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): **March 12, 2020**

TREVENA, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation)

001-36193		**26-1469215**
(Commission File No.)		(IRS Employer Identification No.)

955 Chesterbrook Boulevard, Suite 110
Chesterbrook, PA 19087
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: **(610) 354-8840**

Not applicable
(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, $0.001 par value	TRVN	The Nasdaq Stock Market LLC

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. ☐

Item 2.02 Results of Operations and Financial Condition.

On March 12, 2020, Trevena, Inc. (the "Company") issued a press release announcing its financial results for the quarter and full year ended December 31, 2019. A copy of the press release is furnished hereto as Exhibit 99.1 and incorporated herein by reference. Also, on March 12, 2020, the Company held a conference call to discuss its financial results for the quarter and full year ended December 31, 2019. A copy of the transcript of the conference call is furnished hereto as Exhibit 99.2 and incorporated herein by reference.

The information under this caption and contained in the press release and the transcript attached hereto as Exhibit 99.1 and Exhibit 99.2, respectively, is furnished by the Company in accordance with Securities Exchange Commission Release No. 33-8216. This information 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 whether made before or after the date of this Current Report, except as shall be 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 March 12, 2020
99.2	Transcript of Conference Call held on March 12, 2020

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.

TREVENA, INC.

Date: March 12, 2020

By: /s/ Barry Shin
Barry Shin
Chief Financial Officer

Trevena Reports Fourth Quarter and Full Year 2019 Results

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PDUFA date of August 7, 2020 for IV oliceridine; FDA considers NDA resubmission complete

Initiated proof-of-concept studies for acute migraine (TRV250) and opioid use disorder (TRV734)

Announces NIH collaboration to evaluate TRV045 for epilepsy

Updated guidance on extended cash runway, funding operations into Q1 2021

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Company to host conference call today, March 12, 2020, at 8:00 a.m. ET

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CHESTERBROOK, Pa., [Mar. 12], 2020 (GLOBE NEWSWIRE) --**Trevena, Inc. (Nasdaq: TRVN)**, a biopharmaceutical company focused on the development and commercialization of novel medicines for patients with central nervous system (CNS) disorders, today reported its financial results for the fourth quarter and full year ended December 31, 2019, and provided an overview of its 2019 and 2020 year-to-date operational highlights.

"In 2019, we delivered on our plan to establish Trevena as a leading innovator in the treatment of CNS disorders. We completed a significant amount of work to thoroughly address the FDA complete response letter for oliceridine, which positioned us to successfully resubmit the NDA earlier this year. Additionally, we advanced our pipeline, initiating two proof-of-concept studies for acute migraine and opioid use disorder, as well as a collaboration with NIH to evaluate TRV045 for epilepsy," said Carrie Bourdow, President and Chief Executive Officer of Trevena. "We enter 2020 with the same focus and commitment, preparing for the expected approval of oliceridine in the second half of the year, as well as advancing our pipeline assets."

2019 and 2020 YTD Corporate Highlights:

IV Oliceridine Milestones

- **Resubmitted NDA and received PDUFA goal date of August 7, 2020.** In February 2020, the Company resubmitted the NDA for oliceridine to the FDA, after successfully completing all activities requested in the complete response letter, including a multi-dose healthy volunteer QT study, nonclinical work to confirm levels of an inactive metabolite, and drug product validation reports.

  In March 2020, the Company announced that FDA had acknowledged receipt of the resubmitted NDA. In their acknowledgement letter, FDA stated that the Company's resubmission was a complete, Class 2 response to the Agency's action letter. A PDUFA goal date has been set for August 7, 2020.

- **Continued to expand body of published peer-reviewed literature.** In 2019, the Company announced the publication of data from both pivotal Phase 3 trials and the Phase 3 "real world" open-label safety study. These data will serve as a critical element of the oliceridine launch.

