# UNITED STATES
# SECURITIES AND EXCHANGE COMMISSION
**WASHINGTON, D.C. 20549**

# FORM 8-K

**CURRENT REPORT**
**Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

Date of report (Date of earliest event reported): **September 25, 2015**

# Bellerophon Therapeutics, Inc.
(Exact Name of Registrant as Specified in Charter)

| **Delaware** | **001-36845** | **47-3116175** |
|---|---|---|
| (State or Other Jurisdiction of Incorporation) | (Commission File Number) | (IRS Employer Identification No.) |

| **53 Frontage Road, Suite 301**<br>**Hampton, New Jersey**<br>(Address of Principal Executive Offices) | **08827**<br>(Zip Code) |
|---|---|

Registrant's telephone number, including area code: **(908) 574-4770**

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

- o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

**Item 7.01. Regulation FD Disclosure.**

Bellerophon Therapeutics, Inc. (the "Company") issued a press release on September 24, 2015 announcing data from an interim analysis of the Company's Phase 2 long-term extension study of INOpulse for the treatment of pulmonary arterial hypertension. A copy of this press release is attached hereto as Exhibit 99.1. In addition, a copy of the presentation that the management of the Company intends to use from time to time during presentations to and discussions with investors, analysts and other interested parties is attached hereto as Exhibit 99.2. The information included in Exhibits 99.1 and 99.2 shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits:

| **Exhibit No.** | **Description** |
|---|---|
| 99.1 | Press Release dated September 24, 2015 (furnished and not filed for purposes of Item 7.01) |
| 99.2 | Bellerophon Therapeutics, Inc. Presentation (furnished and not filed for purposes of Item 7.01) |



**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

BELLEROPHON THERAPEUTICS, INC.

Date: September 25, 2015

By: /s/ Jonathan M. Peacock

Name: Jonathan M. Peacock
Title: Chairman and Chief Executive Officer



**EXHIBIT INDEX**

| Exhibit No. | Description |
|---|---|
| 99.1 | Press Release dated September 24, 2015 (furnished and not filed for purposes of Item 7.01) |
| 99.2 | Bellerophon Therapeutics, Inc. Presentation (furnished and not filed for purposes of Item 7.01) |

**Bellerophon Therapeutics Announces Positive Data from Interim Analysis of Phase 2 Long-term Extension Study of INOpulse® for Treatment of Pulmonary Arterial Hypertension**

**Conference Call/Webcast to be held September 25, 2015 at 9:00am ET**

**Interim Data Reinforces Earlier Phase 2 Data and Indicates Sustainability of Benefits for PAH Patients**

**FDA Issues a Special Protocol Assessment (SPA) for Phase 3 PAH Program**

**Hampton, NJ, September 24, 2015 —** Bellerophon Therapeutics, Inc. (Nasdaq: BLPH), a clinical-stage biotherapeutics company, today announced positive data from an interim analysis of the Company's Phase 2 long-term extension study of INOpulse for the treatment of Pulmonary Arterial Hypertension (PAH) (Part 2 of the Company's Phase 2 trial). The data reinforce the results from Part 1 of the Phase 2 trial and indicate a sustainability of benefit to PAH patients who received INOpulse therapy. Bellerophon also reported today that the U.S. Food and Drug Administration (FDA) has issued a Special Protocol Assessment (SPA) for the Company's Phase 3 PAH program for INOpulse, which will include two confirmatory clinical trials, undertaken either sequentially or in parallel, with the first patient expected to be enrolled later this year. A conference call to discuss today's news will be held tomorrow, Friday, September 25, 2015 at 9:00am ET. Details on the conference call are provided below.

**Data From Interim Analysis**

Following 16 weeks of blinded therapy in Part 1 of the trial, in Part 2 of the trial 65 patients were randomized to receive INOpulse doses of either 25 or 75 mcg/kg ideal body weight per hour (iNO 25 or iNO 75). The interim analysis was performed after patients had completed between 8 and 12 months of INOpulse treatment, and data from the interim analysis was compared to baseline measurements taken at the beginning of Part 1 of the trial. All patients in the trial were on at least one approved PAH therapy, and several were on two or three PAH therapies.

The interim analysis showed the following:

- The 20 patients who were on Long-Term Oxygen Therapy (LTOT) in the iNO 75 dose treatment arm completed the six minute walk distance test (6MWD) and had a mean improvement of 31.6 meters as compared to baseline;
- Ten of the 20 LTOT patients in the iNO 75 dose treatment arm demonstrated at least a 50 meter improvement in 6MWD as compared to baseline; and
- Eleven of the 20 LTOT patients in the iNO 75 dose treatment arm remained on INOpulse therapy for at least 12 hours a day, and these patients had an even greater mean improvement of 41.6 meters as compared to baseline.



A total of 14 LTOT patients in the iNO 75 dose treatment arm underwent right heart catheterizations, which showed a mean improvement in pulmonary vascular resistance (PVR) — the primary endpoint in Part 1 of the Phase 2 trial — of 87.3 dynes.sec.cm-5. LTOT patients randomized from placebo to iNO 75 in Part 2 did particularly well.

