

Pulmonary Hypertension Journal Club: A Pilot Program Delivered via Twitter and Webinar



JOURNAL CLUB

Final Outcomes Summary: Live Webinar and Twitter Chat Journal Club

August 2021 – March 2022

Grant ID: ME-2020-11003

*This educational activity is supported by an educational grant from
United Therapeutics Corporation.*



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Health®**

Breathing Science is Life®

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Executive Summary

Final Report



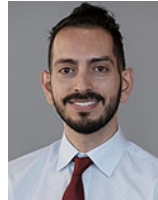
Program Overview

This pilot Pulmonary Hypertension (PH) Journal Club program is delivered via Twitter, live webinar, and endured online. The multimedia PH Journal Club sessions are developed and moderated by NJH faculty on a monthly basis, with downloadable article summaries that provide the key points of recently published articles in PH and a group opinion developed by the National Jewish Health PH Program Providers. Each article summary issue is archived on a dedicated webpage. Every month, a thirty-minute live webinar led by expert NJH faculty provides a succinct article summary and engages participants in academic and peer discussion. The recording of each live webinar is endured on VuMedi and made available for a year. A 30-minute structured Twitter chat based on the same article is also offered each month, providing another forum for live interaction with peers and expert faculty, as well as ongoing Tweet exchange for those that cannot attend the live portion.

Program Chair & Faculty



Patricia George, MD
Associate Professor
Division of Pulmonary, Critical Care & Sleep Medicine
National Jewish Health



Mohammad Dalabih, MBBS, MHA
Assistant Professor
Division of Pulmonary, Critical Care & Sleep Medicine
National Jewish Health

Learning Objectives

- Utilize critical thinking and research analysis in the review of new data and guidelines in PH.
- Apply increased awareness and understanding of research, evidence and best practices to inform clinical practice in PH.
- Support an online community of practitioners to share key insights, latest research, and treatment strategies for patients with PH.

Program Webpage

Launch Date: August 18, 2021
End Date: March 17, 2022
<https://www.nationaljewish.org/phjournalclub>

Target Audience & Accreditation

Target Audience: Pulmonologists, Cardiologists, Rheumatologists, Primary Care and Internal Medicine Physicians, Physician Assistants, and Nurse Practitioners who treat patients with PH.

Accreditation: National Jewish Health is accredited with Commendation by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. *NJH designates each of the 6 live activities (6 live webinars, 6 live Twitter chats) for a maximum of 0.5 AMA PRA Category 1 Credit™.*

National Jewish Health Monthly PH Journal Club Activities



Article Summary

developed by NJH experts in PH
endured on NJH Website

6
article summaries developed



Article Summary

sent to target audience with registration links to Zoom and Twitter Journal Club

306
article summary downloads



Live Webinar Journal Club via Zoom

30-minute discussion led by NJH PH expert
(CME Credit)

156
webinar participants



Twitter Journal Club via Tweet Chat

(CME Credit)

47,880
impressions



Webinars Endured on Vu-Medi

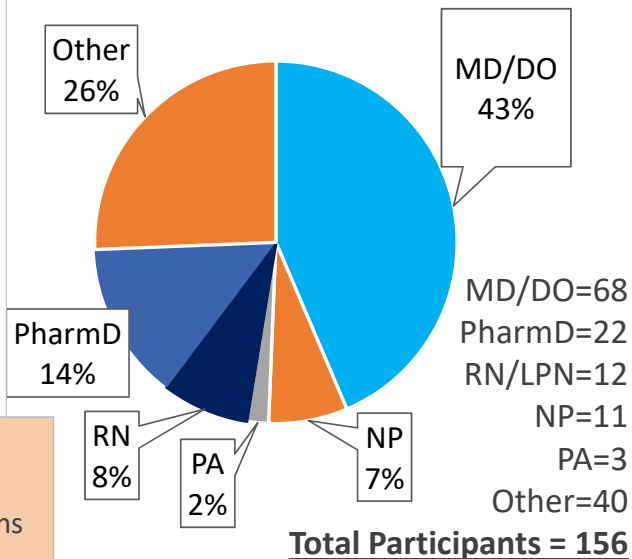
1,159
views

Educational Impact Summary – Overall Program

(Zoom and Twitter) Final Report



Webinar Participant Breakdown



52% of participants were physicians and APPs

Potential Impact To 1,560 Patient Visits This Year

Webinar participants reported confidence in integrating research findings into clinical practice



21% relative gain in confidence
13% absolute gain in confidence

Pre-activity (N=39) Post-activity (N=22)

Twitter Chat Highlights: August 2021 – March 2022

Calendar Adds	322
Impressions	47,880
Hashtag Usage	337
Retweets	61
Likes	447
Replies	105
Engagements/Participants	1585

Webinar & Twitter Evaluation (N=20)

100% of respondents stated the learning objectives were met



81% of respondents increased their knowledge of PH



86% of respondents stated activity improved ability to treat or manage patients

78%

N=21

Evaluation respondents intend to make changes to practice as a result of the activity

Program Insights

Final Report



- In this pilot program, we found that most participants are not seeking credit for webinars or Twitter chats, though they are engaging with the content.
- Article downloads and endured video views are high, indicating high levels of participation in the educational content beyond the live activities.
- It appears not all Twitter chat participants are “active” in the live activity. However, based on data for engagements and likes, there are many viewers consuming the education presented without posting comments and actively contributing to the discussion.

“Our goal was to bring quality CME activities to colleagues and foster discussion over the latest studies and trials in pulmonary hypertension. The Twitter Journal Club was a fun way to push the envelope and offer free open access medical education to an even broader audience. We were grateful for the opportunity to share in learning with colleagues from around the country and world.”

– M. Patricia George, MD, PH Journal Club Program Co-Chair

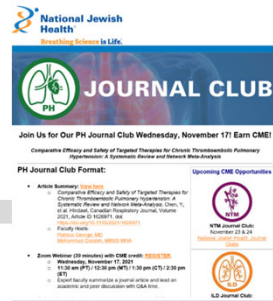
Audience Generation

Final Report



Personalized targeting tools across numerous tactics reach HCPs by leveraging demographic data (such as location, profession, specialty) and behavioral data (such as learner participation history, areas of interest).

