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): June 10, 2024

Longboard Pharmaceuticals, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	**1-40192**	**84-5009619**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**
4275 Executive Square, Suite 950 La Jolla, CA		**92037**
(Address of Principal Executive Offices)		**(Zip Code)**

Registrant's Telephone Number, Including Area Code: (858) 789-9283

N/A
(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:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.0001 per share	LBPH	The Nasdaq Global Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

In this report, "we" and "our" refer to Longboard Pharmaceuticals, Inc.

Item 7.01 Regulation FD Disclosure.

On June 10, 2024, Longboard Pharmaceuticals, Inc. ("Longboard") issued a press release announcing interim data from the PACIFIC Open-Label Extension (OLE) Study. A copy of the press release is attached hereto as Exhibit 99.1.

Included as Exhibit 99.2 to this Form 8-K is a slide presentation titled PACIFIC Open-Label Extension (OLE) Interim Analysis dated June 10, 2024, that is incorporated herein by reference. We intend to utilize this presentation and its contents in various meetings with securities analysts, investors and others.

The information in this Item 7.01 of this Current Report on Form 8-K, including 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, or otherwise subject to the liabilities of that section or Sections 11 and 12(a)(2) of the Securities Act of 1933, as amended. The information contained in this Item 7.01, including Exhibits 99.1 and 99.2, shall not be incorporated by reference into any filing we make with the U.S. Securities and Exchange Commission ("SEC"), whether before or after the date hereof, regardless of any general incorporation language in such filing.

Item 8.01 Other Events

On June 10, 2024, Longboard announced positive interim results from the PACIFIC OLE Study evaluating bexicaserin (LP352) for participants with Developmental and Epileptic Encephalopathies ("DEEs").

The PACIFIC OLE Study is a 52-week Phase 2, open-label, long-term safety study of bexicaserin in participants with a range of DEEs, including Dravet syndrome (n=3), Lennox-Gastaut syndrome (n=20) and DEE Other (n=18), who completed the PACIFIC Study (n=41). The study objectives are to investigate the safety and tolerability of multiple doses of bexicaserin in participants with DEEs, and to analyze the effect of bexicaserin on the frequency of observed countable motor seizures and other seizure types. The interim analysis was conducted when participants reached the approximate 6-month point in the OLE Study.

Summary of Interim Efficacy Results

The median change in countable motor seizure frequency for participants in the OLE Study over an approximate 6-month treatment period was a decrease of 56.1% (n=40) from their baseline entering the PACIFIC Study.

The median change in countable motor seizure frequency from baseline for:

- participants randomized to the bexicaserin-treated group in the PACIFIC Study was a decrease of 54.9% (n=31)
- participants randomized to the placebo group in the PACIFIC Study that transitioned to bexicaserin in the OLE was a decrease of 57.3% (n=9)

Summary of Interim Safety and Tolerability Results

Favorable safety and tolerability results were observed in this study. 100% of PACIFIC Study completers elected to enroll in the OLE with 95.1% (39 out of 41) remaining in the ongoing open-label study. One participant discontinued due to the adverse event (AE) of lethargy and one participant discontinued by withdrawal of consent. The most common treatment emergent AEs in the overall group (n=41) occurring in >5% of patients were upper respiratory tract infections, COVID-19, pneumonia, sinusitis, seizures, and decreased appetite.

Planned Activities

Planning for a global Phase 3 program for bexicaserin is ongoing, with an End of Phase 2 meeting scheduled this summer and an expectation to initiate the Phase 3 program later this year.

Forward Looking Statements

This Current Report on Form 8-K contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Any statements in this Current Report on Form 8-K that are not historical facts may be considered "forward-looking statements," including statements regarding Longboard's planned global Phase 3 program for bexicaserin and Longboard's

plans to present additional data from the PACIFIC Study at future medical meetings. Forward-looking statements are typically, but not always, identified by the use of words such as "intend", "future", "plan", "expect" and other similar terminology.