Moreover, LTOT patients in the iNO 75 dose treatment arm also showed an overall improvement in WHO Functional Classification.

The Company also reported that LTOT patients in the iNO 25 dose treatment arm who remained on therapy for 8-12 months in the long-term extension study showed an improvement in 6MWD and PVR though less significant than LTOT patients in iNO 75 dose treatment arm. Patients who were not on LTOT in both treatment arms had mixed results over the same period.

Jonathan Peacock, Chairman and Chief Executive Officer of Bellerophon Therapeutics, stated, "The interim analysis is very encouraging for PAH patients, as the data indicates a clinically significant and sustained benefit for patients on the higher iNO 75 dose, when combined with Long-Term Oxygen Therapy. More specifically, the analysis supports the hypothesis, generated from Part 1 of the Phase 2 study, that the optimal benefit of INOpulse is with the iNO 75 dose in patients on LTOT who stay on therapy for at least 12 hours each day. The SPA recently issued by the FDA for our Phase 3 program, and agreed to by the European Medicines Agency through a Scientific Advice Working Party, is well aligned with these findings."

**Phase 3 Development Program**

The key elements of the planned U.S. and EU Phase 3 development program are:

- The Phase 3 program will consist of two clinical trials totaling 450 patients; one trial with two treatment arms (iNO 75 and placebo) and one with three treatment arms (iNO 75, iNO 50 and placebo). Each treatment arm will consist of approximately 90 patients.
- All patients in the trials will be on LTOT.
- The primary endpoint is improvement in 6MWD compared to placebo after 16 weeks.
- The secondary endpoint is Time to Clinical Worsening (TTCW), with analysis pooled across both trials. Patients will stay on therapy until the last patient visit measuring 6MWD.
- Each trial is 90% powered for a 40 Meter improvement in 6MWD compared to placebo and for a positive trend on TTCW.
- Each trial will have a run-in period of two weeks to ensure compliance. Patients who do not stay on the therapy for at least 16 hours a day during this period will be replaced.

The Phase 3 trials will utilize the second-generation INOpulse Mark 2 device, which is considerably smaller and lighter (approximately 2.5 lbs.) than the original INOpulse device used in the Phase 2 study (approximately 7.5 lbs.). In addition to the significant reduction in size and weight, the INOpulse Mark 2 device also has an improved user interface and better breath detection technology, made possible by the Company's proprietary tri-lumen cannula.

**Conference Call and Audio Webcast Details**

Management will hold a conference call tomorrow, Friday, September 25, 2015, to discuss today's announcement.

Time: 9:00 am ET
Dial-in numbers: (855) 539-0895 (US and Canada) or (412) 455-6027 (Outside U.S. and Canada)
Conference ID: 46225664
Live webcast: www.bellerophon.com, under "Investors" tab

The teleconference replay will be available three hours after completion through September 30, 2015 at (855) 859-2056 or (404) 537-3406. The replay passcode is 46225664.

**About Pulmonary Arterial Hypertension**

Pulmonary Arterial Hypertension (PAH) is a rare, chronic and currently incurable disease that causes the walls of the arteries of the lungs to tighten and stiffen. Estimates suggest that there are about 15,000 patients diagnosed with PAH in the United States and about 20,000 diagnosed patients in Europe. In PAH patients, the right side of the heart has to work harder to pump blood through narrowed arteries in the lungs, which can decrease blood flow through the body. Eventually, the extra stress causes the heart to enlarge and become less flexible, further compromising its ability to pump blood out of the heart, through the lungs, and into the rest of the body. Patients with PAH have symptoms ranging from dizziness and fainting to shortness of breath during exercise. This range of symptoms, combined with the rare nature of the condition, often makes diagnosis difficult, and many PAH patients are not diagnosed until the disease has progressed. According to Thenappan et al, European Respiratory Journal 2007, even with today's currently available therapies, the average mortality remains high, at 60% after five years.

**About Bellerophon**

Bellerophon Therapeutics is a clinical-stage biotherapeutics company focused on developing innovative therapies at the intersection of drugs and devices that address significant unmet medical needs in the treatment of cardiopulmonary and cardiac diseases. The Company is currently developing two product candidates under its INOpulse® program, a proprietary pulsatile nitric oxide delivery device. The first is for the treatment of pulmonary arterial hypertension (PAH), for which the Company intends to commence Phase 3 clinical trials in 2015, and the other for the treatment of pulmonary hypertension associated with chronic obstructive pulmonary disease (PH-COPD), which is in Phase 2 development. The Company's plans also call for the completion of further work on the use of INOpulse to treat Pulmonary Hypertension associated with COPD and Idiopathic Pulmonary Fibrosis during 2016. Additionally, management is reviewing alternative paths forward for its Bioabsorbable Cardiac Matrix program. For more information, please visit www.bellerophon.com.

