

SAVING AMAG: URGENT CHANGE NEEDED TO UNLOCK VALUE

SEPTEMBER 2019

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Executive Summary

- Caligan Partners, LP is one of the largest shareholders of AMAG Pharmaceuticals, owning over 10% of AMAG's outstanding shares
- Caligan is seeking removal of four incumbent AMAG directors who have seen an average total shareholder return of **NEGATIVE 63.9%**² over their tenures
- Caligan's has nominated four individuals (the "Nominees") who will bring the experience, financial discipline, and accountability necessary to rebuild shareholder value
- **Caligan believes that AMAG could be worth more than \$30 per share¹, 170% higher than its current trading levels**

¹ See slide 6 for additional details. Based on AMAG's closing share price of \$11.24 as of September 3, 2019

² See slide 12 for additional details

Caligan's Message to AMAG Shareholders

- **Caligan is seeking your support to:**
 - Remove four AMAG directors who have overseen significant value destruction
 - Elect our four highly qualified Nominees to the Board
- **To prevent Board entrenchment, Caligan is asking your consent to:**
 - Repeal any provision in the bylaws that would seek to circumvent our attempts to act by written consent
 - Amend the bylaws to fix the size of the Board at nine members and require unanimous approval in order for the Board to amend the bylaws
- **To ensure you have the right to consent:**
 - If you have loaned, pledged, or hypothecated your common stock, please consult with your bank or broker in order to have those shares returned to your account before the record date (which we expect to be set by AMAG)

Caligan Nominees For Change

Nominees	Education	Relevant Experience
Paul Fonteyne 	MBA, Carnegie Mellon University MS, Chemical Engineering, University of Brussels	<ul style="list-style-type: none"> • President and CEO of Boehringer Ingelheim USA Corporation • Commercial Leadership Roles, Boehringer Ingelheim, Merck and Co., Inc. and Abbott Laboratories • Current Director of resTORbio, Inc. (TORC) and Ypsomed Holding AG (SWX: YPSN)
Lisa Gersh 	JD, Rutgers Law School BA, SUNY Binghamton	<ul style="list-style-type: none"> • Former CEO, Alexander Wang, Former CEO, Goop Inc. • President & CEO, Martha Stewart Living Omnimedia • Current Director of Hasbro, Inc. (HAS) and Establishment Labs Holdings, Inc. (ESTA)
David Johnson 	SM, Harvard College AB, Harvard College	<ul style="list-style-type: none"> • Co-Founder, Managing Partner, Caligan Partners LP • Former Managing Director, The Carlyle Group • Former Vice President, Morgan Stanley
Kenneth Shea 	MBA, University of Virginia BA, Boston College	<ul style="list-style-type: none"> • Senior Advisor, Guggenheim Securities, LLC • Former Senior Managing Director, Guggenheim Securities • Former Senior Managing Director, Bear, Stearns & Co. Inc. • Current Director of Equity Commonwealth (EQC)

What Could AMAG Be Worth?

- Caligan believes the individual pieces of AMAG's portfolio are worth substantially more than AMAG's current enterprise value
- A strategic review could maximize value for AMAG shareholders by unlocking its significant sum of the parts discount
- **Caligan believes that, assuming conservative EV/revenue multiples and ascribing no value to AMAG's pipeline, AMAG is worth at least ~\$30 per share, a 170% premium to current trading levels**

¹ S&P Capital IQ For Consensus Revenue estimates and highest analyst revenue estimates

² Caligan estimates. High end of the EV/Revenue range consistent with Vifor Pharma EV/Revenue multiple as detailed on slide 17. For Feraheme International Rights, 26% global market share on \$413MM of ex-US Ferinject sales equals \$119MM of ex-US Feraheme revenue. At a 33.33% royalty rate, AMAG would receive \$39.7MM annually. 3-7x capitalization rate.

³ Caligan calculation based on AMAG 2018 10-K which disclosed \$46.9MM of tax-effected net operating losses, \$24.3MM of tax credit carryforwards, \$20.9MM of tax-effected capital loss carryforwards, and Caligan's estimate of \$165MM of 2019 pre-tax operating losses multiplied by a 21% effective tax rate

⁴ Value of AMAG's pipeline assets is based on AMAG capital invested to date, including \$68.2MM for the acquisition of Perosphere, \$22.5MM for the acquisition of Velo Bio LLC, and \$100MM of investment in R&D in 2019

⁵ Caligan fully-diluted share calculation based on RSUs outstanding, options outstanding, and conversion of the 2022 convertible notes

⁶ Based on AMAG's closing price of \$11.24 on September 3, 2019

	<u>Base</u>	<u>High</u>
2020E Feraheme Revenues ¹	186.1	210.0
EV/Revenue ²	3.0x	7.0x
Feraheme EV	558.2	1,470.0
Feraheme International Rights²	119.1	277.9
2020E Makena Revenues ¹	111.5	156.9
EV/Revenue ²	2.0x	3.0x
Makena EV	223.0	470.7
Other Products ¹	54.9	75.4
EV/Revenue ²	1.0x	2.0x
Other Products EV	54.9	150.8
Tax Assets ³	126.7	126.7
Pipeline Assets ⁴	190.7	190.7
Total AMAG EV	1,272.6	2,686.8
YE2019 Net (Debt)/Cash ¹	200.0	200.0
Total Equity Value	1,472.6	2,886.8
Fully Diluted Shares Outstanding ⁵	48.6	49.4
AMAG Value Per Share	\$ 30.31	\$ 58.42
Upside⁶	170%	420%

AMAG Has a Collection of Valuable Assets

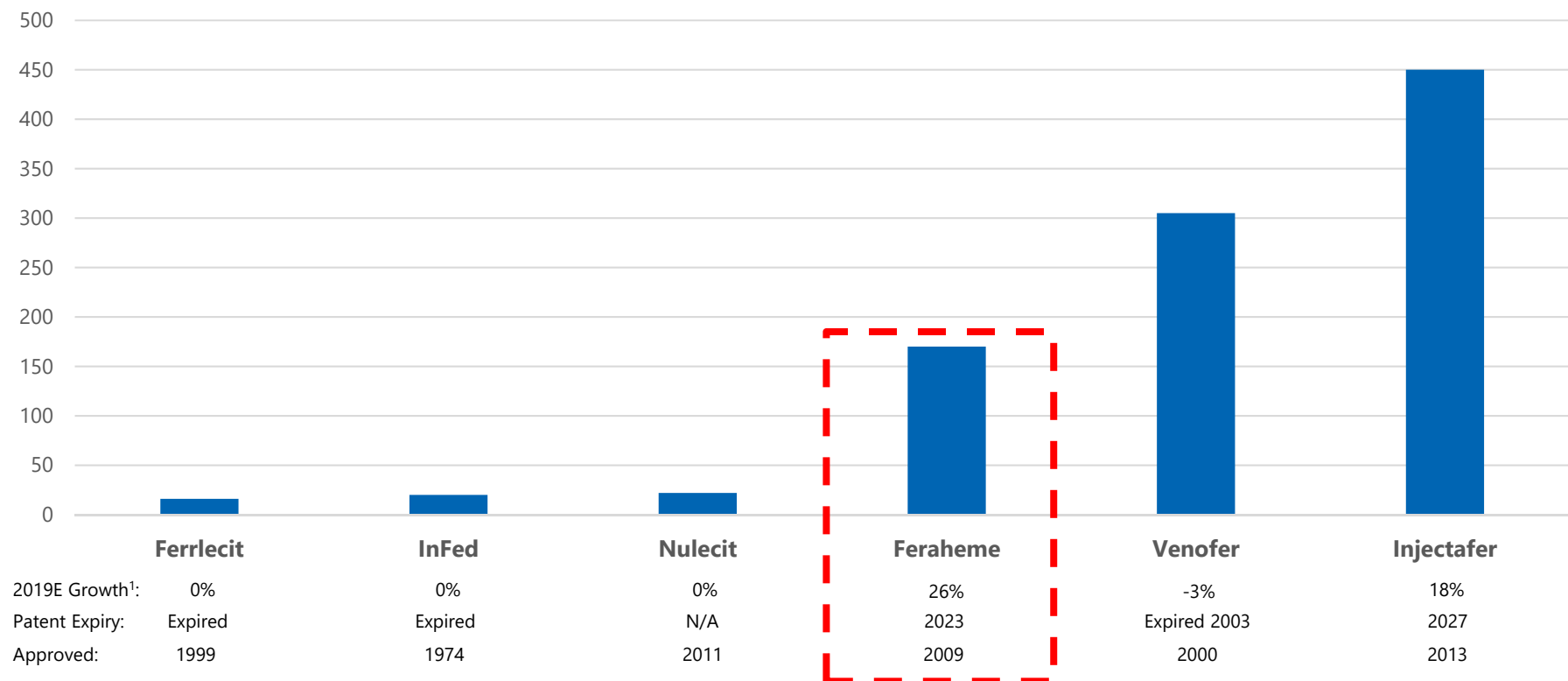
- Feraheme is a one of two approved high molecular weight IV irons in the US; 2019E net sales of \$170MM¹
- Feraheme has competitive advantages (substantially lower rates of hypophosphatemia, lower cost per dose) versus its primary competitor, Injectafer
- AMAG owns the worldwide rights to Feraheme but has no international distribution partner currently
- Makena is the only FDA approved therapy indicated to reduce the risk of recurrent pre-term birth; 2019E net sales of ~\$145MM¹

¹ Consensus estimates from S&P Capital IQ.

Feraheme Is A Durable, Growing Product

- Feraheme is one of six marketed intravenous (IV) iron products in the US and one of two high molecular weight IV irons
- Feraheme received a label expansion in February 2018, based on a non-inferiority study versus Injectafer, which allowed it to expand into iron deficiency anemia (IDA) in non-chronic kidney disease (non-CKD) patients, resulting in revenue growth of 27% in 2018 and consensus revenue growth of 26% in 2019. The non-inferiority study highlighted Feraheme’s (i) comparable safety profile and (ii) hypophosphatemia benefits versus Injectafer
- IV irons are non-biologic complex drugs (“NBCD”); Venofer’s patents expired in November 2003 and it has not had a generic competitor introduced to date

Marketed US IV Iron Revenue Per Product (\$MM)¹

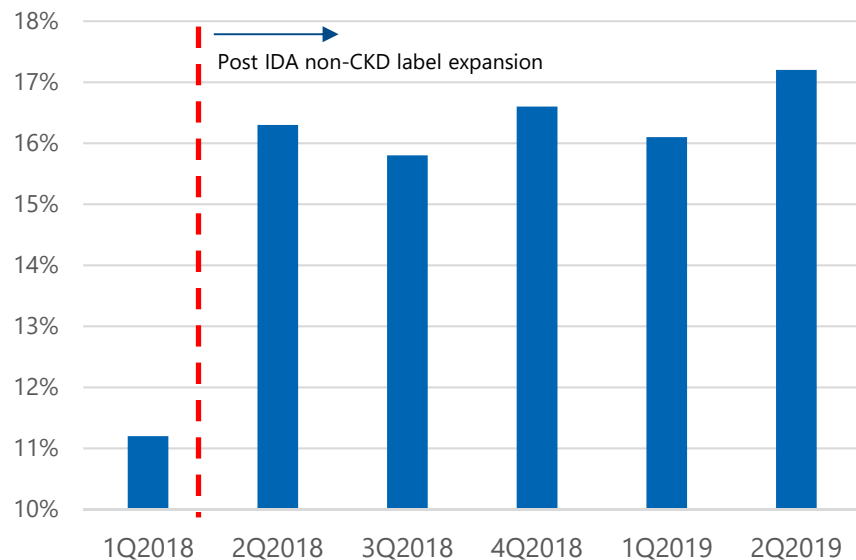


¹ Consensus estimates for revenue and revenue growth from S&P Capital IQ

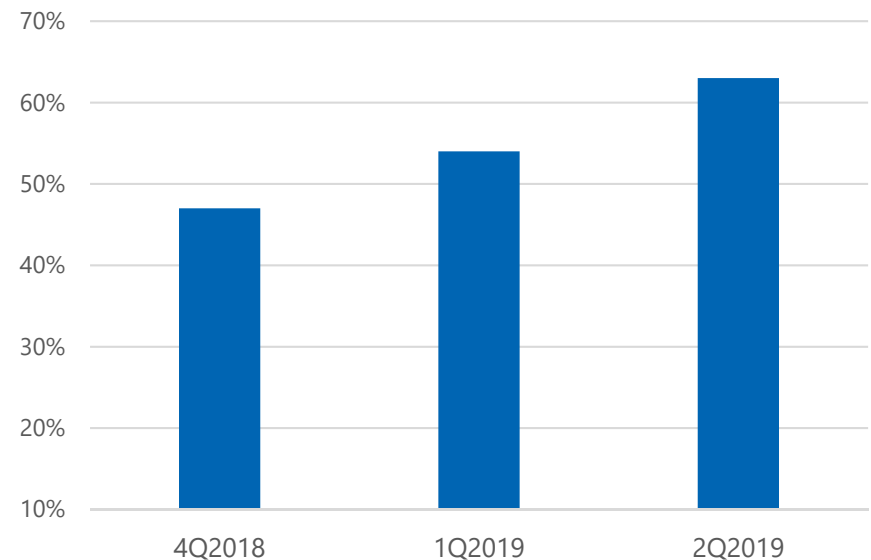
Feraheme & Makena Auto-Injector Continue To Grow Market Share

