2019 Financial Results and Corporate Update

February 25, 2020

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Forward-Looking Statements

This presentation contains forward-looking statements that involve substantial risks and uncertainties. "Forward-looking statements," as that term is defined in the Private Securities Litigation Reform Act of 1995, are statements that are not historical facts and involve a number of risks and uncertainties. Words herein such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "intends," "potential," "continues," and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) may identify forward-looking statements. The forward-looking statements in this presentation are based upon the Company's current expectations and beliefs, and involve known and unknown risks, uncertainties and other factors, which may cause the Company's actual results, performance and achievements and the timing of certain events to differ materially from the results, performance, achievements or timing discussed, projected, anticipated or indicated in any forward-looking statements. Such risks, uncertainties and other factors include, among others, the following: failure to successfully commercialize or maintain U.S. approval for ARIKAYCE, the Company's only approved product; uncertainties in the degree of market acceptance of ARIKAYCE by physicians, patients, third-party payors and others in the healthcare community; the Company's inability to obtain full approval of ARIKAYCE from the FDA, including the risk that the Company will not timely and successfully complete the study and validate a patient reported outcome (PRO) tool and conduct and complete the confirmatory post-marketing study required for full approval; inability of the Company, PARI or the Company's other third party manufacturers to comply with regulatory requirements related to ARIKAYCE or the Lamira® Nebulizer System; the Company's inability to obtain adequate reimbursement from government or third-party payors for ARIKAYCE or acceptable prices for ARIKAYCE; development of unexpected safety or efficacy concerns related to ARIKAYCE; inaccuracies in the Company's estimates of the size of the potential markets for ARIKAYCE or in data the Company has used to identify physicians, the expected rates of patient uptake, the duration of expected treatment, or expected patient adherence or discontinuation rates; the Company's inability to create an effective direct sales and marketing infrastructure or to partner with third parties that offer such an infrastructure for distribution of ARIKAYCE; failure to obtain regulatory approval to expand ARIKAYCE's indication to a broader patient population; risks that the full set of data from the WILLOW study will not be consistent with the top-line results of the study; failure to successfully conduct future clinical trials for ARIKAYCE and the Company's product candidates, including due to the Company's limited experience in conducting preclinical development activities and clinical trials necessary for regulatory approval and the Company's inability to enroll or retain sufficient patients to conduct and complete the trials or generate data necessary for regulatory approval; risks that the Company's clinical studies will be delayed or that serious side effects will be identified during drug development; failure to obtain, or delays in obtaining, regulatory approvals for ARIKAYCE outside the U.S. or for the Company's product candidates in the U.S., Europe, Japan or other markets, including in the United Kingdom as a result of its recent exit from the European Union; failure of third parties on which the Company is dependent to manufacture sufficient quantities of ARIKAYCE or the Company's product candidates for commercial or clinical needs, to conduct the Company's clinical trials, or to comply with laws and regulations that impact the Company's business or agreements with the Company; the Company's inability to attract and retain key personnel or to effectively manage the Company's growth; the Company's inability to adapt to its highly competitive and changing environment; the Company's inability to adequately protect its intellectual property rights or prevent disclosure of its trade secrets and other proprietary information and costs associated with litigation or other proceedings related to such matters; restrictions or other obligations imposed on the Company by its agreements related to ARIKAYCE or the Company's product candidates, including its license agreements with PARI and AstraZeneca AB, and failure of the Company to comply with its obligations under such agreements; the cost and potential reputational damage resulting from litigation to which the Company is or may become a party, including product liability claims; limited experience operating internationally; changes in laws and regulations applicable to the Company's business, including any pricing reform and failure to comply with such laws and regulations; inability to repay the Company's existing indebtedness and uncertainties with respect to the Company's ability to access future capital; and delays in the execution of plans to build out an additional FDA-approved third-party manufacturing facility and unexpected expenses associated with those plans. The Company may not actually achieve the results, plans, intentions or expectations indicated by the Company's forward-looking statements because, by their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. For additional information about the risks and uncertainties that may affect the Company's business, please see the factors discussed in Item 1A, "Risk Factors," in the Company's Annual Report on Form 10-K for the year ended December 31, 2019 and any subsequent Company filings with the Securities and Exchange Commission. The Company cautions readers not to place undue reliance on any such forward-looking statements, which speak only as of the date of this presentation. The Company disclaims any obligation, except as specifically required by law and the rules of the Securities and Exchange Commission, to publicly update or revise any such statements to reflect any change in expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Today's Topics

Opening Remarks	Will Lewis *Chairman and CEO*
Operational Update	Roger Adsett *Chief Operating Officer*
Clinical & Development Program Updates	Eugene Sullivan, M.D. *Chief Product Strategy Officer*
Financials	Sara Bonstein *Chief Financial Officer*
Q&A	All

Will Lewis
Chairman and CEO

Insmed 2020: Supporting the Next Stage of Growth

ARIKAYCE®
(amikacin liposome inhalation suspension)
590 mg/8.4 mL
Limited Population*

ARIKAYCE

Successful commercial launch in the U.S.