**Forward-looking Statements**

Any statements in this press release about Bellerophon's future expectations, plans and prospects, including statements about the clinical development of its product candidates, regulatory actions with respect to the Company's clinical trials and expectations regarding the sufficiency of the Company's cash balance to fund clinical trials, operating expenses and capital expenditures, and other statements containing the words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would," and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result



of various important factors, including: the uncertainties inherent in the initiation of future clinical trials, availability and timing of data from ongoing and future clinical trials and the results of such trials, whether preliminary or interim results from a clinical trial will be predictive of the final results of that trial or whether results of early clinical trials will be indicative of the results of later clinical trials, expectations for regulatory approvals, the FDA's substantial discretion in the approval process, availability of funding sufficient for our foreseeable and unforeseeable operating expenses and capital expenditure requirements and other factors discussed in the "Risk Factors" section of the Company's most recent filings with the Securities and Exchange Commission. In addition, any forward-looking statements included in this press release represent Bellerophon's views only as of the date of this release and should not be relied upon as representing the Company's views as of any subsequent date. The Company specifically disclaims any obligation to update any forward-looking statements included in this press release.

**Contact**

**At Bellerophon:**
Amy Edmonds, Vice President
Head of Clinical Operations &
Administration
(908) 574-4765

**At Rx Communications Group:**
Melody Carey
(917) 322-2571

# # #

# Interim Analysis of INOpulse Pulmonary Arterial Hypertension Long-Term Extension Study (PAH-201)

September, 2015

Bellerophon THERAPEUTICS

# Forward Looking Statements

This presentation contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this presentation, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “potential,” “will,” “would,” “could,” “should,” “continue,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

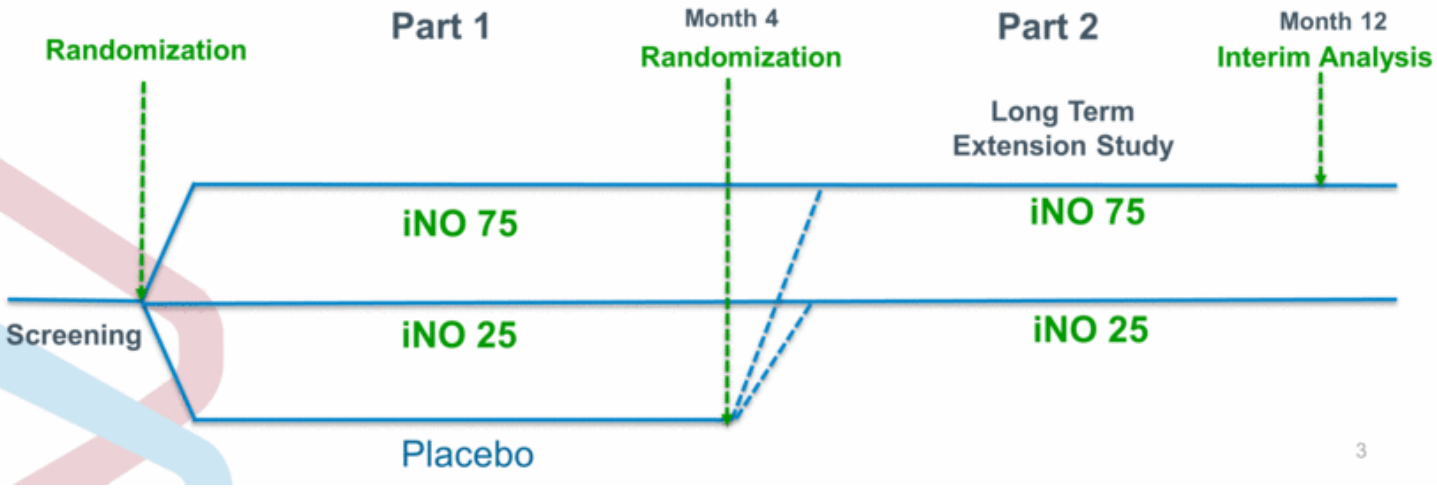
We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make due to a number of important factors, including risks and uncertainties relating to: the timing and outcomes of our ongoing and expected clinical trials for our product candidates; our ability to successfully develop, commercialize and market any of our product candidates; our ability to obtain, maintain and enforce intellectual property rights; competition; our reliance on third parties; our ability to obtain necessary financing; and those risk factors discussed in the “Risk Factors” section and elsewhere in our most recent Form 10-K and other periodic filings we make with the SEC.

All forward-looking statements contained in this presentation reflect our current views with respect to future events. We assume no obligation, except as required by applicable law, to update any forward-looking statements publicly, or to update the reasons why actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future.

# Part 2 of INOpulse PAH Phase 2 Study

- Following 16 weeks of blinded therapy (Part 1) placebo subjects were randomized to receive either 25 mcg/kg/IBD per hour (iNO 25) or iNO 75; treated patients remained on assigned dose from Part 1
  - 66 patients completed Part 1
  - 65 of 66 entered the Long Term Extension Study (Part 2)

- An Interim Analysis was performed after 12 months from baseline in Part 1
  - 57 subjects with 6MWD data
  - 42 patients with PVR data
  - Data indicates a clinically significant and sustained benefit for patients on iNO 75 when combined with Long Term Oxygen Therapy (LTOT)
  - iNO was generally well tolerated and safety profile is similar to Part 1