- Post label expansion in February 2018, Feraheme has continued to increase its share of the IDA market. Caligan believes that, given the hypophosphatemia and cost benefits versus Injectafer, Feraheme has a significant opportunity to grow its presence in gastroenterology, oncology, and iron deficiency in pregnancy
- Makena, the only FDA approved treatment option to lower the risk of recurrent preterm birth, has had generic competition since July 2018. AMAG launched its patent-protected auto-injector in 2Q 2018 and has continued to take share from the generic intramuscular injection due to physician, nurse and patient preference for the auto-injector
- Caligan believes Feraheme and Makena are durable, growing products which serve serious medical needs and could make AMAG worth ~\$30/share³. AMAG's Board and management have chosen to invest the cash flows from Feraheme and Makena in value destructive business development

Feraheme IDA Market Share¹



Makena Auto-Injector Market Share²



¹ AMAG Quarterly Investor Presentations

² AMAG Quarterly Investor Presentations. Share of FDA-approved hydroxyprogesterone caproate

³ See slide 6 for additional details

Fundamental Problems At AMAG

AMAG's Board & Management Have Abysmal TSR

Business Development Has Destroyed Shareholder Value

AMAG Commercial Spending Needs To Be Rationalized

AMAG Management Lacks Credibility

No Commercial Synergies Across Portfolio

Caligan Action Plan

Underperformance Of Total Shareholder Return Over Any Time Period Against Any Relevant Benchmark

- AMAG has materially underperformed all of its relevant benchmarks over the last 1, 2, 3, 5 and 10-year periods
- Specifically, AMAG has underperformed the NASDAQ Biotech Index by:
 - **-393%** over the last 10 years
 - **-84%** over the last 5 years

	10-Yr ¹	5-Year ¹	3-Year ¹	2-Year ¹	1-Year ¹
AMAG Pharmaceuticals	-81.8%	-56.7%	-68.9%	-57.9%	-62.5%
Nasdaq Biotech Index	310.9%	27.4%	10.2%	-1.1%	-9.2%
Relative Performance	-392.7%	-84.1%	-79.1%	-56.7%	-53.3%
Proxy Peer Average ²	112.3%	61.1%	0.4%	-8.0%	-32.7%
Relative Performance	-194.1%	-117.9%	-69.3%	-49.9%	-29.9%
Proxy Peer Median ²	14.7%	-3.8%	10.3%	-6.7%	-37.0%
Relative Performance	-96.5%	-52.9%	-79.2%	-51.2%	-25.6%
Russell 2000	224.5%	50.7%	34.4%	13.0%	-4.5%
Relative Performance	-306.3%	-107.4%	-103.2%	-70.9%	-58.1%

¹ Through July 31, 2019, the day before Caligan began substantial purchases of AMAG shares. All TSR data from S&P Capital IQ

² Proxy peers include ACOR, ASRT, EGRX, EBS, HZNP, IRWD, NKTR, PCRX, SPPI, SUPN, MDCO, TXMD, and VNDA

Significant Underperformance Over The Course Of Every Director's Tenure¹

- AMAG's total shareholder return has significantly underperformed both the Nasdaq Biotech Index and the S&P 500 over the tenure of every director
- **Every AMAG director has overseen a significant absolute decline in AMAG shares over their tenure**

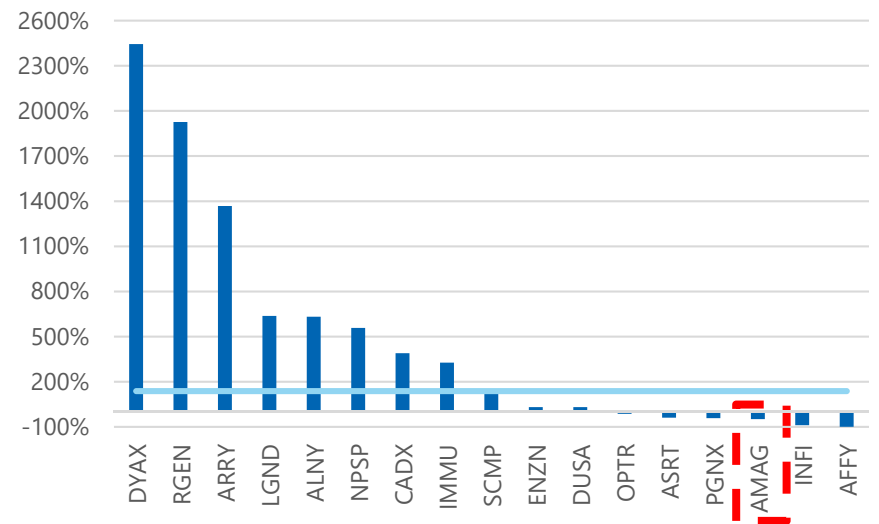
<u>Director</u>	<u>Director Since</u>	<u>AMAG Performance</u>	<u>Nasdaq Biotech Index</u>	<u>AMAG Relative Performance</u>	<u>S&P 500</u>	<u>AMAG Relative Performance</u>
Davey Scoon	12/1/2006	-86.0%	307.3%	-393.3%	175.4%	-261.4%
Gino Santini	2/7/2012	-51.1%	165.7%	-216.8%	156.4%	-207.6%
Bill Heiden	5/9/2012	-48.4%	160.3%	-208.8%	153.5%	-202.0%
Barbara Deptula	9/9/2013	-66.9%	55.6%	-122.4%	99.8%	-166.6%
James Sulat	4/16/2014	-53.5%	43.7%	-97.1%	77.3%	-130.8%
Dr. John Fallon	9/5/2014	-64.8%	18.1%	-82.9%	63.3%	-128.1%
Rob Perez	7/1/2015	-88.3%	-13.7%	-74.7%	55.2%	-143.5%
Kathrine O'Brien	4/12/2019	-33.9%	-4.8%	-29.1%	3.0%	-36.9%
Anne Phillips	4/12/2019	-33.9%	-4.8%	-29.1%	3.0%	-36.9%

¹ Through July 31, 2019, the day before Caligan began substantial purchases of AMAG shares. All TSR data from S&P Capital IQ
Directors for which Caligan is seeking their removal

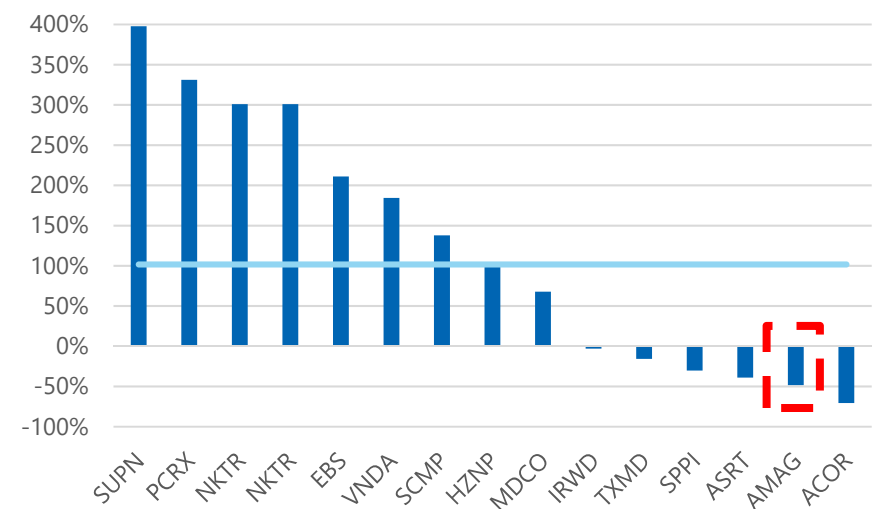
Underperformance Versus Peer Set¹

- Relative to its 2013 and 2018 proxy peer sets, AMAG is the third and second worst performing company in the peer group, respectively
- To note, 7 of the 18 companies in the 2013 proxy peer set have sold themselves
- From May 9, 2012 to July 31, 2019, AMAG has underperformed:
 - The 2013 Peer Group by **-186%**
 - The 2018 Peer Group by **-150%**

TSR (2013 Proxy Peer Group)¹



TSR (2018 Proxy Peer Group)²



¹ Total shareholder return performance from May 9, 2012, the day of the appointment of Bill Heiden as CEO, through July 31, 2019, the day before Caligan began substantial purchases of AMAG shares. Peer Group's from AMAG Proxy Statements. 2012 Proxy Peer Group not disclosed. AMAG has underperformed every proxy peer set over every year from 2013 – 2018. All TSR data from S&P Capital IQ

Fundamental Problems At AMAG

AMAG's Board & Management Have Abysmal TSR

Business Development Has Destroyed Shareholder Value

AMAG Commercial Spending Needs To Be Rationalized

AMAG Management Lacks Credibility

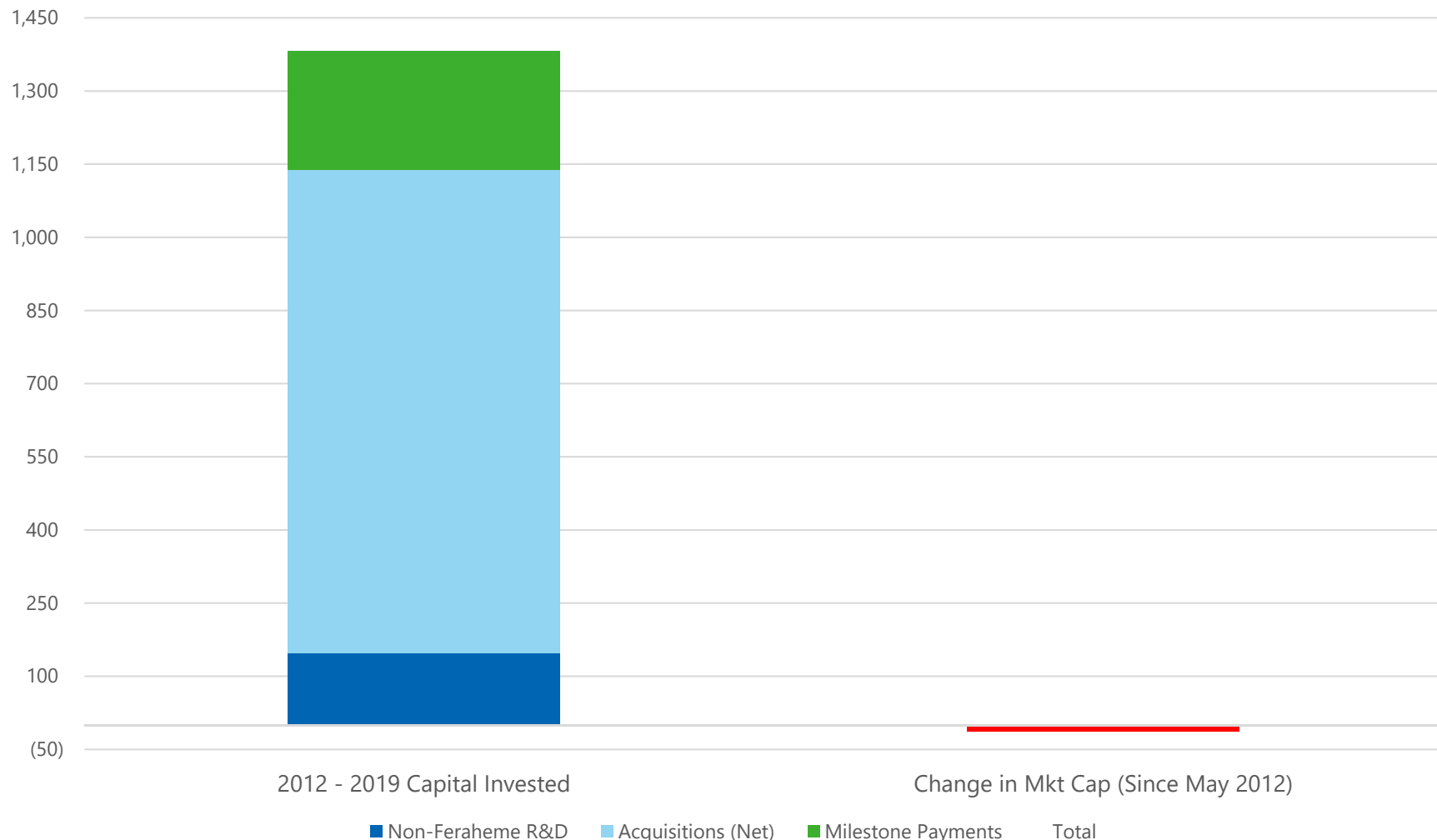
No Commercial Synergies Across Portfolio

Caligan Action Plan

Over \$1.3 Billion Of Non-Feraheme Capital Invested Since 2013 Has Resulted In Negative Value To AMAG Shareholders

- \$1.38Bn of shareholder capital has been spent on non-Feraheme related R&D, acquisitions (net of divestitures), and milestone payments from Jan 2012 – June 2019. The cumulative change in AMAG’s market cap since May 2012 is negative \$13MM.