INS1007

Late-stage program with novel mechanism of action and broad potential

Potential $1B market opportunities

Strong patent protection

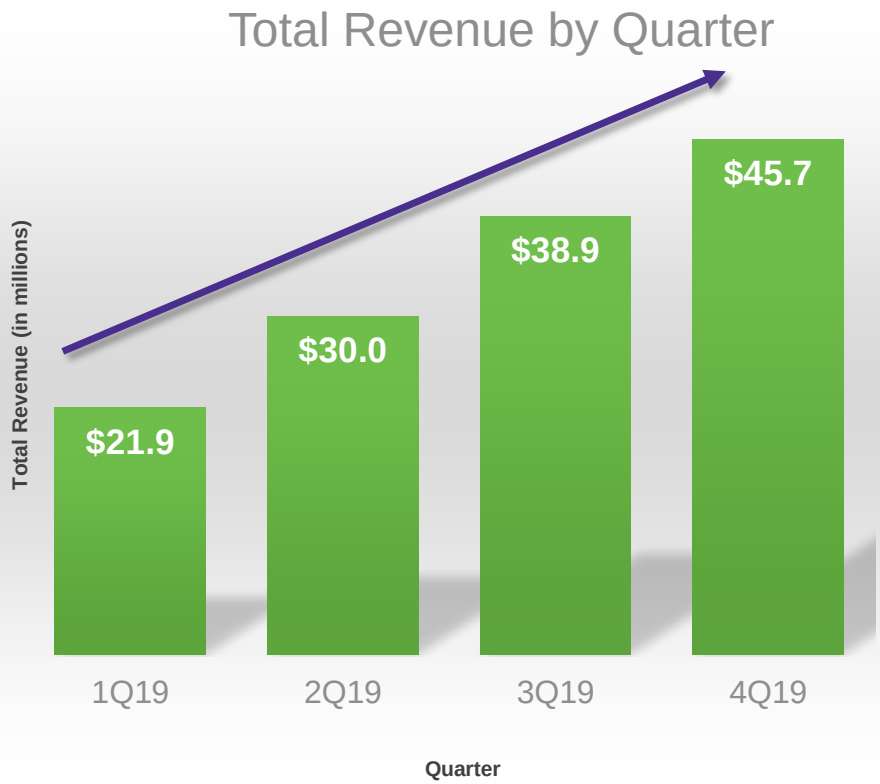
Commitment to Patients

Focus on unmet needs and delivering meaningful results

Roger Adsett
Chief Operating Officer

Operational Update

ARIKAYCE Revenues



Expected Drivers for 2020 Performance

- Peer-reviewed publication of potential solutions to manage most common adverse events
- Potential update to NTM treatment guidelines
- Continued penetration into eligible treatment population
- Increased efforts to expand the depth and breadth of prescriber base
- Duration of therapy and potential re-treatment

U.S. Commercial Update as of 12/31/19

Strong 2019 Sales

- $136.5 million for full-year 2019
- $45.7 million in 4Q 2019

Engaged HCP and Patient Community

- Positive physician feedback
- Over 1,900 unique prescribers since launch

Supportive Payor Landscape

- Continued positive reimbursement trends

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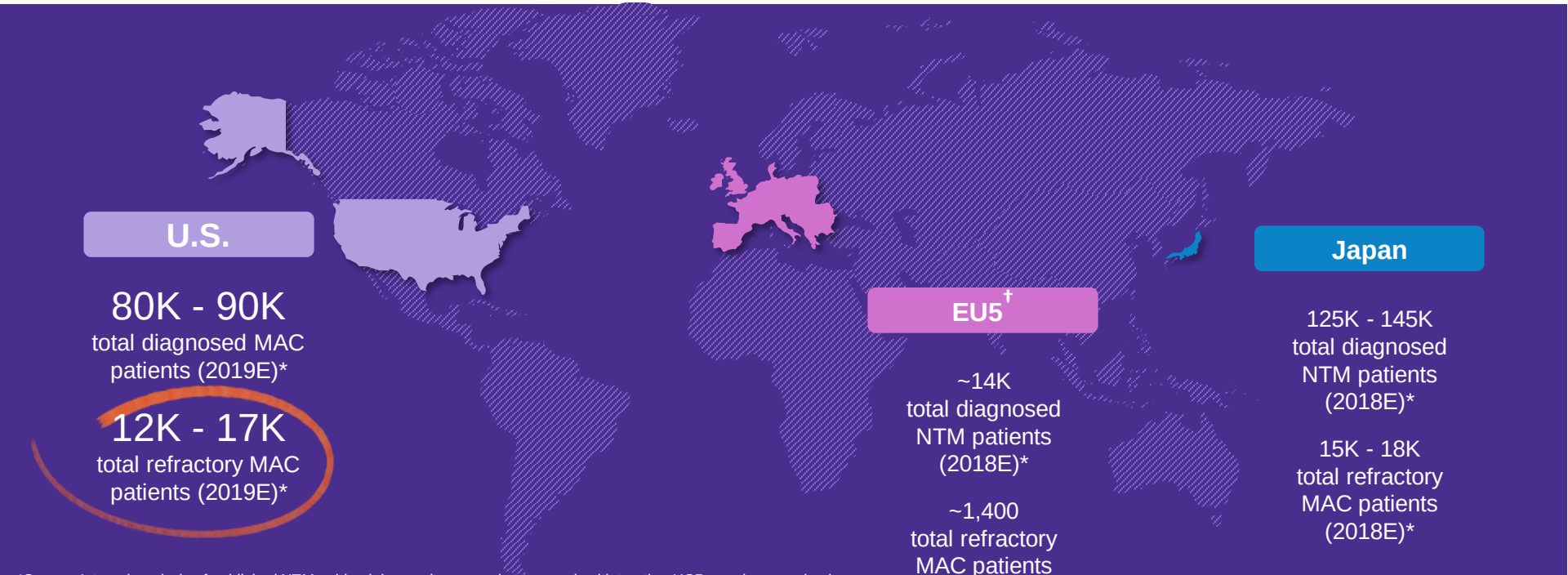
Commercial Approach: Near-Term Focus on U.S. Expansion to EU and Japan



U.S.

