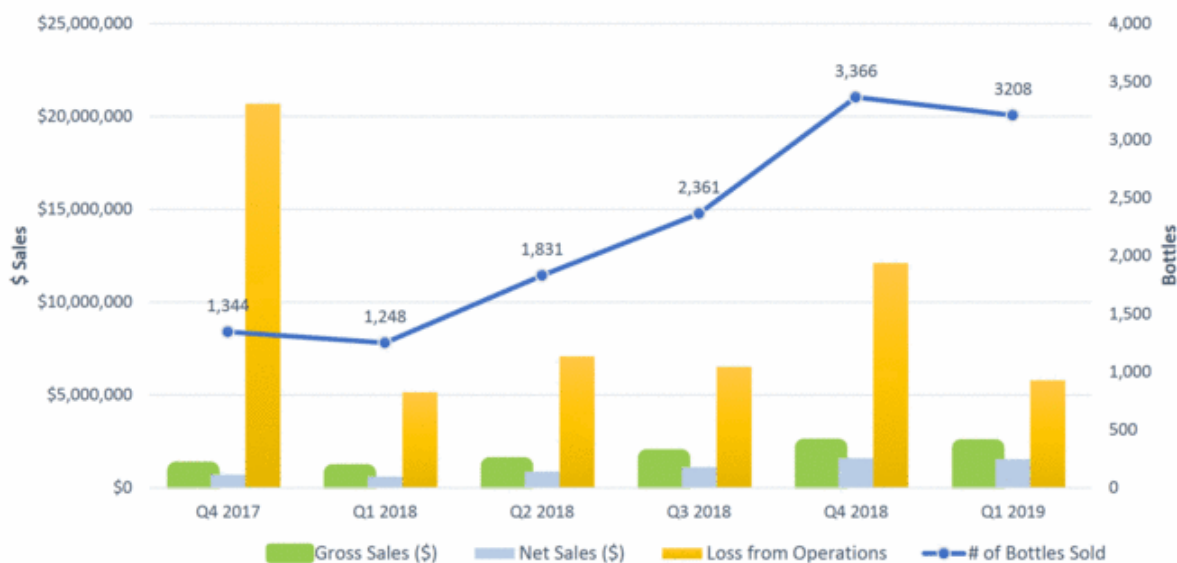
Mytesi Product Characteristics¹

	Mytesi®	Imodium® A-D OTC	Lomotil®
Indicated for HIV Patients	Yes	No	No
MoA	Normalizes water flow in GI tract	Affects peristalsis (constipation)	Affects peristalsis (constipation)
Opiate Derivative	No	Yes	Yes
Contraindications	None	Yes	Yes
Long Term Data	Yes	No	No
Dosing	Simple BID	Up to 4 caplets/day (patients often take more)	QID (patients often take more)
Driving or Operating Machinery Precaution	No	Yes	Yes
Cardiovascular Toxicity	No	Yes	Yes

¹No comparative studies have been done.

Mytesi Net & Gross¹ Sales

- **Q2 2019 Net & Gross Sales Estimates:** \$1.2M - 1.4 million & \$1.7 - \$2.0 million Respectively
- **Q1 2019 Net & Gross Sales:** Approximately \$1.5 Million & \$2.1 Million Respectively
- **2018 Annual Net & Gross Sales:** Approximately \$4.1 million & \$5.7 million Respectively



A line-by-line reconciliation of gross sales to net sales is included in the appendix on the final slide of this presentation.

Note Regarding Use of Non-GAAP Measures

Gross sales percentages issued by the Company are based on gross sales figures that represent Mytesi orders placed by wholesalers with Jaguar's third-party logistics warehouse which generate invoiced sales and cashflow for Napo. Gross sales is used internally by management as an indicator of and to monitor operating performance, including sales performance of Mytesi, salesperson performance, and product growth or declines. The Company believes that the presentation of gross sales provides a closer to real-time useful measure of our operating performance. Gross sales is not a measure that is recognized under accounting principles generally accepted in the United States of America ("GAAP") and should not be considered as an alternative to net sales, which is determined in accordance with GAAP, and should not be used alone as an indicator of operating performance in place of net sales. Additionally, gross sales may not be comparable to similarly titled measures used by other companies, as gross sales has been defined by the Company's internal reporting practices. In addition, gross sales may not be realized in the form of cash receipts as promotional payments and allowances may be deducted from payments received from certain customers.