CNS Pipeline Milestones

- **Initiated TRV250 acute migraine PoC study.** In November 2019, the Company initiated a proof-of-concept (PoC) study evaluating TRV250 for the treatment of acute migraine and associated anxiety. This randomized, double-blind, single-dose, placebo-controlled study will enroll approximately 120 migraine patients in a validated nitroglycerin (NTG) human migraine provocation model.

  The primary endpoint of the study is reduction of sustained NTG-induced headaches; secondary outcomes include overall safety measures and reduction of symptomatic anxiety. The Company continues to expect reporting topline data in 2H 2020.

- **Initiated TRV734 opioid use disorder PoC study sponsored and funded by NIDA.**In December 2019, the Company announced the initiation of a PoC study evaluating TRV734 as a potential maintenance therapy for opioid use disorder. This randomized, double-blind, four-period, placebo- and positive-controlled study will enroll approximately 50 opioid-dependent patients.

  The primary endpoint of the study is reduction of acute opioid craving symptoms. The study will also evaluate suppression of withdrawal signs, neurocognitive changes, and overall safety.

- **Announced collaboration with NIH to evaluate TRV045 for epilepsy.** In March 2019, the Company announced its identification of TRV045 as the lead candidate for its novel S1P receptor modulator program. TRV045 has a unique mechanism of action that holds potential as a treatment for a variety of CNS disorders.

  The Company today announced it entered into a collaboration with the U.S. National Institutes of Health (NIH) to evaluate the potential of TRV045 as a treatment for epilepsy. NIH is assessing TRV045 within its Epilepsy Therapy Screening Program.

Financial and Corporate Milestones

- **Updated guidance on cash runway, into Q1 2021.** The Company today announced $35.8 million in cash, cash equivalents, and marketable securities as of December 31, 2019, which it believes to be sufficient to fund the Company's operating expenses and capital expenditure requirements into Q1 2021.

- **Strengthened leadership team.** In February 2020, the Company announced the appointment of Scott Applebaum as Chief Legal and Compliance Officer and Senior Vice President of Regulatory Affairs. Mr. Applebaum brings over 20 years of experience in a variety of senior leadership roles at both large and small companies at various stages of development and commercialization in the biopharmaceuticals sector.

  In July 2019, the Company announced the appointment of Barry Shin as Senior Vice President and Chief Financial Officer. Mr. Shin brings over 17 years of investment banking and corporate advisory experience, focused on the biopharmaceutical sector.

Financial Results for Fourth Quarter and Full Year 2019

For the fourth quarter of 2019, the Company reported a net loss attributable to common stockholders of $6.4 million, or $0.07 per share, compared to $8.0 million, or $0.10 per share, for the fourth quarter of 2018. For the full year ended December 31, 2019, net loss attributable to common stockholders was $24.9 million, or $0.27 per share, compared to $30.8 million, or $0.42 per share, for the year ended December 31, 2018. This decrease is primarily due to a reduction in headcount associated with the 2018 restructuring and reduction in force, as well as a decrease in research and development expenses from the completion of the Phase 1 clinical trial for TRV250.

Cash, cash equivalents, and marketable securities were $35.8 million at December 31, 2019. The Company believes that its cash and cash equivalents and marketable securities as of December 31, 2019, together with interest thereon, to be sufficient to fund the Company's operating expenses and capital expenditure requirements into the first quarter of 2021.

Conference Call and Webcast Information

The Company will host a conference call and webcast with the investment community on March 12, 2020, at 8:00 a.m. Eastern Time featuring remarks by Carrie Bourdow, President and Chief Executive Officer, Mark Demitrack, SVP and Chief Medical Officer, Barry Shin, SVP and Chief Financial Officer, and Timothy Beard, M.D., Chair of the Department of Surgery at Summit Medical Group.