Personalized emails and e-newsletters



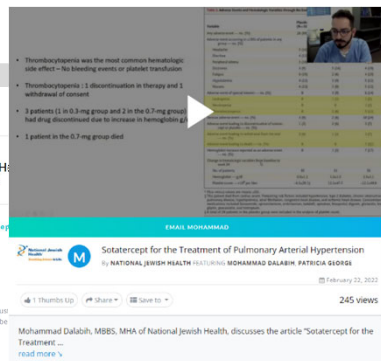
Social media ads and posts



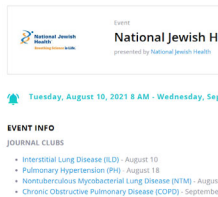
Personalized + Customized Intelligent Marketing Platform



Branded Channel on VuMedi



CenterTable Twitter Follower & Advertising Campaign



Article Summary

Final Report



August 2021 Article Summary: Inhaled Treprostinil in Pulmonary Hypertension Due to Interstitial Lung Disease, N Engl J Med. 2021;384(4):325-334. [View here.](#)

September 2021 Article Summary: A Randomized, Double-Blind, Placebo-Controlled Study of Pulsed, Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension Associated with Pulmonary Fibrosis, Chest. 2020 Aug; 158(2):637-645. [View here.](#)

October 2021 Article Summary: Association Between Initial Treatment Strategy and Long-term Survival in Pulmonary Arterial Hypertension. Am J Respir Crit Care Med. 2021 Jun 29. doi: 10.1164/rccm.202009-3698OC. Epub ahead of print. [View here.](#)

306 article downloads*

JOURNAL CLUB
Article Summary by: Mohammad Dalabih, MBBS, MHA & Patricia George, MD

GROUP OPINION

This is the first randomized controlled trial in PH-ILD that supports the use of a PH-specific therapy in this population. Prior to this study there were no FDA-approved medications for group

JOURNAL CLUB
Article Summary by: Mohammad Dalabih, MBBS, MHA & Patricia George, MD

ARTICLE

A Randomized, Double-Blind, Placebo-Controlled Study of Pulsed, Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension Associated With Pulmonary Fibrosis.

<https://pubmed.ncbi.nlm.nih.gov/31931231/>

CLINICAL QUESTION

on supplemental oxygen with echocardiographic evidence of result in improved activity level, measured by actigraphy, of physical activity an optimal end-point for an upcoming phase

JOURNAL CLUB
Article Summary by: Mohammad Dalabih MBBS, MHA

ARTICLE

Association Between Initial Treatment Strategy and Long-term Survival in Pulmonary Arterial Hypertension (PAH) <https://pubmed.ncbi.nlm.nih.gov/34185620/>

CLINICAL QUESTION

How is long-term survival in patients with PAH affected by initial risk status and treatment strategy?

SUMMARY

The 2015 ESC/ERS guidelines on PAH recommend initial risk stratification of newly diagnosed patients with PAH and tailoring therapy according to their risk profile. Combination therapy (including intravenous prostacyclin) is recommended for those with a high-risk profile. For patients with low and intermediate risk profile, either monotherapy or dual oral therapy is recommended. No study has evaluated the impact of initial treatment strategy (monotherapy versus dual-combination therapy versus triple-combination therapy) on long-term survival of patients with PAH.

This study retrospectively analyzed patients with incident idiopathic, heritable, or anorexigen-induced PAH enrolled in the French PH Registry and the choice of initial therapy on long-term survival.

Subjects:

Newly diagnosed idiopathic, heritable, and anorexigen-induced PAH patients enrolled in the French PAH Registry between January 2006 and December 2018 were included. Patients with other causes of PAH such as systemic sclerosis or portopulmonary hypertension were excluded. Only patients receiving therapy within 3 months of diagnosis were included and those on calcium channel blocker monotherapy were excluded. Patients were stratified according to initial treatment regimen: monotherapy, dual-combination therapy, or triple-combination therapy (including parenteral prostacyclin).

Methods:

Survival was analyzed according to initial therapy in the overall population, as well as according to risk assessment at baseline, according to the abbreviated ESC/ERS risk stratification based on the number of low-risk criteria present (Functional class I-IV, 6-minute walk distance \geq 400m, right atrial pressure $<$ 8 mmHg, and cardiac index $>$ 2.5L/m²). The effect of initial therapy was also analyzed in the subset of patients on parenteral therapy. Survival analysis was performed using the Kaplan Meier method and an intent-to-treat analysis.

on supplemental oxygen with echocardiographic evidence of result in improved activity level, measured by actigraphy, of physical activity an optimal end-point for an upcoming phase

icate fILD and is associated with lower physical activity and is for PH-ILD are limited.

o-controlled phase 2b/3 study, in which the investigators g/kg/hr for 8 weeks on patient's level of activity measured by were collected.

and were on continuous supplemental oxygen (mean 3.6 stratified according to echocardiographic findings into low, according to the 2015 ESC/ERS PH guidelines.

030 and 18 patients to placebo. The groups were comparable patients with IPF in the treatment arm. After 8 weeks, patients extension period (OLE) with possible dose escalation to IN045 using an investigational device as pulsed therapy, and the wearable actigraphy device. 6-minute walk distance (6MWD) s. Notably, patients were enrolled by assumed PH based on nclear how many patients had RHC prior to enrollment.

ned stable in overall level activity while a decline was 06). 23% of patients of the IN030 arm had $>$ 15%

*Data from 8/2021 – 3/2022

Article Summary

Final Report

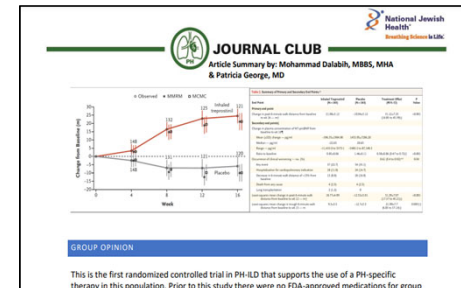


November 2021 Article Summary: Comparative Efficacy and Safety of Targeted Therapies for Chronic Thromboembolic Pulmonary Hypertension: A Systematic Review and Network Meta-Analysis. *Can Respir J.* 2021 Sep 1;2021:1626971. [View here.](#)

306 article downloads*

February 2022 Article Summary: Sotatercept for the Treatment of Pulmonary Arterial Hypertension. *N Engl J Med* 2021 Apr 1;384(13):1204-1215. [View here.](#)

March 2022 Article Summary: Inhaled treprostinil and forced vital capacity in patients with interstitial lung disease and associated pulmonary hypertension: a post-hoc analysis of the INCREASE study. *Lancet Respir Med.* 2021 Nov;9(11):1266-1274. doi: 10.1016/S2213-2600(21)00165-X. [View here.](#)



JOURNAL CLUB
Article Summary by: Mohammad Dalabih, MBBS, MHA & Patricia George, MD

ARTICLE
A Randomized, Double-Blind, Placebo-Controlled Study of Pulsed, Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension Associated With Pulmonary Fibrosis.
<https://pubmed.ncbi.nlm.nih.gov/33932334/>

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JOURNAL CLUB
Article Summary by: Mohammad Dalabih, MBBS, MHA

ARTICLE
Association Between Initial Treatment Strategy and Long-term Survival in Pulmonary Arterial Hypertension (PAH) <https://pubmed.ncbi.nlm.nih.gov/34185820/>

CLINICAL QUESTION
How is long-term survival in patients with PAH affected by initial risk status and treatment strategy?