Revenue-Generating Biopharma With an FDA-Approved Drug

154%

*Mytesi Net Sales Growth in
Q1'19 Versus Q1'18¹*

98%

*Growth in Total Mytesi Prescriptions
in Q1'19 Versus Q1'18²*



161%

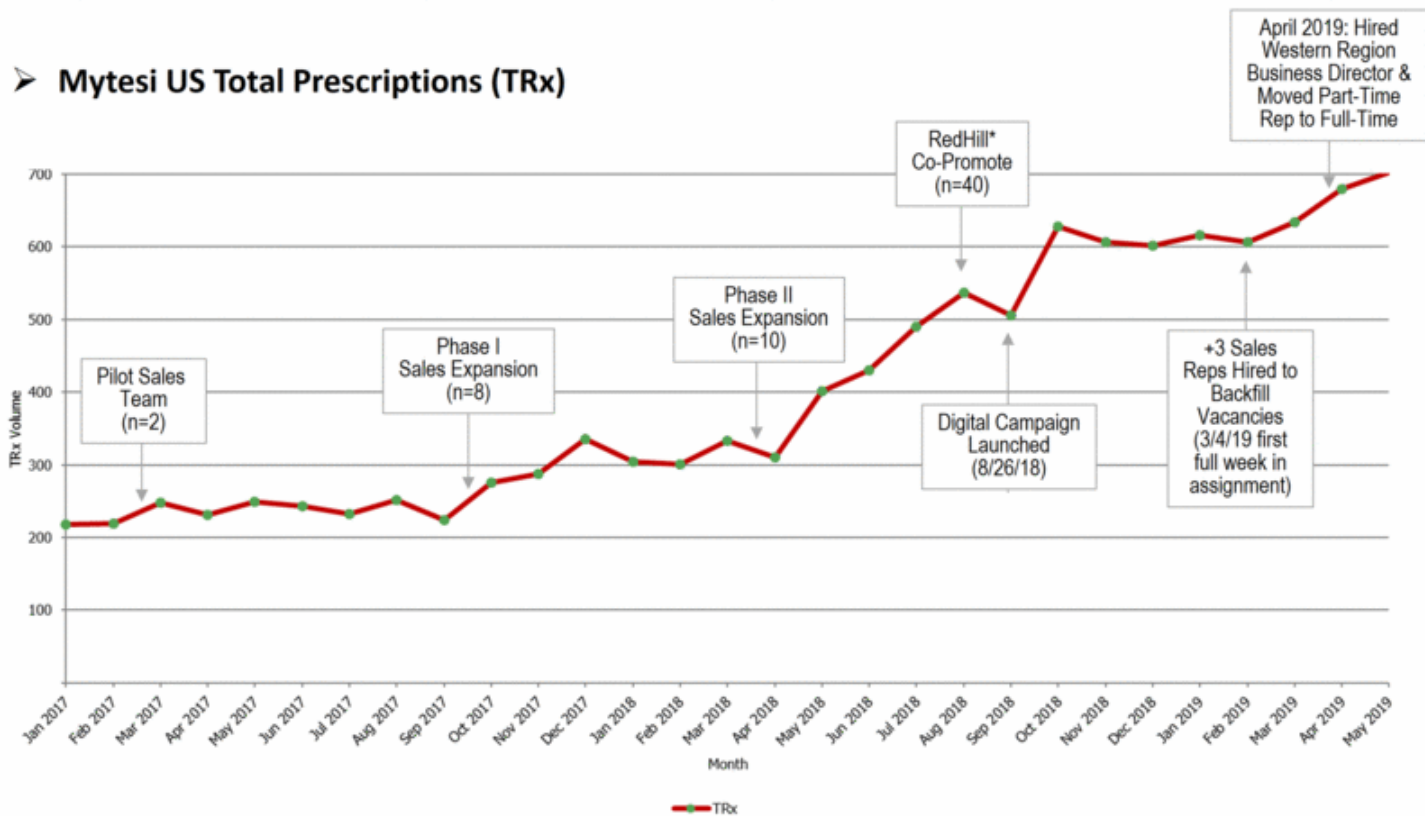
*Mytesi Gross Sales Growth in
Q1'19 Versus Q1'18¹*

52%

*Growth in Average Mytesi
Prescriptions Sold Per Rep in
Q1'19 Versus Q4'18²*

Key Market Events & Prescription Trends

➤ Mytesi US Total Prescriptions (TRx)



*RedHill includes 36 field-based sales representatives and 4 inside sales
 Data Source: IQVIA NPA (National Prescription Audit) May 2019; Includes restatement of Rx data industry wide by IQVIA for Voids and Reversals)

Sales & Marketing

- Jaguar currently has a direct sales force of 17 sales representatives, a national sales director and two regional sales directors covering U.S. geographies with the highest potential



-
- Co-promotion agreement with RedHill Biopharma (NASDAQ: RDHL) provides additive G.I. coverage:
 - ❖ 36 sales reps,
 - ❖ 4 telesales representatives, and
 - ❖ 4 Medical Science Liaisons
 - RedHill is compensated on a per-prescription-filled basis.