Forward-looking statements are based on current expectations of management and upon what management believes to be reasonable assumptions based on information currently available to it, and are subject to risks and uncertainties. Such risks and uncertainties may cause actual results to differ materially from the expectations set forth in the forward-looking statements. Such risks and uncertainties include, but are not limited to, the risk that topline or interim data may not accurately reflect the complete results of a particular study or trial and remain subject to audit, and that final data may differ materially from topline or interim data; PACIFIC Study participants' diagnoses are as of time of screening and are subject to change; risks related to Longboard's limited operating history, financial position and need for additional capital; Longboard's need for additional managerial and financial resources to advance all of its programs, and that you and others may not agree with the manner in which Longboard allocates its resources; risks related to the development and commercialization of Longboard's product candidates; Longboard's product candidates are in the early to middle phases of a lengthy research and development process, the timing, manner and outcome of research, development and regulatory review is uncertain, and Longboard's product candidates may not advance in research or development or be approved for marketing; enrolling participants in Longboard's ongoing and intended clinical trials is competitive and challenging; nonclinical and clinical data is voluminous and detailed, and regulatory agencies may interpret or weigh the importance of data differently and reach different conclusions than Longboard's or others, request additional information, have additional recommendations or change their guidance or requirements before or after approval; results of clinical trials and other studies are subject to different interpretations and may not be predictive of future results; macroeconomic events and their impact on Longboard's clinical trials and operations, the operations of Longboard's suppliers, partners, collaborators, and licensees, and capital markets; risks related to unexpected or unfavorable new data; risks related to relying on licenses or collaborative arrangements; other risks related to Longboard's dependence on third parties; competition; product liability or other litigation or disagreements with others; government and third-party payor actions, including relating to reimbursement and pricing; risks related to regulatory compliance; and risks related to Longboard's and third parties' intellectual property rights, as well as the risks detailed in Longboard's recent filings on Forms 10-K and 10-Q with SEC. Longboard disclaims any intent or obligation to update these forward-looking statements, other than as may be required under applicable law.

Item 9.01 Financial Statements and Exhibits. (d) Exhibits.

Exhibit No.	Description
99.1	Press release regarding PACIFIC OLE Study Interim Results dated June 10, 2024
99.2	Slide presentation titled “Bexicaserin (LP352) Open-Label Extension (OLE) Interim Analysis” dated June 10, 2024
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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 thereunto duly authorized.

Longboard Pharmaceuticals, Inc.

Date: June 10, 2024

By: */s/ Kevin R. Lind*
Kevin R. Lind
President and Chief Executive Officer

Exhibit 99.1

Longboard Pharmaceuticals Announces Positive Interim Results from the Open-Label Extension (OLE) of the Phase 1b/2a PACIFIC Study Evaluating Bexicaserin in Participants with Developmental and Epileptic Encephalopathies (DEEs)

- *Bexicaserin achieved an overall median seizure reduction of 56.1% in countable motor seizures over an approximate 6-month treatment period; participants randomized to the PACIFIC placebo group achieved a median seizure reduction of 57.3%*
- *Favorable safety and tolerability results observed*
- *100% of participants who completed the PACIFIC Study entered the OLE*
- *End of Phase 2 Meeting scheduled for this summer*

LA JOLLA, Calif., June 10, 2024 – Longboard Pharmaceuticals, Inc. (Nasdaq: LBPH), a clinical-stage biopharmaceutical company focused on developing novel, transformative medicines for neurological diseases, today announced positive interim results from its ongoing 52-week open-label extension of the PACIFIC Study evaluating bexicaserin (LP352) in participants ages 12-65 years old with Developmental and Epileptic Encephalopathies.

“We are thrilled to see a sustained, durable response in seizure reduction and a favorable safety and tolerability profile across a broad range of DEE patients. Additionally, we saw compelling seizure reduction in the PACIFIC placebo patients who transitioned to bexicaserin in the OLE. These data provide further support to bexicaserin’s potential to offer a highly differentiated and best-in-class profile,” stated Dr. Randall Kaye, Longboard’s Chief Medical Officer.

“Given the tremendous unmet need in patients living with DEEs, we are committed to rapidly advancing the development of bexicaserin. We expect to provide additional analyses of these participants as they progress in the OLE Study and transition to our Expanded Access Program,” Dr. Kaye continued. “With an End of Phase 2 meeting scheduled this summer, we remain on track to initiate our global Phase 3 program for bexicaserin later this year.”