SUMMARY
The 2015 ESC/ERS guidelines on PAH recommend initial risk stratification of newly diagnosed patients with PAH and tailoring therapy according to their risk profile. Combination therapy (including intravenous prostacyclins) is recommended for those with a high-risk profile. For patients with low and intermediate risk profile, either monotherapy or dual oral therapy is recommended. No study has evaluated the impact of initial treatment strategy (monotherapy versus dual-combination therapy versus triple-combination therapy) on long-term survival of patients with PAH.

This study retrospectively analyzed patients with incident idiopathic, heritable, or anorexigen-induced PAH enrolled in the French PH Registry and the choice of initial therapy on long-term survival.

Subjects:
Newly diagnosed idiopathic, heritable, and anorexigen-induced PAH patients enrolled in the French PAH Registry between January 2006 and December 2018 were included. Patients with other causes of PAH such as systemic sclerosis or portopulmonary hypertension were excluded. Only patients receiving therapy within 3 months of diagnosis were included and those on calcium channel blocker monotherapy were excluded. Patients were stratified according to initial treatment regimen: monotherapy, dual-combination therapy, or triple-combination therapy (including parenteral prostacyclin).

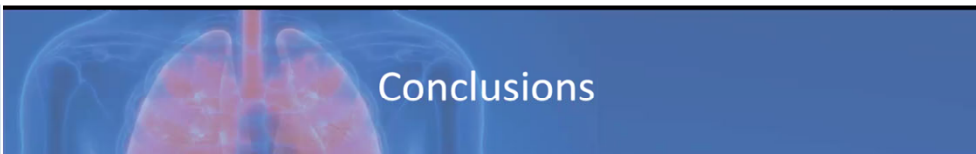
Methods:
Survival was analyzed according to initial therapy in the overall population, as well as according to risk assessment at baseline, according to the abbreviated ESC/ERS risk stratification based on the number of low-risk criteria present (Functional class I-III, 6-minute walk distance >440m, right atrial pressure < 8 mmHg, and cardiac index > 2.5L/m²). The effect of initial therapy was also analyzed in the subset of patients on parenteral therapy. Survival analysis was performed using the Kaplan Meier method and an intent-to-treat analysis.

*Data from 8/2021 – 3/2022



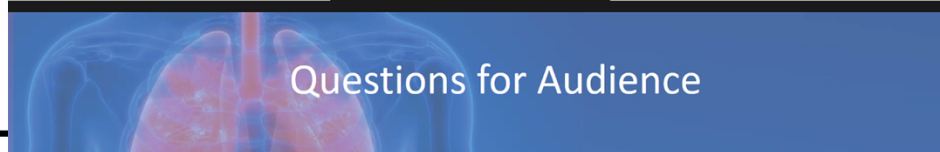
Executive Summary – Live Webinars

Final Report



Conclusions

- Patients with fibrosing ILD requiring supplemental oxygen have a significantly lower activity level
- Pulse iNO can result in an improvement in physical activity, especially moderate and vigorous activity
- The treatment was well-tolerated
- A larger phase 3 study is underway (REBUILD)



Questions for Audience

- How does the data presented compare to your clinical practice, particularly in initial drug selection for intermediate risk patients?
- Will this study change how you care for patients with PAH?
- Is this data in conflict with TRITON (Initial oral triple vs dual combination in patients with PAH)? If the benefit of triple therapy observed in this study is to be attributed to addressing the three pathways (NO, ERA and prostacyclin pathway) why wasn't this benefit observed in TRITON?
- What is the significance of overall survival being similar in the initial monotherapy and dual-combination therapy groups?
- Is this data generalizable to other common forms of PAH like SSC-PAH?





Executive Summary – Live Webinars

Final Report



Webinar Date	Article Title	Participants
August 18, 2021	Inhaled Treprostinil in Pulmonary Hypertension Due to Interstitial Lung Disease, N Engl J Med. 2021;384(4):325-334.	39
September 22, 2021	A Randomized, Double-Blind, Placebo-Controlled Study of Pulsed, Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension Associated with Pulmonary Fibrosis, Chest. 2020 Aug; 158(2):637-645.	24
October 20, 2021	Association Between Initial Treatment Strategy and Long-term Survival in Pulmonary Arterial Hypertension. Am J Respir Crit Care Med. 2021 Jun 29.	9
November 17, 2021	Comparative Efficacy and Safety of Targeted Therapies for Chronic Thromboembolic Pulmonary Hypertension: A Systematic Review and Network Meta-Analysis. Can Respir J. 2021 Sep 1;2021:1626971.	20
February 16, 2022	Sotatercept for the Treatment of Pulmonary Arterial Hypertension. N Engl J Med 2021 Apr 1;384(13):1204-1215.	35
March 16, 2022	Inhaled treprostinil and forced vital capacity in patients with interstitial lung disease and associated pulmonary hypertension: a post-hoc analysis of the INCREASE study. Lancet Respir Med. 2021 Nov;9(11):1266-1274.	29
	Total	156

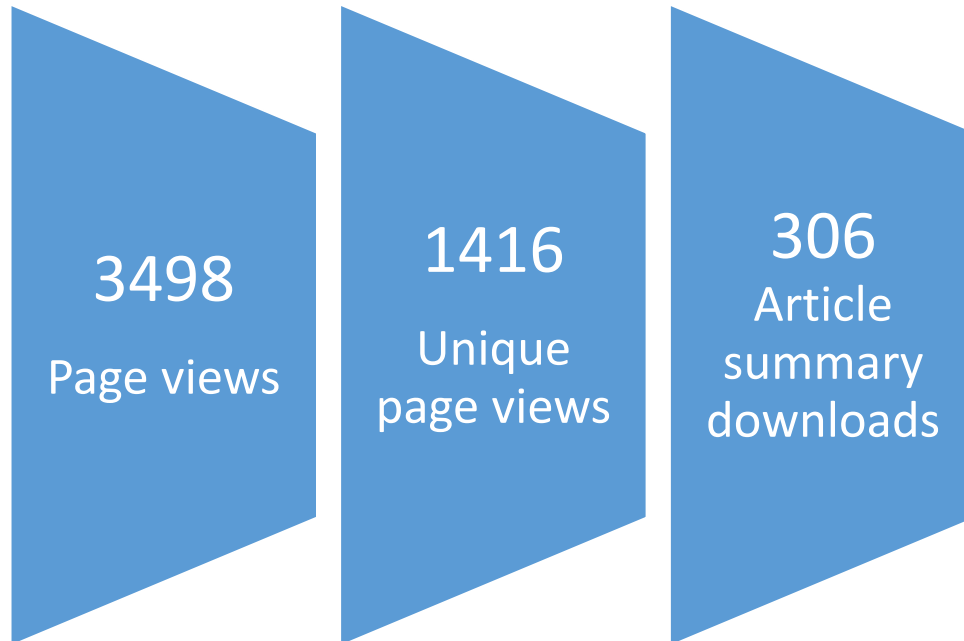
Level (1) Outcomes: PH Journal Club Webpage

