

# 4Q 2018 Earnings Call

NASDAQ: MNKD

February 26, 2019

# Cautionary Statement

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Today's presentation includes forward-looking statements relating to the development, commercialization and benefits of our products and investigational product candidates, including AFREZZA®, that are subject to certain risks and uncertainties that could cause actual results to differ materially from those projected herein. The words "believe," "expect," "intend," "anticipate," "plan," variations of such words, and similar expressions identify forward-looking statements, but their absence does not mean that a statement is not forward-looking. These forward-looking statements are not guarantees of future performance and are subject to certain risks, uncertainties, and assumptions that are difficult for us to predict and include, without limitation, our ability to generate significant product sales, our ability to manage our existing cash resources or raise additional cash resources, stock price volatility and other risks detailed in MannKind's filings with the Securities and Exchange Commission. For detailed information about the risks and uncertainties that could cause actual results to differ materially from those implied by, or anticipated in, these forward looking statements, please refer to our current and periodic reports filed with the Securities and Exchange Commission from time to time, including our annual report on Form 10-K for the year ended December 31, 2018.





# Today's Agenda

## 4Q Highlights

Michael Castagna, CEO

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## Financial Review

Steven B. Binder, CFO

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## Medical Review and Closing Remarks

Michael Castagna, CEO

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## Q&A

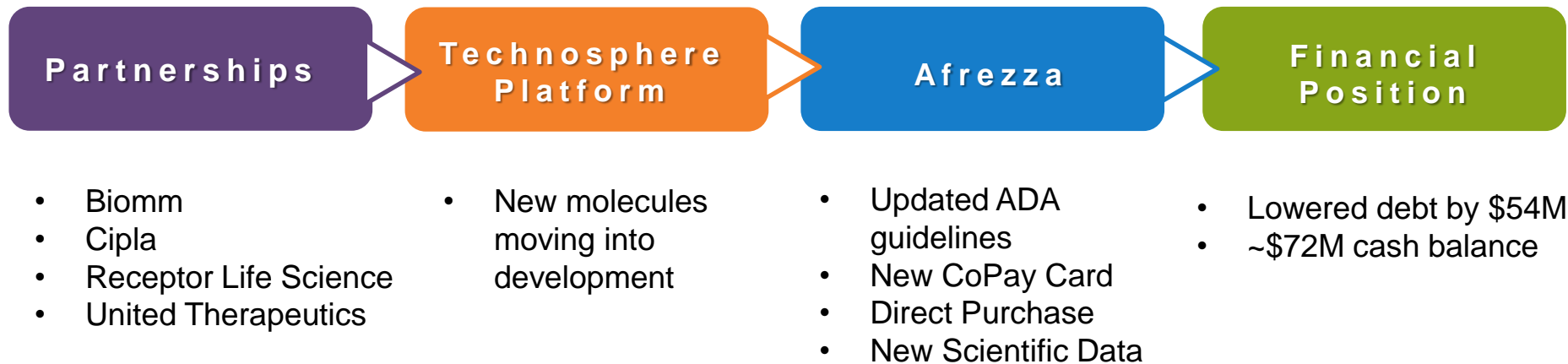


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**Michael Castagna**  
Chief Executive Officer



**Implement a cohesive strategy to transform the company with an entrepreneurial spirit that drives innovative solutions**





- **Technosphere Platform**

- UT Collaboration and Research Agreements underway
- Additional compounds moving forward