80K - 90K
total diagnosed MAC patients (2019E)*

12K - 17K
total refractory MAC patients (2019E)*

EU5†

~14K
total diagnosed NTM patients (2018E)*

~1,400
total refractory MAC patients (2018E)*

Japan

125K - 145K
total diagnosed NTM patients (2018E)*

15K - 18K
total refractory MAC patients (2018E)*

*Source: Internal analysis of published NTM epidemiology, primary market research with treating HCPs, and anonymized patient level claims data in US

† EU5 comprised of France, Germany, Italy, Spain and the United Kingdom

Eugene Sullivan, M.D.
Chief Product Strategy Officer

Clinical Program & Development Update

INS1007: Oral, Reversible Inhibitor of Dipeptidyl Peptidase 1 (DPP1)

Novel Mechanism

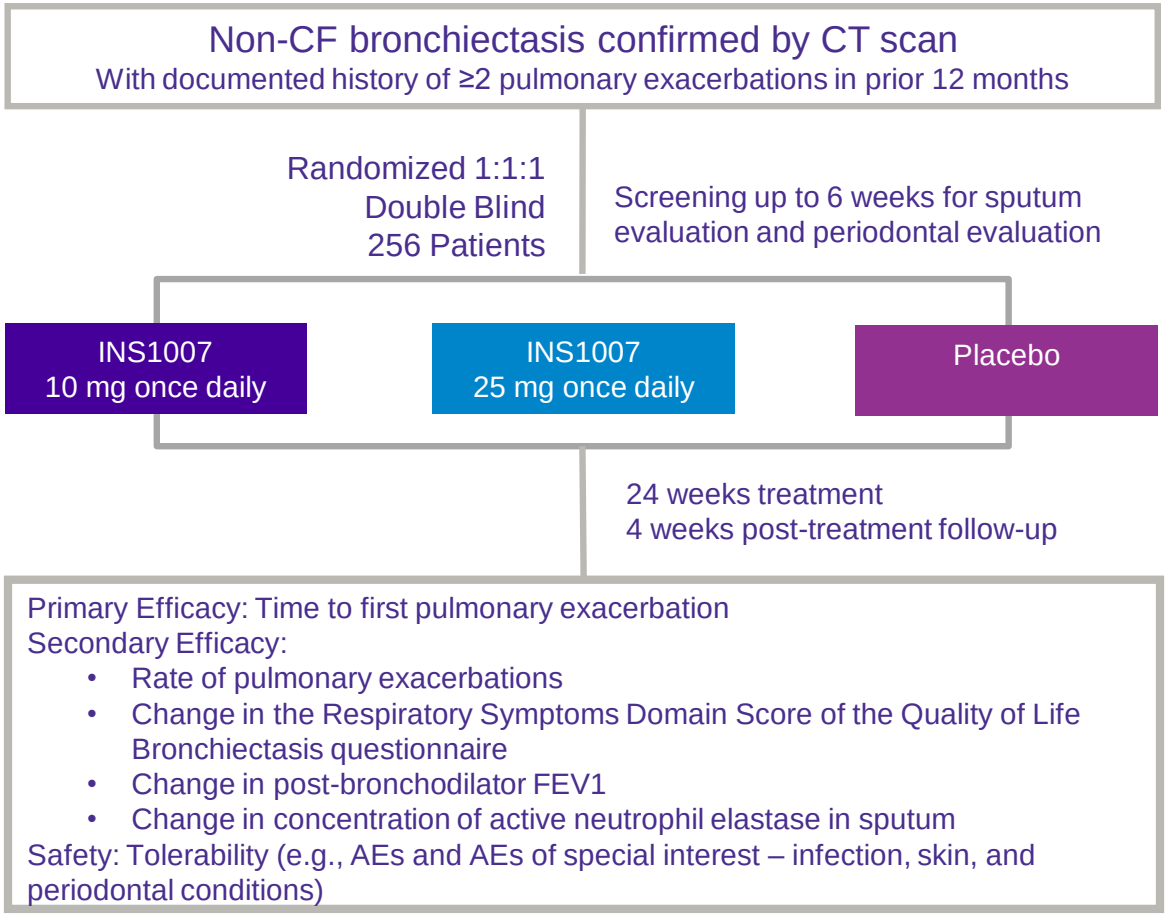
- DPP1 catalyzes activation of neutrophil serine proteases (NSPs) in neutrophils
- NSPs are key agents of neutrophil-mediated inflammation, tissue damage, and excessive mucus production involved in bronchiectasis

Bronchiectasis: A Severe, Chronic Pulmonary Disorder

- Cycle of infection, inflammation, and lung tissue damage as bronchi become permanently dilated
- Non-CF bronchiectasis affects ~340,000 to ~520,000* patients in U.S.
- **No therapies currently approved in U.S., EU or Japan**

*Weycker, et al. Prevalence and incidence of noncystic fibrosis bronchiectasis among US adults in 2013. Chronic Respiratory Disease. 2017