Final Report



PH Journal Club Landing Page

<https://www.nationaljewish.org/phjournalclub>



Data as of 3/18/22



Respiratory Medicine Updates: A Virtual Clinical Community

Next Session is November 17-18, 2021 • CME Credit for Zoom Webinar and Twitter Chat participants

Article: Comparative Efficacy and Safety of Targeted Therapies for Chronic Thromboembolic Pulmonary Hypertension: A Systematic Review and Network Meta-Analysis. Can Respir J. 2021 Sep 1;2021:1626971. doi: 10.1155/2021/1626971.



- **Article Summary for November: [View here.](#)**
 - **Faculty Host:**
 - **Patricia George, MD** (Twitter: @PGeorgeMD)
 - **Mohammad Dalabih, MBBS MHA**



- **Zoom Webinar with CME credit: [REGISTER.](#)**
 - **Wednesday, November 17, 2021**
 - **11:30 am (PT) / 12:30 pm (MT) / 1:30 pm (CT) / 2:30 pm (ET)**
 - 30-minutes
 - Expert faculty summarize a journal article and lead an academic and peer discussion with Q&A time.

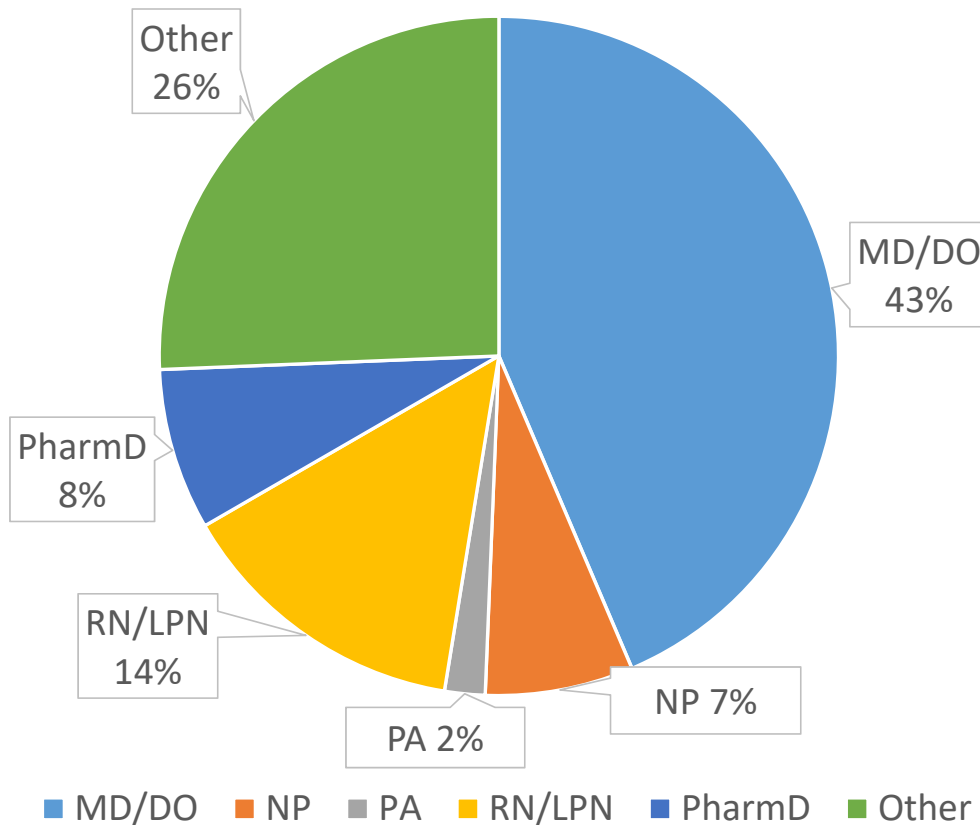


- **Twitter Chat @NJHealthMedEd with CME credit:**
- **Thursday, November 17, 2021**
- **6:00 pm (PT) / 7:00 pm (MT) / 8:00 pm (CT) / 9:00 pm (ET)**
- 30-minutes
- Expert faculty lead the Chat about the article summary to facilitate an academic and peer discussion with Q&A.
- Go to Twitter, type in **#PHTwitterJC** and click on the "Latest" tab
- Please use this hashtag when posting: **#PHTwitterJC**
- **Twitter Chat Instructions**
- Follow us on Twitter **@NJHealthMedEd**