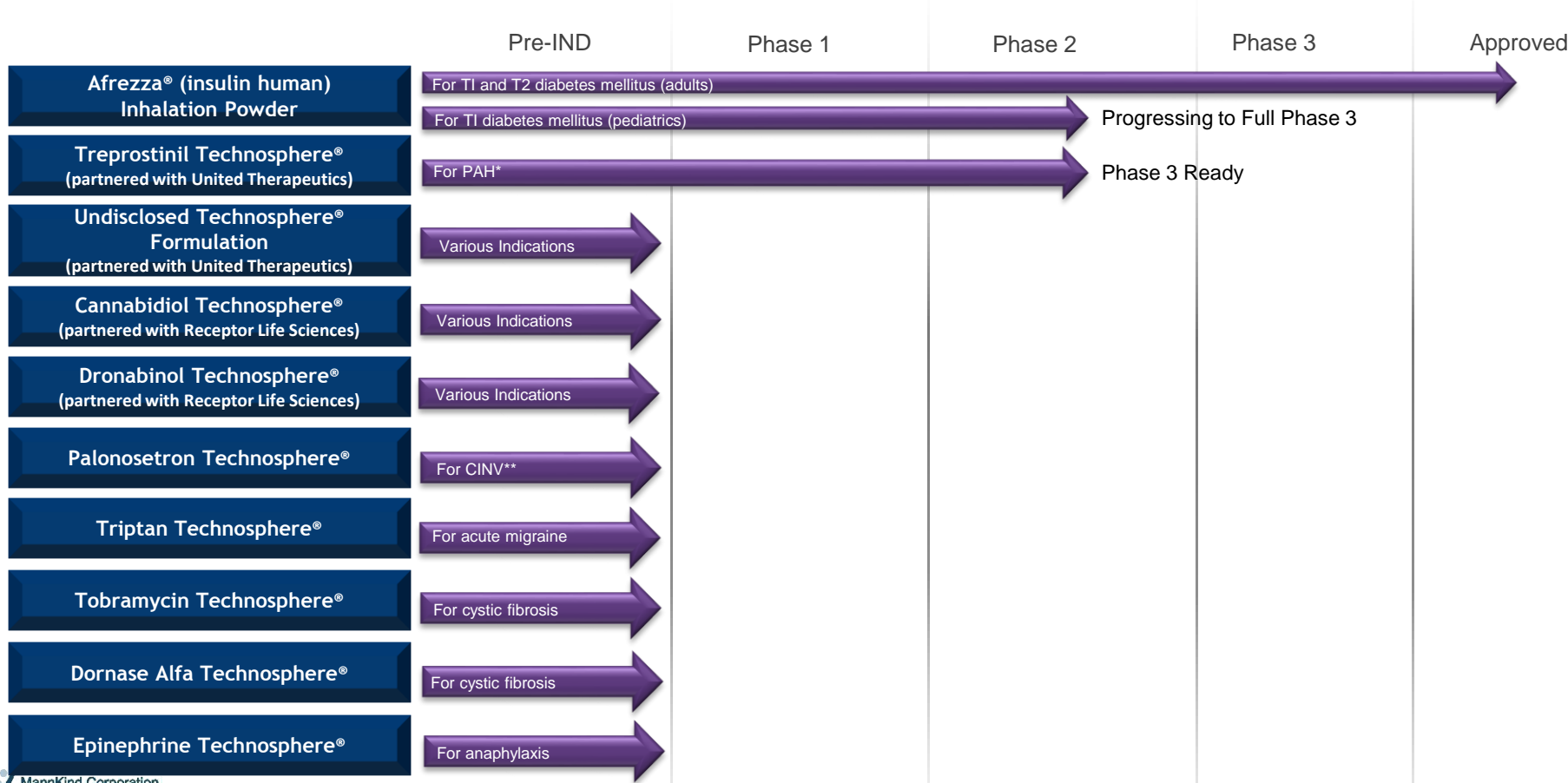
- **Revenues**

- 4Q Total Net Revenues **\$16.0M, +254% vs. 2017**; recognize UT revenue for 1<sup>st</sup> time
- 4Q Afrezza Net Revenue of **\$5.7M**, +28% (GAAP) and +86%\* (Non-GAAP) vs. 2017
- 2018 Afrezza Net Revenue of **\$17.3M**, +88% vs. 2017

- **Financial Position**

- \$45M received from UT Collaboration agreement
- \$40M public offering
- Amended insulin purchase agreement – reduced '18-'19 requirements by **~\$11.5M**
- Ended 2018 with **~\$72M** in cash

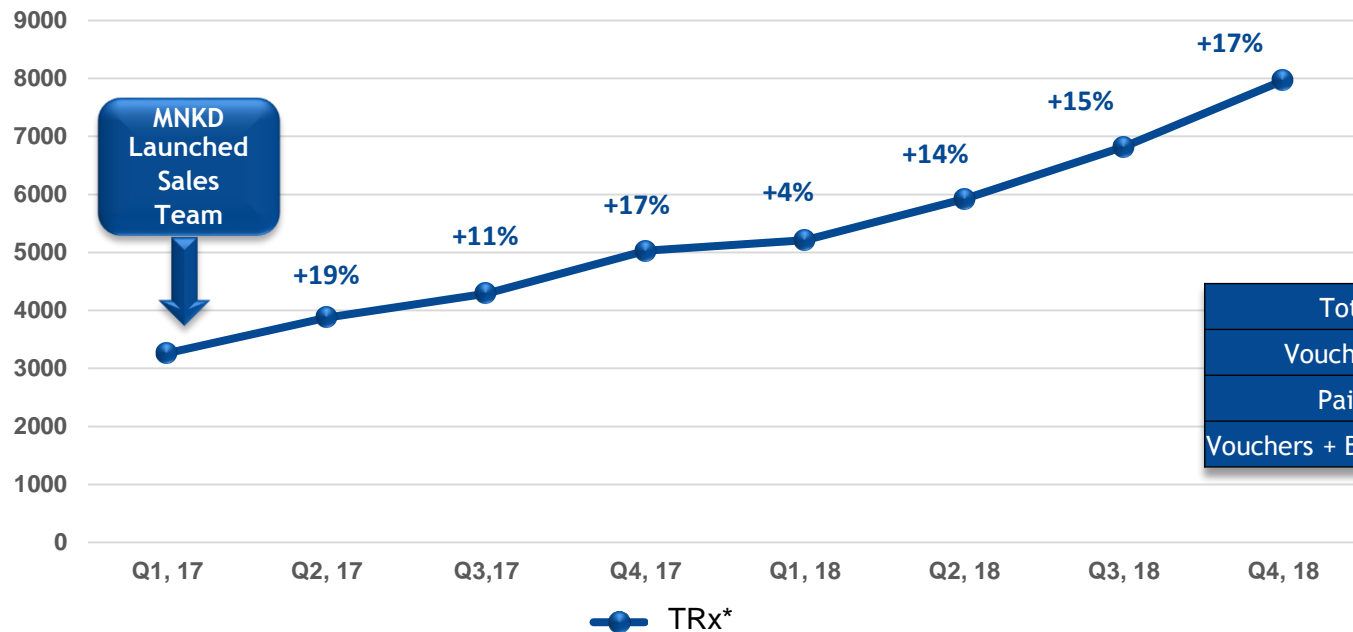
# Product Pipeline



\*pulmonary arterial hypertension \*\* chemotherapy-induced nausea and vomiting



# Afrezza continued to grow over past 8 quarters and TRx\* growth accelerated throughout 2018



	2018	2019
Total TRXs	2,584	3,478
Vouchers/Bridge	338	214
Paid Claims	2,246	3,264
Vouchers + Bridge % TRXs	13.1%	6.2%