INS1007 in Non-CF Bronchiectasis: The WILLOW Study



WILLOW: Baseline Characteristics in ITT Population

	Placebo (n=87)	INS1007 10 mg (n=82)	INS1007 25 mg (n=87)
Sex, Female (%)	55 (63.2)	57 (69.5)	62 (71.3)
Age (yrs), mean± SD	64.0 (11.86)	64.6 (12.42)	63.7 (12.67)
Age ≥65 years Age ≥75 years	54 (62.1) 14 (16.1)	48 (58.5) 20 (24.4)	48 (55.2) 14 (16.1)
Race (%) • White • Black or African American • Asian • Native Hawaiian • Other	 71 (81.6) 2 (2.3) 13 (14.9) 1 (1.1) 0	 76 (92.7) 0 5 (6.1) 1 (1.2) 0	 78 (89.7) 2 (2.3) 5 (5.7) 1 (1.1) 1 (1.1)
Chronic use of macrolides*	14 (16.1)	10 (12.2)	16 (18.4)
Baseline Pseudomonas Aeruginosa*	29 (33.3)	27 (32.9)	33 (37.9)
Median (IQR) BSI score	7.0	8.0	8.0
Three or more exacerbations in prior 12 months	25 (28.7)	23 (28)	36 (41.4)
Hospitalized for exacerbation in prior 24 months	30 (34.5)	31 (37.8)	31 (35.6)
Neutrophil Elasase (NE) in Sputum (%) BLQ LLOQ to < 20 µg/mL >= 20 µg/mL	 18 (20.7) 42 (48.3) 24 (27.6)	 23 (28) 28 (34.1) 31 (37.8)	 21 (24.1) 36 (41.4) 29 (33.3)
History of Asthma	25 (28.7)	18 (22)	21 (24.1)
History of COPD	17 (19.5)	12 (14.6)	13 (14.9)

*Stratification criteria

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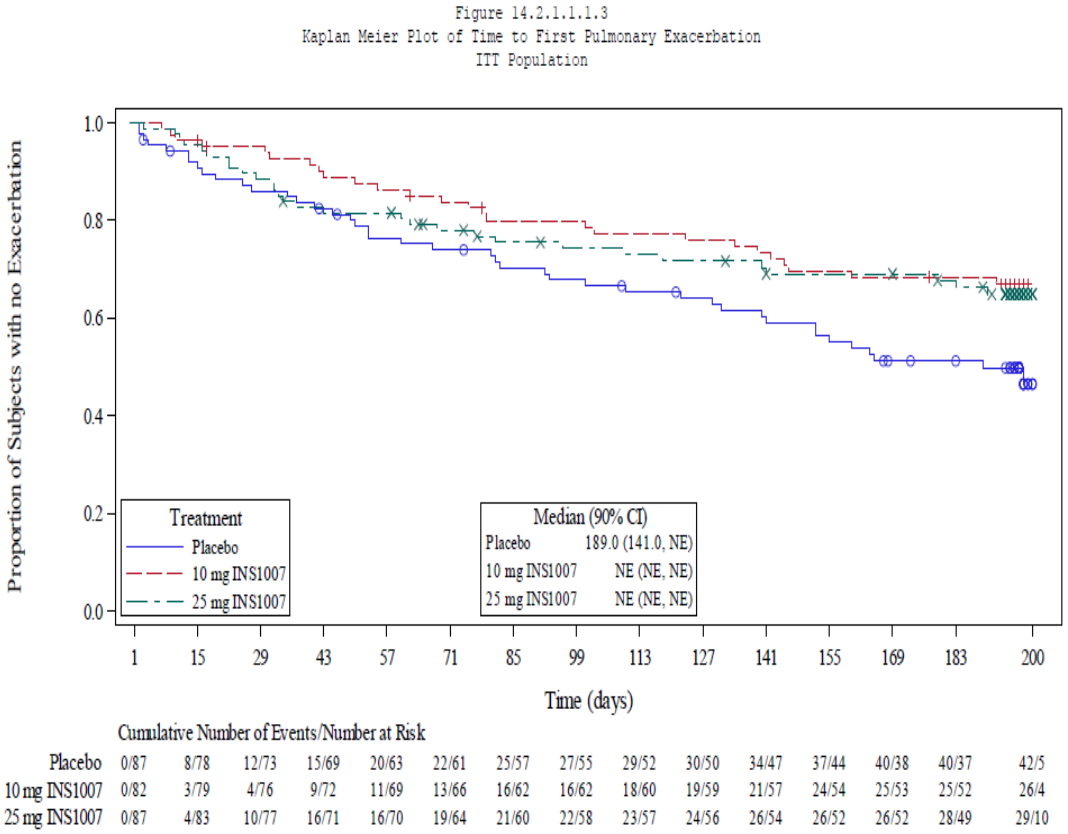
Top-Line Data: WILLOW Study Achieves Primary Endpoint

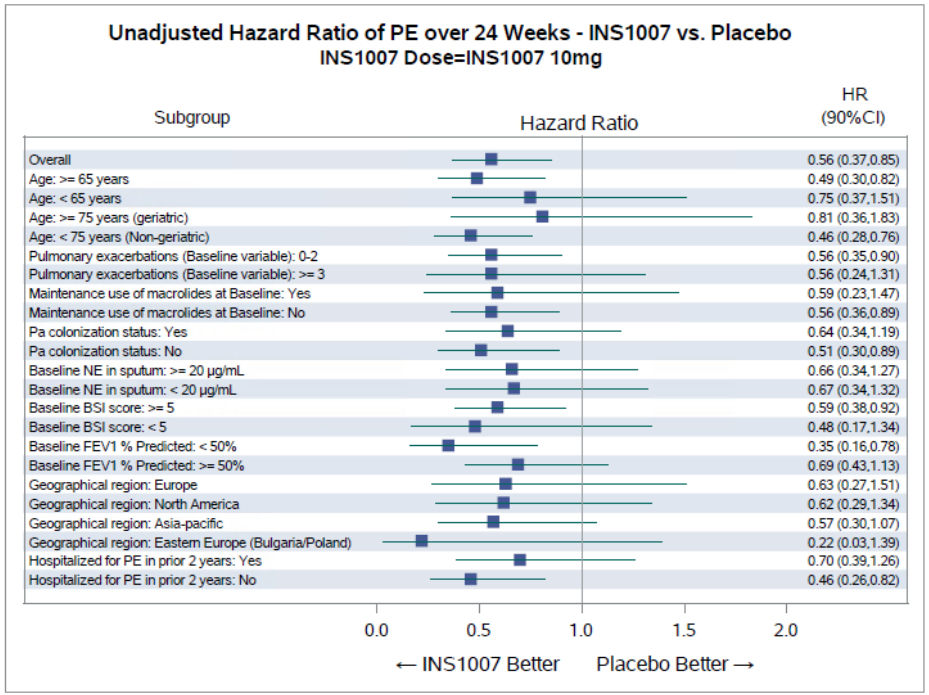
Risk of having an exacerbation over the course of six months reduced by up to 40% with INS1007