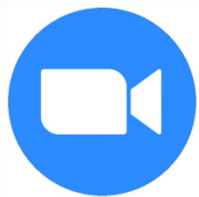


Level (1) Outcomes: Live Webinars Participation: By Degree

Final Report

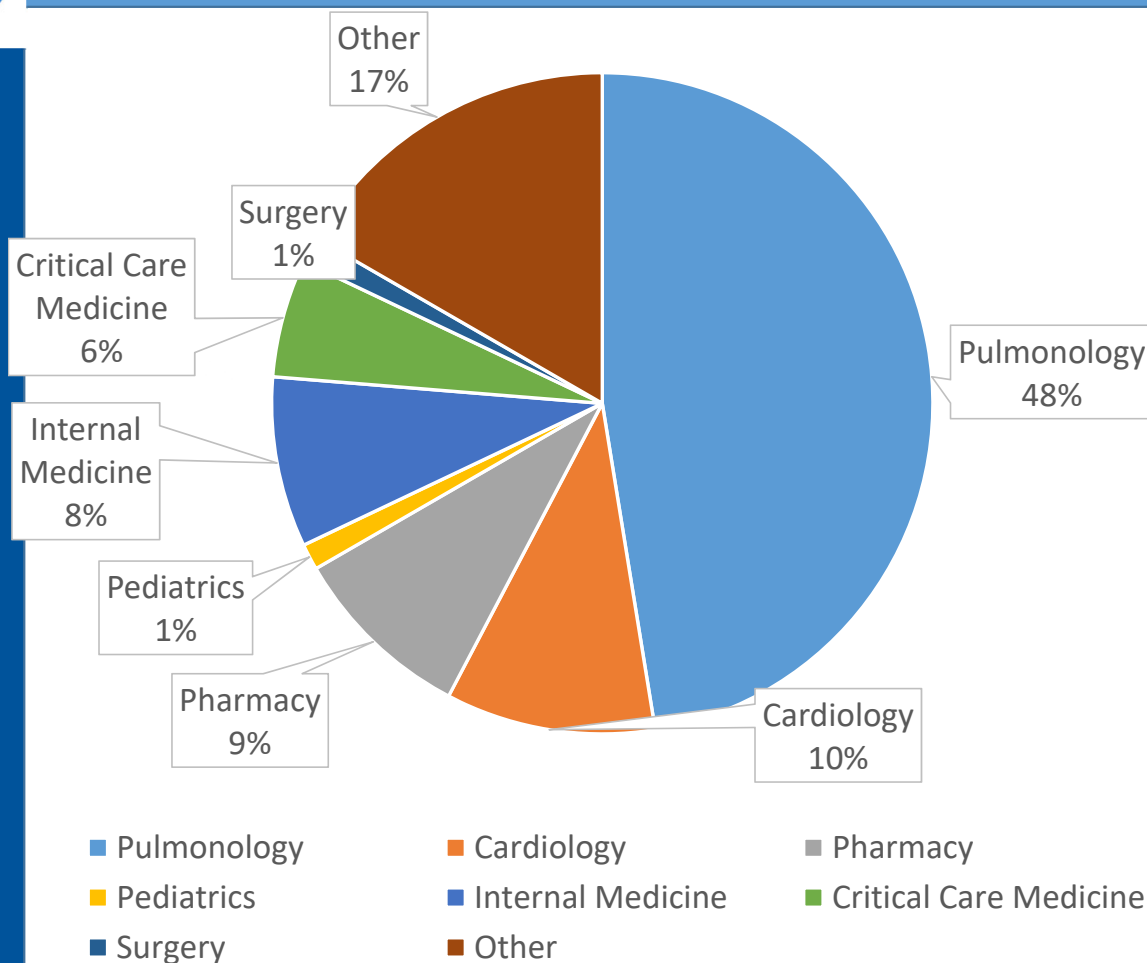


Degree	Participants
MD/DO	68
PharmD	22
NP	11
RN/LPN	12
PA	3
Other	40
Total Participants	156



Level (1) Outcomes: Live Webinars Participation: By Specialty

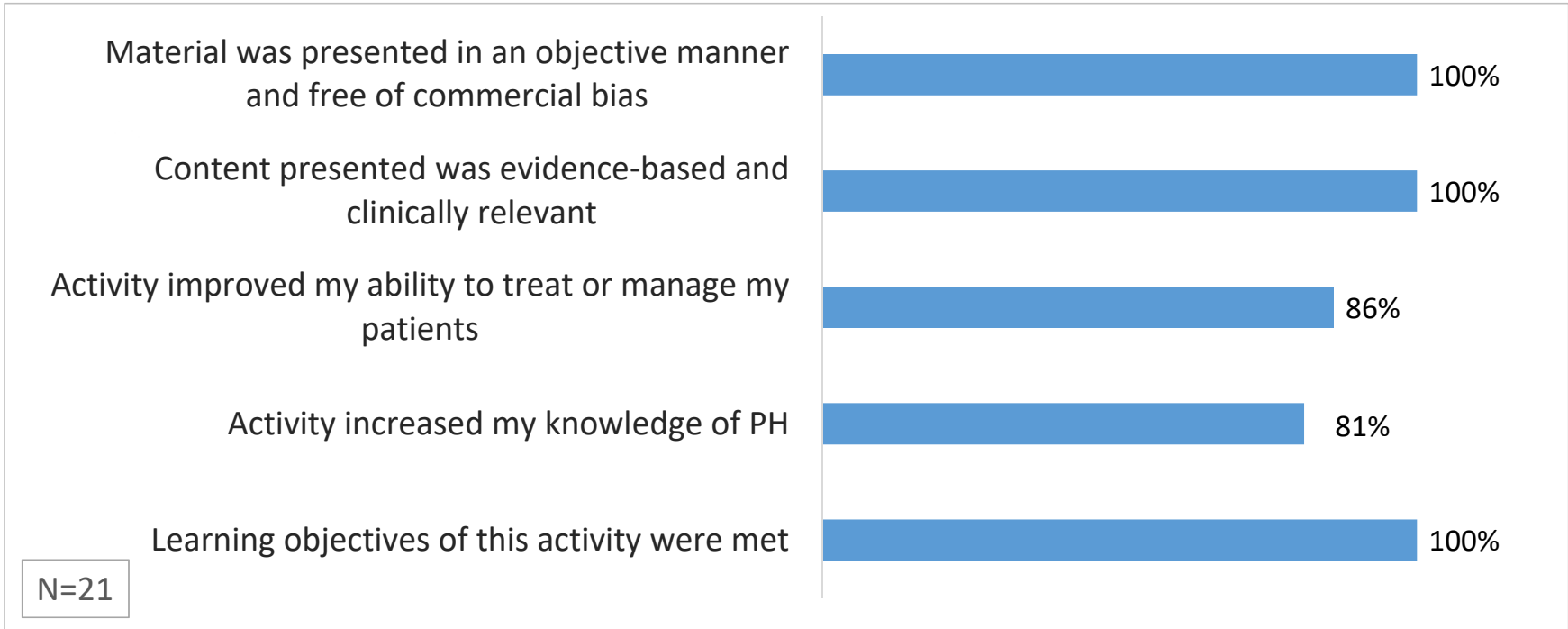
Final Report



Specialty	Participants
Pulmonology	74
Cardiology	16
Pharmacy	14
Internal Medicine	13
Critical Care Medicine	9
Pediatrics	2
Surgery	2
Other	26
Total Participants	156



Evaluation respondents report they “Strongly Agree” or “Agree” that:





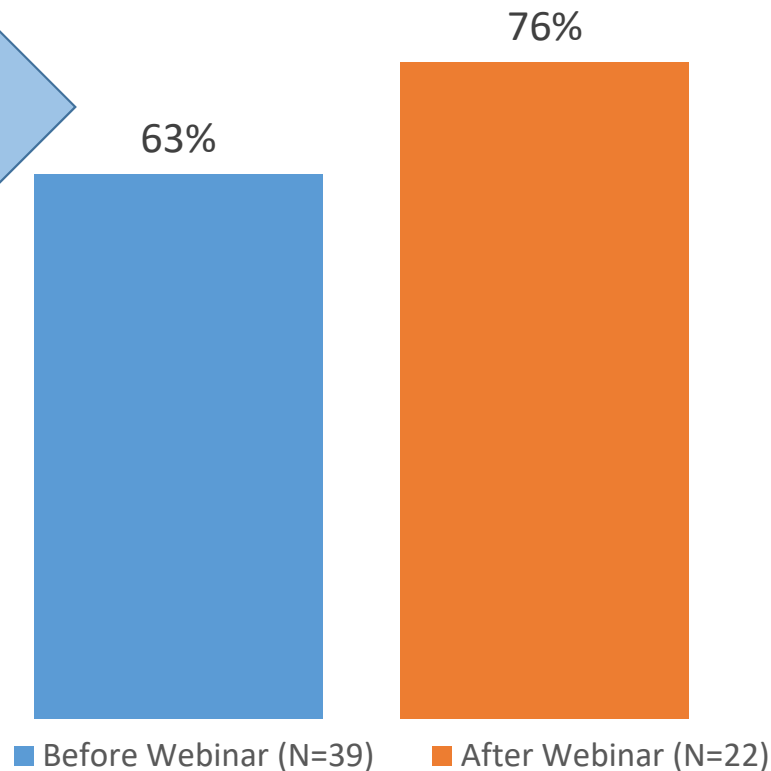
Level (4) Outcomes: Live Webinars Confidence

