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INSTITUTIONAL RESEARCH

Specialty Pharma

COMPANY UPDATE

September 27, 2017

Pulmatrix (Nasdaq/PULM)

BUY **2018 Clinical Milestones Approaching**

Pulmatrix is a clinical stage biopharmaceutical company developing inhaled therapies for the treatment of pulmonary diseases using iSPERSE inhaled dry powder technology

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Investment Highlights

1) Pulmatrix has a number of near-term catalysts approaching in 2018, both related to its proprietary iSPERSE drug delivery technology. First, the Company's PUR1900 anti-fungal product candidate is expected to have Phase 1/1b data for release in Q2/18. PUR1900 is indicated for ABPA (allergic bronchopulmonary aspergillosis) in severe asthma patients, a potential $1.3 billion market in the US, and Pulmatrix is set to begin the single ascending dose first portion of its Phase 1/1b clinical trial early next year, as an alternative to steroids and Sporanox. Next, Pulmatrix is set to initiate a Phase 2 clinical study with its PUR 1800 kinase inhibitor in patients with moderate-to-severe acute exacerbations of Chronic Obstructive Pulmonary Disease (COPD), a potential $2.5 billion market in the US, now dominated by antibiotics and oral corticosteroids. The Company intends to begin Phase 2 clinical studies of PUR1800 in the second half of 2018, with preliminary data ready as early as the end of next year.

2) Longer-term, Pulmatrix has a strong product pipeline to look forward to, including both internally developed and out-licensed product candidates. The Company's PUR5700 compound, also a narrow spectrum kinase inhibitor (NSKI), could begin Phase 1 clinical trials as early as 2019 in Idiopathic Pulmonary Fibrosis (IPF) patients. In addition, last year Pulmatrix licensed its PUR0200 drug delivery system to Vectura (VEC, Not Rated) to compete with Boehringer Ingelheim's $3.5 billion (worldwide sales) Spiriva Handihaler in the US market. PUR0200 is an improved once-daily, inhalable iSPERSE reformulation of tiotropium bromide for COPD patients, and earlier this month the Company signed an agreement including a potential $1 million milestone fee and mid-teen revenue sharing stream from Vectura, which has now taken over development of the product in the US. Further, Pulmatrix is also pursuing a similar partner for PUR0200 and potential combination products using the technology for the European Union market, and recently met with regulatory agencies in Sweden and the United Kingdom to review the status of PUR0200 as a

Current Price	**$2.12**
Price Target	**$4.00**

Estimates	F2015A	F2016A	F2017E
Revenues($000s)	$1,201	$835	$0
EPS	($3.23)	($1.88)	($0.90)
FYE December			

Stock Data	
52-Week Range	$0.50-$6.98
Shares Outstanding (million)	20.1
Market Capitalization ($mill)	$42.6
Enterprise Value ($mill)	$33.4
Debt to Capital (6/17)	22.4%
Book Value/Share (6/17)	$0.79
Price/Book	2.7 x
Average Trading Volume (3-Month)	415,000
Insider Ownership	2.0%
Institutional Ownership	35.0%
Short interest (million)	1.5
Dividend / Yield	$0.00/0.0%

Price target and ratings changes over the past 3 yrs:
Initiated - June 24, 2014 - Buy -Price Target $12.00
Update - July 27, 2015 - Buy - Price Target $15.00
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pharmacokinetic bioequivalent alternative to Spiriva Handihaler. Based on positive feedback from both agencies, the company intends to move PUR0200 into pivotal testing in the near term for pharmacokinetic bioequivalence to support an EU product registration.

3) Pulmatrix recently reported financial results for its Q2/2017 and also provided a mid-year corporate progress update. For the quarter, the Company reported a net loss of $5.6 million, or ($0.29) per share, as compared to a net loss of $9.2 million, or ($0.62) per share in the same period one year ago. The decrease in net loss this year was due primarily to a one-time charge of $4.0 million taken last year for costs related to Pulmatrix's merger with Ruthigen. Line item expenses for this year were very comparable to those of last year: Research and development expenses were $3.4 million in Q2/2017 as compared to $2.4 million in Q2/2016, although this year's amount included a $1 million upfront license fee to RespiVert for three anti-inflammatory molecules, while general and administrative costs declined this year to $2.1 million from $2.2 million in the same period last year. Cash on hand at the end of the quarter increased to $11.0 million from $4.2 million at the start of the year, thanks to a recent $14.5 million equity offering offset by approximately $6.6 million in net cash used in operating activities and $1.3 million required for term loan principal payments in the first six months of 2017.

Conclusion/Stock Valuation

We are re-initiating our BUY rating on Pulmatrix shares due to the availability of additional research staff, and initiating a $4 Price Target on these shares as well. With an enhanced balance sheet, both near-term (2018) and longer-term (2019 and beyond) clinical milestones approaching, and a recently successful cost-control effort, both growth- and value-oriented investors may find PULM shares attractive. With a current market capitalization of just over $42 million, PULM shares currently trade at a significant discount to other innovative drug delivery companies. Using a comparable group of drug delivery/specialty pharma stocks, including AzurRx BioPharma (AZRX, Not Rated), Aralez (ARLZ, NR), Aradigm (ARDM, NR), Axsome Therapeutics (AXSM, NR), Cumberland Pharmaceuticals (CPIX, NR), Egalet (EGLT, NR), Lipocine (LPCN, NR) and Evoke Pharma (EVOK, NR) with an average market cap of $81 million, we estimate a stock valuation of $4 for PULM shares, and therefore we are re-initiating our BUY rating on PULM shares and initiating a 12-18 month price target of $4 per share.