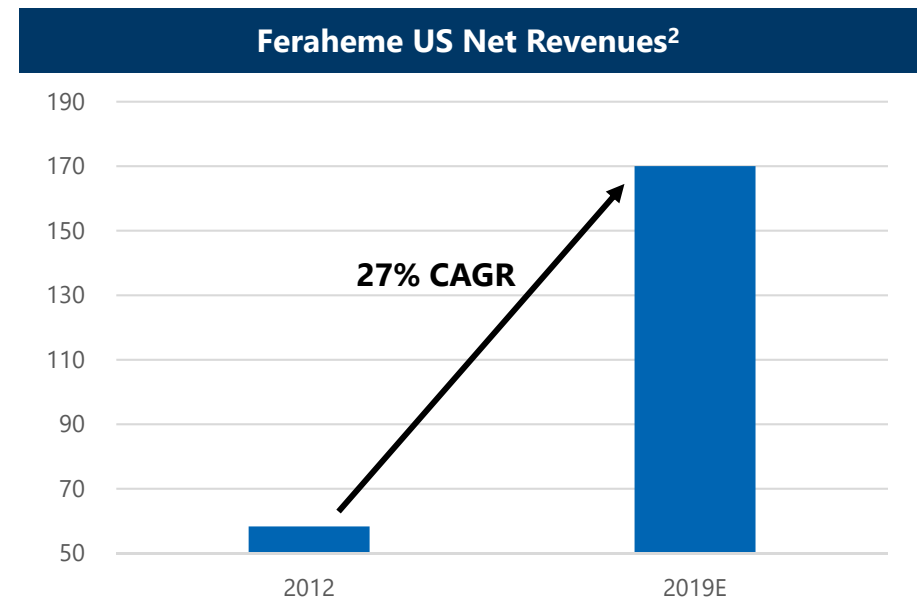
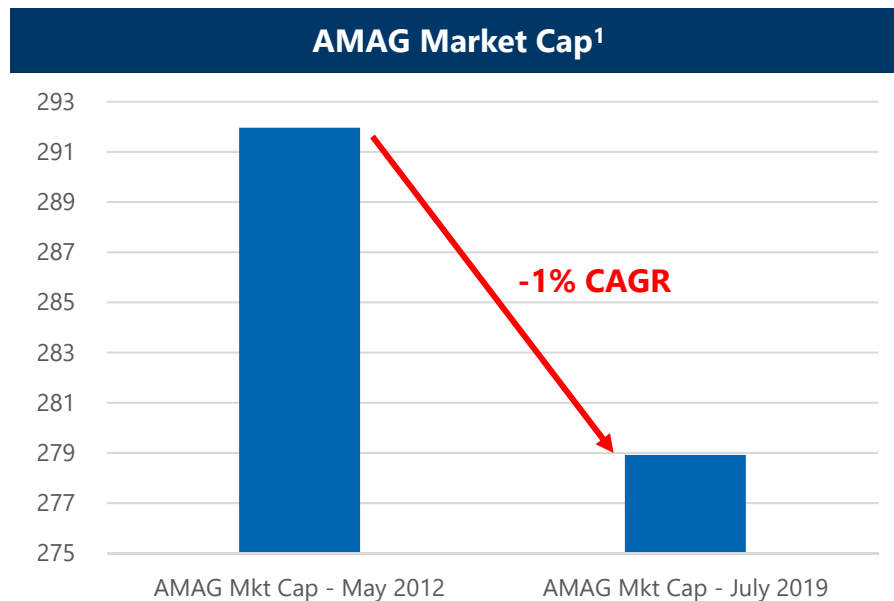
Capital Invested vs Change in Market Cap (May 2012 – July 2019)¹



¹ All information from AMAG SEC filings. Non-Feraheme R&D is R&D enumerated in AMAG SEC filings to products other than Feraheme. Acquisitions are netted with the proceeds of the CBR sale. Milestone payments includes the \$60MM payment to Palatin that was paid in July 2019. Change in AMAG market capitalization from S&P Capital IQ.

Despite 27% CAGR For Feraheme Sales, AMAG's Market Cap Has Declined At A 1% CAGR

- Despite AMAG's only commercial product in 2012, Feraheme, growing its US revenues at a 27% CAGR from 2012 – 2019E, AMAG's market capitalization has declined at a 1% CAGR since May 2012
- Additionally, due to the dilution from value destructive stock issuances, AMAG shareholders who held AMAG stock in 2012 only own 63% of Feraheme today
- Based on our analysis, if, beginning in 2012, AMAG had done no business development and AMAG traded at the same multiple of forward revenues that it did in 2012, AMAG's market cap would be at least 52% higher than where it is trading today³



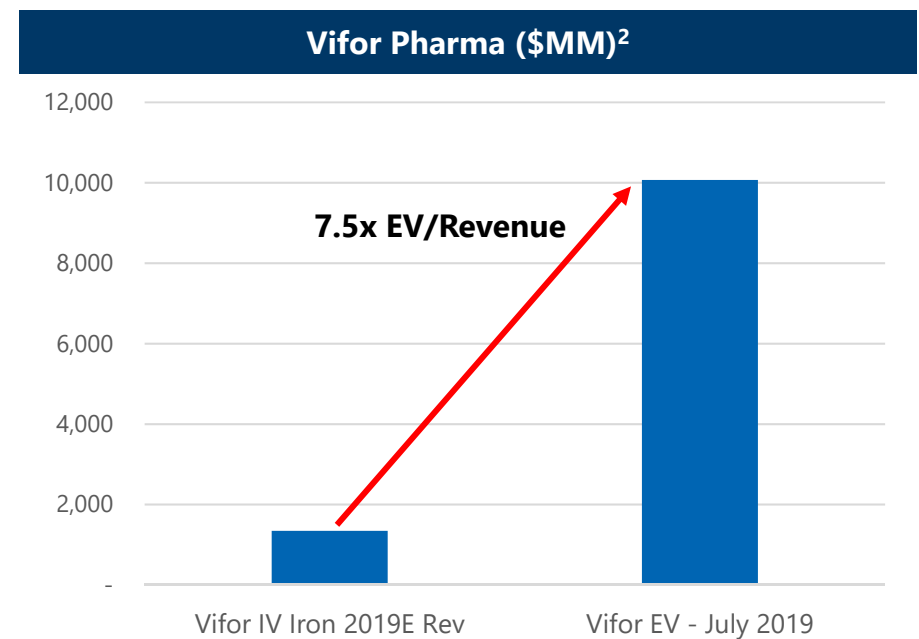
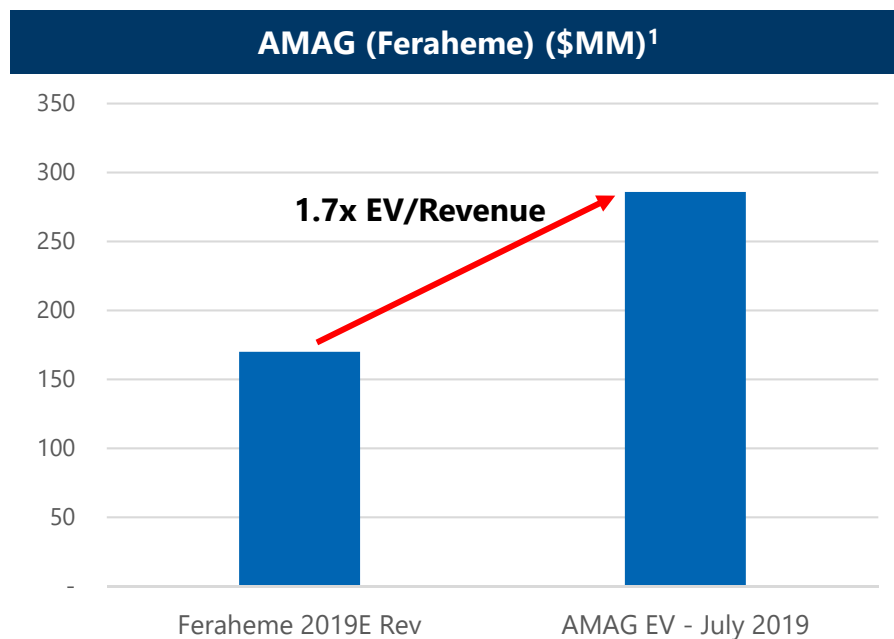
¹ All market capitalization data from S&P Capital IQ

² SEC Filings

³ AMAG traded at 1.57x forward revenues in March 2012. Using 1.57x EV/Revenues multiplied by \$170MM of 2019E Revenues for Feraheme, excluding the 37% share dilution would imply a market capitalization of \$423MM, a 52% premium to AMAG's \$278MM market capitalization as of July 31, 2019

Comparison With Vifor Highlights Undervalued IV Iron Franchise

- Feraheme, despite having no international distribution partner, and giving a four year head start to Injectafer to penetrate IDA in non-CKD patients in the US, is on pace to generate \$170MM of revenue in 2019. As physician awareness of Feraheme's benefits increases, Caligan believes Feraheme will continue to grow its share of the IDA market
- Despite a growing, durable, IV iron franchise, AMAG trades at a fraction of the multiple of Vifor Pharma, the dominant IV iron competitor
- We believe that separating Feraheme from the rest of AMAG should deliver significant value to AMAG shareholders that is multiples higher than its current trading price



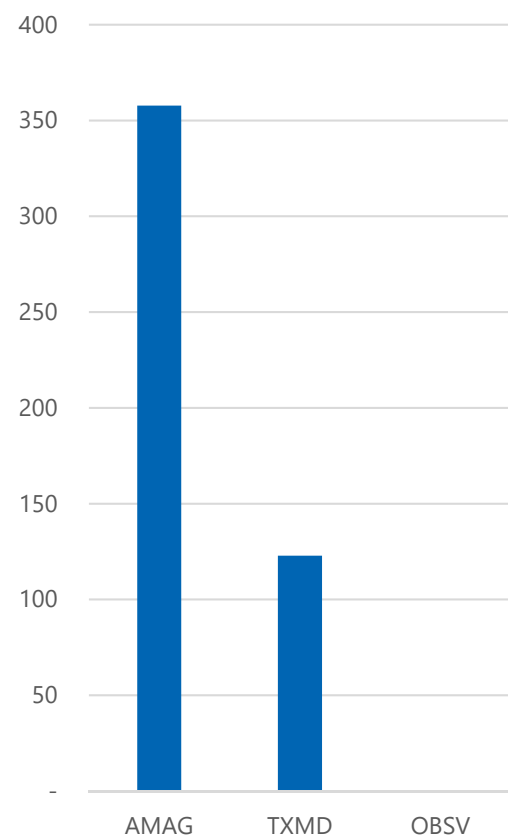
¹ Consensus Feraheme estimates from S&P Capital IQ. EV from S&P Capital IQ

² Consensus IV iron estimates from S&P Capital IQ. EV from S&P Capital IQ. Vifor IV Iron revenue incorporates the full amount of Regent's US sales. Vifor reports 33.3% of the total revenue for Regent's sales and bears no costs.