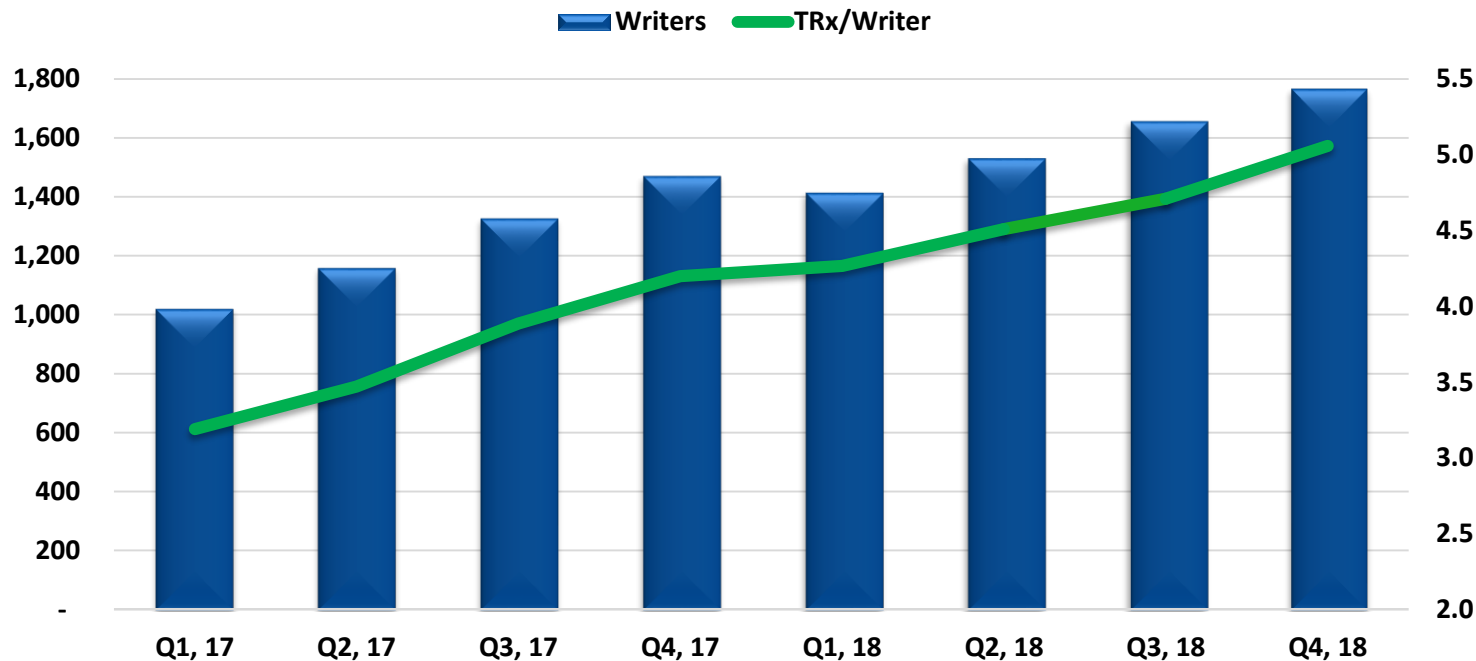
Data: First 6 Weeks of 2018 and 2019

TRx\* = TRx minus voucher program

Source: Symphony Prescriber Data

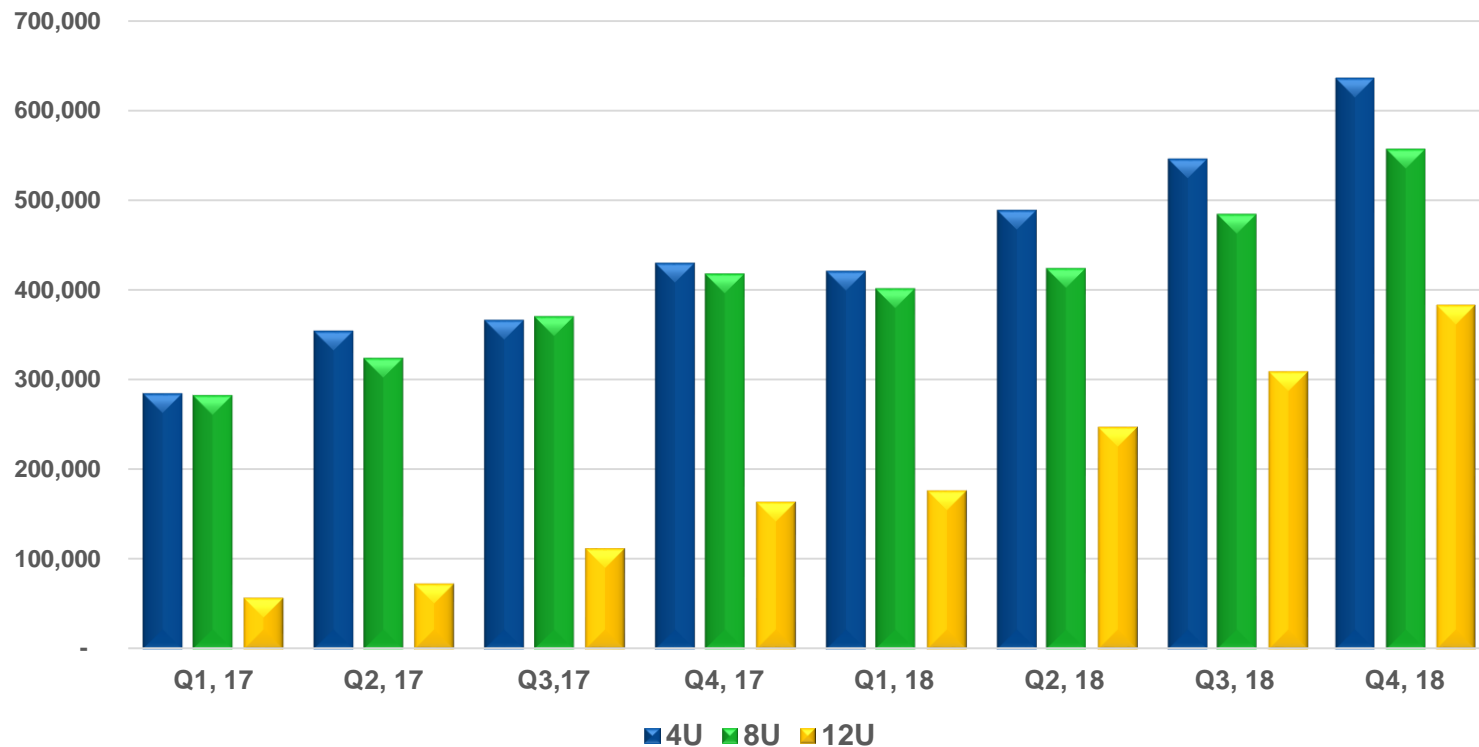


# Our Commercial Efforts Have Grown to 1700+ Total Unique Writers and Increased Depth of Prescribing Over the Last 8 Quarters



Source: Symphony Prescriber Data

# Total Cartridge Growth YoY 57% and 12U growth is up 174% YoY



Source: Symphony Prescriber Data with vouchers removed



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**Steven B. Binder**  