Final Report



Evaluation respondents report they are “Very Confident” to “Somewhat Confident” in their ability to integrate the findings of the research article into clinical practice:

21% Relative Confidence Gain
13% Absolute Confidence Gain





Level (4) Outcomes: Live Webinars Competence

Final Report



An analysis of open-ended comments demonstrates the following changes learners intend to make:

Intended Changes by Activity

August - Inhaled Treprostinil in Pulmonary Hypertension Due to Interstitial Lung Disease

- Improve management of PH
- Treprostinil for ILD
- Lower threshold to treat
- Consult PH specialist
- Educate patients on treprostinil

September - A Randomized, Double-Blind, Placebo-Controlled Study of Pulsed, Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension Associated with Pulmonary Fibrosis

- Recruit for Phase 3 trial
- Consider iNO for our PF patients

78%

N=21

Evaluation respondents intend to make changes in practice as a result of the activity



Level (4) Outcomes: Live Webinars Competence

Final Report



An analysis of open-ended comments demonstrates the following changes learners intend to make:

Intended Changes by Activity

October - Association Between Initial Treatment Strategy and Long-term Survival in Pulmonary Arterial Hypertension

- Consideration of agents

February - Sotatercept for the Treatment of Pulmonary Arterial Hypertension

- Incorporate new PH protocols
- Will use sotatercept as first choice when possible

March - Inhaled treprostinil and forced vital capacity in patients with interstitial lung disease and associated pulmonary hypertension: a post-hoc analysis of the INCREASE study.

- Treat PH group 3 with treprostinil
- Screen

Note: we did not receive evaluation data for November's webinar titled "Comparative Efficacy and Safety of Targeted Therapies for Chronic Thromboembolic Pulmonary Hypertension: A Systematic Review and Network Meta-Analysis."



Outcomes: Live Webinars

Final Report



August: Inhaled Treprostinil in Pulmonary Hypertension

Key Takeaways

- The efficacy of PH therapy
- 65% of ILD patients will develop PH.
- PH ILD inhaled treprostinil is beneficial
- Inhaled treprostinil was effective and tolerated
- New drug for PH
- Treatment options are emerging for these patients
- Treprostinil for PH-ILD

Future Topics

- Best practice for managing combined PH



September: Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension

Key Takeaways

- The addition of triple agents early
- iNO may improve the PAH in PF patients
- How am I going to apply this study to my practice? It helps providers to talk to patients about the clinical trial.

Questions

- Is echo sufficient to diagnose PH group?
- This study didn't have a quality of life indicator, should it have?
- Would you pre consult to put a patient on a therapy for PAH without a right heart catheterization?



Outcomes: Live Webinars

Final Report



October: Initial Treatment Strategy and Long-term Survival

Key Takeaways

- Promising treatments in PH-ILD



Discussion Questions

- How does the data presented compare to your clinical practice, particularly in initial drug selection for intermediate risk patients?
- Will this study change how you care with patients with PAH?
- Is this data in conflict with TRITON (Initial oral triple vs dual combination in patients with PAH)? If the benefit of triple therapy observed in this study is to be attributed to addressing the three pathways (NO, ERA and prostacyclin pathway) why wasn't this benefit observed in TRITON?



February: Sotatercept for the Treatment of Pulmonary Arterial Hypertension

Key Takeaways

- Follow clinical study
- Sotatercept shows potential to treat PAH
- Using new drug in very important conditions like PAH

Future Topics

- Prevention articles on these concerns
- Idiopathic development of PH



March: Inhaled Treprostinil and Forced Vital Capacity

Key Takeaways

- Change noted in FVC
- Novel effects of treprostinil
- PH and ILD
- New knowledge

Future Topics

- Risk stratification
- More group 3
- PH and bronchiectasis

**Qualitative data not available for November*

Outcomes: VuMedi Webinar Recordings

Final Report



National Jewish Health VuMedi Channel:

<https://www.vumedi.com/channel/national-jewish-health/tab/journal-club/>



August 18-19, 2021

- **August 2021 Article Summary:** Inhaled Treprostinil in Pulmonary Hypertension Due to Interstitial Lung Disease, N Engl J Med. 2021;384(4):325-334. [View here](#).
- [Recorded Zoom Webinar](#) on VuMedi.



September 22-23, 2021

- **September 2021 Article Summary:** A Randomized, Double-Blind, Placebo-Controlled Study of Pulsed, Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension Associated with Pulmonary Fibrosis, Chest. 2020 Aug; 158(2):637-645. [View here](#).
- [Recorded Zoom Webinar](#) on VuMedi.



October 20-21, 2021

- **October 2021 Article Summary:** Association Between Initial Treatment Strategy and Long-term Survival in Pulmonary Arterial Hypertension. Am J Respir Crit Care Med. 2021 Jun 29. doi: 10.1164/rccm.202009-3698OC. Epub ahead of print. [View here](#).
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Outcomes: VuMedi Webinar Recordings

Final Report



National Jewish Health VuMedi Channel:

<https://www.vumedi.com/channel/national-jewish-health/tab/journal-club/>

November 17, 2021



- **November 2021 Article Summary:** Comparative Efficacy and Safety of Targeted Therapies for Chronic Thromboembolic Pulmonary Hypertension: A Systematic Review and Network Meta-Analysis. Can Respir J. 2021 Sep 1;2021:1626971. [View here](#).
- [Recorded Zoom Webinar](#) on VuMedi.

February 16-17, 2022



- **February 2022 Article Summary:** Sotatercept for the Treatment of Pulmonary Arterial Hypertension. N Engl J Med 2021 Apr 1;384(13):1204-1215. [View here](#).
- [Recorded Zoom Webinar](#) on VuMedi.

March 16-17, 2022



- **March 2022 Article Summary:** Inhaled treprostinil and forced vital capacity in patients with interstitial lung disease and associated pulmonary hypertension: a post-hoc analysis of the INCREASE study. Lancet Respir Med. 2021 Nov;9(11):1266-1274. doi: 10.1016/S2213-2600(21)00165-X. Epub 2021 Jun 29. [View here](#).
- [Recorded Zoom Webinar](#) on VuMedi.