Risk Factors

In addition to normal economic and market risk factors that impact most equities and the common risks shared by Pulmatrix with other companies in the industry, we believe an investment in PULM involves the following risks:

- **Reliance on key management** – At present, PULM relies on several key members of its management team who either founded the Company or have been in key executive positions for an extended period of time. Should one or more of these key executives leave the Company, PULM could find it difficult to replace their long-standing knowledge of operations and industry expertise.
- **Reliance on partnerships –** To date, PULM has signed certain partnerships and agreements for its therapeutic technologies and products. Thus, in the future certain factors related to product commercialization and new product development may be determined by third parties and out of the control of Company management.
- **Limited stock liquidity** – Trading volume in PULM stock is comparatively light and these shares have a relatively limited history of trading on major US stock exchanges compared with other healthcare

stocks. As such, news regarding PULM, its target market, partners and/or competitors could lead to significant volatility in the stock price.

- **Competitive Markets** – The Company competes in its target respiratory product market with a number of companies, many of which are considerably larger than the Company. There can be no assurance that the Company will be able to successfully compete and launch new products into these competitive markets in the future.
- **FDA and regulatory risks** – PULM is subject to regulatory review for its ongoing research and development activities, principally the US Food and Drug Administration's application processes and those of other international regulatory health agencies. In addition, the quality assurance and manufacture of the Company's therapeutic products are subject to ongoing oversight and regulation, and any negative correspondence from the FDA or other regulatory agencies could have an adverse effect on the ongoing operations of the Company.
- **Lack of historic profitability** - PULM has not achieved operating profitability on an annual basis for several years, and according to our forecasts may not be expected to do so in the near future. Although the Company maintains adequate cash reserves at the present time, there can be no assurance the Company will not need to raise additional working capital in the future should operating losses continue.
- **Need to defend patents and other intellectual property** – PULM currently holds a number of US and International patents on its products and related technologies, some of which expire in the near future. The Company may be required to defend its patents in the US and overseas in the future, and there can be no assurance these defenses will be successful.

Robert M. Wasserman

Pulmatrix
Consolidated Statements of Income
(in $000s, except EPS)

FYE December	2015	2016	2017E	2018E
Revenues	1,201	835	0.0	0.0
Operating Expenses				
Research and development	7,187	10,152	9,000.0	9,500.0
General and administrative	17,032	8,015	8,000.0	8,500.0
One-time and Other	0	7,534	150.0	250.0
Total operating expenses	24,219	25,701	17,150	18,250
Income (loss) from operations	(23,018)	(24,866)	(17,150)	(18,250)
Other expense, net	(3,149)	(5,936)	(1,000)	(800)
Net income (loss) before tax	(26,167)	(30,802)	(18,150)	(19,050)
Income taxes (benefit)	0	(2,959)	0	0
Net income (loss) after tax	(26,167)	(27,843)	(18,150)	(19,050)
Basic and diluted income (loss) per share	($3.23)	($1.88)	($0.90)	($0.90)
Basic and diluted shares outstanding	8,090	14,815	20,100	21,100
Key ratios:				
Tax rate		-9.6%	0.0%	0.0%
Non-cash items	$12,811	$14,229	($3,000)	($3,000)
Cash Flow/share	($1.65)	($0.92)	($1.05)	($1.05)

Balance Sheets

Assets:	12/31/16	6/30/17
Cash and equivalents	$4,182.0	$10,976.0
Prepaid & other current assets	577.0	754.0
Total current	4,759.0	11,730.0
Property & equip., net	786.0	672.0
Long-term restricted cash	204.0	204.0
Goodwill and other assets	10,914.0	10,914.0
TOTAL ASSETS	16,663.0	23,520.0
Liabilities:		
Loan payable, net	2,586.0	2,745.0
Accounts payable	747.0	564.0
Accrued expenses	1,317.0	2,583.0
Total current	4,650.0	5,892.0
Loan payable, net	3,217.0	1,804.0
Derivative liability	35.0	35.0
Stockholders' equity (deficit)	8,761.0	15,789.0
TOTAL LIAB & EQ	16,663.0	23,520.0

Source: Dawson James Securities, Inc. estimates; Company documents

Important Disclosures:

Price Chart:

Price target and ratings changes over the past 3 years:

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2) **Neutral**: the analyst believes the price of the stock is fairly valued for the next 12-18 months;
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Ratings Distribution	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	14	88%	3	21%
Market Perform (Neutral)	0	0%	0	0%
Market Underperform (Sell)	0	0%	0	0%
Ratings Suspension*	2	13%	2	100%
Total	16	100%	5	31%
*Suspensions are ratings under review for possible change due to unusual market-moving news, and/or analyst departure/change				

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