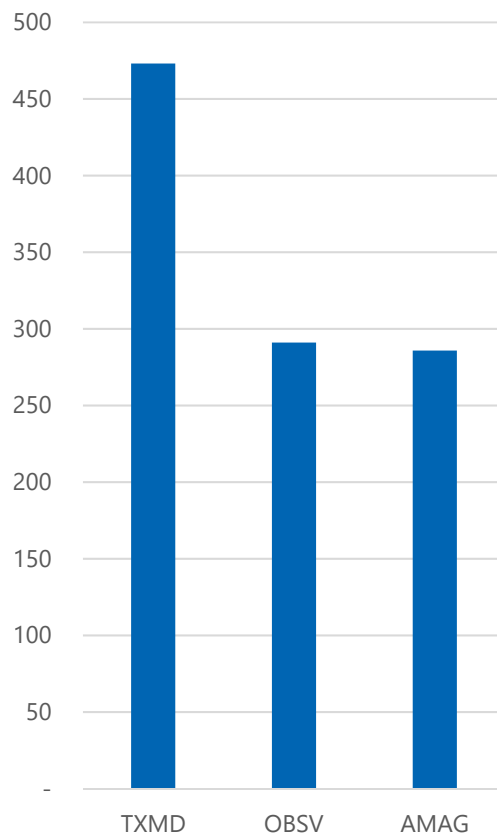
Comparison With Other Women's Health Companies Demonstrates Market's Opinion of AMAG Board, Management, & Pipeline

- For public companies focused on women's health, despite having the highest 2020E consensus revenue, AMAG has (i) a lower enterprise value than both TherapeuticsMD and Obseva and (ii) the worst TSR of the three companies under the tenure of AMAG's current Board and management
- Caligan believes this disconnect between commercial success and market value results from (i) a lack of management credibility with the investment community; (ii) poor capital allocation; and (iii) the market's view of AMAG's pipeline

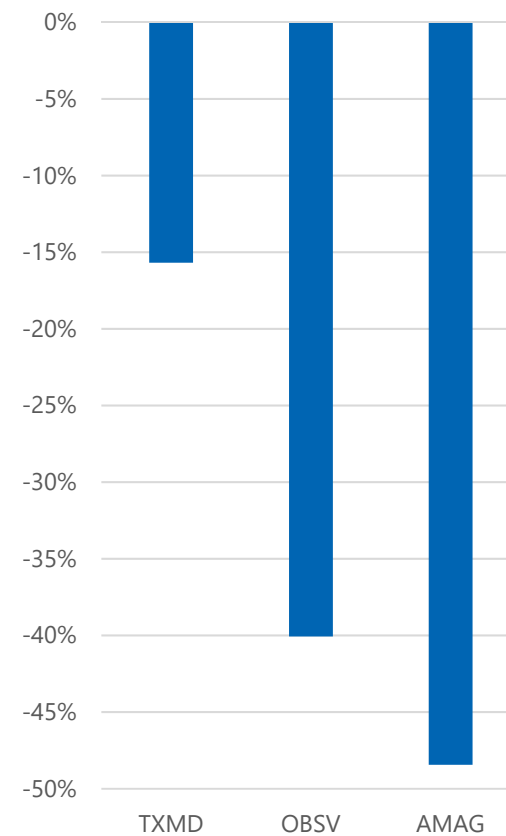
2020 Consensus Revenue (\$MM)¹



Current Enterprise Value²



TSR Since May 2012³



¹ S&P Capital IQ consensus estimates

² S&P Capital IQ as of 7/31/19, the day before Caligan began substantial purchases of AMAG shares

³ All TSR data from S&P Capital IQ. Obseva TSR from IPO as of January 25, 2017

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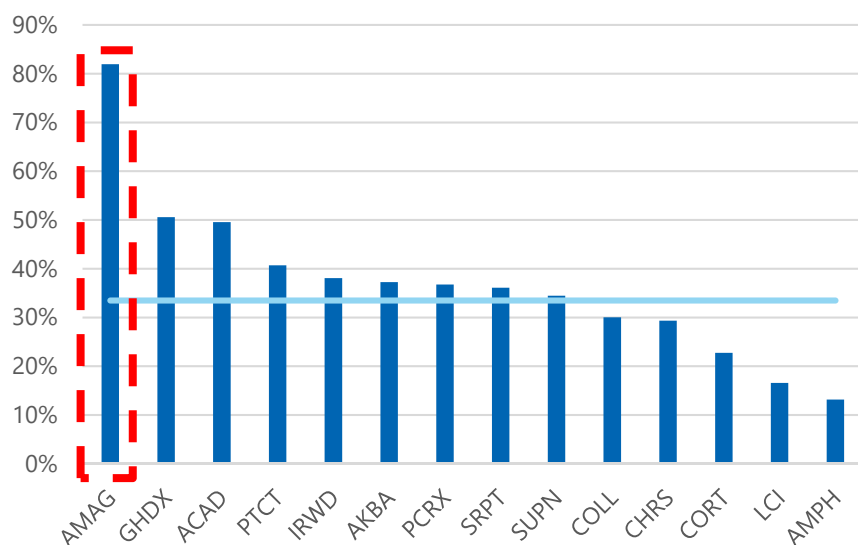
No Commercial Synergies Across Portfolio

Caligan Action Plan

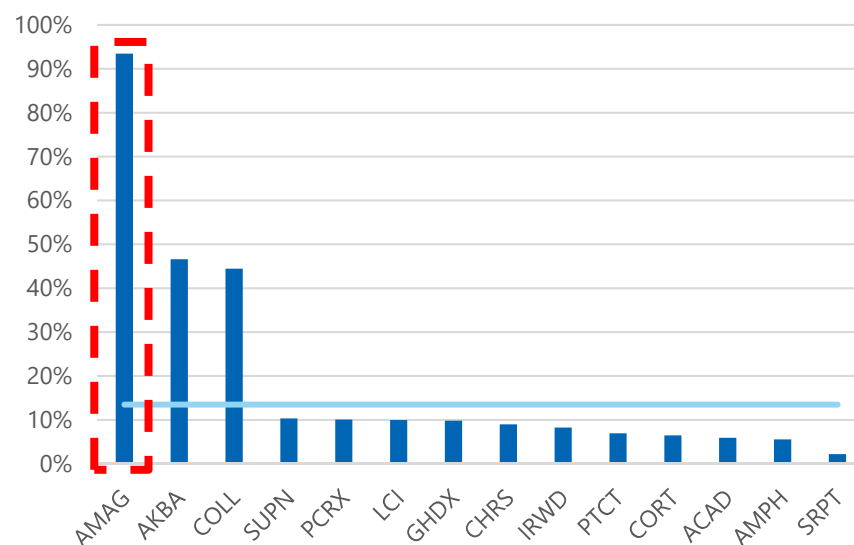
AMAG's Commercial Infrastructure And Launch Costs Are Exorbitant Relative To Peers³

- As a percentage of revenues, AMAG's cash SG&A spending is 30 percentage points higher than its next closest peer and 50 percentage points higher than pharmaceutical companies with similar product revenues
- AMAG spends more than 90% of its market capitalization on its commercial infrastructure and launch costs. The next closest peer is 50 percentage points lower and AMAG is 80 percentage points higher than the average of pharmaceutical companies with similar product revenues
- This spending, associated with Intrarosa and Vyleesi launches and commercialization, is a significant overhang on AMAG shares with the investment community

SG&A Run-Rate (% of 2020E Revenues)¹



SG&A Run-Rate (% of Market Cap)²



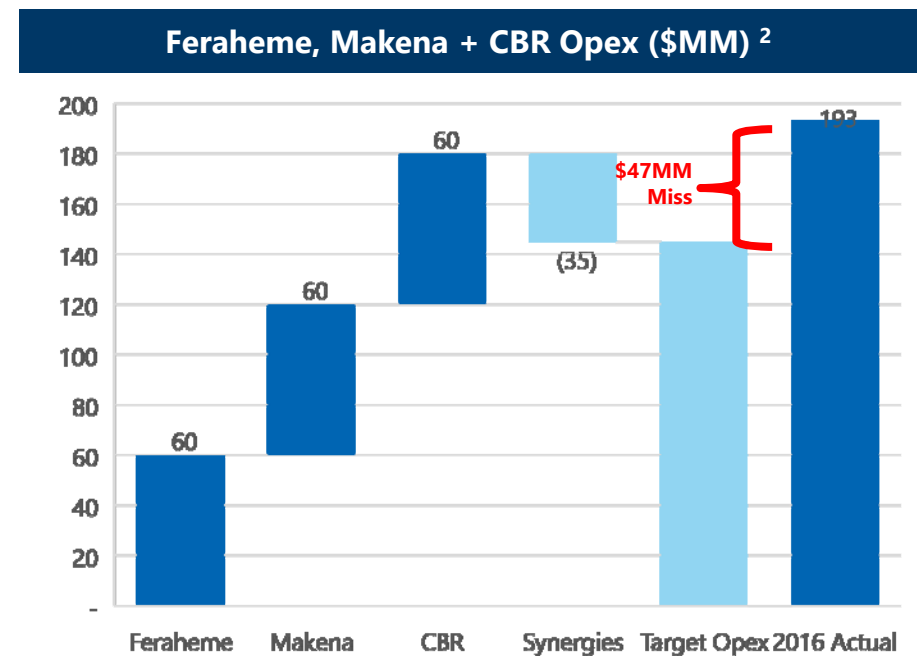
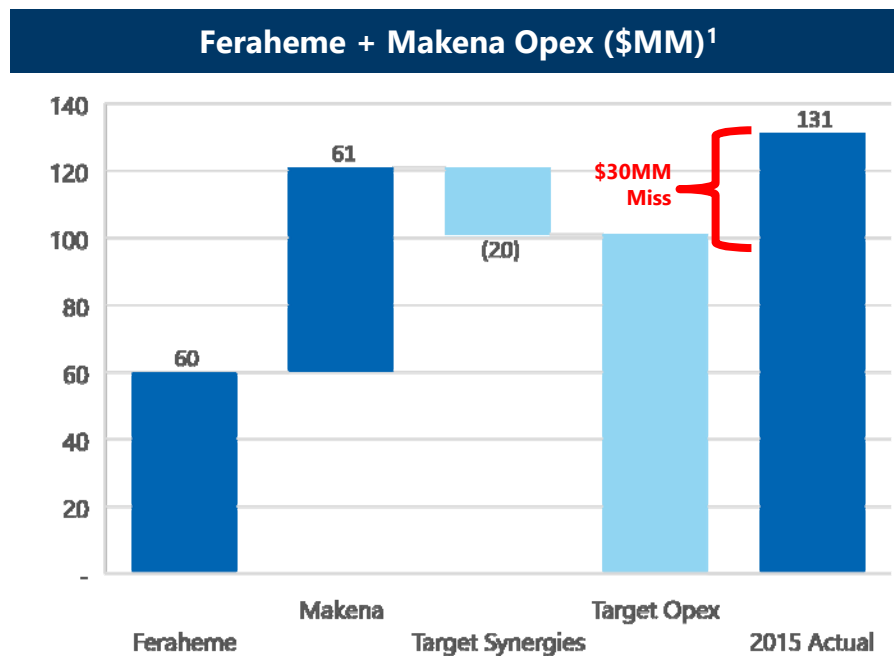
¹ SG&A is last quarter SG&A reported in respective SEC filings, less stock-based compensation expense, annualized. 2020E revenues are consensus estimates from S&P Capital IQ. Comparison set is chosen as US public pharmaceutical and biotech companies that are expected to generate between \$300MM and \$600MM of product revenue in 2020.

² SG&A is last quarter SG&A reported in respective SEC filings, less stock-based compensation expense, annualized. Market Capitalization calculated by S&P Capital IQ. Comparison set is chosen as US public pharmaceutical and biotech companies that are expected to generate between \$300MM and \$600MM of consensus product revenue in 2020.

³ Comparison set is chosen as US public pharmaceutical and biotech companies that are expected to generate between \$300MM and \$600MM of consensus product revenue in 2020.