PACIFIC OLE Study Interim Analysis Results:
The PACIFIC OLE Study is a 52-week Phase 2, open-label, long-term safety study of bexicaserin in participants with a range of DEEs, including Dravet syndrome (n=3), Lennox-Gastaut syndrome (n=20)

and DEE Other (n=18), who completed the PACIFIC Study (n=41). The study objectives are to investigate the safety and tolerability of multiple doses of bexicaserin in participants with DEEs, and to analyze the effect of bexicaserin on the frequency of observed countable motor seizures and other seizure types. The interim analysis was conducted when participants reached the approximate 6-month point in the OLE Study.

Summary of Efficacy Results:
The median change in countable motor seizure frequency for participants in the OLE Study over an approximate 6-month treatment period was a decrease of 56.1% (n=40) from their baseline entering the PACIFIC Study.

The median change in countable motor seizure frequency from baseline for:

- participants randomized to the bexicaserin-treated group in the PACIFIC Study was a decrease of 54.9% (n=31)
- participants randomized to the placebo group in the PACIFIC Study that transitioned to bexicaserin in the OLE was a decrease of 57.3% (n=9)

Summary of Safety and Tolerability Results:
Favorable safety and tolerability results were observed in this study. 100% of PACIFIC Study completers elected to enroll in the OLE with 95.1% (39 out of 41) remaining in the ongoing open-label study. One participant discontinued due to the adverse event (AE) of lethargy and one participant discontinued by withdrawal of consent. The most common treatment emergent AEs in the overall group (n=41) occurring in >5% of patients were upper respiratory tract infections, COVID-19, pneumonia, sinusitis, seizures, and decreased appetite.

ABOUT THE PACIFIC STUDY AND THE OLE STUDY

The PACIFIC Study is a Phase 1b/2a double-blind, placebo-controlled clinical trial to assess the safety, tolerability, efficacy and pharmacokinetics of bexicaserin (LP352) in 52 participants between the ages of 12 and 65 years old with DEEs at 34 sites across the United States and Australia. Following a 5-week screening period and baseline evaluations, study participants initiated a dose titration over a 15-day period and subsequently continued on the highest tolerated dose throughout the maintenance period of 60 days. Following the maintenance period, participants were then titrated down, and eligible participants were given the opportunity to enroll in a 52-week open-label extension study.

ABOUT LONGBOARD PHARMACEUTICALS

Longboard Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company focused on developing novel, transformative medicines for neurological diseases. Longboard is working to advance a portfolio of centrally acting product candidates designed to be highly selective for specific G protein-coupled receptors (GPCRs). Longboard's small molecule product candidates are based on more than 20 years of GPCR research. Longboard plans to advance bexicaserin (LP352), an oral, centrally acting 5-hydroxytryptamine 2C (5-HT2C) receptor superagonist, with no observed impact on 5-HT2B and 5-HT2A receptor subtypes, into a global Phase 3 program. Longboard recently reported positive topline data from a Phase 1b/2a clinical trial (the PACIFIC Study) evaluating bexicaserin in participants ages 12 to 65 years old with Developmental and Epileptic Encephalopathies (DEEs), including

Lennox-Gastaut syndrome, Dravet syndrome and other DEEs. Longboard is also evaluating LP659, an oral, centrally acting, sphingosine-1-phosphate (S1P) receptor subtypes 1 and 5 modulator, which is in development for the potential treatment of rare neuroinflammatory conditions. Longboard is conducting a Phase 1 single-ascending dose (SAD) clinical trial for LP659 in healthy volunteers, with topline data expected in the second quarter of 2024.