Title:	Trevena Fourth Quarter 2019 & Full Year 2019 Financial Results Conference Call and Webcast
Date:	Thursday, March 12, 2020
Time:	8:00 a.m. ET
Conference Call Details:	Toll-Free: 877-451-6152 International: 201-389-0879 Conference ID: 13699727
Webcast:	https://www.trevena.com/investors/events-presentations/ir-calendar http://public.viavid.com/index.php?id=138309

About Oliceridine

Oliceridine is a G protein-selective mu-opioid receptor agonist in development for the management of moderate-to-severe acute pain in hospitals or other controlled clinical settings where intravenous therapy is warranted. It is a new chemical entity with a novel mechanism of action that enables more selective targeting of newly discovered pathways with the potential for fewer side effects. Oliceridine is an investigational product and has not been approved by FDA or any other regulatory agency. If approved, the Company expects that oliceridine will be classified as a Schedule II controlled substance.

About Trevena

Trevena, Inc. is a biopharmaceutical company focused on the development and commercialization of novel medicines for patients with CNS disorders. The Company has four novel and differentiated investigational drug candidates, including IV oliceridine, for the management of moderate to severe acute pain in hospitals, TRV250 for the acute treatment of migraine, and TRV734 for maintenance treatment of opioid use disorder. The Company has also identified TRV045, a novel S1P receptor modulator that may offer a new, non-opioid approach to treating a variety of CNS disorders.

Forward-Looking Statements

Any statements in this press release about future expectations, plans and prospects for the Company, including statements about the Company's strategy, future operations, clinical development and trials of its therapeutic candidates, plans for potential future product candidates and other statements containing the words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "suggest," "target," "potential," "will," "would," "could," "should," "continue," 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 status, timing, costs, results and interpretation of the Company's clinical trials or any future trials of any of the Company's investigational drug candidates; the uncertainties inherent in conducting clinical trials; expectations for regulatory interactions, submissions and approvals, including the Company's assessment of the discussions with FDA, the timing of FDA's decision on the oliceridine NDA; available funding ; uncertainties related to the Company's intellectual property; other matters that could affect the availability or commercial potential of the Company's therapeutic candidates; and other factors discussed in the Risk Factors set forth in the Company's Annual Report on Form 10-K and Quarterly Reports on Form 10-Q filed with the Securities and Exchange Commission (SEC) and in other filings the Company makes with the SEC from time to time. In addition, the forward-looking statements included in this press release represent the Company's views only as of the date hereof. The Company anticipates that subsequent events and developments may cause the Company's views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, it specifically disclaims any obligation to do so, except as may be required by law.

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TREVENA, INC.
Condensed Statements of Operations
(Unaudited, in thousands except share and per share data)

	Three Months Ended December 31,		Year Ended December 31,	
	2019	2018	2019	2018
License and related revenue	$ 31	$ 232	$ 31	$ 5,732
Operating expenses:				
General and administrative	3,640	4,073	13,212	18,979
Research and development	2,861	2,747	13,291	15,824
Restructuring charges	-	1,363	-	1,427
Impairment of property and equipment	-	-	108	-
Total operating expenses	6,501	8,183	26,611	36,230
Loss from operations	(6,470)	(7,951)	(26,580)	(30,498)
Other income (expense)	25	(25)	1,709	459
Loss before income tax expense	(6,445)	(7,976)	(24,871)	(30,039)
Foreign income tax expense	-	-	-	(745)
Net loss	$ (6,445)	$ (7,976)	$ (24,871)	$ (30,784)
Per share information:				
Net loss per share of common stock, basic and diluted	($0.07)	($0.10)	($0.27)	($0.42)
Weighted average shares outstanding, basic and diluted	92,777,480	82,323,393	91,677,963	73,558,548

TREVENA, INC.
Condensed Balance Sheets
(Unaudited, in thousands)

	December 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 32,305	$ 32,892
Marketable securities	3,500	28,590
Prepaid expenses and other current assets	1,683	607
Total current assets	37,488	62,089
Restricted cash	1,309	1,303
Property and equipment, net	2,705	3,387
Right-of-use lease assets	5,472	-
Other assets	20	-
Total assets	$ 46,994	$ 66,779
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable, net	$ 1,047	$ 1,416
Accrued expenses and other current liabilities	2,403	3,295
Current portion of loans payable, net	5,037	12,562
Current portion of lease liabilities	620	10
Deferred rent	-	207
Total current liabilities	9,107	17,490
Loans payable, net	-	4,811
Leases, net of current portion	7,804	20
Deferred rent, net of current portion	-	2,931
Warrant liability	5	1
Total liabilities	16,916	25,253
Common stock	94	82
Additional paid-in capital	443,129	429,727
Accumulated deficit	(413,145)	(388,274)
Accumulated other comprehensive income (loss)	-	(9)
Total stockholders' equity	30,078	41,526
Total liabilities and stockholders' equity	$ 46,994	$ 66,779