Announced Merger Synergies Never Materialized

- The synergies that AMAG highlighted when pursuing the Lumara and CBR acquisitions have never materialized:
 - When announcing the Lumara acquisition in September 2014, AMAG highlighted revenues of \$180MM and EBITDA of \$110MM and synergies of \$20MM. Combined with Feraheme this would imply an operating expense run-rate of \$101MM. Actual 2015 operating expense of \$131MM missed by over \$30MM
 - Then, in 2015, in announcing the purchase of CBR, AMAG highlighted \$60MM of EBITDA from CBR, which included \$15MM of synergies. Combined with Feraheme and Makena, this implied an operating expense run-rate of \$145MM. Actual 2016 operating expense of \$193MM missed by over \$47MM

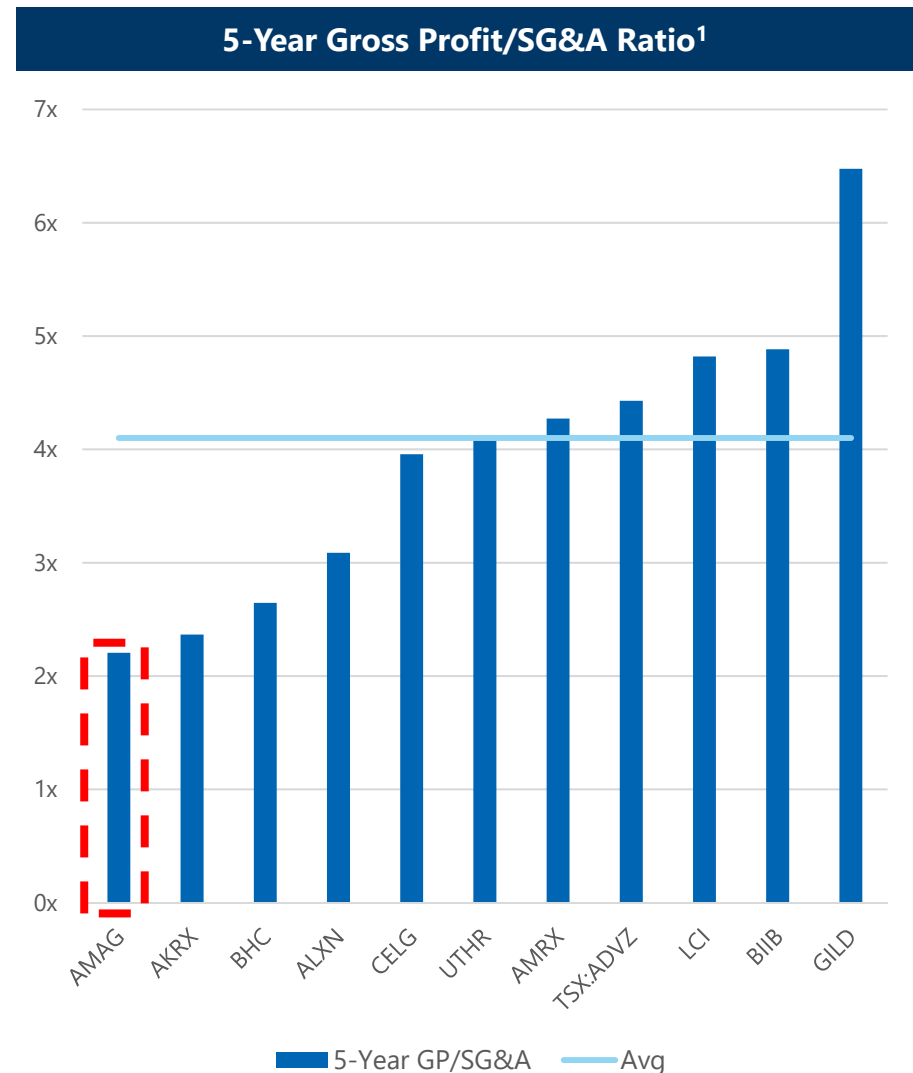


¹ Feraheme 2014 SG&A is from AMAG's 10-Q annualized. Makena operating expenses are calculated as \$180MM of revenue at an assumed 95% gross margin less \$110MM of EBITDA. Synergies are from AMAG's investor presentation announcing the acquisition. 2015 Actual is from AMAG's 2018 10-K

² Feraheme 2014 SG&A is from AMAG's 10-Q annualized. Makena operating expenses are calculated as \$180MM of revenue at an assumed 95% gross margin less \$110MM of EBITDA. Synergies are from AMAG's investor presentation announcing the acquisition. CBR operating expenses are using AMAG's projections from the CBR acquisition announcement which assumed \$120MM of revenue, at a 95% gross margin, less \$60MM of EBITDA. 2016 Actual operating expenses are from AMAG's 2016 10-K

AMAG SG&A Productivity Lowest Of Peers With >\$300MM Product Revenue

- Of all North American biotech and pharmaceutical companies that generated more than \$300MM of revenue in 2015 and have consensus revenue estimates of more than \$300MM of revenue for 2019, AMAG has the lowest SG&A productivity with a ratio that's half of the peer average
- Caligan believes this poor productivity results from disparate commercial infrastructure for its women's health and nephrology portfolio and sub-scale product offerings

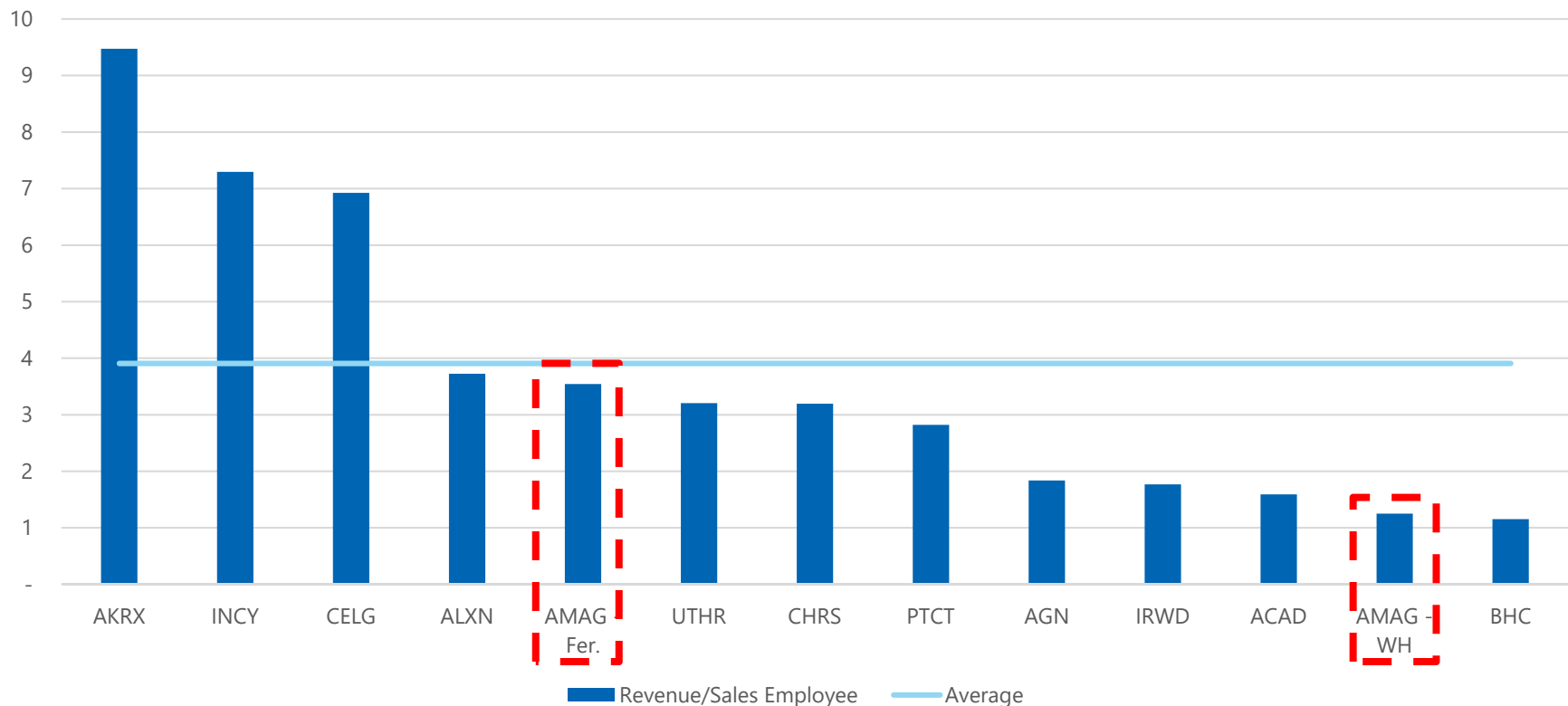


¹ Gross Profit and SG&A from 2014 – 2018 from SEC Filings (S&P Capital IQ). AMAG Gross Profit excludes intangible amortization. Peer group selected as companies with >\$300MM of product revenue in 2015 and consensus estimates of >\$300MM of product revenue in 2019E

AMAG's Women's Health Sales Force Productivity Is Poor

- While the productivity of AMAG's sales representatives that are dedicated to Feraheme is in-line with pharmaceutical and biotech company averages, the productivity of AMAG's sales representatives focused on women's health (post-AMAG's sales force consolidation in 1Q 2019) is worst-in-class
- Caligan believes that this poor productivity results from (i) a sub-scale product portfolio; (ii) a lack of adjustment in Makena dedicated personnel post-generic entry; (iii) poor performance of Intrarosa; and (iv) a lack of management discipline with commercial spending

2019E Revenues/Sales Employee (\$MM)¹



¹ Peer group selected as US pharmaceutical and biotech companies with > \$200MM of product revenue in 2018 for which the number of sales and marketing employees is disclosed in the respective company's 10-K. Consensus revenues estimates from S&P Capital IQ. Employee data from SEC Filings

Pipeline & Spending Remain Overhang With Investment Community

Analyst	Date
Jefferies May 7, 2019	"It is hard to be encouraged by the potential of the pipeline when AMAG narratives have repeatedly failed to pan out. Currently trading at ~1x 2019 revenue, its valuation largely reflects the Street's disappointment/concerns. "
JP Morgan May 8, 2019	"Heading into a period of increased R&D spend and continued investment in Intrarosa coupled with anticipated launch spend for Vyleesi for which we and the market have significant market questions , we think investors will need to see demonstrated traction in driving revenues from these assets (and/or surprises from the pipeline) for the stock to outperform."
Piper Jaffray May 22, 2019	"We don't doubt that AMAG's recent delevering was the right move but continue to question if FY19's ~\$150M+ y/y negative EBITDA swing to support Intrarosa and Vyleesi is wise. " – May 22, 2019
Leerink June 23, 2019	"We believe that commercial potential of Vyleesi remains an outstanding debate given its route of administration via injection and risks around market creation."
Piper Jaffray June 24, 2019	"We still think the drug's profile (SubQ injection at least 45 minutes prior to anticipated sexual activity, with a 40% nausea rate and ~5% vomiting rate) makes for a difficult sell. Combining this with a history of disappointing launches (MuGard, Intrarosa to name two), we think a wait and see approach is warranted here. "
HC Wainwright August 1, 2019	"AMAG shares have declined consistently since peaking in July 2015, with shares down 89% versus the healthcare XLV up 20%... The CBR business failed to live up to management's expectations. Likewise, the company's acquisition of Intrarosa has been another disappointment. "
Cowen August 7, 2019	"As for our broader thesis – and as we have indicated in the past and above – we simply do not believe in the current new commercial portfolio (Intrarosa and Vyleesi) , and with Makena stalled, this leaves Faraheme as the lone growth driver. At this valuation that is simply not enough. Although management is indicating that the company should be EBITDA neutral next year, given our likely lower total sales expectations for the company, we believe the losses will persist into 2021. And again, given our view of high development risk for AMAG-423 and ciraparantag, we believe investors should seek better options. "