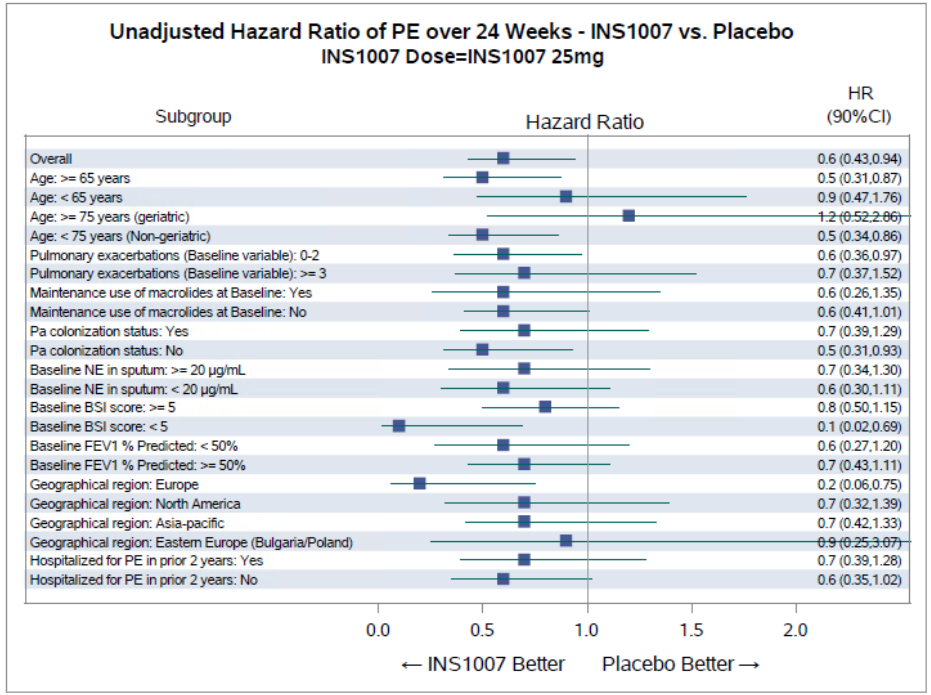
Time to First Exacerbation vs. Placebo	INS1007 10 mg	INS1007 25 mg
p-value ^	0.027	0.044
Hazard Ratio	0.58	0.62
p-value ^	0.029	0.046