Mytesi Coverage & Reimbursement

➤ **Signed agreement with AIDS Drug Assistance Program (ADAP) in April 2018:**

- ❖ Available to greater than 90% of ADAP lives nationally

➤ **Covered by:**

- ❖ Top 10 commercial insurers (>245M lives)
- ❖ Top 10 Managed Medicare plans (>2.4M lives)
- ❖ Medicaid in all 50 states

➤ **Copay coupon program to remove cost as a barrier to filling their prescription.**

➤ **Patient Assistance Program to assist patients with benefit verification, prior authorization, and claims appeals.**



ADAP is state administered for persons living with HIV/AIDS authorized under the Ryan White Act of 2016 and often considered insurance of last resort. These persons are not currently receiving or eligible for Medicaid or other Third-Party insurance. Reserved for lower income patients with annual federal income equal to or below 400% of current federal poverty level (2018 poverty level for single household \$12,140).

Capitalization Table & Debt

NASDAQ:JAGX

Capitalization Table & Debt – Fully Diluted

Capitalization as of July 11, 2019

Common Shares Outstanding	2,100,958
Non-Voting Common ¹	38,382
Convertible Preferred (convertible at \$19.425 per share) ²	473,565
Options Outstanding (weighted average exercise price \$412.94)	42,291
Options available for grant	11,558
Warrants – Bridge Notes (assumed warrant price \$3.41) ²	1,631,232
Warrants – Other (weighted average exercise price \$90.00) ²	71,821
RSUs	5,613
Fully Diluted Shares	4,375,420

- **Debt outstanding (as of July 11, 2019): \$6.7 million; maturity Dec. 31, 2020**
- **Approximately \$5.1 million of bridge notes due July 31, 2019 to be repaid with proceeds from this offering**
- **\$3.55 million of bridge notes committed to investment in offering**

¹Represents 40,301,237 shares of our non-voting common stock that are convertible into 38,382 shares of voting common stock.

²Does not contain anti-dilution/price reset features. Represents 5,524,926 shares of Series A Preferred Stock that are convertible into 473,565 shares of voting common stock.

Upcoming Milestones

- **Jan – July 2019:** Debt reduction of approximately \$12.6 million through the issuance of approximately 1,515,410 shares of common stock
- **Q3 2019:** Interim data expected for investigator-initiated trial Phase 2 for cancer therapy-related diarrhea (CTD)
- **Q3 2019:** Initiation of IIT for idiopathic/functional diarrhea
- **Q3 2019:** File Canalevia Target Animal Safety technical section with FDA
- **Mid-August 2019:** File Q2 2019 earnings report
- **2H 2019:** File IND and initiate CDD/SBS investigator-initiated trial in Abu Dhabi (orphan indication)
- **2H 2019:** File IND for CTD supplemental indication
- **2H 2019:** File IND for lechlemer/cholera (subject to funding)
- **November 2019:** File Q3 2019 earnings report
- **Q4 2019 / 1H 2020:** Additional business development partnerships to progress pipeline development globally
- **Q1 2020:** Final investigator-initiated trial report expected for CTD



The Management Team

Name / Title	Experience
Lisa Conte Founder & CEO	<ul style="list-style-type: none">• 28+ years of industry experience• Obtained first anti-secretory human product FDA approval• Board of directors of Healing Forest Conservancy, Dickey Center for International Understanding (Dartmouth College)
Karen Wright CFO & Treasurer	<ul style="list-style-type: none">• 30+ years of financial experience with biotech companies• Former Head of Finance for Clene Nanomedicine
Steven King, PhD EVP, Sustainable Supply, Ethnobotanical Research & IP	<ul style="list-style-type: none">• Served as SVP of Sustainable Supply, Ethnobotanical Research & IP: 1989-2017• Board of Directors of Healing Forest Conservancy
Pravin Chaturvedi, PhD Chief Scientific Officer Chair of Scientific Advisory Board	<ul style="list-style-type: none">• 25+ years drug development experience• Co-Founded Scion, IndUS and Oceanyx Pharmaceuticals• Successfully developed Mytesi® (first pivotal adaptive design)
David Sesin, PhD Chief Manufacturing Officer	<ul style="list-style-type: none">• Pharmaceutical scientist with experience from drug discovery through manufacturing• Developed crofelemer manufacturing process
Jonathan Wolin, JD, MBA, CPA Chief Compliance Officer & Corporate Counsel	<ul style="list-style-type: none">• Extensive experience providing legal advice and guidance to public and private companies in the healthcare and biotechnology industries
Pete Riojas National Sales Director	<ul style="list-style-type: none">• 29 years of pharmaceutical industry experience• Former Sanofi regional sales director and UCB Pharma national sales director