Outcomes: VuMedi Webinar Recordings

Final Report



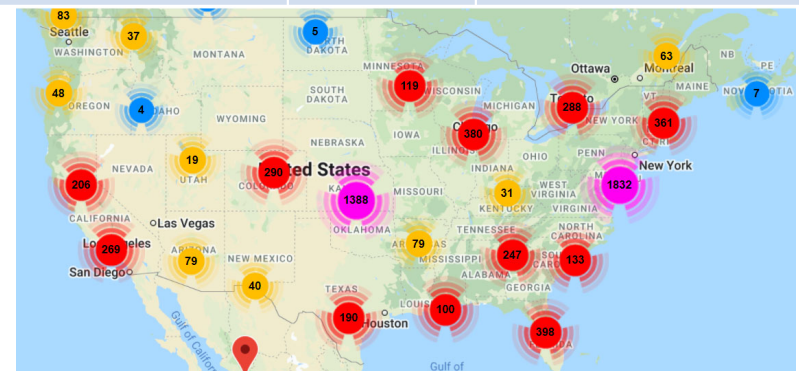
National Jewish Health VuMedi Channel:

<https://www.vumedi.com/channel/national-jewish-health/tab/journal-club/>

Month	Impressions	Video Page Views	Unique Page Viewers	Starts	Unique Starts
August	1130	251	175	117	95
September	470	224	137	94	68
October	587	132	90	54	37
November	932	201	134	96	75
February	369	245	151	133	104
March	227	106	76	62	49
Total	3,715	1,159	763	556	428

About VuMedi

- Nearly 14,000 registered pulmonary specialists, 67,265 cardiology specialists and over 96,000 primary care physicians (over 600,000 total)
- Distribution of video content to reach a large physician audience
- Analytics dashboard that shows video views, impressions, geolocation of viewers



Note: Heat map encompasses all 4 NJH Journal Clubs from 8/1/21-3/17/22



National Jewish Health Medical Education Twitter

Final Report



Medical Education for
Health Care Providers



Edit profile

National Jewish Health Medical Education

@NJHealthMedEd

The leading respiratory hospital provides continuing medical education, research insights, and best practices for patient care. | For patients, follow [@NJHealth](#)

📍 Denver, Colorado [njhealth.org/CME](https://www.njhealth.org/CME) 📅 Joined June 2021

239 Following 418 Followers



Twitter Handle:
[@NJHealthMedEd](#)

Hashtag:
[#PHTwitterJC](#)



Executive Summary – Twitter Chats

Final Report



Twitter Date	Article Title	Calendar Adds	Likes	Retweets	Hashtag Usage	Impressions	Engagements
8/19/21	Inhaled Treprostinil in Pulmonary Hypertension Due to Interstitial Lung Disease	97	188	24	63	15,805	577
9/23/21	A Randomized, Double-Blind, Placebo-Controlled Study of Pulsed, Inhaled Nitric Oxide in Subjects at Risk of Pulmonary Hypertension Associated with Pulmonary Fibrosis	13	96	22	63	11,429	446
10/21/21	Association Between Initial Treatment Strategy and Long-term Survival in Pulmonary Arterial Hypertension	44	73	9	62	7,014	237
11/17/21	Comparative Efficacy and Safety of Targeted Therapies for Chronic Thromboembolic Pulmonary Hypertension: A Systematic Review and Network Meta-Analysis	11	30	1	56	7,114	126

Faculty:
Patricia
George, MD



Executive Summary – Twitter Chats

Final Report



Twitter Date	Article Title	Calendar Adds	Likes	Retweets	Hashtag Usage	Impressions	Engagements
2/17/22	Sotatercept for the Treatment of Pulmonary Arterial Hypertension	135	24	5	47	4,648	118
3/17/22	Inhaled treprostinil and forced vital capacity in patients with interstitial lung disease and associated pulmonary hypertension: a post-hoc analysis of the INCREASE study	22	36	0	46	1,870	81
TOTALS		322	447	61	337	47,880	1,585

Definitions:

Impressions - the number of impressions on a tweet sent in the selected date range. An impression is the number of times a tweet appears to users in either their timeline or search results

Engagements* - the total number of times a user interacted with the tweets sent during the selected date range

**Engagements represent Twitter chat participants.*



PH Journal Club Twitter Highlights

Final Report



August: Inhaled Treprostinil in PH Due to ILD

Patricia George, MD @PGeorgeMD · Aug 19
 So in the last 3 minutes, I'll throw out an open question: What did you find most interesting about the INCREASE trial and do you have any other thoughts or takeaways? #PHILD #PHTwitterJC

5 replies · 1 retweet · 5 likes

National Jewish Health Medical Education @NJHealthMe... · Aug 19
 Question #3 #PHTwitterJC

Do you think that inhaled therapeutics will

- Yes
- No

10 votes · Final results

1 reply · 3 likes

National Jewish Health Medical Education @NJHealthMe... · Aug 19
 Here is question 2 #PHTwitterJC



Q2: Will the findings reported in this article change your practice? If so, please write how into the comments.

- A. Yes - this article will change how I evaluate and treat patients with possible PH-ILD.
- B. No.

2 replies · 1 retweet · 3 likes

15,805 Impressions

September: Inhaled Nitric Oxide

Irina Petrache @IrinaPetracheMD · Sep 23
 Great JC by @pgeorgemd @NJHealthMedEd discussing inhaled therapies in #pulmonaryhypertension #phild #phtwitterjc @TimLahm

Patricia George, MD @PGeorgeMD · Sep 23
 My takeaways: Overall, both this study and the current clinical trial as well as the INCREASE study we discussed last month are quite exciting. After decades without effective therapies for #PHILD, we are finally making progress. #pulmonaryhypertension #PHTwitterJC



1 reply · 1 retweet · 2 likes

Roger Alvarez @RogerAlvarezDO · Sep 23
 Replying to @tpeck_86 and @PGeorgeMD
 Tyler and Patty you're absolutely right to choosing actigraphy it was important that the several other disease states, most commonly

1 reply · 1 retweet · 2 likes

Patricia George, MD @PGeorgeMD · Sep 23
 What a great evening! Thank you for participating (either this evening or later) and don't forget to get your #CME (it does not get easier than this)! See you all in the #medtwitter streams. #PHTwitterJC

96 Likes on Tweets

October: Initial Treatment & Long-Term Survival

Patricia George, MD @PGeorgeMD · Oct 21
 RESULTS: 1,611 pts were included in the final analysis:
 - The majority (61%) were on monotherapy. Most common monotherapy was oral ERA or PDE5-i
 - Most common dual-therapy ERA + PDE5-i
 - All triple combination patients were on a parenteral prostacyclin #PHTwitterJC

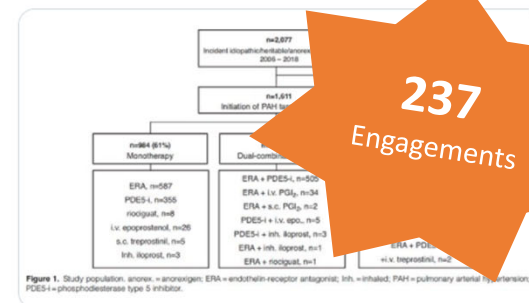


Figure 1. Study population. acroex = acroangio; ERA = endothelin-receptor antagonist; inh = inhaled; PAH = pulmonary arterial hypertension; PDE5-i = phosphodiesterase type 5 inhibitor.