Fundamental Problems At AMAG

AMAG's Board & Management Have Abysmal TSR

Business Development Has Destroyed Shareholder Value

AMAG Commercial Spending Needs To Be Rationalized

AMAG Management Lacks Credibility

No Commercial Synergies Across Portfolio

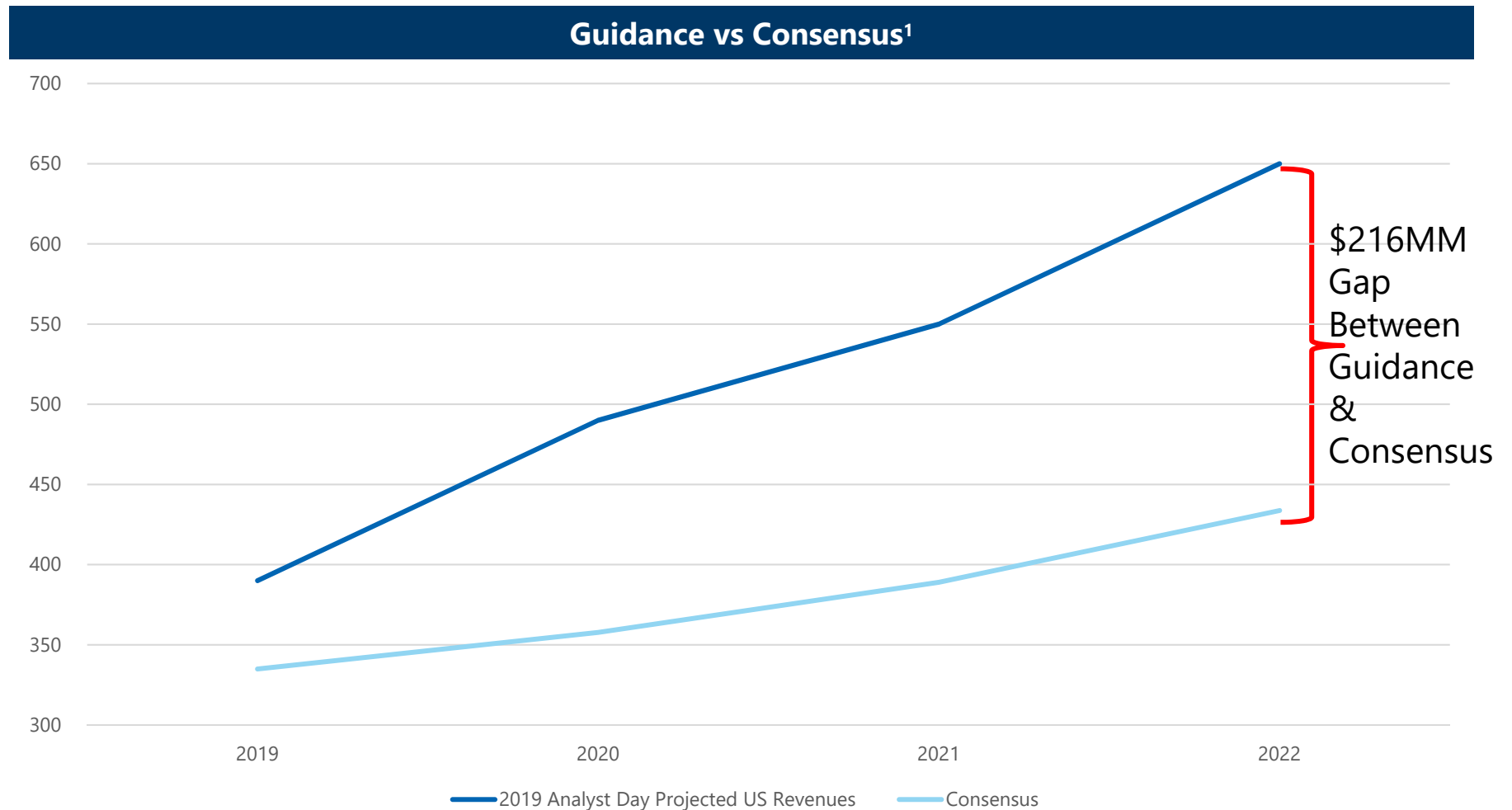
Caligan Action Plan

AMAG Management Has Consistently Missed Expectations

Product	Public Statement	2019E Revenues ¹
MuGard	<p><i>"In terms of product potential, there are estimated to be around 400,000 patients each year who're at risk of developing oral mucositis, so it's a fairly significant market and using numbers like a 5% share of that market opportunity would bring in revenues of excess of \$20 million."</i></p> <p>– William Heiden, Morgan Stanley Conference, September 9, 2017</p>	N/M
Makena	<p><i>"So here we are in 2017 with forecasted sales of Makena of approximately \$425 million at the middle of our range. Now we have a range of cases in our scenario planning for 2020. Our base case assumptions include the sub-q auto-injector is approved in the fourth quarter of 2017 and generics to the intramuscular product arrive to the market in February 2018. You can see here that our Makena sales by 2020 in that base or middle case scenario (\$250MM), which include an authorized generic and some net price decline on the branded Makena business due to generic entries may be lower in 2020 than in 2017. So that's the base case."</i></p> <p>– William Heiden, 2017 Analyst Day, May 24, 2017</p> <p><i>"So no, that isn't changed. Remember that wasn't guidance. That was sort of directional discussion."</i></p> <p>– Edward Myles, 3Q2017 Earnings Call, November 2, 2017</p>	\$145MM
Cord Blood Registry	<p><i>"We believe our purchase price represents an attractive valuation for this profitable business at approximately 11x expected 2015 adjusted EBITDA, including cost synergies. And with some of the revenue synergy opportunities for the future, we like the valuation even more."</i></p> <p>– Frank Thomas, M&A Call, June 29, 2015</p>	Divested for \$170MM Loss in June 2018 (56% of AMAG EV)
Intrarosa	<p><i>"As you move down the income statement to adjusted EBITDA, you'll see that we are planning to invest significantly in Intrarosa in 2017. As Nik mentioned, we believe this product is a significant revenue opportunity, potentially exceeding \$500 million per year."</i></p> <p>– Edward Myles, 1Q2017 Earnings Call, May 2, 2017</p>	\$20MM

Long-Term “Credibility” Gap

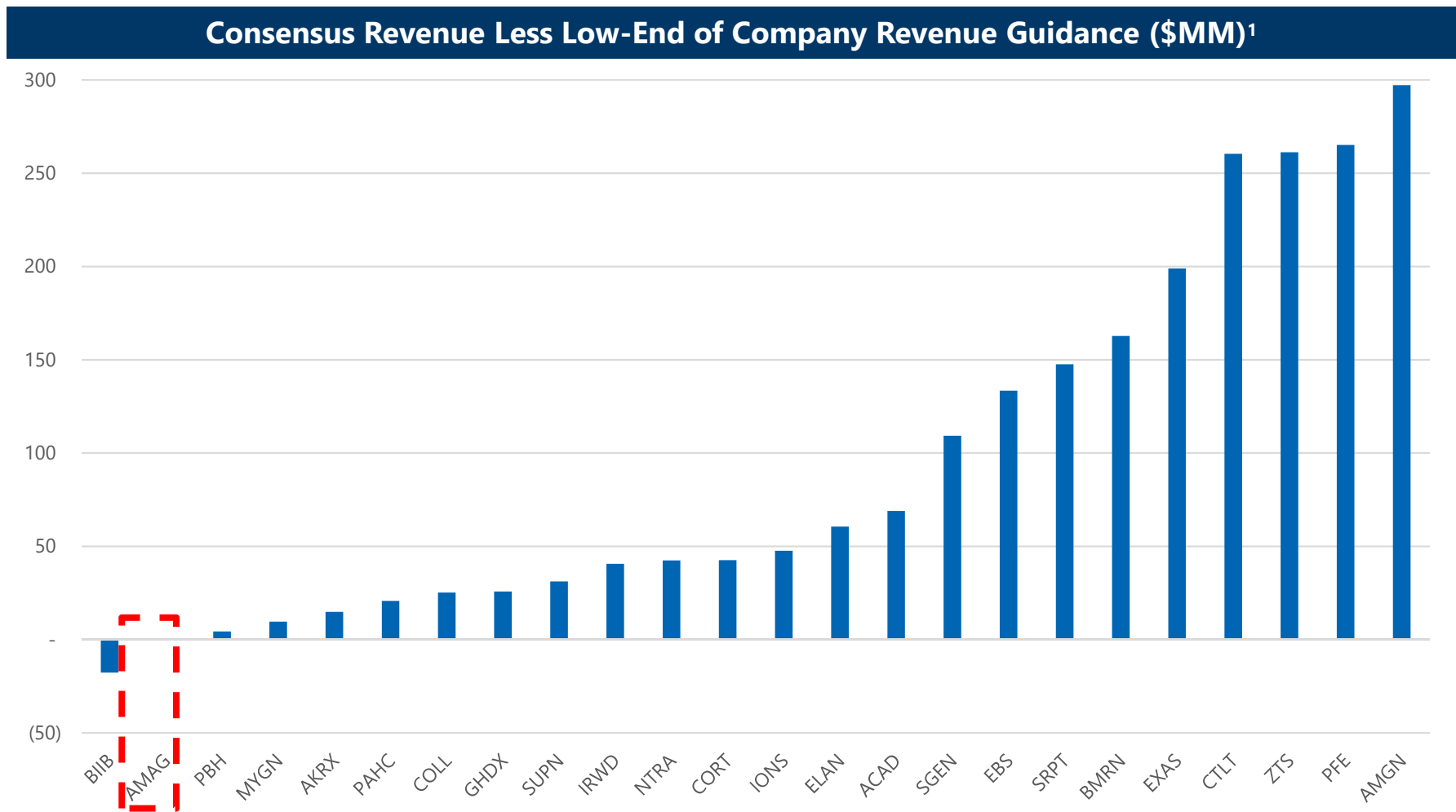
- Setting and consistently meeting expectations is essential to building trust with the investment community. AMAG’s missed expectations on every product acquisition have completely eroded analyst confidence in AMAG forecasts. There is a \$216MM gap between consensus and AMAG’s Analyst Day 2022 revenue forecast



¹ 2019 Analyst Day projections estimated by Caligan from slide 48 and consensus from S&P Capital IQ as of September 3, 2019

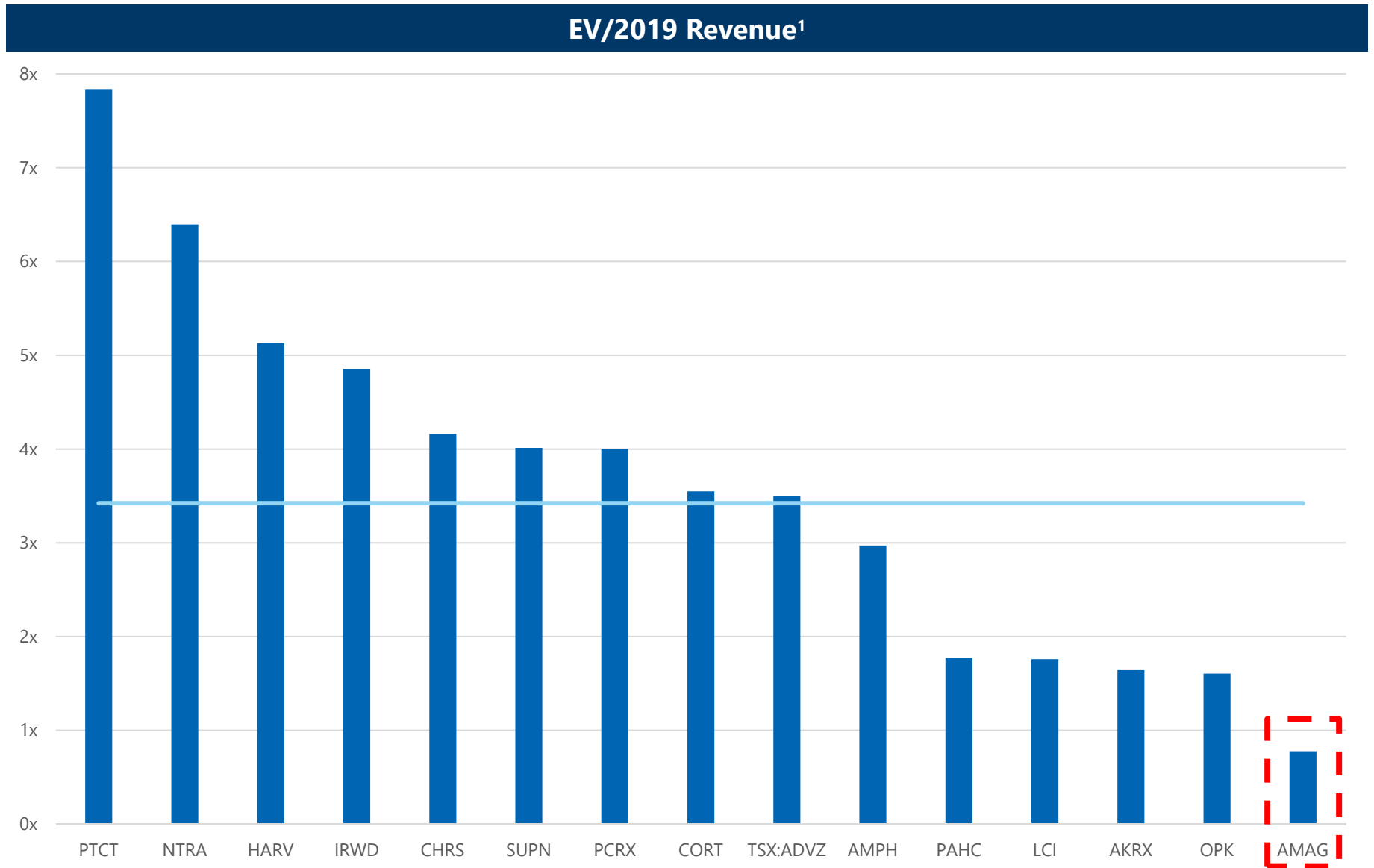
Short-Term “Credibility” Gap

- Even on a short-term basis, the market’s consensus revenue estimates for AMAG are lower than AMAG’s low-end of its guidance range, the 2nd lowest for any biotech or pharmaceutical company with at least \$300MM of consensus revenue estimates. This delta highlights what little credence the investment community gives to AMAG’s forecasts.