FORWARD-LOOKING STATEMENTS

Certain statements in this press release are forward-looking statements that involve a number of risks and uncertainties. In some cases, you can identify forward-looking statements by words such as “focus”, “potential”, “expect”, “committed to”, “scheduled”, “remain on track”, “working to”, “designed to”, “plans”, “will”, or the negative, plural or other tenses of these words, references to future dates or time periods, or other comparable language, and they may include, without limitation, statements about the following: Longboard’s clinical and preclinical product candidates and programs, including their potential (including for bexicaserin to be differentiated and to have a best-in-class profile), advancement, timing of initiating clinical trials (including a global Phase 3 program for bexicaserin), timing of topline data from clinical trials (including the Phase 1 SAD data for LP659), , the end of Phase 2 meeting, the ability of patients to progress in the OLE Study and transition to an expanded access program, and their design and characteristics; Longboard’s ability to develop product candidates and deliver medicines; and Longboard’s focus and work. For such statements, Longboard claims the protection of the Private Securities Litigation Reform Act of 1995. Actual events or results may differ materially from Longboard’s expectations. Factors that could cause actual results to differ materially from those stated or implied by Longboard’s forward-looking statements include, but are not limited to, the following: risk that topline or interim data may not accurately reflect the complete results of a particular study or trial, and that final data may differ materially from topline or interim data; PACIFIC Study participants' diagnoses are as of time of screening and are subject to change; risks related to Longboard’s limited operating history, financial position and need for additional capital; Longboard’s need for additional managerial and financial resources to advance all of its programs, and you and others may not agree with the manner Longboard allocates its resources; risks related to the development and commercialization of Longboard’s product candidates; Longboard’s product candidates are in the early to middle phases of a lengthy research and development process, the timing, manner and outcome of research, development and regulatory review is uncertain, and Longboard’s product candidates may not advance in research or development or be approved for marketing; results of clinical trials and other studies are subject to different interpretations and may not be predictive of future results; enrolling participants in Longboard’s ongoing and intended clinical trials is competitive and challenging; risks related to unexpected or unfavorable new data; nonclinical and clinical data is voluminous and detailed, and regulatory agencies may interpret or weigh the importance of data differently and reach different conclusions than Longboard or others, request additional information, have additional recommendations or change their guidance or requirements before or after approval; macroeconomic events and their impact on Longboard's clinical trials and operations, the operations of Longboard's suppliers, partners, collaborators, and licensees, and capital markets; risks related to relying on licenses or collaborative arrangements; other risks related to Longboard’s dependence on third parties; competition; product liability or other litigation or disagreements with others; government and third-party payor actions, including relating to reimbursement and pricing; risks related to regulatory compliance; and risks related to Longboard’s and third parties’ intellectual property rights. Additional factors that could cause actual results to differ

materially from those stated or implied by Longboard's forward-looking statements are disclosed in Longboard's filings with the Securities and Exchange Commission (SEC). These forward-looking statements represent Longboard's judgment as of the time of this release. Longboard disclaims any intent or obligation to update these forward-looking statements, other than as may be required under applicable law.

CORPORATE CONTACT:

Megan E. Knight
VP, Head of Investor Relations
IR@longboardpharma.com
858.789.9283

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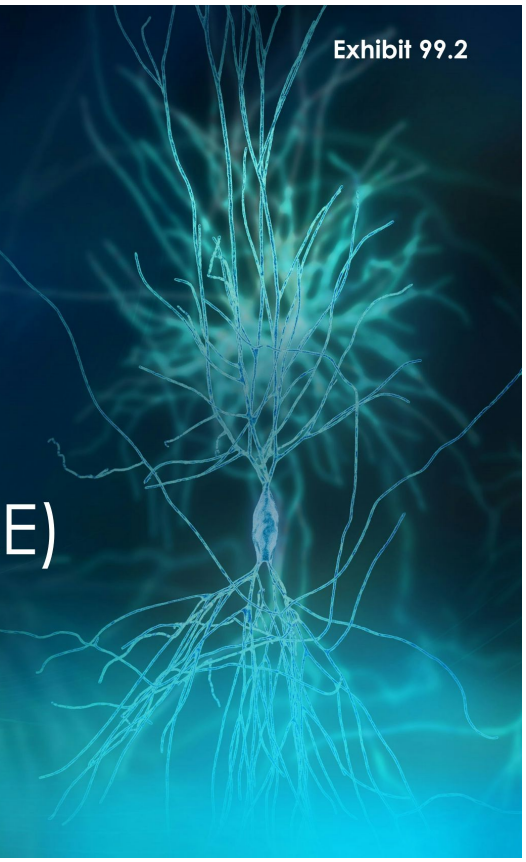
Exhibit 99.2