1 reply · 1 retweet · 1 like

Patricia George, MD @PGeorgeMD · Oct 21
 Date of RHC was used as initial date to assess survival in an intention-to-treat approach
 - Overall and transplant-free survival were represented using Kaplan-Meier method
 - 3 addl survival analyses were done using propensity score matching for age, sex, and PVR #PHTwitterJC

1 reply · 1 retweet · 1 like

Patricia George, MD @PGeorgeMD · Oct 21
 Initial RISK STATUS was assessed by counting # of low-risk criteria (NYHA FC II-III, 6MWD > 440 m, RAP < 8, CI > 2.5) at initial Dx according to the abbreviated ESC/ERS PH criteria. #PHTwitterJC

1 reply · 1 retweet · 1 like

237 Engagements



PH Journal Club Twitter Highlights

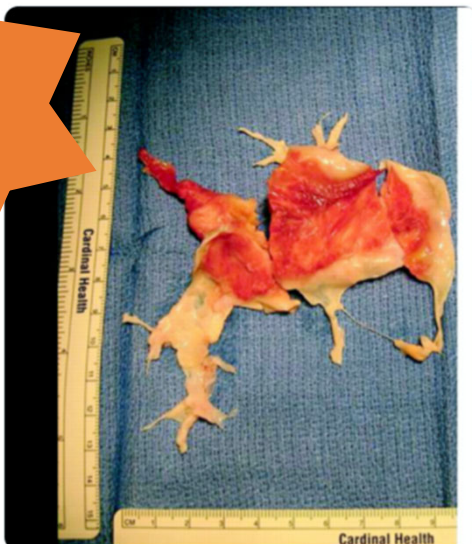
Final Report



November: Chronic Thromboembolic Pulmonary Hypertension

Patricia George, MD @PGeorgeMD · Nov 17 ...
 This is the only form of [#pulmonaryhypertension](#) potentially curable - by surgical intervention [#CTEPH](#) [#PHTwitterJC](#)

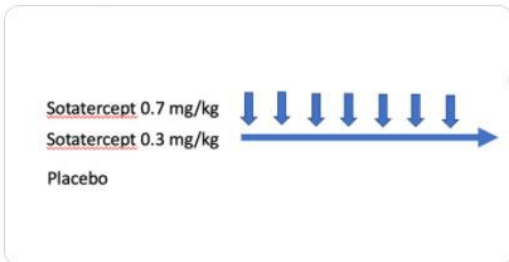
Patricia George, MD @PGeorgeMD · Nov 17 ...
 Background: Chronic thromboembolic pulmonary hypertension (CTEPH), classified as group 4 PH, results from the obstruction of pulmonary artery by thromboembolic material and subsequent small vessel remodeling. [#PHTwitterJC](#) [#CTEPH](#)
 Photo from McNeil and Dunning, Heart 2007



7,114 Impressions

February: Sotatercept for Treatment of PAH

Patricia George, MD @PGeorgeMD · Feb 17 ...
 Trial Design:
 Primary endpoint = change in PVR at wk 24
 Main 2ary endpoint = change in 6MWD at wk 24
 Other endpoints - changes in NT-proBNP, TAPSE, WHO FC, CAMPHOR and SF-36 health survey scores
[#pulmonaryhypertension](#) [#PHTwitterJC](#)



Patricia George, MD @PGeorgeMD · Feb 17 ...
 Trial Design: Safety monitored every 3 weeks and dose was modified for the occurrence of previously known hematologic side effects (leukopenia, neutropenia and thrombocytopenia and increase in hemoglobin)
[#pulmonaryhypertension](#) [#PHTwitterJC](#)

135 Calendar Ads

March: Inhaled Treprostinil and Forced Vital Capacity

National Jewish Health Medical Educat... @NJHealthMed... · Mar 17 ...
 Difference was more pronounced in patients with IPF. Significant difference in FVC in 8 weeks (+ 84.5 mL, p = 0.11), and 16 weeks (+168.5 mL, p = 0.011). Significant difference in % FVC in 8 weeks (+2.6%, p = 0.038), and 16 weeks (+3.5%, p = 0.015), respectively. [#PHTwitterJC](#)

National Jewish Health Medical Educat... @NJHealthMed... · Mar 17 ...
 53% of patients with IPF were on anti-fibrotic therapy. [#PHTwitterJC](#)

National Jewish Health Medical Educat... @NJHealthMed... · Mar 17 ...
 In subgroup analysis, patients with idiopathic interstitial pneumonia (IPF) showed a significant FVC difference at week 8 (+168.5 mL, p = 0.011) but not at week 16. Change in %FVC was +2.0% (p = 0.038) at week 8 and +2.9% (p=0.0096) favoring inhaled treprostinil. [#PHTwitterJC](#)

National Jewish Health Medical Educat... @NJHealthMed... · Mar 17 ...
 This corresponded to a statistically significant percent predicted difference in FVC of 1.8% (p=0.014) at 8 weeks and 1.8% (p=0.028) at 16 weeks. [#PHTwitterJC](#)

National Jewish Health Medical Educat... @NJHealthMed... · Mar 17 ...
 Results:
 326 patients were enrolled in the INCREASE study
 •146 (45%) had idiopathic interstitial pneumonia, of which 92 had IPF
 •82 (25%) had CPFE
 •72 (22%) had CTD-ILD
 •19 (6%) had chronic HP
 •2% had occupational lung disease
[#PHTwitterJC](#)

81 Engagements

Accreditation

National Jewish Health is accredited with Commendation by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The NJH Office of Professional Education produced and accredited this program and adhered to the updated ACCME guidelines.

Live Webinars

National Jewish Health designates each live activity for a maximum of 0.5 *AMA PRA Category 1 Credit*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Live Twitter Chats

National Jewish Health designates each Other activity (social media discussion) for a maximum of 0.5 *AMA PRA Category 1 Credit*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