^ *Two sided p-value*



Hazard Ratio Pulmonary Exacerbation by Subgroup



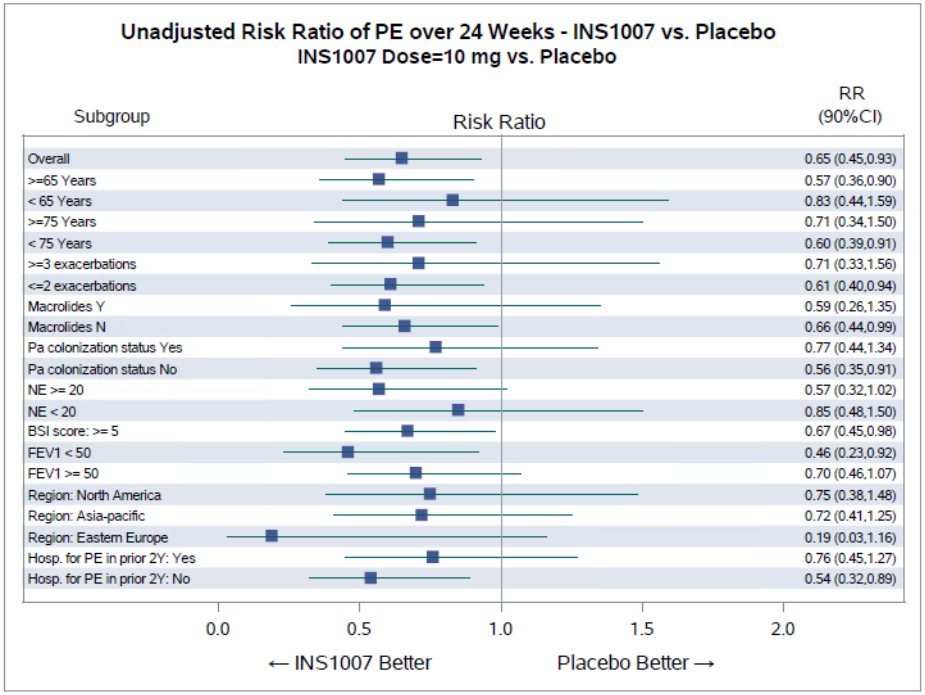


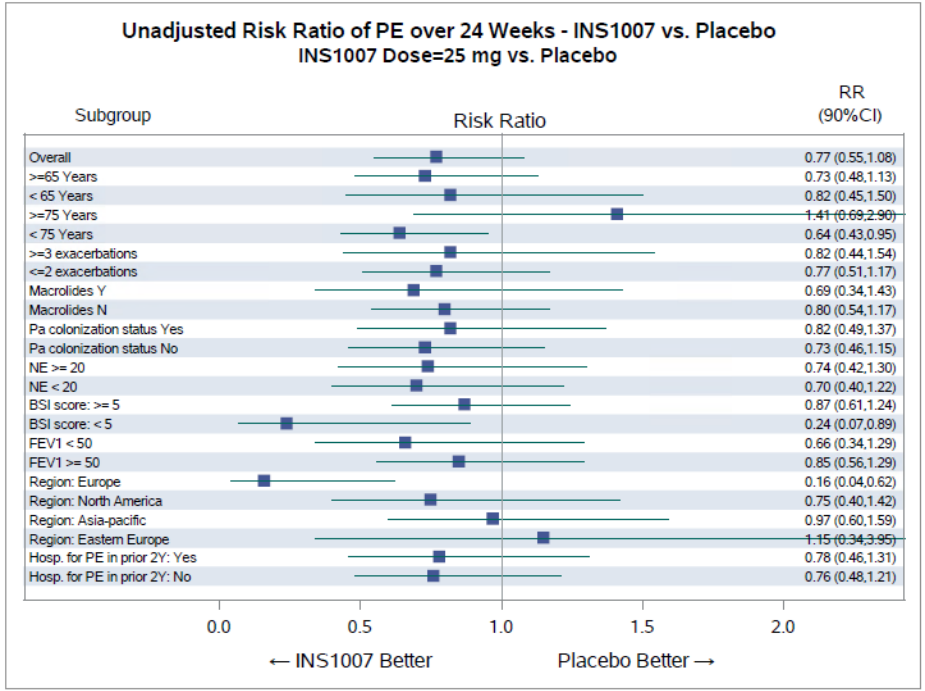
Frequency of Pulmonary Exacerbations

Frequency of Pulmonary Exacerbations	INS1007 10 mg (N=82)	INS1007 25 mg (N=87)
Reduction vs. Placebo	36%	25%
p-value	0.041	0.167

FDA Guidance: Frequency of pulmonary exacerbation should be the primary endpoint in Phase 3

Frequency of Pulmonary Exacerbations by Subgroup



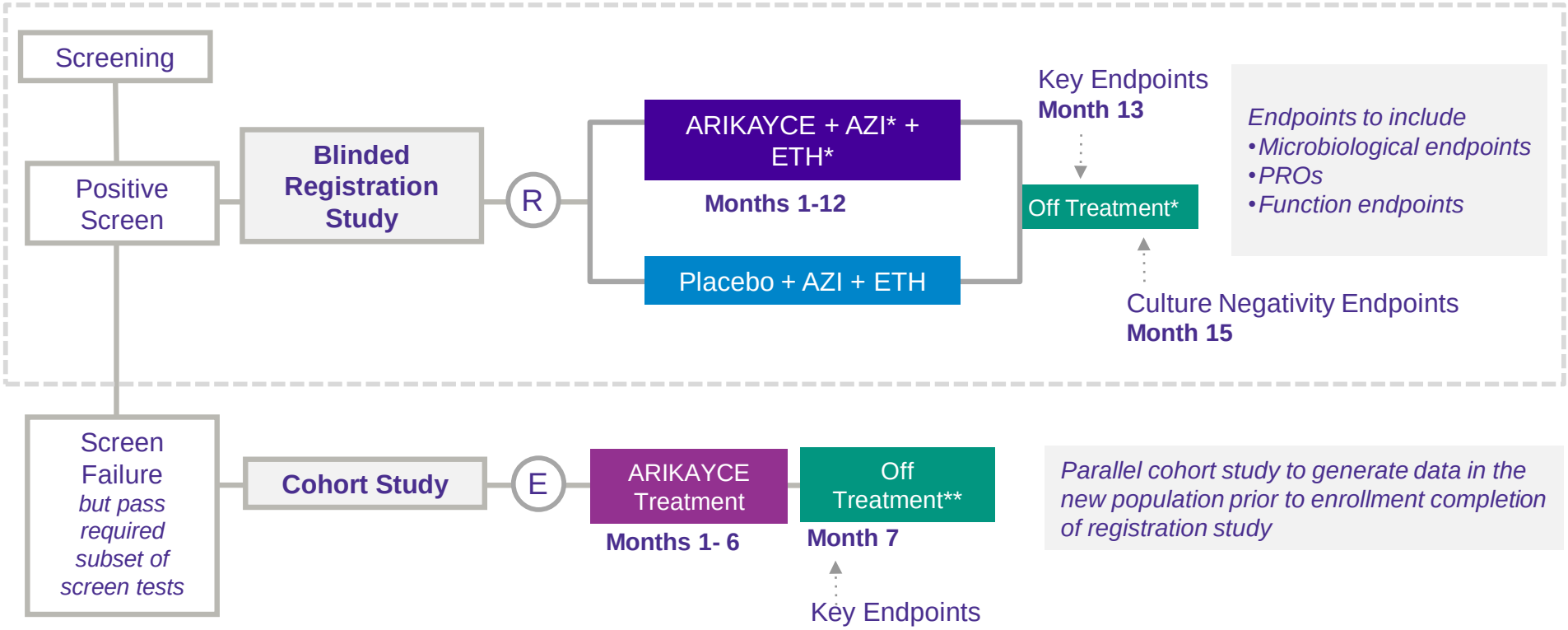


WILLOW Safety Data

- INS1007 was generally well-tolerated in the WILLOW study
- Most common adverse events (AEs) in patients treated with INS1007 were cough, headache, sputum increase, dyspnea, fatigue, and upper respiratory tract infection

