# Rodman & Renshaw 19th Annual Global Investment Conference

September 11, 2017







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 forwardlooking. 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, 2016.



### MannKind's Footprint is Built for Scale and Efficiency



## Senior Management Team with Global Biopharmaceutical and Medical Device Experience





Michael Castagna, PharmD
Chief Executive Officer

- CEO since May 2017
- Previously served as a VP and Global Commercial Lead for a portfolio of nine biosimilar drugs at Amgen
- Prior to Amgen, served as Executive Director of Bristol-Myers Squibb's Immunology franchise
- Received a BS from Philadelphia College of Pharmacy, Doctorate from MCPHS and MBA from Wharton Business School



David Thomson
Corporate VP / General Counsel

- Corporate VP since January 2002
- Prior to joining MannKind, practiced corporate and securities law at Davies Ward Phillips & Vineberg
- Previously, was post-doctoral fellow at Rockefeller University
- Received a BS, MS, and PhD from Queens University and JD from the University of Toronto



Steven Binder
Chief Financial Officer

- CFO since July 2017
- Previously served as VP and CFO for Stryker's International Group
- Prior to Stryker, served in a series of senior leadership roles at Bristol-Myers Squibb
- Received a BA from Muhlenberg College
- Certified Public Accountant



Ray Urbanski, MD, PhD Chief Medical Officer

Until September 29, 2017

- Chief Medical Officer since August 2015
- Previously served as Chief Medical Officer at Mylan
- Prior to Mylan, served as VP and Medical Head of the Established Products Business Unit at Pfizer
- Received an MD and PhD from the University of Medicine and Dentistry of New Jersey



Patrick McCauley
Chief Commercial Officer

- · Chief Commercial Officer since July 2017
- Previously was in a series of senior sales and compliance leadership roles at Astellas Pharma
- Prior to Astellas, held a sales leadership role at Yamanouchi Pharma
- Received an MBA from Kellogg School of Management, JD from South Texas College of Law Houston and a BA from Notre Dame



Rose Alinaya
SVP Investor Relations

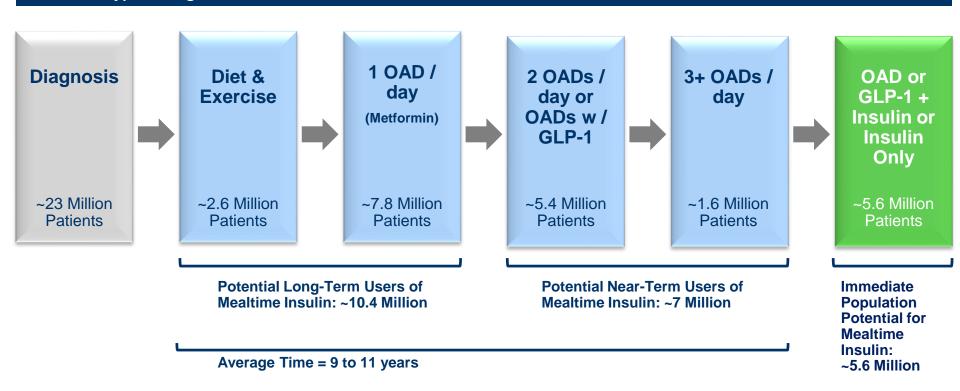
- VP of Finance since March 2011
- · Started career at Deloitte
- Member of the American Institute of Certified Public Accountants and California Society of Certified Public Accountants
- Received a BS from California State University
- Certified Public Accountant

## Potential US Insulin Treatment Market is Over 23M People and Growing Globally



Type 2 population continues to grow each year, which ultimately drives growth in the insulin-using population

#### **Illustrative Type 2 Progression and US Patient Estimates**



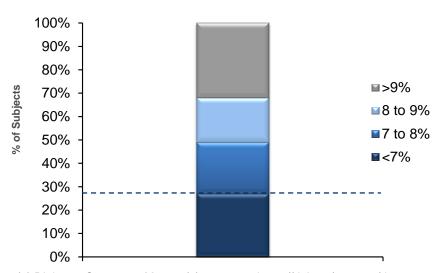
## ~70% of people in the US on insulin are not at goal despite adoption of analogue insulin and insulin pumps