# Data Collected for Analysis by Group

| | 6MWD (n) | PVR (n) |
|---|---|---|
| iNO 25 | | |
| LTOT | 16 | 13 |
| Non-LTOT | 10 | 6 |
| iNO 75 | | |
| LTOT | 20 | 14 |
| Non-LTOT | 11 | 9 |
| **TOTAL** | **57** | **42** |

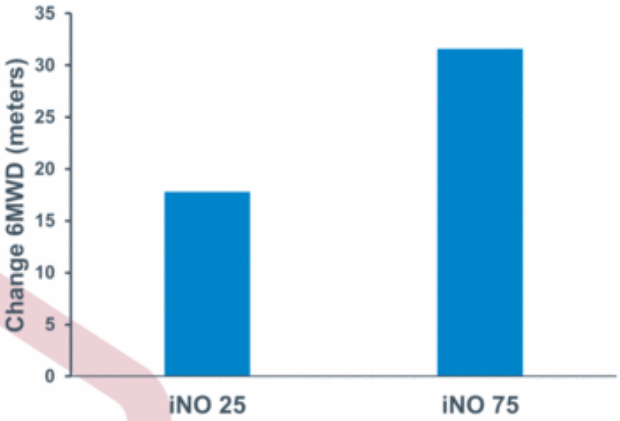
# PAH Therapy at Start of Part 2

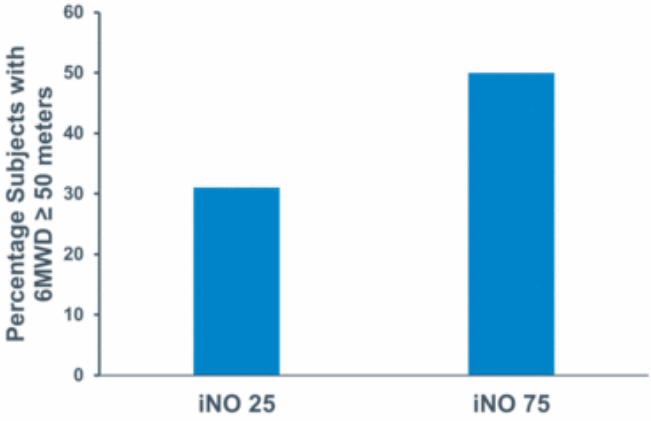
| | iNO 25 | iNO 75 | Total |
|---|---|---|---|
| Monotherapy | 9 (28%) | 7 (21%) | 16 (24%) |
| Dual Therapy | 16 (50% | 15 (46%) | 31 (48%) |
| Triple Therapy | 7 (22%) | 11 (33%) | 18 (28%) |
| IV Prostacyclin | 12 (38%) | 19 (58%) | 31 (48%) |

# Change in 6MWD with 8 to 12 months of Treatment with iNO 25 and iNO 75 with LTOT

| Δ 6MWD (meters) | N | Mean | SE |
|---|---|---|---|
| iNO 25 | 16 | 17.8 | 11.8 |
| iNO 75 | 20 | 31.6 | 13.2 |

| % Δ6MWD ≥ 50 meters | N | % |
|---|---|---|
| iNO 25 | 16 | 31.3 |
| iNO 75 | 20 | 50 |