	Placebo	INS1007 10 mg	INS1007 25 mg
Rates of adverse events (AEs) leading to discontinuation	10.6%	7.4%	6.7%
Rates of adverse events of special interest (AESIs)			
Periodontal disease	2.4%	7.4%	10.1%
Hyperkeratosis	0%	3.7%	1.1%
Infections that were considered AESIs	18.8%	16.0%	16.9%

Proposed Registration Study for Frontline Indication

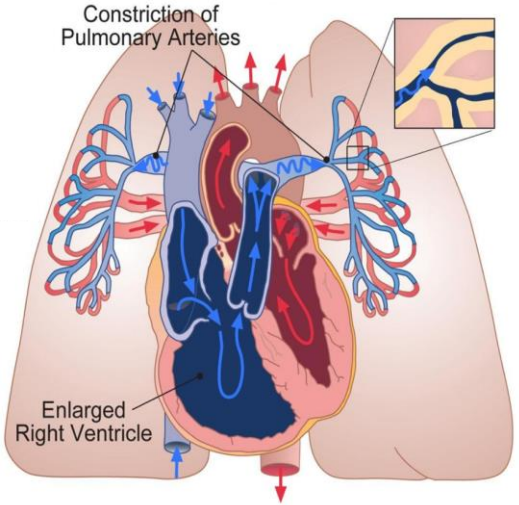


*Azithromycin (AZI), Ethambutol (ETH)
**Patients will be enrolled into separate OLE/Natural History Study

INS1009: Dry Powder Inhaled Prostanoid for Pulmonary Arterial Hypertension (PAH)

- Dry powder, inhaled treprostinil prodrug formulation
- Designed to provide sustained release of treprostinil to the lung over a prolonged period.
- Potential benefits of INS1009:
  - Potential to be disease-modifying, with impact on vascular remodeling
  - Superior tolerability observed in animal models
  - Designed to provide sustained effect with once-daily dosing
  - Potential for better efficacy vs. other prostanoids due to expected lack of dose-limiting tolerability
- Status: Plan to initiate Phase 1 in 2020