Chief Financial Officer

# +254% Increase in 4Q 2018 Total Net Revenues:

United Therapeutics + Afrezza Growth



## TOTAL NET REVENUES

	4Q		GAAP % Chg	NonGAAP % Chg*	F/Y		% Chg
	2018	2017			2018	2017	
	(\$M)						
Net Revenue - Afrezza	\$ 5.7	\$ 4.5	28%	86%	\$ 17.3	\$ 9.2	88%
Revenue - Collaborations and Services	10.3	0.1	**	n/a	10.6	0.3	**
Revenue - Other	-	-	n/a	n/a	-	2.3	n/a
Total Net Revenues	\$ 16.0	\$ 4.5	254%	408%	\$ 27.9	\$ 11.7	137%

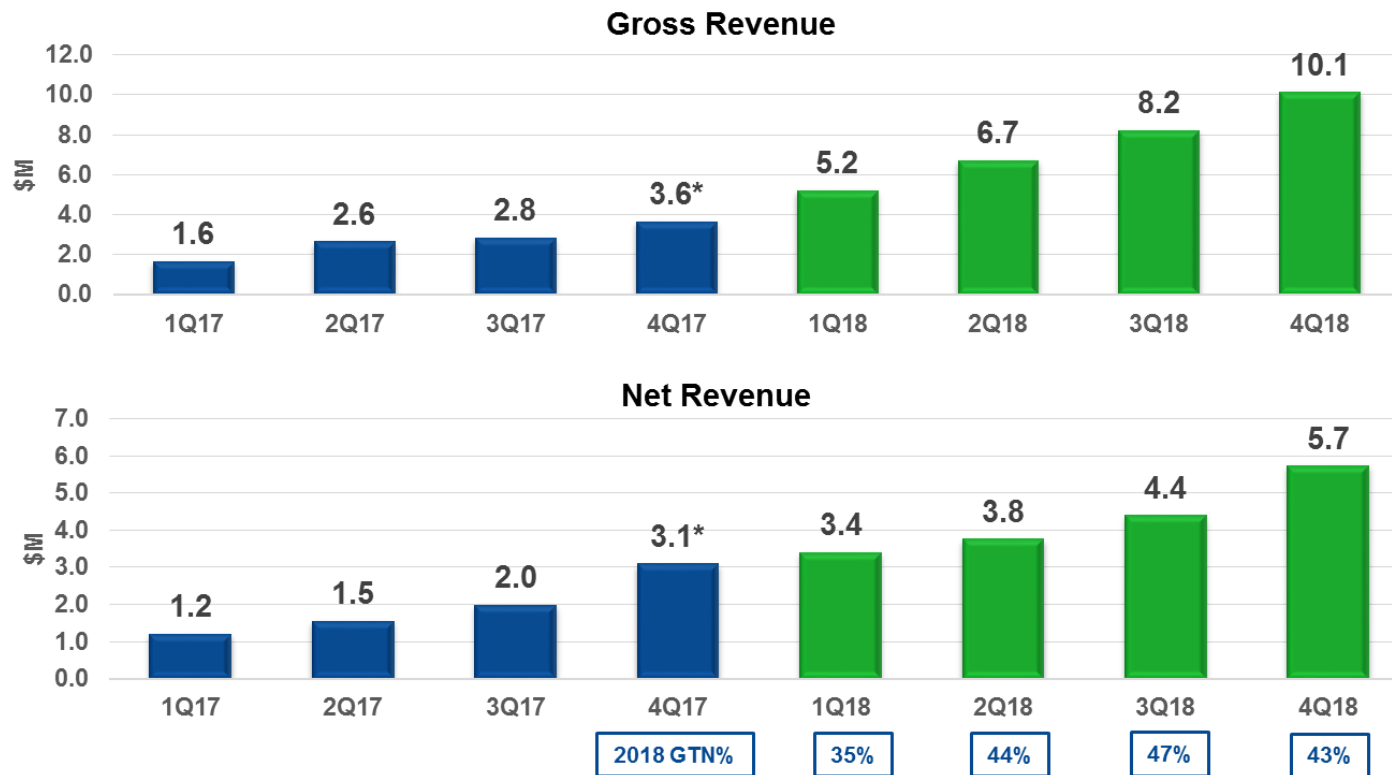
## REVENUE - COLLABORATIONS and SERVICES