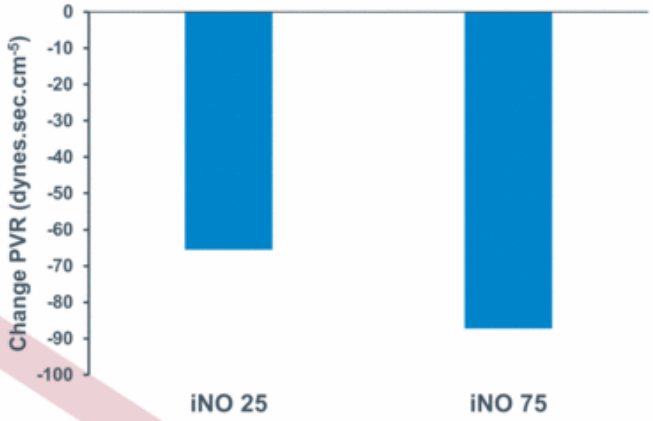


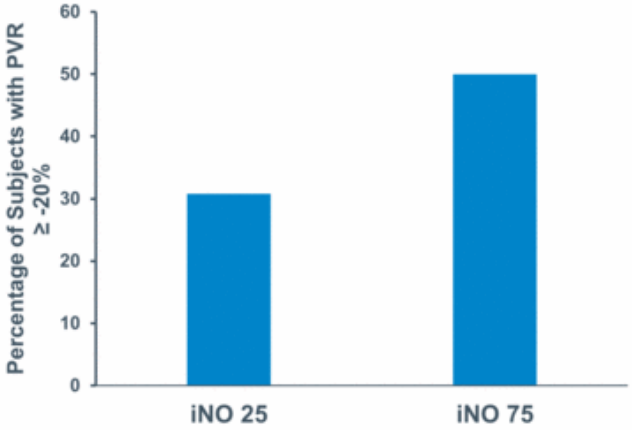



# Change in PVR with 8 to 12 months of Treatment with iNO 25 and iNO 75 with LTOT

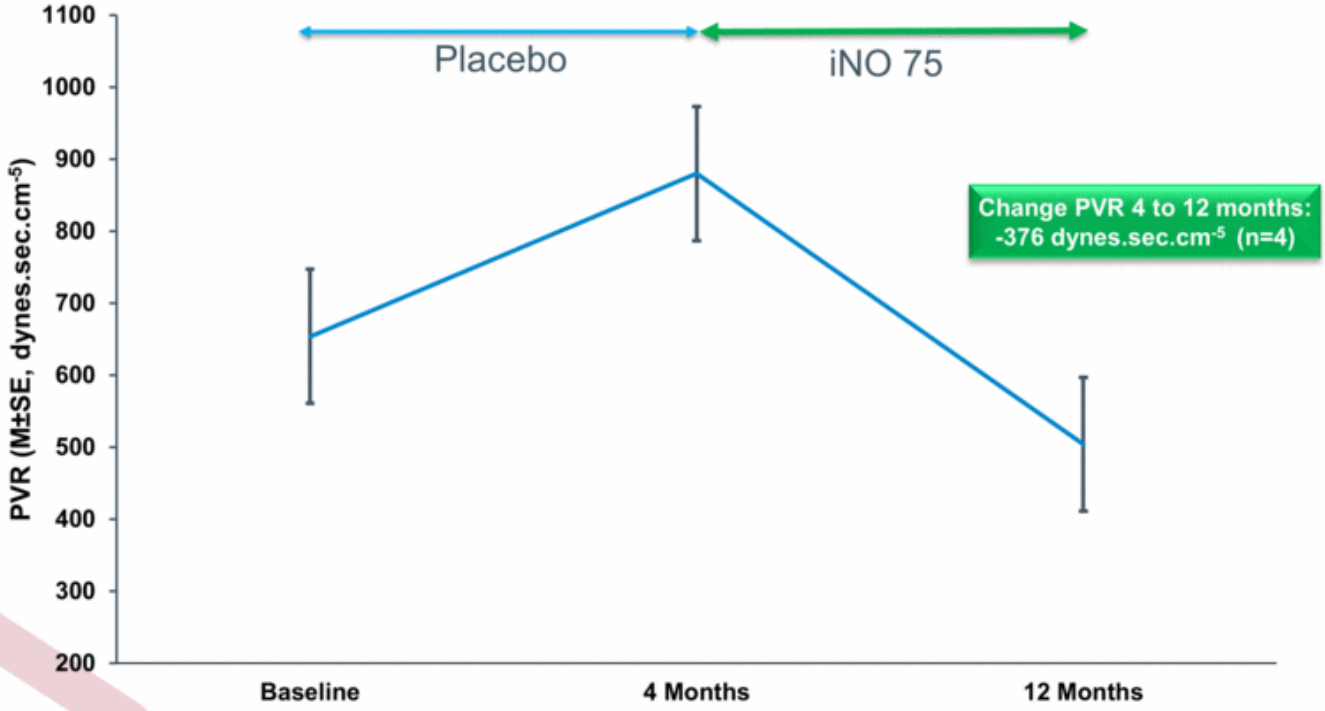
| Δ PVR (dynes.sec.cm$^{-5}$) | N | Mean | SE |
|---|---|---|---|
| iNO 25 | 13 | -65.5 | 48.9 |
| iNO 75 | 14 | -87.3 | 53.7 |

| Percentage ΔPVR ≥ -20% | N | % |
|---|---|---|
| iNO 25 | 13 | 30.8 |
| iNO 75 | 14 | 50 |