LONGBOARD PHARMACEUTICALS



Bexicaserin (LP352) Open-Label Extension (OLE) Interim Analysis

JUNE 10, 2024

Forward-Looking Statements

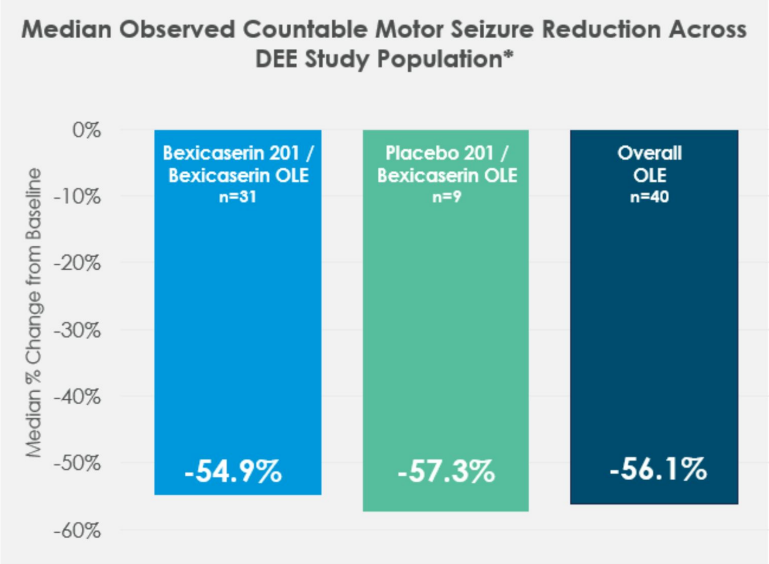
This presentation (including verbal statements that may accompany it) contains forward-looking statements about Longboard Pharmaceuticals, Inc. ("we," "Longboard" or the "Company"), including statements regarding: bexicaserin's (LP352) planned global Phase 3 program, data and potential; and other statements that are not historical facts, including statements that may include words such as "on track", "will", "may", "can", "would", "intend", "plan", "expect", "believe", "potential", "opportunity" and similar words. For such statements, we claim the protection of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including, but not limited to: topline or interim data may not reflect the complete or final results of a particular study or trial, and are subject to change; nonclinical and clinical data are voluminous and detailed, and regulatory agencies may interpret or weigh the importance of data differently and reach different conclusions than Longboard or others, request additional information, have additional recommendations or change their guidance or requirements before or after approval; our limited operating history; our history of incurring net losses and expectation that we will continue to incur net losses for the foreseeable future, and that we may never be profitable; our need for additional funding and related risks for our business, product development programs and future commercialization activities; the timing and success of clinical trials and preclinical studies we conduct; the ability to obtain and maintain regulatory approval to conduct our clinical trials (in the manner we propose or at all) and, ultimately, to market our product candidates; the ability to commercialize our product candidates; our ability to compete in the marketplace; risks regarding our license and dependencies on others; our ability to obtain and maintain intellectual property protection and freedom to operate for our product candidates; our ability to manage our growth; and other risks and factors disclosed in our filings with the U.S. Securities and Exchange Commission, including our most recently filed Annual Report on Form 10-K, subsequently filed Quarterly Reports on Form 10-Q, and in our other filings. We operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. The forward-looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Except as required by law, we assume no responsibility for the accuracy and completeness of the forward-looking statements, and we undertake no obligation to update any forward-looking statements after the date of this presentation to conform these statements to actual results or to changes in our expectations.

Certain information contained in this presentation and statements made orally during this presentation relate to or are based on studies, research, publications, surveys and other data obtained from third-party sources and Longboard's own internal estimates and research. While Longboard believes these third-party studies, research, publications, surveys and other data to be reliable as of the date of this presentation, they have not been independently verified, and Longboard makes no representations as to the adequacy, fairness, accuracy or completeness of any information obtained from third-party sources.

This presentation discusses product candidates that have not yet been approved for marketing by the U.S. Food and Drug Administration (the "FDA").