¹ S&P Capital IQ as of September 3, 2019. Companies with >\$300MM of estimated revenue and >\$300MM market capitalization

AMAG Trades At Lowest EV/Revenue Multiple Of Biotech and Pharmaceutical Companies With Greater Than \$300MM of Revenue



¹ TEV < \$2.5Bn; Estimated Forward Product Revenues > \$300MM as of July 31, 2019 the day before Caligan began substantial purchases of AMAG shares

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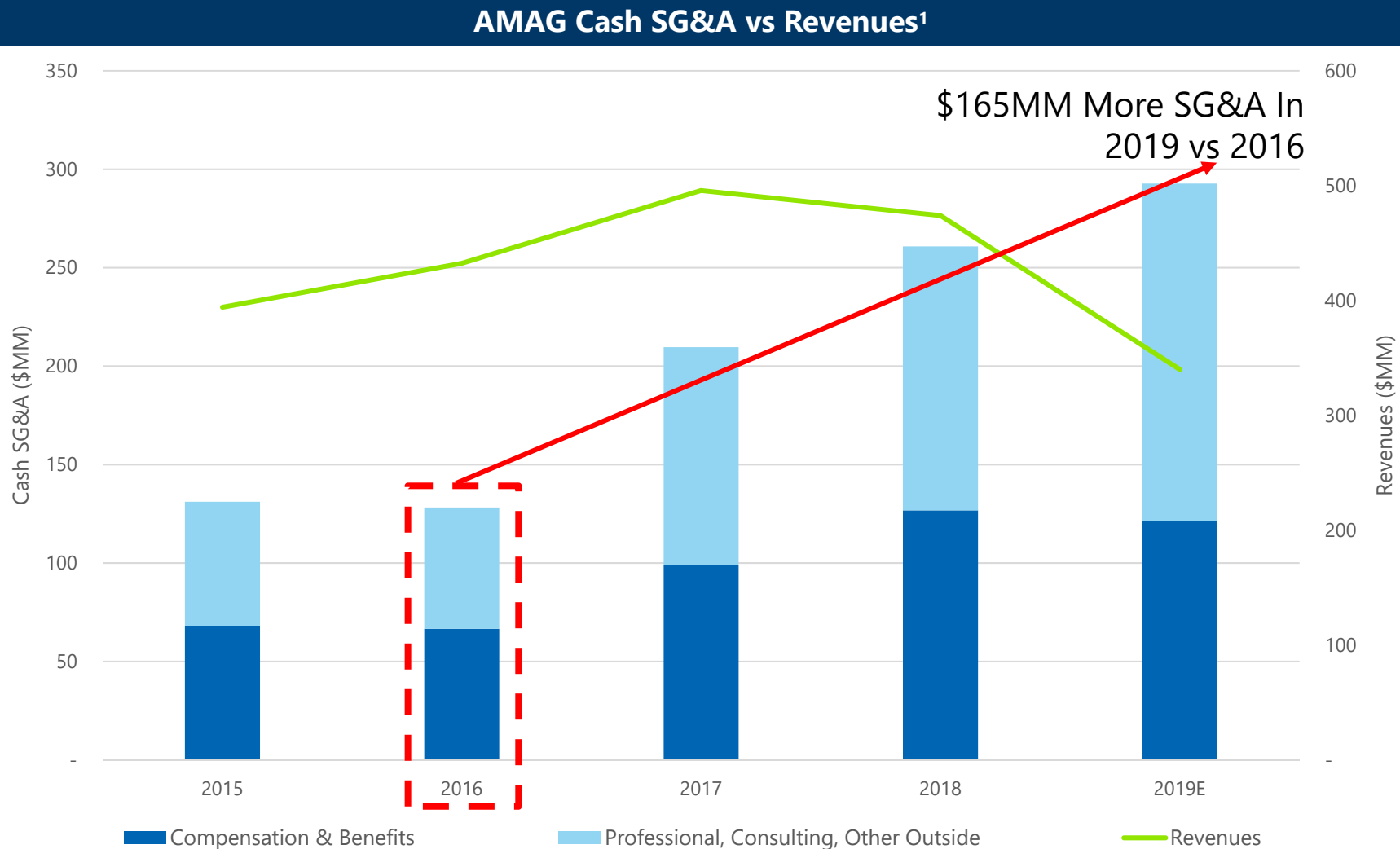
AMAG's Public Statements Confirm No Portfolio Synergies

- Despite consolidation of the Makena and Intrarosa sales forces announced on 4Q2018 earnings call, AMAG has publicly communicated that they expect SG&A to increase in 2019 with increased investment in direct-to-consumer campaign spending; further highlighting the lack of commercial synergies across their portfolio

Product	Public Statement
Makena	<i>"And so, large sales force, about 110 reps out there, calling on the OB/GYNs. Very good, sort of stickiness within the supply chain and reimbursement channel. Good connections to the payers." – Ed Myles, BAML Leveraged Finance Conference, November 29, 2016</i>
Intrarosa	<i>"As we look at the 150 approximately sales folks bearing down, this is a competitive marketplace. There are other folks out there who will have sales forces. And making sure that we're getting the appropriate share of voice across all of the target physicians is going to be important, not just OB/GYNs but also looking at high-prescribing primary care physicians in some cases, who are also prescribing in this field." – Nicholas Grund, 4Q2016 Earnings Call, February 14, 2017</i>
Vyleesi	<i>"Frankly, it's a little bit too early to tell, right? So as we go through the final budget planning and go-to-market strategy, a lot of it is around where do women present. As you know, this condition is -- struggles with low awareness at the physician level on diagnosis pathways. So some women with the condition are ending up at OB/GYNs, where we're very very, strong in both maternal health and Intrarosa sales forces, but also some end up in sexual health experts as well as psychiatrists or psychologists. So making sure that we know exactly where patients are presenting is an important part of how we go to market." – Nicholas Grund, 3Q2018 Earnings Call, November 1, 2018</i>
Feraheme	<i>"On the Feraheme side, again, I think we're looking for profitable growth on Feraheme. So we took a responsible approach at expanding into additional segments, primarily GIs. We also have an effort in OB/GYN, that's not going away, but this expansion was primarily about getting some broader reach into the GI marketplace. It's a modest increase. We went from roughly 42 to roughly 48, but we also have a very talented team out there, and strategic account managers, they're almost solely dedicated to hematology, oncology space, doing some contracting with those groups and then also in the hospital setting." – Anthony Casciano, 1Q2019 Earnings Call, May 7, 2019</i>

AMAG's Disparate Therapeutic Portfolio Provides No Leverage On Existing Commercial Infrastructure

- To launch Intrarosa and Vyleesi, AMAG has increased its SG&A by \$165MM from 2016 to 2019 during a period when revenues declined ~\$100MM overall. Caligan believes it is unlikely that AMAG shareholders will see any return on this spending



¹ AMAG SEC Filings. 2015 SG&A breakdown between professional and consulting and compensation and benefits is a Caligan estimate, though the aggregate number is from AMAG's 2019 10-K 32

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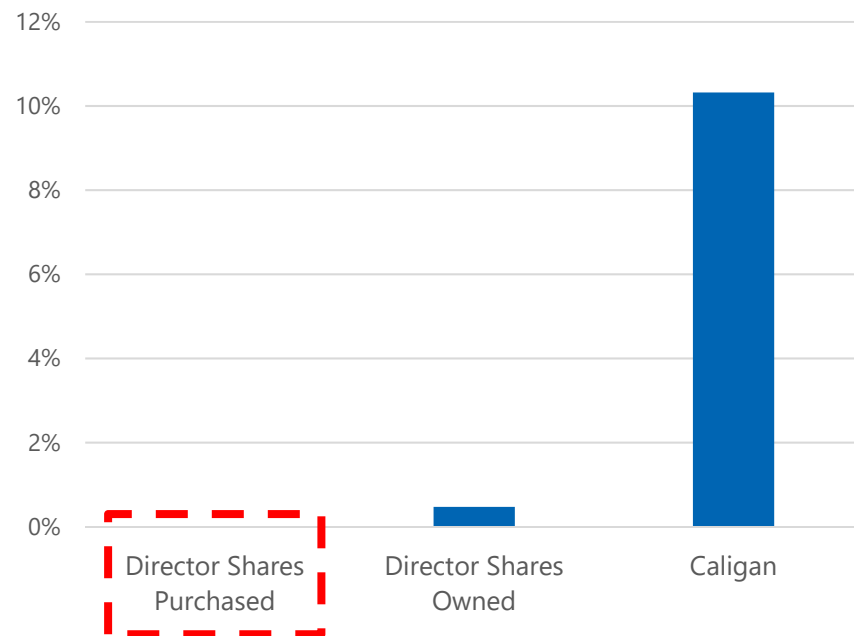
Caligan Action Plan

Action	Rationale
Significant Board Refreshment	<ul style="list-style-type: none"> Given AMAG's absolute and relative underperformance, AMAG would benefit from the fresh perspective of a new set of independent directors that includes both (i) directors with significant pharmaceutical expertise and public company experience and (ii) direct representation for AMAG shareholders Caligan is proposing 4 new directors, 3 independent of Caligan
Comprehensive Review of Strategic Alternatives	<ul style="list-style-type: none"> Post board refreshment, AMAG should conduct a comprehensive review of strategic alternatives of its asset portfolio The nephrology, women's health, and hematology assets cannot leverage a single commercial infrastructure (or require additional direct-to-consumer marketing spending that questions the need for a sales force) questioning the logic of having multiple subscale therapeutic focuses
Immediate Rationalization of Commercial Footprint to Achieve Positive EBITDA	<ul style="list-style-type: none"> Given the spending and pipeline overhang with the investment community, the quickest way to re-build trust is to immediately get the company to profitability Positive steps include exploring non-traditional ways and partnerships to monetize Intrarosa and Vyleesi and establishing risk-sharing development partnerships on ciraparantag and AMAG-423 that alleviate the R&D burden on AMAG
Monetize Feraheme International Rights	<ul style="list-style-type: none"> Given the hypophosphatemia benefits vs. Injectafer that the non-inferiority study demonstrated, this would seem like an opportune time to explore a new partnership (Vifor/Daiichi provides a template) A low-risk business development initiative could provide substantial upside to AMAG shareholders

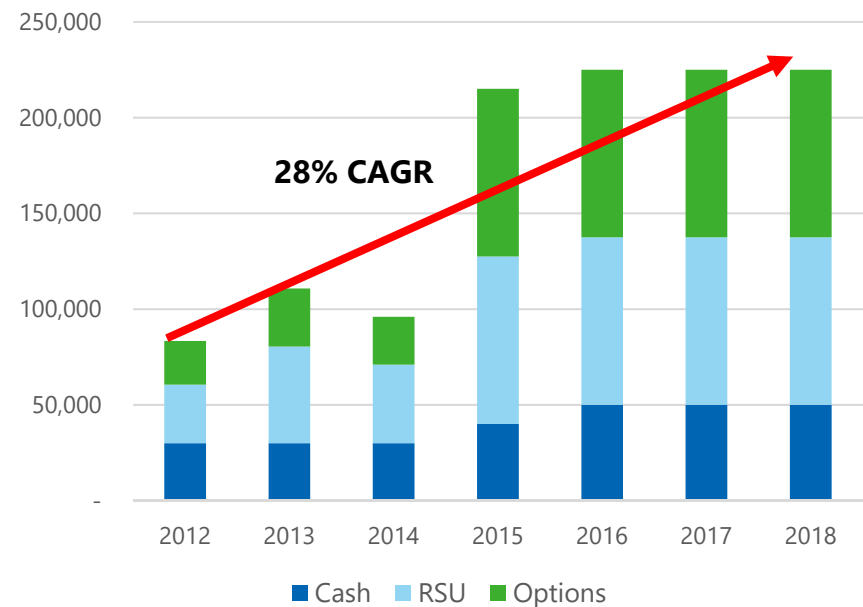
AMAG Directors Have Purchased an Immaterial Number of Shares¹

- AMAG's directors own an immaterial amount of shares (< 0.50%) and, over the last 7 years, only one director has purchased shares worth ~\$100k. Caligan owns over 10% of AMAG's shares.
- **As AMAG shareholders have lost ~50% of their share value under current leadership, annual director compensation (retainer, RSUs, and options) has increased at a 28% CAGR**

Director Ownership Of AMAG (% O/S)¹



Annual Director Compensation²



¹ SEC Form 3 & 4 Filings as of May 20, 2019 for Independent Directors. John Fallon purchased 3,230 shares on November 10, 2015 for \$31.20 per share.