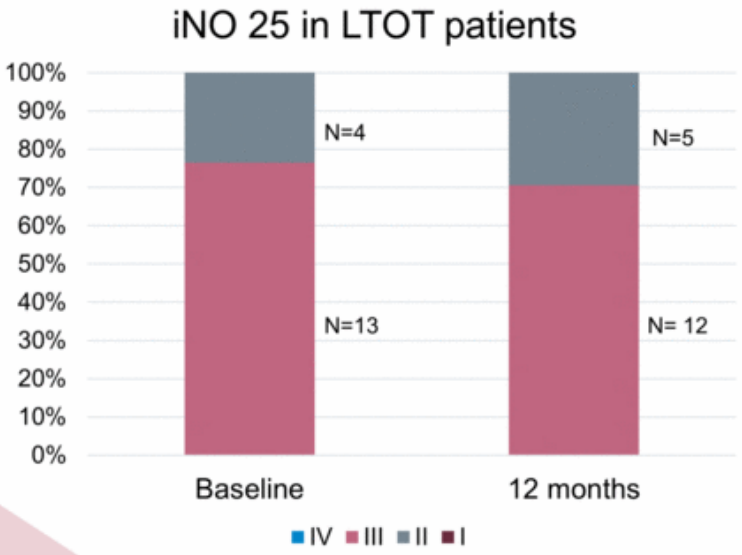


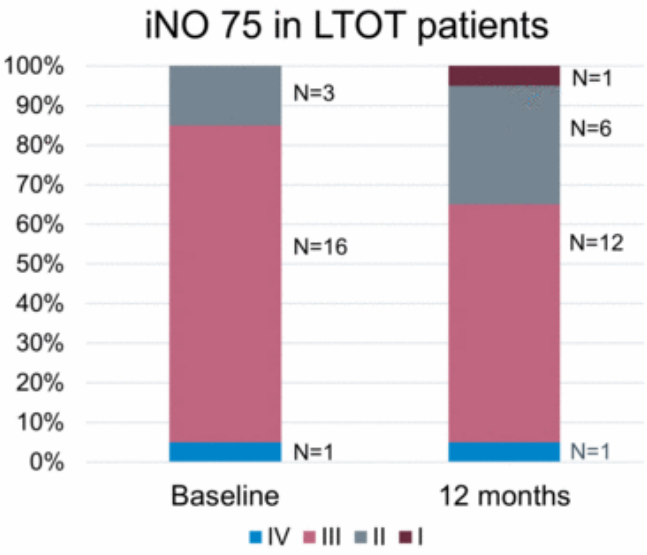



# LTOT Patients on Placebo in Part 1 Who Transferred to iNO 75 Did Particularly Well



# LTOT Patients on iNO 75 Showed Improvements in WHO Functional Class



# LTOT Patients on iNO 75 Who Stayed on Therapy for ≥12 hours a Day Improved Even More

| Δ 6MWD (meters) | N | MEAN | SE |
|---|---|---|---|
| iNO 75 < 12 hrs | 9 | 19.6 | 21.9 |
| iNO 75 ≥ 12 hrs | 11 | 41.4 | 16.4 |

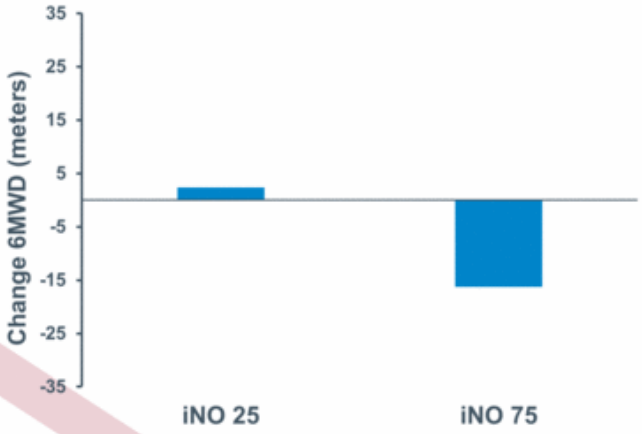
# Improvements in 6MWD Were Not Correlated with Changes in PAH Therapies

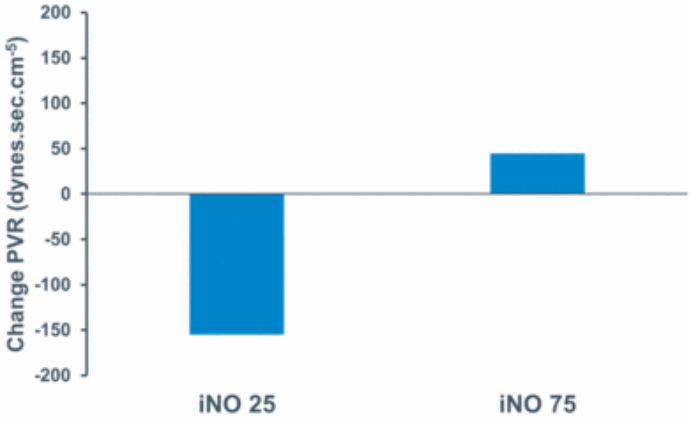
| Medications Added in Part 2 | iNO 25 | iNO 75 |
|---|---|---|
| Added 1 oral medication | 4 | 0 |
| Added IV prostacyclin | 3 | 0 |
| 10% increase in prostacyclin dose | 1 | 0 |

# Inconsistent Results for Patients *Not* on LTOT

| Δ 6MWD (meters) | N | Mean | SE |
|---|---|---|---|
| iNO 25 | 10 | 2.4 | 22.7 |
| iNO 75 | 11 | -16.3 | 18.7 |

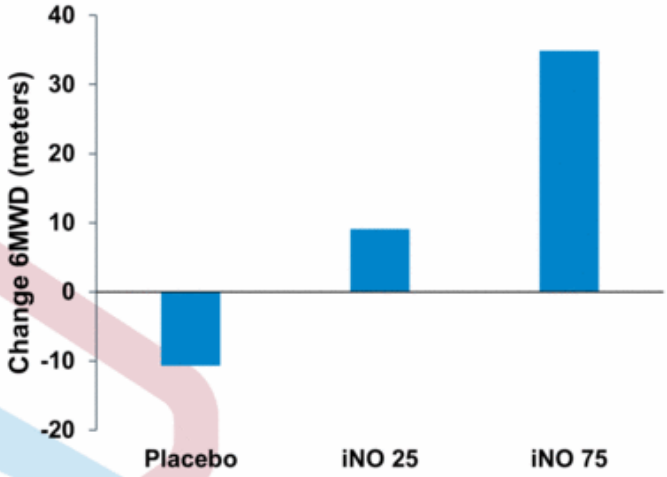
| Δ PVR (dynes.sec.cm$^{-5}$) | N | Mean | SE |
|---|---|---|---|
| iNO 25 | 6 | -155 | 92.5 |
| iNO 75 | 9 | 44.8 | 58.8 |