	(\$M)	4Q			F/Y		
		2018	2017		2018	2017	
	Total Value						
<b>Revenue - Collaborations and Services</b>		<b>\$ 10.3</b>	<b>\$ 0.1</b>		<b>\$ 10.6</b>	<b>\$ 0.3</b>	
UT License Agreement	\$ 97.8	6.4	-		6.4	-	
UT Research Agreement	10.0	3.8	-		3.8	-	
Receptor Life Sciences	1.0	0.1	0.1		0.3	0.3	
Cipla	2.2	-	-		0.1	-	

\*See GAAP to Non-GAAP reconciliation

\*\* >1000%

# Afrezza Revenue



\*See GAAP to Non-GAAP reconciliation

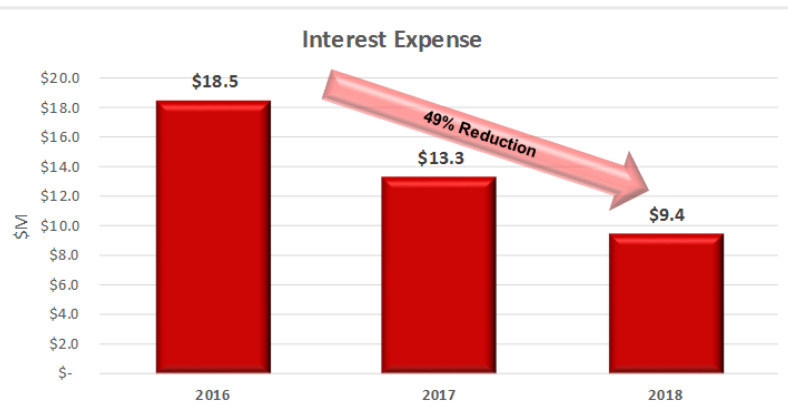
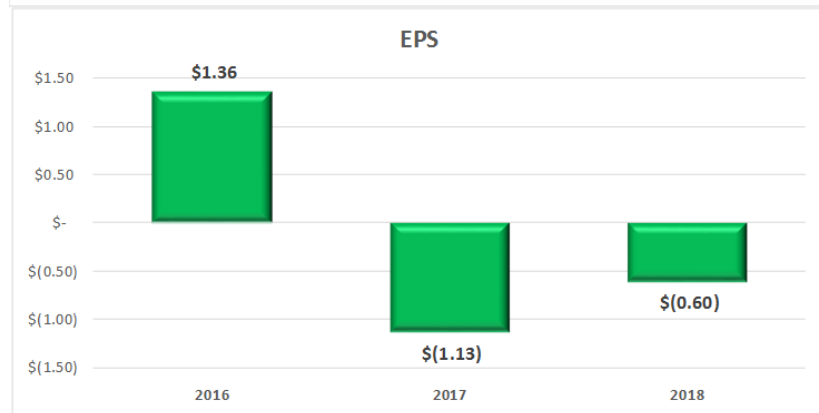
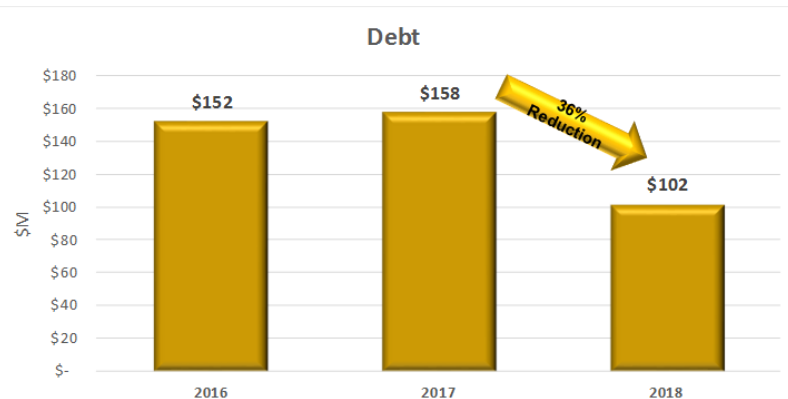
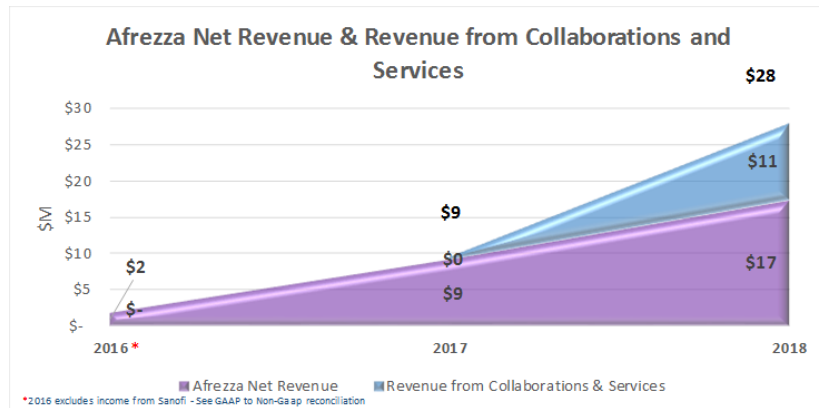
# Insulin Purchase Agreement Amended