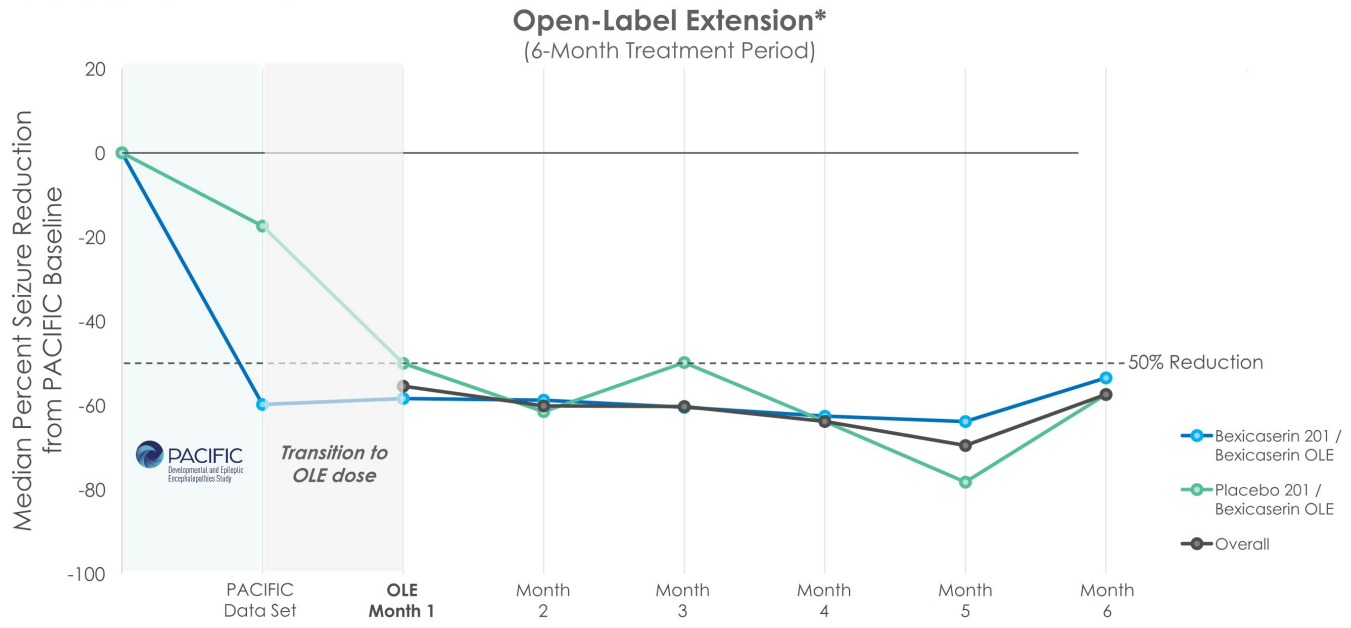
Summary: Interim Analysis from Bexicaserin (LP352) OLE Study

- **100% of PACIFIC completers continued into OLE** (95.1% in OLE at 6-months)
  - PACIFIC completers n=41 (DS=3, LGS=20, DEE Other=18)
- **Sustained response** over an approximate 6-month treatment period
- **Favorable safety and tolerability** results observed
- **PACIFIC (201 Study) Placebo participants:**
  - **All successfully titrated up** and entered maintenance phase of the OLE
  - **Motor seizure reduction** consistent with bexicaserin efficacy observed in PACIFIC
- **Global Phase 3 Program on track** to initiate later this year



Definitions: OLE=Open-label extension; DS=Dravet syndrome; LGS=Lennox-Gastaut syndrome; DEE=Developmental and Epileptic Encephalopathy
*Percent change from PACIFIC Study baseline in frequency over treatment period of approximately 6 months in the OLE Study (LP352-202)

Bexicaserin (LP352) Median Observed Countable Motor Seizure Reduction in OLE



*Percent change from PACIFIC Study (LP352-201) baseline in monthly seizure frequency

Summary: Bexicaserin (LP352) Safety and Tolerability in the OLE Interim Analysis

Parameter	Overall (N = 41) n (%)
Safety Set	41 (100)
Full Analysis Set	40 (97.6)

- SAEs in the overall group were comprised of pneumonia, pneumonia bacterial, change in seizure presentation, seizure, and agitation
- One participant discontinued from the study due to the adverse event of lethargy (2.4%) during the titration period
- One participant discontinued from the study by the withdrawal of consent (2.4%) during the first month of maintenance
- **Favorable safety and tolerability results observed**

Preferred Term*	Overall (N = 41) n (%)
Upper respiratory tract infections	5 (12.2)
COVID-19	3 (7.3)
Pneumonia	3 (7.3)
Sinusitis	3 (7.3)
Seizure	3 (7.3)
Decreased appetite	3 (7.3)

AE=adverse event; n=number of participants; SAE=serious AE; TEAE, treatment-emergent AE
Safety Set includes all participants who were administered at least one dose of study medication (up to 12 months). Full Analysis Set includes all participants who complete titration and have at least 1 post-baseline seizure measurement during maintenance (up to 6 months) *Over 5% of participants