Despite many new diabetes treatments coming to market in the past decade, patient success remains limited, and patients require a simple means of managing their disease

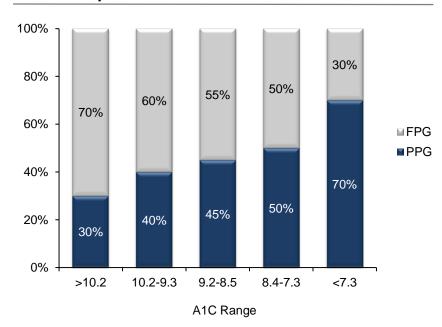
- ~70% of patients on insulin are not achieving <7% A1C (i.e., "target" A1C level)</li>
  - In a recent survey of diabetic patients, fewer than 1 out of 3 patients felt "very successful" in various elements of managing their disease
- The need to manage mealtime glucose (PPG) increases as patients get closer to A1C target
  - As diabetic patients better manage their long-term glucose levels (i.e., FPG), A1Cs trend down
  - As A1Cs trend closer to 7%, management of PPG (mealtime)becomes increasingly important

#### Insulin Patients Achieving A1C Goals(1)



- (1) Diabetes Care 2016 Mar; 39(3): e33-e35. https://doi.org/10.2337/dc15-2229
- (2) Monnier L, et al. Diabetes Care. 2003;26:881-885

#### Importance of PPG Control for A1C(2)



### Afrezza® (insulin human) Inhalation Powder & Inhaler



### Afrezza® (insulin human) Inhalation Powder

- Dry powder
- Contains human regular insulin and fumaryl diketopiperazine (FDKP) a biologically inert FDA qualified and approved excipient
- Particles ideally sized for inhalation to the deep lung (2-2.5µ)

#### Drug/Device Combination Product

- Compact inhaler
- Pre-filled single-use cartridges
   (4, 8, 12 unit cartridges)
- Breath-powered delivery





## We continue to transform and position MannKind as a fully integrated biopharm growth company



- Improved near term financial position & optionality
  - Increased cash by \$20M through The Mann Group in June 2017
  - Afrezza gross revenue grew 60% QoQ 2017
- Redeployment of capital and critical resources to focus on Afrezza
- Continued commercial execution
  - Sales force expansion
  - Increased insurance coverage
  - One Drop collaboration
  - International expansion

### Product pipeline

- On track to file IND for treprostinil
- Engaged Locust Walk for Partnerships
- Recapitalization process underway

### Q2 Commercial Highlights



- First full quarter of promotion by our MannKind sales team
  - Expansion and training occurred in February and continued in Q2
- Q2 growth in both prescriptions and new writers
- Continued focus on enhanced payor coverage
- Social media enhancements
- Afrezza TV commercial launch