- AMPH insulin purchase agreement amended in December
- 2018/2019 requirements lowered by ~\$11.5M
- One-time **\$2M** payment to AMPH in December **recorded as COGS**
- Total insulin purchase commitment **has not changed**; extended to 2024

	4Q 2018	F/Y 2018
((\$M))		
Afrezza Net Revenue	\$ 5.7	17.3
Afrezza Cost of Goods Sold	5.0	19.4
<b>GAAP Afrezza Gross Profit</b>	<b>0.7</b>	<b>(2.1)</b>
W/out Amphstar Amendment Fee	2.0	2.0
<b>Non-GAAP Afrezza Gross Profit</b>	<b>\$ 2.7</b>	<b>\$ (0.1)</b>

# Transitioning to a Stronger Company

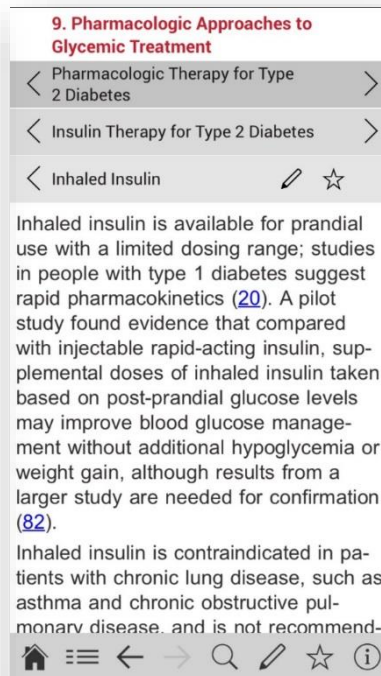
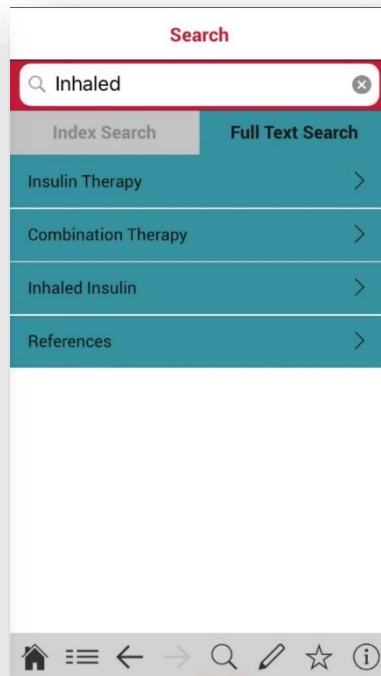
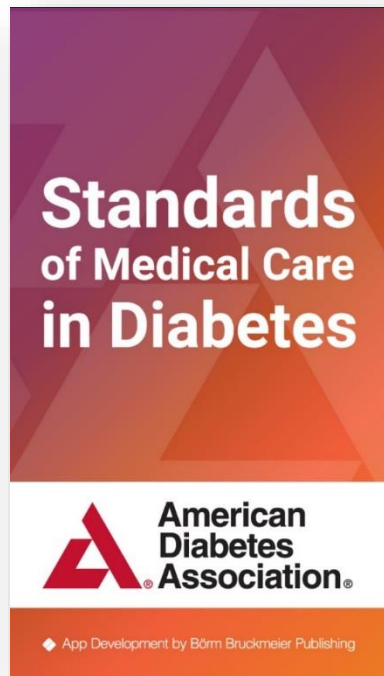






**Michael Castagna**  
Chief Executive Officer

# New ADA Guidelines Update January 2019 (from App)



A pilot study found evidence that compared with injectable rapid-acting insulin, supplemental doses of inhaled insulin taken based on post-prandial glucose levels may improve blood glucose management without additional hypoglycemia or weight gain, although results from a larger study are needed for confirmation (82).



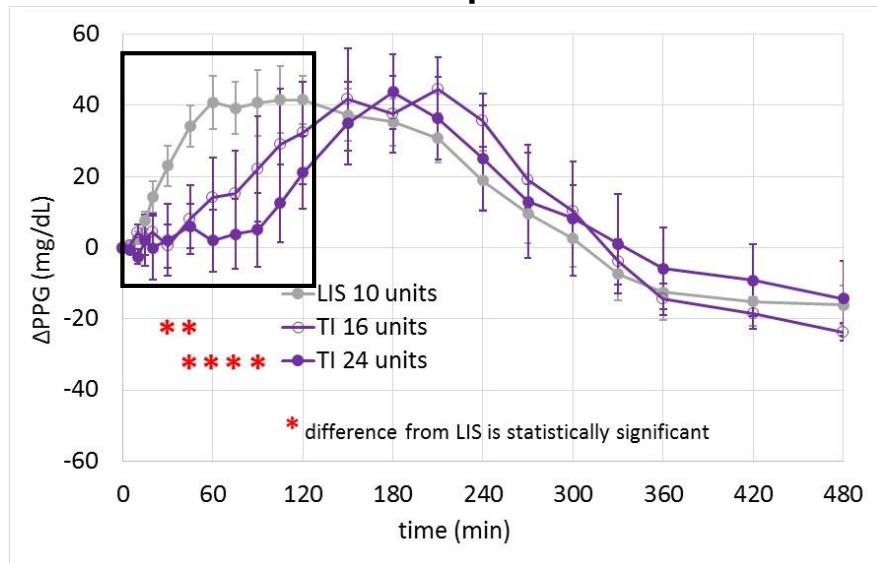
Title	Authors	Type	Key Data
Ultra-rapid profile of insulin human inhalation powder mimics time-action profile of physiologic absorption of glucose from mixed-meal tolerance tests in type 2 diabetes	Marshall Grant, Richard Bergenstal, Anne Peters, Frank Pompilio, Simon Bruce, David Kendall	<b>Oral presentation</b>	<ul style="list-style-type: none"> <li>• Reduced glucagon exposure by 30-35%</li> <li>• Reduced C-peptide exposure out to 3 hours</li> <li>• Better early post-prandial glucose control</li> <li>• A longer period of tight glucose control with higher doses of Afrezza</li> <li>• Earlier reductions in free fatty acids &amp; endogenous glucose production</li> </ul>
Diabetes duration, BMI, and HbA <sub>1c</sub> have greater effects on pulmonary function than inhaled Technosphere® Insulin ( <i>EASD encore</i> )	David Kendall, Joseph Brain, John Buse, David Klein, Yuhui Ma, Marshall Grant, Frank Pompilio, Kelly Smith	<b>ePoster and printed poster presentation</b>	<ul style="list-style-type: none"> <li>• No effects were clinically significant</li> <li>• Afrezza-related decreases in FEV1 were small, non-progressive and reversible after two years of treatment</li> </ul>
A pragmatic randomized control trial evaluates One Drop with inhalable vs injectable insulin* (IIT)	A. Hirsch, M. Heyman, J. Raymond, B. Huddleston, J. Dachis, C. Osborn	<b>ePoster and printed poster presentation</b>	<ul style="list-style-type: none"> <li>• Absolute improvement in A1C when compared to injectable RAAs</li> </ul>