Board of Directors

Name / Title	Experience
James Bochnowski Chairman	<ul style="list-style-type: none"> • Founder of Delphi Ventures, one of the first VC firms to focus exclusively on investing in life sciences companies • Co-founded Technology Venture Investors
Lisa Conte Founder, CEO & President	<ul style="list-style-type: none"> • 28+ years of industry experience • Obtained first anti-secretory human product FDA approval
Jiahao Qiu Director	<ul style="list-style-type: none"> • Principal of BioVeda China Fund, a life science investment firm • Extensive experience evaluating, managing & investing in life science firms
John Micek III Director	<ul style="list-style-type: none"> • Managing Partner of Verdant Ventures • Former Managing Director of Silicon Prairie Partners, LP
Jonathan B. Siegel Director	<ul style="list-style-type: none"> • Founded JBS Healthcare Ventures with a focus on public and private healthcare investments • 18+ years of investment experience
Jeff Johnson Director	<ul style="list-style-type: none"> • Partner at Sagard Holdings • Former portfolio manager at Evercore Asset Management and Citigroup Asset Management
Greg Divis Director	<ul style="list-style-type: none"> • Chief Operating Officer of Avadel Pharmaceuticals • 28+ years of direct operating and global leadership experience in specialty pharmaceuticals
David MacNaughtan Director	<ul style="list-style-type: none"> • 25+ years of biopharmaceutical industry experience, with roles spanning financing, venture capital, royalty investing, business development, and process development

Napo Scientific Advisory Board (SAB) Members & Key Opinion Leader (KOL) Advisors to Napo

Pravin Chaturvedi, PhD: Chair of Napo's SABs. Pravin brings 25+ years drug development experience in pharmaceutical/biotech field; Successfully developed crofelemer (Mytesi) (first pivotal adaptive design)

Cancer Therapy-Related Diarrhea SAB

- Lee Schwartzberg, MD, FACP: Executive Director of the West Cancer Center, a multispecialty oncology practice affiliated with the University of Tennessee; Chief, Division of Hematology/Oncology, the University of Tennessee Health Science Center
- Eric Roeland, MD: Attending Physician, Center for Palliative Care, Harvard Medical School
- Hope Rugo, MD: Clinical Professor of Medicine, Director Breast Oncology and Clinical Trials Education, Division of Hematology and Oncology, University of California San Francisco

IBD SAB

- Corey Siegel, MD, MS: Associate Professor of Medicine; Associate Professor of The Dartmouth Institute; Director of the Inflammatory Bowel Disease Center at the Dartmouth-Hitchcock Medical Center

Pediatric Indications (SBS and CDD) SAB

- Mohammed Miqdady, MD: Chief of Pediatric Gastroenterology, Hepatology & Nutrition at Sheikh Khalifa Medical City in Abu Dhabi
- Martin Martin, MD: Professor, Department of Pediatrics, David Geffen School of Medicine at UCLA
- Sue Rhee, MD: Division Chief, Pediatric Gastroenterology, Hepatology and Nutrition Pediatric gastroenterologist and liver specialist, UCSF Benioff Children's Hospital

KOLs: Diarrhea Related to HIV and Other Infectious Diseases

- Patrick Clay, PharmD: Consultant
- Herbert DuPont, MD: Professor and Director, Center for Infectious Diseases, University of Texas Houston School of Public Health
- Pradip Bardhan, MBBS, MD: Chief Physician at ICDDR,B, Bangladesh
- Paulo Pacheco, MD: Clinical Assistant Professor, Department of Medicine, New York University Langone Health
- Elie Schochet, MD, FACS: Colorectal surgeon, Holy Cross Medical Group

KOLs: Cancer Therapy-Related Diarrhea

- Herbert DuPont, MD: Professor and Director, Center for Infectious Diseases, University of Texas Houston School of Public Health
- Pablo C. Okhuysen, MD: Department of Infectious Diseases, Infection Control, and Employee Health, Division of Internal Medicine, MD Anderson

KOLs: Diarrhea Related to IBS

- Anthony Lembo, MD: Director of the GI Motility and Functional Bowel Disorders Program at Beth Israel Deaconess Medical Center and Associate Professor of Medicine at Harvard Medical School
- Doug Drossman, MD: Co-Director Emeritus, UNC Center for Functional GI and Motility Disorders Adjunct Professor of Medicine and Psychiatry, University of North Carolina School of Medicine
- William Chey, MD: Professor of Internal Medicine and Professor of Nutritional Sciences, University of Michigan School of Public Health