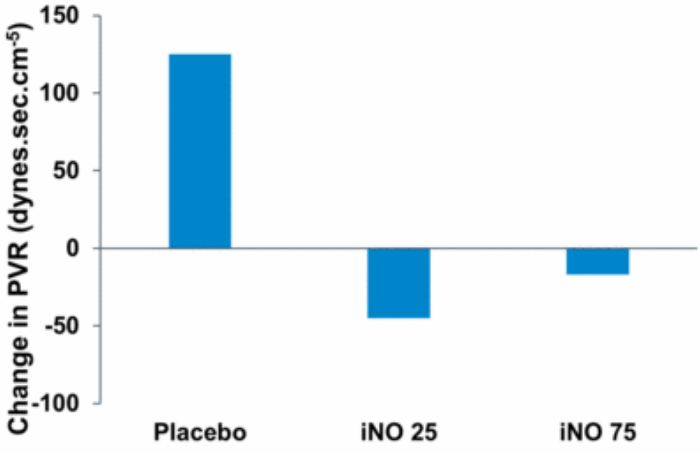


# As a Reminder: LTOT Patients on iNO 75 Also Demonstrated Improvement in 6MWD and PVR in Part 1 of the Phase II Study

| LTOT Patients | N | 6MWD (meters) | PVR (dynes.sec.cm$^{-5}$) |
|---|---|---|---|
| Placebo | 10 | -10.7 | 125.5 |
| iNO 25 | 15 | 9.1 | -47.1 |
| iNO 75 | 18 | 34.9 | -17.5 |




* p<0.05 vs. placebo

# Hypothesis for Phase III Trial

INOvation
A STUDY OF INHALED NITRIC OXIDE IN PULMONARY ARTERIAL HYPERTENSION

- **The outcome of this interim analysis supports the hypothesis generated in Part 1 of the Phase 2 study**
  - The optimal benefit of iNOpulse is with the iNO 75 dose in patients on LTOT who stay on the therapy for at least 12 hours each day
- **This is the population that will be studied in the Phase III program for which the FDA recently issued a Special Protocol Assessment (SPA)**
  - The European Medicines Agency (EMA) has also agreed to the protocol, through a Scientific Advice Working Party (SAWP)

# Phase III Protocol

INOvation
A STUDY OF INHALED NITRIC OXIDE IN PULMONARY ARTERIAL HYPERTENSION

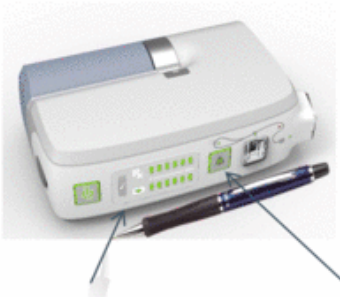
- **Two Trials:**
  - One with 2 arms (iNO 75 and Placebo)
  - One with 3 arms (iNO 75, iNO 50, and Placebo)
  - Each arm will comprise approximately 90 subjects
- **All subjects will be on LTOT**
- **The Primary endpoint is improvement in 6MWD compared to the placebo arm after 16 weeks**
- **The Secondary endpoint is Time to Clinical Worsening (TTCW) with analysis pooled across both trials**
- **Patients will stay on therapy until the last patient last visit**
- **Each trial is 90% powered for a 40 meter improvement in the 6MWD compared to the placebo arm, and for a positive trend on TTCW**
- **Each trial will have a run-in period of 2 weeks to ensure compliance. Subjects who do not stay on the therapy for at least 16 hours a day during this period will be excluded and replaced**

# INOpulse Mark 2 is Substantially Lighter and More Intuitive

## INOpulse DS


- ~8 lbs. in weight
- LCD display with multiple menus/settings designed for use by RT's in hospital
- Needs a backpack or wheeled bag to carry