ATTD, Advanced Technologies & Treatments for Diabetes.

\*Investigator-initiated study.



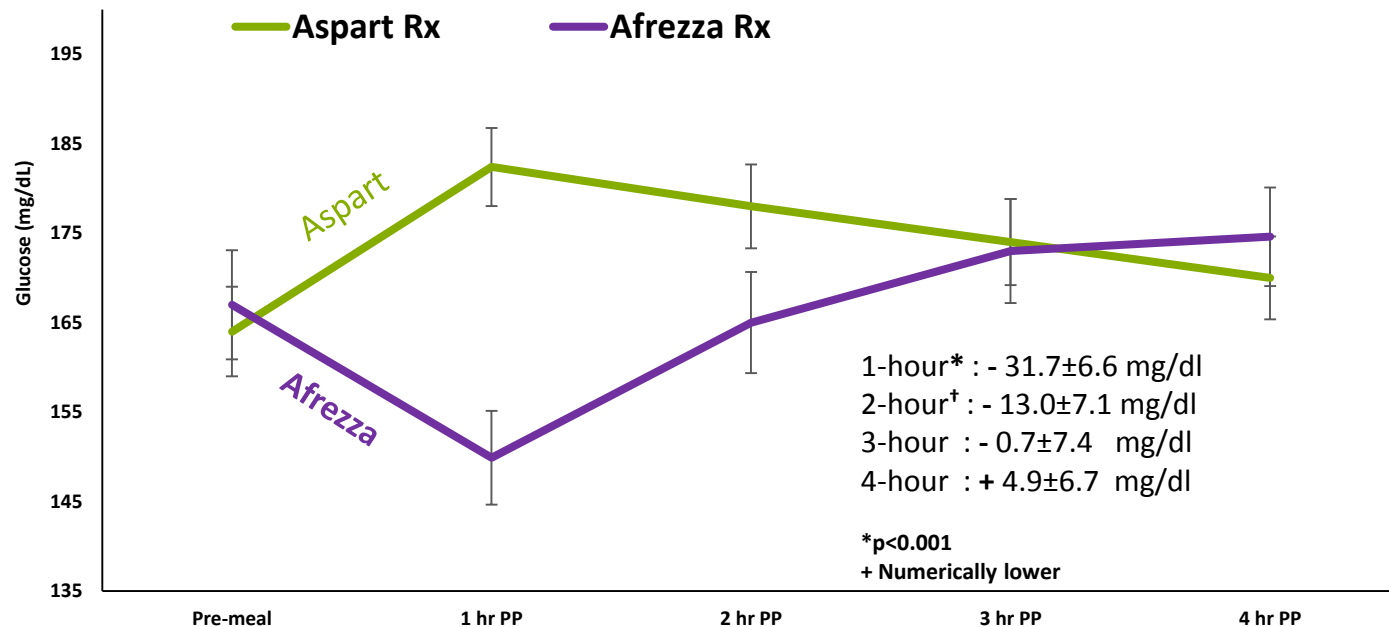
## Glucose response



AUC<sub>0-t</sub>, area under the curve from 0 to total minutes; LIS, subcutaneous insulin lispro; PPG, postprandial glucose; ΔPPG, PPG change from baseline; TI, Technosphere Insulin; t<sub>PPGmax</sub>, time to maximum PPG.