² As disclosed in AMAG annual proxy statements

AMAG Board Should Explore Whether Separating Assets Will Create Value

Nephrology/Hematology		
	Feraheme	Pipeline
2019E Revenues ¹	\$170MM	N/A
2019E EBITDA²	\$100MM	\$(50)MM
Worldwide Rights	Yes	Yes
Sales Reps ³	48	N/A
Sales Points	Hematologists Oncologists GPOs Gastroenterologists Hospitals	Hematologists Hospitals
Potential Indications	Patient Blood Management Heart Failure Iron Deficiency	Anticoagulant reversal

Women's Health			
	Makena	Intrarosa/Vyleesi	Pipeline
2019E Revenues ¹	\$145MM	\$20MM	N/A
2019E EBITDA²	\$50MM	\$(130)MM	\$(50)MM
Worldwide Rights	Yes	No	Yes
Sales Reps ⁴	105	137	N/A
Sales Points	OB/GYNs	OB/GYNs SH Experts Psychiatrists Psychologists	OB/GYNs Hospitals
Potential Indications	N/A	Intrarosa for HSDD	Severe preeclampsia

Separating AMAG assets could create shareholder value

¹ Consensus estimates

² Caligan estimates

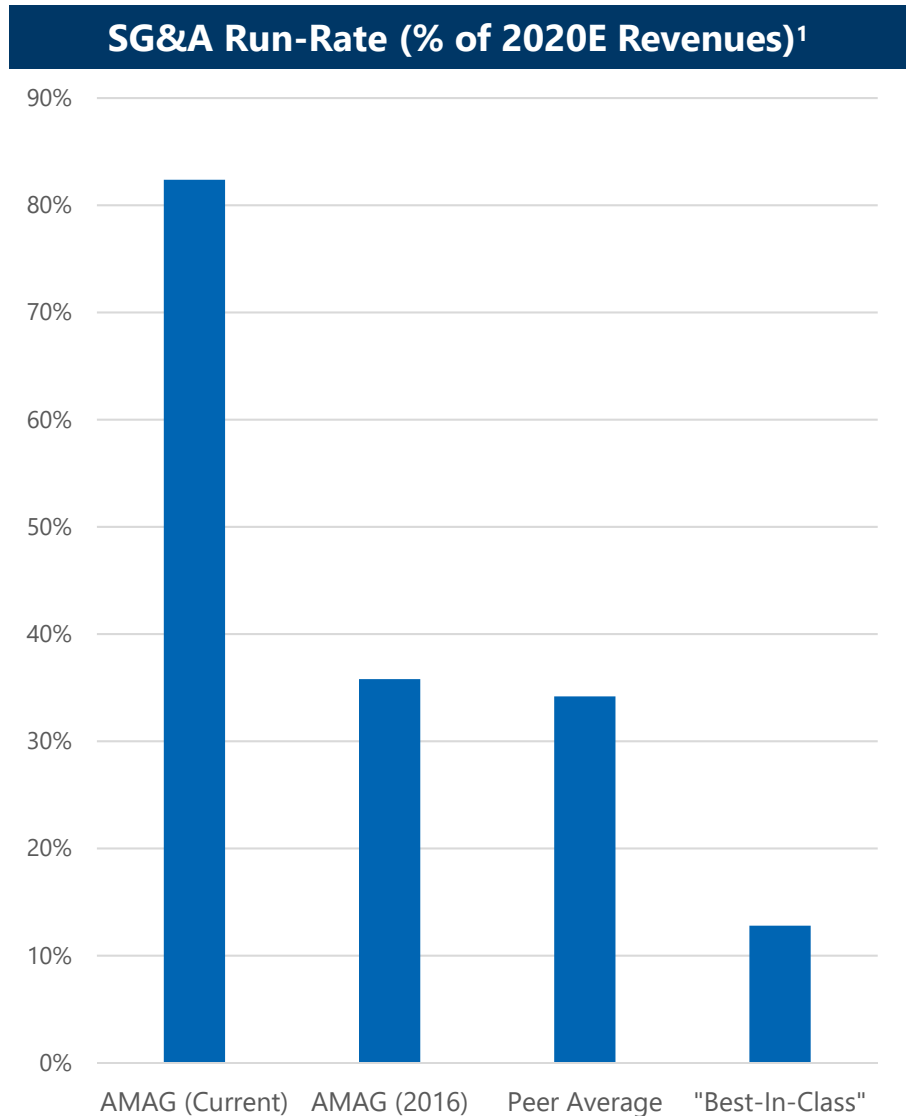
³ 1Q2019 Earnings Call

⁴ 2Q2018 Earnings Call; pre-sales force consolidation

SG&A Should Be Reduced Immediately

- **In 2016, when AMAG's only commercial products were Feraheme and Makena, AMAG spent \$128MM on SG&A (30% of revenue)²**
- In 2019, AMAG is on pace to spend more than 85% of revenues on SG&A:
 - Peer Average = 34.2%
 - Best-In-Class = 12.8%
- Applying average SG&A % of sales generates \$172MM of cost savings
- Applying best-in-class SG&A % of sales generates \$248MM of cost savings
- **AMAG is spending \$165MM in SG&A to generate an incremental \$20MM in revenue from Intrarosa and Vyllessi.**

This needs to be stopped immediately

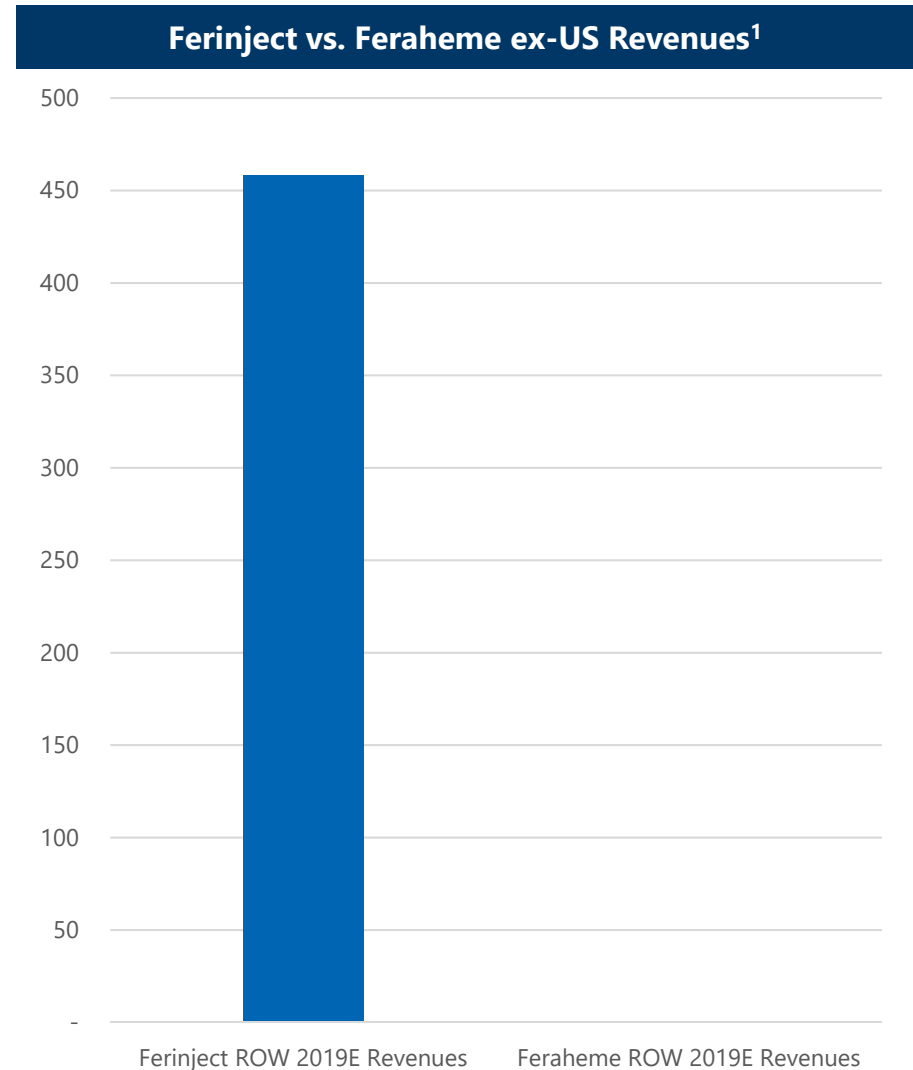


¹ Consensus revenue estimates. SG&A is last quarter annualized. Best-In-Class is Amphastar Pharmaceuticals. Peer Average is US public pharmaceutical and biotech companies that are expected to generate between \$300MM and \$600MM of product revenue in 2020

² Excluding CBR. SG&A from AMAG 2016 10-K

AMAG Needs An International Distribution Partner For Feraheme

- **Ferinject (the ex-US brand name for Injectafer) consensus estimates are for over \$450MM of international revenue in 2019**
- Ferinject is launching in Japan this year. On its 1H2019 earnings call, Vifor estimated ~5 million patients in Japan are suffering from iron deficiency anemia with more than 50% of them not being treated at all and less than 10% are currently being treated with intravenous iron
- Caligan (and Vifor) believes there is a huge unmet medical need in treating iron deficiency and iron deficiency anemia worldwide. Vifor has observed 25%+ volume growth in underpenetrated therapy areas, such as cardiology and patient blood management in Europe and oncology and gastroenterology in the U.S.
- Regent (a subsidiary of Daiichi) pays Vifor a 33.33% revenue royalty on its sales of Venofer and Injectafer in the US and bears all of the costs of marketing
- If Feraheme achieved similar market share penetration in the rest of the world as it did in the US, Feraheme could achieve over \$100MM of international revenues. At a 33% royalty rate and a 5x capitalization multiple, **getting an international distribution partner for Feraheme could increase AMAG's share price by 33% - 77%**²



¹ S&P Capital IQ For Consensus Estimates

² 26% global market share on \$413MM of ex-US Ferinject sales equals \$119MM of ex-US Feraheme revenue. At a 33.33% royalty rate, AMAG would receive \$39.7MM annually. At a 3x – 7x capitalization rate, AMAG's market capitalization would increase by \$119MM – \$278MM, 33-77% higher than its closing market capitalization of \$362MM on September 3, 2019.

Caligan's Research on AMAG Pharmaceuticals

- Caligan has conducted exhaustive research over the past 18 months to better understand AMAG's products and strategy, including working with respected former pharmaceutical executives to diligence each of AMAG's products
- Caligan has worked with leading nephrologists, chemists, and academics to understand the potential of Feraheme in the US and internationally and its competitive advantages versus other IV irons
- Caligan has spoken to OB/GYNs, lead investigators, and consultants to evaluate AMAG's women's health assets and its current commercial strategy
- Our conclusion from this analysis is that AMAG's assets are valuable/durable and that the business possesses several fundamental upside drivers but that its future will be increasingly difficult if AMAG continues with its existing strategy
- **Caligan believes that AMAG needs (i) board refreshment to reestablish credibility with the investment community and (ii) to implement some low-risk, high reward value creation initiatives**

About Caligan Partners

Caligan Partners, LP was founded by David Johnson and Sam Merksamer in 2017 to pursue a deep value-oriented investment strategy

Caligan's principals have extensive experience working closely with management teams on strategic and operating initiatives, and working through industry transitions to create value

Caligan matches its investment horizon to the opportunity, with a singular focus on creating value for its investors and shareholders

Contacts & Additional Information

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LEGEND

Caligan, Caligan CV II LP, David Johnson, Samuel Merksamer, Paul Fonteyne, Lisa Gersh, and Kenneth Shea (collectively, the "Participants") intend to file with the SEC a definitive consent statement and accompanying form of consent card to be used in connection with the solicitation of consents from the stockholders of AMAG Pharmaceuticals, Inc. (the "Company"). All stockholders of the Company are advised to read the definitive consent statement and other documents related to the solicitation of consents by the Participants when they become available, as they will contain important information, including additional information related to the Participants. The definitive consent statement and an accompanying consent card will be furnished to some or all of the Company's stockholders and will be, along with other relevant documents, available at no charge on the SEC website at <http://www.sec.gov/> and at Caligan's website www.saveamag.com and from the Participants' consent solicitor, D.F. King & Co., Inc. by requesting a copy via email to AMAG@dfking.com. Information about the Participants and a description of their direct or indirect interests by security holdings is contained in the Schedule 14A filed by Caligan with the SEC on September 4, 2019. This document is available free of charge from the sources indicated above.