## INOpulse



Drug and battery indicator

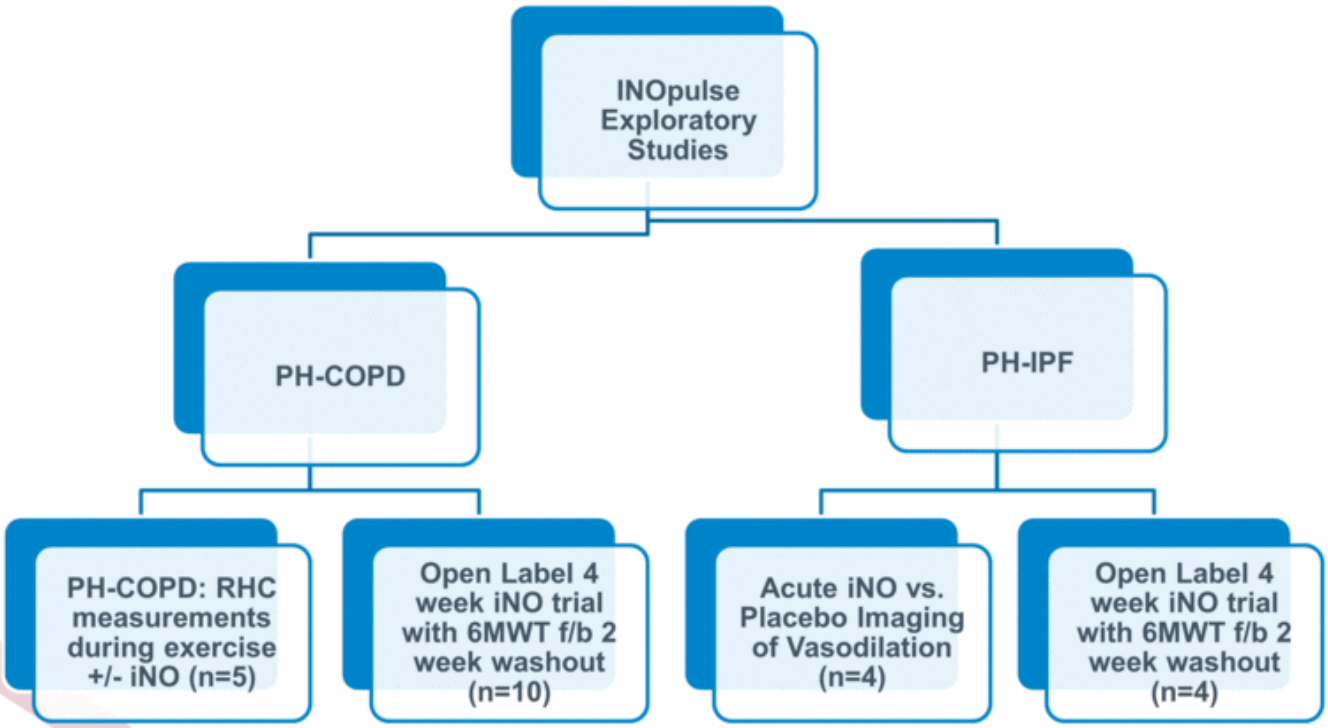
Alarm indicator and silence button

Physicians can set dose and download usage data

- ~2.5 lbs. in weight
- Easy to use user interface
- Fits in small hip/shoulder bag; Per usability testing, patients could carry in purse

Images are not to scale

# Additional Work Planned in COPD and IPF in 2015/2016




THANK YOU
Bellerophon
THERAPEUTICS

# Efficacy of Other Approved Drugs for Reference

| Ref. | Type of patients | Therapy | Background therapy | Difference from baseline |
|---|---|---|---|---|
| **PAH Specific Background Therapy** | | | | |
| A | NYHA class: III (94%)<br>12 weeks, n=67 | inhaled iloprost | Bosentan | *6MWD* +29* (m) |
| B | NYHA class: 98% III, 2% IV<br>12 weeks, n=235 | inhaled treprostinil | bosentan or sildenafil | *6MWD* +20 (m) (median) |
| C | WHO Class: II≈32%, III≈65%<br>16 weeks, n=341 | tadalafil | bosentan (subset) | *6MWD* +19 (m) # |
| D | WHO Class: II ≈61%, III≈32%<br>16 weeks, n=587 | macitentan | PDE5i or inhaled PGI2 | *6MWD* +12.5(m) |
| E | WHO Class: II=42%, III=53%<br>12 weeks, n=396 | riociguat | ERA or inhaled oral,SC, PGI2 | *6MWD* +29 (m) |
| **No PAH Specific Background Therapy** | | | | |
| F | WHO Class II≈58% III≈41%<br>12 weeks, n=278 | sildenafil (80 mg) | No PAH specific Therapy | *6MWD* +45(m) |
| G | WHO Class III≈85% IV≈15%<br>*12 weeks, n=32* | bosentan | No PAH specific Therapy | *6MWD* +51(m) (median) |
| H | WHO Class III≈76% IV≈24%<br>*12 weeks, n= 81* | IV epoprostenol | No PAH specific Therapy | *6MWD* +31(m) (median) |
| I | WHO Class II≈33% III ≈66<br>*12 weeks, n=349* | Oral treprostinol | No PAH specific Therapy | *6MWD* +23 (m) (median) |

WHO = world health organization, NYHA = New York Heart Association, OL = open label, ERAs = endothelin receptor antagonist, PGI2s = prostacyclin analogues, PDE5Is= phosphodiesterase type 5 inhibitors, ≈ = approximately, * indicates borderline significance (p=0.051), # indicates mean placebo-adjusted response for bosentan subgroup representing add-on treatment

Sources: A = McLaughlin et al. Am J Respir Crit Care Med Vol 174. pp 1257–1263, 2006. B = McLaughlin et al. Journal of the American College of Cardiology Vol. 55, No. 18, 2010. C = Barst et al. J Heart Lung Transplant 2011;30:632–43 D =Pulido et al. N Engl J Med 2013;369:809-18. E =Hossein-Ardeschir Ghofrani, et al. Engl J Med 2013; 369:330-340. F=Galie, et al. N Engl J Med 2005;353:2148-57. G =Channick et al.*Lancet* 2001; 358: 1119–23. H = Barst et al NEJM, 1996;334,296-301 I = Jing, et al.*Circulation*, 2013;127:624-633. J= Data on File