Trevena, Inc. NasdaqCM:TRVN

Fourth Quarter and Full Year 2019 Earnings Call Transcript

Thursday, March 12, 2020 8:00 AM EST

Call Participants

EXECUTIVES

Barry Shin
Senior VP & CFO

Carrie L. Bourdow
President, CEO & Director

Mark A. Demitrack
Senior VP & Chief Medical Officer

Robert T. Yoder
Senior VP & Chief Business Officer

ANALYSTS

Douglas Dylan Tsao
H.C. Wainwright & Co, LLC, Research Division

Jason Nicholas Butler
JMP Securities LLC, Research Division

ATTENDEES

Timothy L. Beard

Presentation

Operator

Greetings, and welcome to the Trevena Fourth Quarter and Fiscal Year 2019 Earnings Call. [Operator Instructions] As a reminder, this conference is being recorded. It is now my pleasure to introduce your host, Bob Yoder, Chief Business Officer. Please go ahead.

Robert T. Yoder
Senior VP & Chief Business Officer

Thank you, and welcome, everyone. Thank you for joining us on this morning's call. With me today are Carrie Bourdow, our President and CEO; Mark Demitrack, our Chief Medical Officer; Barry Shin, our Chief Financial Officer; and Timothy Beard Chair of the Department of Surgery at Summit Medical Group in Bend, Oregon.

Before we begin, we wish to inform participants that we will be making forward-looking statements on this call, which are made pursuant to the safe harbor provision of the Private Securities Litigation Reform Act of 1995.

You are cautioned that such forward-looking statements involve risks and uncertainties, including risks detailed from time to time in the company's periodic reports filed with the Securities and Exchange Commission, and we undertake no obligation to update these statements beyond today.

During today's call, Carrie will review our 2019 and recent corporate achievements and lay out our plan for 2020. Mark will provide an overview of the data from our IV oliceridine program that was recently resubmitted to FDA. Dr. Beard has also joined us this morning to provide his perspective on the current role of IV opioid analgesics in his clinical practice. Barry will then review our financial results followed by some time for questions. I'll now turn the call over to Carrie.

Carrie L. Bourdow
President, CEO & Director

Thanks, Bob. Good morning, everyone. Thank you for joining us this morning. At the start of 2019, you'll remember that I laid out a plan to resubmit oliceridine for approval and to advance the pipeline. What you're going to hear this morning on this call is that we've delivered on the plan. And you'll hear that with successful resubmission of oliceridine, we'll now turn our attention to preparing for expected approval in August of this year.

And on the pipeline front, what you'll hear is that we've hit key development milestones. We now have 2 proof-of-concept studies underway, one for acute migraine and another for opioid use disorder. And we're studying TRV045, a novel S1P modulator in epilepsy and a variety of other CNS conditions. Importantly, we completed all of this work while we managed our expenses very carefully. And I have to say, I am extremely proud of this team and what was accomplished in 2019.

Let me give you just a few more details on the highlights, the high points from my perspective from the year. As you saw last week, FDA accepted our resubmission of the oliceridine NDA and it’s great. They told us that it was a complete response to their action letter. They set a PDUFA date of August 7, and we're looking forward to working with them as they review our application.

In the past, you've heard me talk about the market opportunity for oliceridine. It's large. Over 45 million patients each year in U.S. hospitals receive drugs like IV morphine for acute pain. And about 9 million of those patients are at greater risk of developing adverse events. Hospitals are seeing a rise in these at-risk patients and an increase in the number of severe acute pain surgeries.