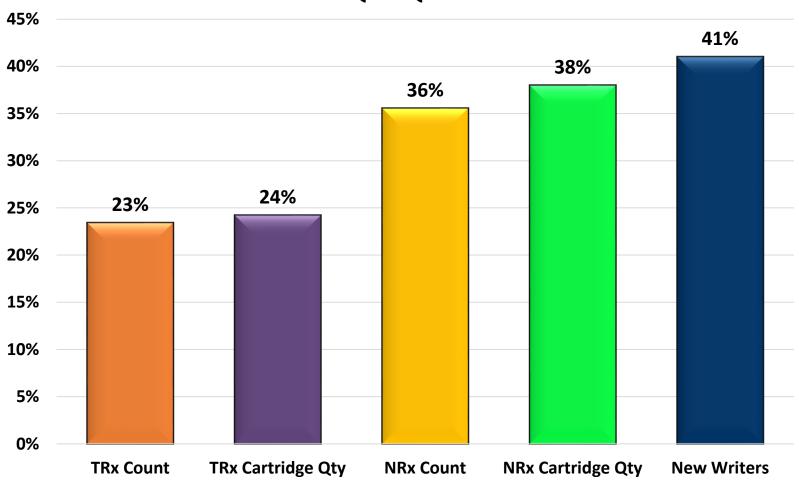




## NRx Growth and New Writers will have a Compounded Impact in Q3+



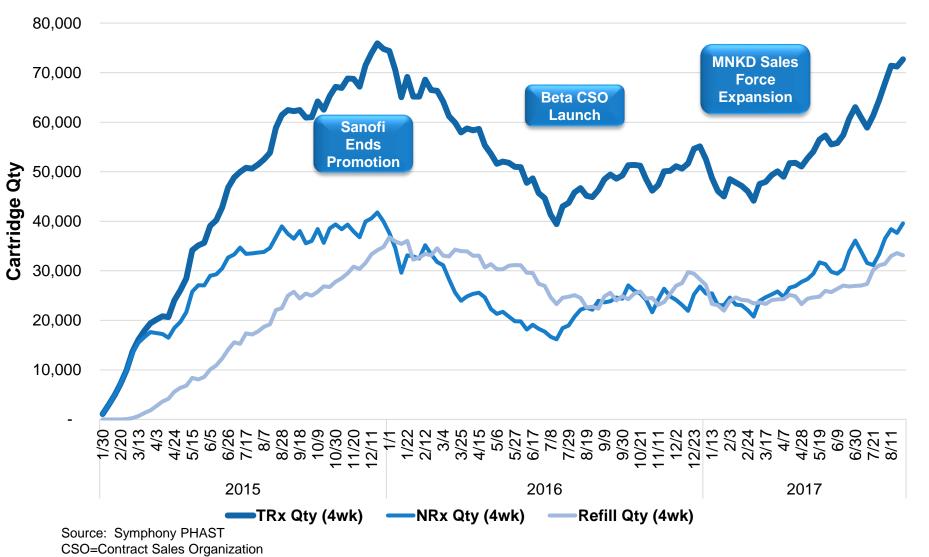




## Our commercial expansion continues to show positive momentum in Q3 and will exceed previous high



### Afrezza Cartridge Quantity by Week (4 week rolling avg)



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## Afrezza clinical strategy is focused on integrating technology to expose "real time" feedback loop



## Starting & Staying on Afrezza

- Proper Dosing (STAT & ADD-1)
- Speed of Titration (STAT, A-ONE & ADD-1)

### Integrate Digital Platforms

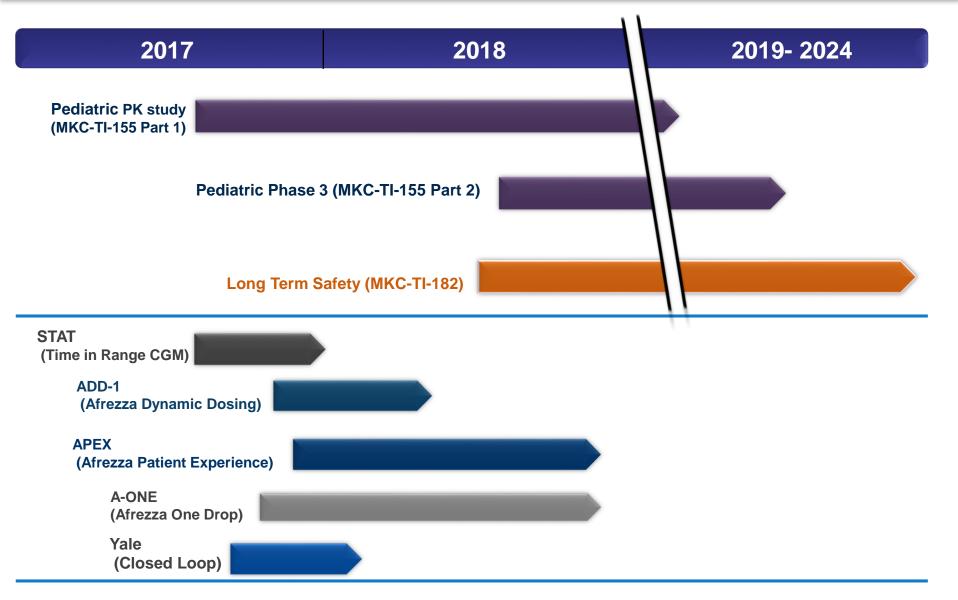
- One Drop (T2DM = A-ONE)
- CGM (T1DM = STAT & ADD-1)