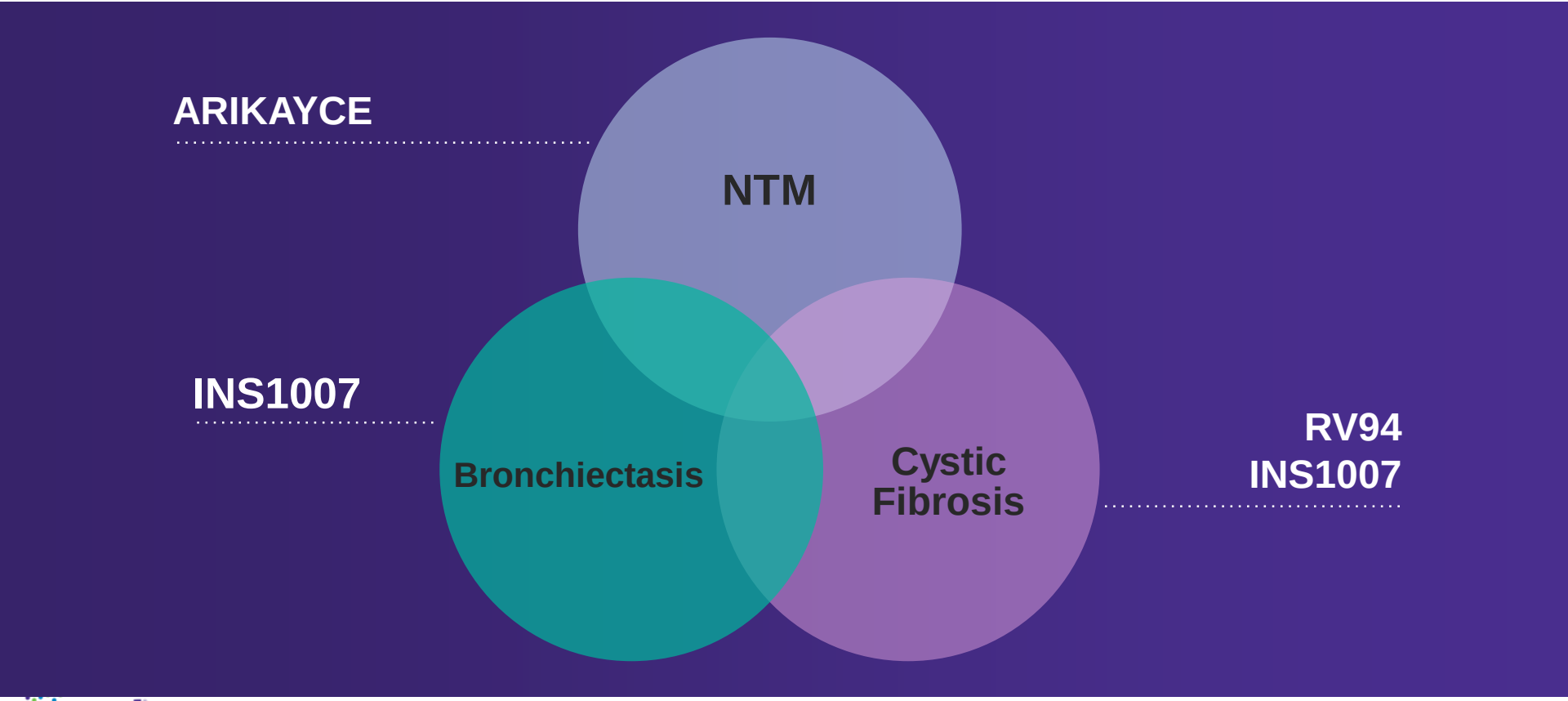
PAH: An Orphan Cardiovascular Disease



RV94: For the Treatment of Gram-Positive Infections

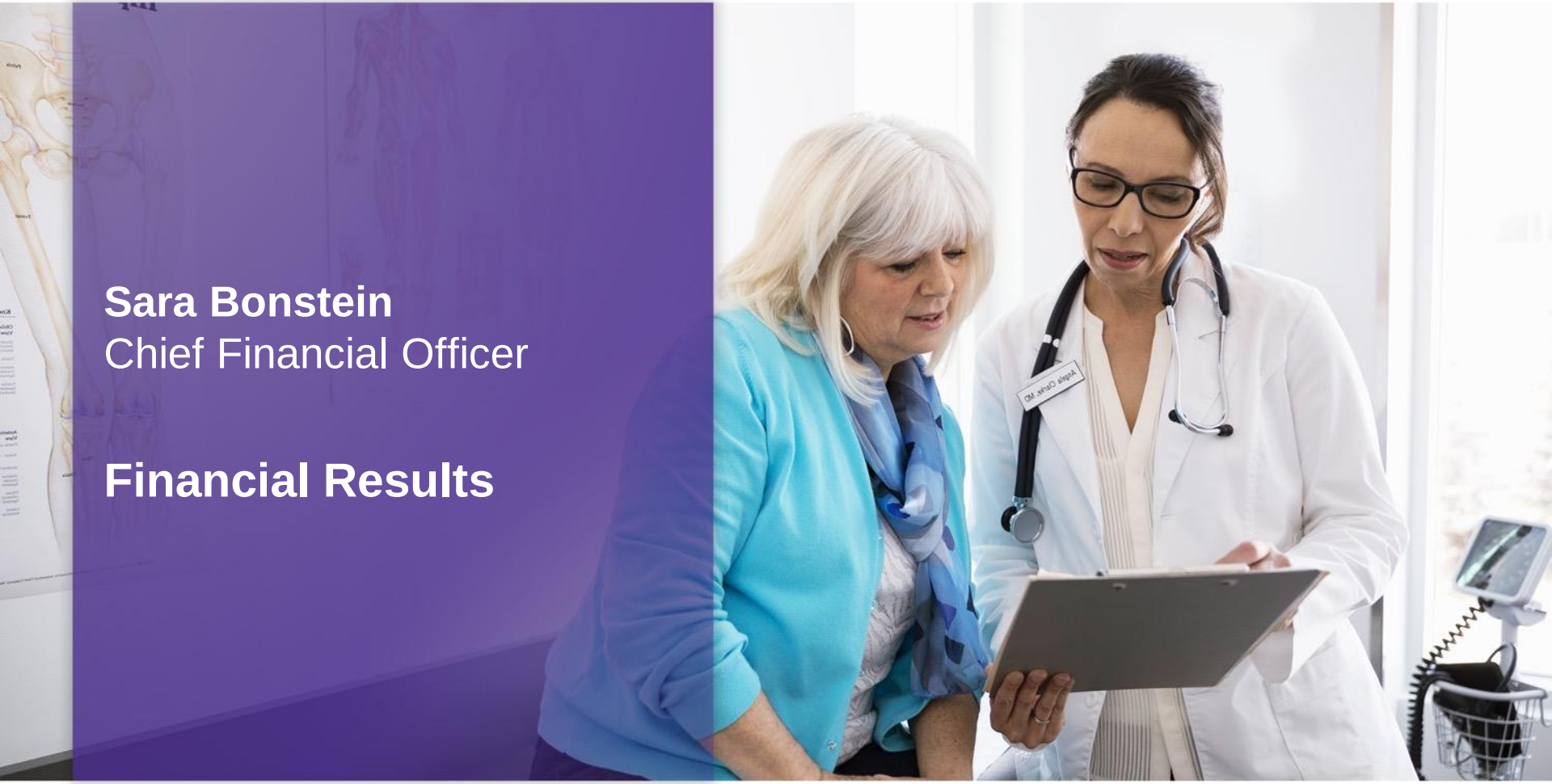
New Chemical Entity	• Semisynthetic lipoglycopeptide designed to be used as a once-daily inhaled therapy for CF patients with pulmonary MRSA infection
Greater Activity than Vancomycin	• Up to 60x more potent than vancomycin in pulmonary MRSA infections in animal models • 30x more potent than vancomycin in a MRSA MIC assay
Goal	• Improve pulmonary function and respiratory symptoms, and reduce the frequency of exacerbations and overall antibiotic usage

Opportunity for Synergistic Portfolio in Additional Lung Disease Indications



Sara Bonstein
Chief Financial Officer

Financial Results



Financial Highlights

Full Year 2020 Financial Guidance

- Full year 2020 revenues for ARIKAYCE expected to be $180M - $220M
- Full year adjusted operating expenses* expected to be $340M - $360M

As of December 31, 2019

• Cash and cash equivalents	$487.4 million
• Common shares outstanding**	89.7 million

*Adjusted operating expenses is a non-GAAP financial measure, which Insmed defines as total operating expenses less stock-based compensation expense, depreciation, amortization of intangibles and an approval-based milestone related to ARIKAYCE, which is payable under our amended agreements with CFFT.

**Common shares outstanding excludes stock options, unvested RSUs and shares underlying outstanding Convertible Notes.

Will Lewis
Chairman and CEO

Closing Comments

Growing Pipeline

* As a condition of accelerated approval, Insmed is collaborating with the FDA on the design of an additional clinical study to support full approval. The study design is currently under discussion with FDA and is proposed to be a randomized, double-blind, placebo-controlled clinical trial to assess and describe the clinical benefit of ARIKAYCE in patients with NTM lung disease caused by MAC.

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