- AUC<sub>0-t</sub> were similar across the 3 treatments (no significant differences) for time ≥ 180 minutes
- TI provided better glucose control in early postprandial period
  - ΔPPG was lower for TI between 30 and 90 minutes
  - AUC<sub>0-t</sub> was lower for TI 24 units between 60 and 150 minutes
- Mean t<sub>PPGmax</sub> shifted from ~106 to ~182 minutes (P=0.001)

# STAT Data: Afrezza Significantly Decreased Sugars at 60 Minutes Post-Meal (September 2018)

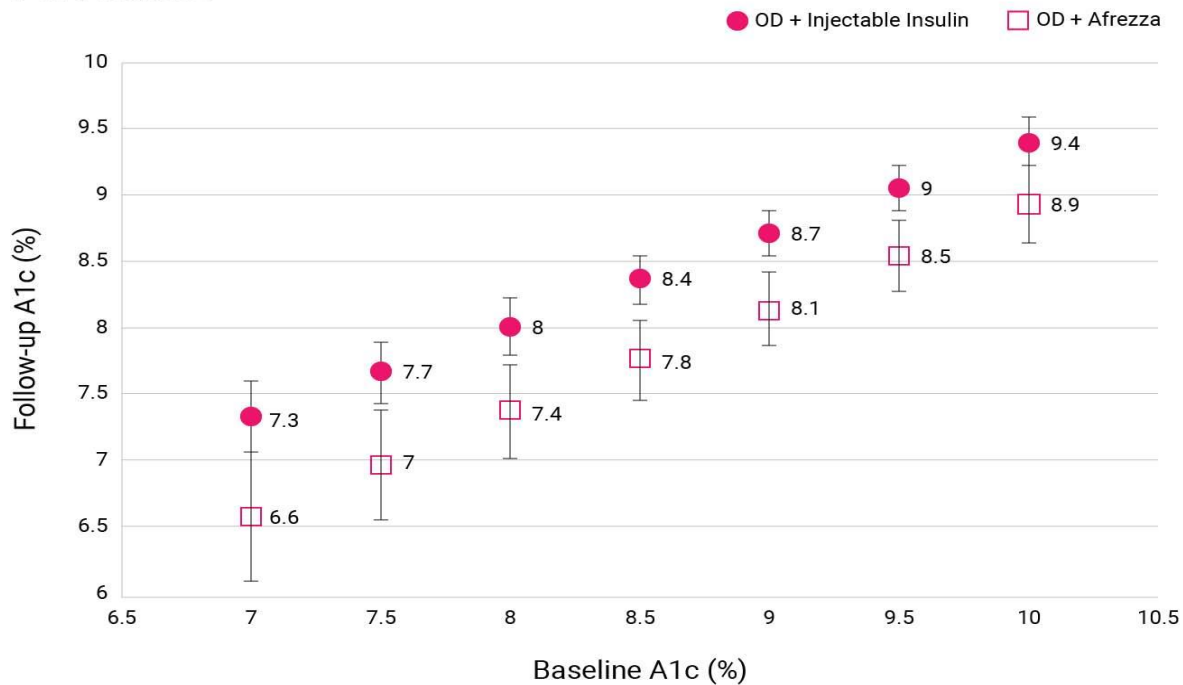


Basal and pre-meal insulin doses in both arms were unchanged throughout the 28 day study

# OneDrop IIT Results Presented at ATTD (February 2019)



Per Protocol



# Anticipated Milestones for 1H 2019



Anticipated Timeline	2019 Milestone Events
1H 2019	<ul style="list-style-type: none"><li>• First milestone payment from United Therapeutics (UT)</li><li>• Multiple data publications on Hypoglycemia, Safety and Efficacy</li><li>• Completion of pediatric cohort 2</li><li>• Brazil Afrezza approval</li><li>• Interim results of Phil Levin study</li><li>• Determination of regulatory pathway for India</li><li>• Additional pursuit of international agreements</li><li>• Completion of formulation work for unnamed compound for UT</li></ul>



## The Transformation of Our Revenue Growth Drivers Compound Over The Next

# 5 YEARS

Afrezza Pediatric

Pipeline and In-license

Afrezza International Expansion

US Afrezza

Technosphere Platform



Save-the-Date:  
**2019 Annual Meeting of Stockholders**  
**New York City**  
**May 14, 2019**

**Thank You**

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# GAAP to Non-GAAP Reconciliations



	(\$M)
<b>Revenue - Collaborations and Services 2016</b>	
GAAP Revenue - Collaboration and Services	\$ 171,965
Collaboration and Services Revenue - Sanofi	(171,965)
Non-GAAP Revenue - Collaborations and Services	\$ -

	(\$M)
<b>Total Net Revenues - 4Q 2017</b>	
GAAP 4Q 2017 Total Net Revenues	\$ 4.5
Change in Estimate Recorded 4Q 2017	(1.4)
Non-GAAP 4Q 2017 Total Net Revenues	<u>\$ 3.1</u>
<b>Non-GAAP % Increase in 4Q 2018 Total Net Revenues</b>	
GAAP 4Q 2018 Total Net Revenues	\$ 16.0
Non-GAAP 4Q 2017 Total Net Revenues	3.1
% Increase in 4Q 2018 Total Net Revenues	408%

	(\$M)
<b>Gross Revenue - Afrezza 4Q 2017</b>	
GAAP 4Q 2017 Gross Revenue - Afrezza	\$ 5.5
Change in Estimate Recorded 4Q 2017	(1.9)
Non-GAAP 4Q 2017 Gross Revenue - Afrezza	<u>\$ 3.6</u>

	(\$M)
<b>Net Revenue - Afrezza 4Q 2017</b>	
GAAP 4Q 2017 Net Revenue - Afrezza	\$ 4.5
Change in Estimate Recorded 4Q 2017	(1.4)
Non-GAAP 4Q 2017 Net Revenue - Afrezza	<u>\$ 3.1</u>
<b>Non-GAAP % Increase in 4Q 2018 Afrezza Net Revenue</b>	
GAAP 4Q 2018 Net Revenue - Afrezza	\$ 5.7
Non-GAAP 4Q 2017 Net Revenue - Afrezza	\$ 3.1
% Increase in 4Q 2018 Afrezza Net Revenue	86%