KOLs: Diarrhea Related to IBD

- Brooks D. Cash, MD, AGAF, FACC, FACP, FASGE: Division Director, Gastroenterology, Hepatology, and Nutrition Visiting Professor of Medicine, The University of Texas McGovern Medical School
- David Rubin, MD: Joseph B. Kirsner Professor of Medicine Section Chief, Gastroenterology, Hepatology and Nutrition Co-Director, Digestive Diseases Center, University of Chicago Medicine
- Charles Bernstein, MD: Distinguished Professor of Medicine and Bingham Chair in Gastroenterology Research, University of Manitoba
- William Sandborn, MD: Director, Inflammatory Bowel Disease Center Chief, Division of Gastroenterology Professor of Medicine, US San Diego Health
- Scott Lee, MD: Associate Professor of Medicine, Digestive Health Center, University of Washington Medical Center
- Edward Loftus, Jr., MD: Consultant, Division of Gastroenterology and Hepatology, Department of Internal Medicine, Mayo Clinic
- Douglas Wolf, MD: Medical Director of IBD Research at Atlanta Gastroenterology Associates. Clinical Assistant Professor of Medicine, Emory University School of Medicine

KOLs: Pediatric Indications (SBS and CDD)

- Jay Thiagarajah, MD, PhD: Attending Physician, Division of Gastroenterology, Hepatology and Nutrition, Boston Children's Hospital. Instructor of Pediatrics, Harvard Medical School
- James Goldenring, MD., PhD: Professor of Surgery, Vanderbilt University School of Medicine. Paul W. Sanger Chair in Experimental Surgery. Professor of Cell and Developmental Biology

Investment Highlights

Mytesi: FDA-Approved Human Drug

- Only FDA-approved diarrhea treatment that's been studied specifically in adults with HIV / AIDS

Mytesi Expansion

- Potential multiple follow-on human indications of Mytesi
- Cancer therapy-related diarrhea (CTD) indication in Phase 2 study – interim data expected Q3 2019; final report expected Q1 2020
- Pivotal trial design agreement with FDA

Priority Review Voucher

- Potential to receive Priority Review Voucher (PRV)
- Average sale of PRV - \$141 million

Strategic Partnerships

- Knight Therapeutics Inc. (TSX:GUD) Ex-US (Israel, Canada) commercialization agreement for current and future Jaguar products
- RedHill Pharma Ltd. (NASDAQ:RDHL) Co-promotion agreement
- Investigator-initiated Phase 2 clinical trial funded by Genentech, a member of the Roche Group

Strong Management Team

- Key management has been with the company for >15 years
- Chairman of board and key investors have invested for >25 years
- Significant investment in bridge financing by board members & CEO

Proprietary Position

- ~141 patents (majority do not expire until 2027 - 2031) and ~24 patents pending
- Strong control over commercial scale of raw material sourcing
- Botanical guidance protection – no generic pathway
- Orphan-drug designation received for Mytesi for the potential SBS pediatric indication



Jaguar Health, Inc. (NASDAQ: JAGX)

Investor Relations Contact

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NASDAQ:JAGX

Appendix A – GAAP and Non-GAAP Basis

	Aug-Sept 2017*	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019 Estimates
Mytesi Gross Sales	\$ (391,419)	\$ (923,507)	\$ (795,303)	\$ (1,162,890)	\$ (1,592,801)	\$ (2,179,289)	\$ (2,143,513)	(\$1.7M-\$2.0M)
Mytesi allowance for sales discounts	\$ 27,365	\$ 73,767	\$ 106,609	\$ 211,747	\$ 343,118	\$ 440,852	\$ 463,269	\$0.127-\$0.161
Mytesi allowance for sales returns	\$ -	\$ 96,986	\$ 30,020	\$ 15,629	\$ 42,403	\$ 79,856	\$ 32,146	\$0.273M-\$0.321M
Mytesi wholesaler fee	\$ -	\$ 53,962	\$ 75,405	\$ 81,344	\$ 99,842	\$ 80,810	\$ 104,977	0.100M -\$0.118M
Mytesi Net Sales	\$ (364,054)	\$ (698,792)	\$ (583,269)	\$ (854,170)	\$ (1,107,438)	\$ (1,577,771)	\$ (1,543,121)	(\$1.2M-\$1.4M)

*The merger of Jaguar and Napo became effective July 31, 2017