And we believe this at-risk patient population alone, represents a total addressable market of $1 billion to $1.5 billion. That's impressive. But at the end of the day, it's important that we focus on why we developed a novel analgesic like oliceridine, and the reason is to improve patients' lives. Later on this call, we've invited Dr. Tim Beard to talk with you about some of his high-risk patients, and the challenges that he faces in managing post-op acute pain.

Beyond oliceridine, we made significant progress on the pipeline. Late last year, we initiated an acute migraine proof-of-concept study for TRV250. Migraines are also another large market, approximately 650 million migraines are treated annually in the U.S., and there's still a need for novel treatment options.

TRV250 is a novel new mechanism and this one at the delta receptor. And the delta receptor is located in the brain -- throughout the brain, and the delta receptors regulate mood, anxiety and pain, including migraine pain. We're evaluating the ability of TRV250 to reduce the occurrence of headaches and also to reduce -- potentially reduce symptomatic anxiety. About half of all migraine patients experience anxiety. There are no approved treatment options that can treat both migraine and anxiety. So obviously, this would be a large market opportunity for us, for TRV250. It's a really exciting asset, and we're expecting top line results on this study in the second half of this year.

Another proof-of-concept study we started late last year was in collaboration with the National Institute on Drug Abuse, or a group called NIDA. And this study is for TRV734 for opioid use disorder. NIDA is looking at the potential of 734 as a safer and better tolerated treatment option for patients suffering from addictions. We're really pleased to be working with NIDA to help fight the opioid crisis, and I'll keep you updated as the study progresses.

And then lastly, as you saw this morning, we announced that we've initiated another collaboration with the NIH to investigate the potential of TRV045 as a treatment for epilepsy.

045, another new mechanism, represents a novel approach to treating neurological disorders. And it's a next-generation S1P receptor modulator that activates the receptor target without any of the immunosuppression that you get with other S1P modulators. NIH has already initiated the first round of assays for epilepsy, and we believe this asset holds promise, not only for epilepsy, but for a variety of CNS indications.

With all of our assets, including oliceridine, we're actively investigating collaborations and strategic partnerships. Remember, we already have 2 ex-U.S. partnerships for oliceridine and these collaborations are going really well. We're expecting to receive a $3 million milestone payment upon FDA approval of oliceridine.

As we continue to make progress on oliceridine and the pipeline, we're going to continue to look for ways to advance all of our assets and to maximize shareholder value. With that, let me now turn the call over to Mark.

Mark A. Demitrack
Senior VP & Chief Medical Officer

Thank you, Carrie. I'm also very pleased that we've successfully resubmitted our NDA for IV oliceridine. This milestone represents more than a year of work by members of our clinical, non-clinical, manufacturing and regulatory teams, and I'm extremely grateful for the opportunity to work with such a dedicated group of individuals.

I believe the outcome of that work is compelling, and further strengthens our evidence in support of oliceridine as a potential new treatment option for patients with moderate to severe acute pain. The promise of oliceridine as a distinctive addition to a clinician's armamentarium of IV analgesics is built on its novel mechanism of action and unique pharmacokinetic profile.

Oliceridine is a new chemical entity, a first in this space in decades. And was designed to optimize G-protein-coupled receptor pharmacology by preferentially engaging the G protein signaling pathway responsible for analgesia, with reduced recruitment of ß-arrestin, which is largely involved in development of adverse effects. Oliceridine has a rapid onset of action, with perceptible pain relief as early as 2 to 5 minutes after the first dose, and lasting approximately 3 hours, providing a highly differentiated analgesic profile for clinicians.

Oliceridine also has no evidence of active metabolites, which can complicate dosing and result in the emergence of delayed adverse events.

Finally, our recently published studies in special populations have shown that no dosage adjustment is necessary in patients with underlying renal impairment or in the elderly. These attributes distinguish oliceridine from currently available IV analgesics, like morphine. As a reminder, we've amassed the comprehensive clinical data set for oliceridine across multiple efficacy and safety studies involving over 1,800 individuals.