### Expand Clinical Knowledge

- Pediatric Program
- Long term study
- Closed loop (Yale)
- Generate real world data (T1DM = APEX)

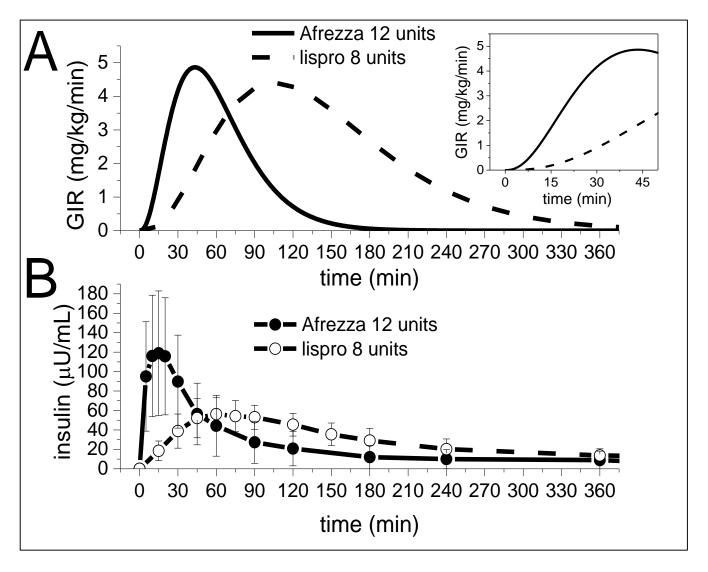
## Afrezza Clinical Program is focused on Type 1 and Type 2 Diabetes





## Submitted FDA label revisions should highlight Afrezza's unique PK:PD profile





### We have recently redefined our filter for development candidates for internal versus external collaborations



### Development programs can be "bucketed":

### Bucket 1 - known compounds already delivered to lung

- Limited to no nonclinical work
- Clinical program typically comprises
   Phase 1 studies only (dose finding and bioequivalence to reference drug)

### Bucket 2 - known compounds, non-lung delivery, acute use

- Nonclinical program includes short-term (14-28 day) inhalation toxicology studies
- Clinical program includes short-term efficacy studies in target patient population

### Bucket 3 - known compounds, non-lung delivery, chronic use

- Nonclinical program includes chronic (6-9 month) inhalation toxicology studies
- Clinical program includes long-term efficacy studies in target patient population

### Bucket 4 - new chemical entities (NCEs)

- Full nonclinical development program required
- Full clinical development program required

### Pipeline products by anticipated speed to market



### Examples from each bucket

#### **Bucket 1**

- Treprostinil<sup>1</sup>
- Epinephrine<sup>2</sup>
- Tobramycin
- DNase

#### **Bucket 3**

- Sildenafil
- PTH
- Oxyntomodulin
- GLP-1

#### Bucket 2

- Glucagon
- Rizatriptan
- Sumatriptan
- Palonosetron
- Oxytocin

#### **Bucket 4**

TPI-2088

<sup>&</sup>lt;sup>1</sup>FDA feedback indicates a safety and tolerability study in PAH patients will be required for approval

<sup>&</sup>lt;sup>2</sup>FDA feedback indicates an efficacy study in anaphylaxis will be required for approval

### Our technology is protected by over 780 patents in force worldwide covering both utility and design





Formulation technology, including optimized particles and characteristics (2034)



35 Patents listed in FDA's Orange Book, Patent term extends to 2032
Trademark Registered in major markets



Methods of making/ manufacturing the formulations and particles (2035)



Inhalers, cartridges, inhalation systems, blister package and methods of using them (2032)



Inhaler testing and support technologies (2030)



Methods of treatment using the formulations and inhalation systems (2031) Summary



#### Financial

- Continue to redeploy capital towards growth initiatives
- Deliver on financial commitments
- Recapitalize for future growth

#### Commercial

- Continued field execution of key programs
- Enhance payor coverage and streamline access to Afrezza
- International expansion

#### Medical

- Execution of clinical trials integrating technology into dosing and titration
- Launch of pediatric program
- File Treprostinil IND application with the FDA

### THANK YOU

Contact:
Rose Alinaya, SVP Investor Relations,
IR@mannkindcorp.com