On past calls, we've spoken about the respiratory safety data. But today, I'd like to highlight the GI tolerability data collected during our pivotal Phase III studies, using a complete GI response outcome measure. This is a common endpoint used in drug development for antiemetics, and defines a complete responder as a patient who reaches the end of the study period without vomiting and without receiving a rescue antiemetic. The results of this analysis for oliceridine are extremely compelling.

In the Phase III hard tissue study, patients on oliceridine were 3x more likely to complete the study without vomiting and without needing a rescue antiemetic, compared to patients on morphine. We saw a similar pattern in the Phase III soft tissue study. Importantly, these results held true when we control for differences in level of pain relief achieved. Put a different way, oliceridine doses that provided pain relief comparable to morphine had strikingly lower GI side effects.

In addition, the improvements in GI tolerability were not due to differences in pre-existing risk for nausea or vomiting among the treatment groups. We believe this data reinforces the overall GI tolerability data for oliceridine.

I'd now like to introduce Dr. Tim Beard, who's a practicing general surgeon and is the Chair of the Department of Surgery and Medical Director of Research at Summit Medical Group in Bend, Oregon. Tim also serves as an Affiliate Professor of Surgery at Oregon Health Sciences University. We'd asked Tim to join us this morning to provide his perspective on the current clinical challenges he faces in his hospital and outpatient practice, and his thoughts on the oliceridine data. Tim?

Timothy L. Beard

Thank you, Mark, for the introduction. I'm pleased to join the Trevena team this morning to provide my perspective on the current role of IV opioid analgesics in my clinical practice, and to share my thoughts on the body of data that the company has amassed on their investigational product, oliceridine.

I'm speaking on my own accord, and not in my position as a General Surgeon at the Summit Medical Group. I am a paid consultant with Trevena. I practice as a General Surgeon in a large multi-specialty group, and split my time between a community hospital and a physician-owned busy outpatient surgery center.

I perform approximately 750 cases a year, with 1/3 of those being done as in-patients. I have spent a considerable amount of time reviewing the published data for this compound, and I have assisted Trevena's R&D group in data analysis and participated as an author on some of the key publications. I believe this experience has provided me some insights into what can be expected from oliceridine's potential use in practice. While the role of IV opioids in the postoperative pain management has undergone an evolution over the years, these medications remain the pillar and standard of care for acute pain management.

In my practice, drugs such as IV morphine, Dilaudid and fentanyl remain an integral part of all postoperative pain management strategies. The main reason for this is that only these medications can provide the definitive pain relief required in certain highly painful postoperative circumstances. I can't perform surgeries in my clinical practice without them.

Poorly managed pain can have many undesirable consequences, including lack of mobility, poor appetite and disrupted sleep patterns. On the flip side, drugs like IV morphine also has side effects, including respiratory depression, ileus, nausea and vomiting. So we're left with few options but to prescribe opioids when they're required, and then to supplement their use with several additional medications in order to try to minimize or counteract these side effects.

Because of this, I frequently find it necessary to prescribe as many as 5 to 7 different additional drugs in the postoperative setting.

This unavoidable polypharmacy poses additional challenges to patients' recovery, including an increased risk of drug-drug interactions and a poor rate of adherence to these additional medications. In my opinion, Trevena's investigational product, oliceridine, offers the first truly novel advance towards a solution to this problem.

I have been impressed with the quality and amount of data Trevena has gathered and published in peer-reviewed journals. The 2 pivotal Phase III studies provide the initial clinical data in bunionectomy and abdominoplasty surgeries, and these results showed great pain relief with a potentially differentiated and improved side effect profile what we expect with conventional opioids.

The results from the Phase III or real-world open-label safety study extended these findings. A particular interest to me was the diverse patient population of this study, many of them with multiple comorbidities, including older age, obesity and diabetes. These types of high-risk patients represent ones I operate in my practice all the time.

These complicating risk factors can pose significant challenges to a patient's postoperative course. A recent patient I treated does come to mind. This is a 52-year-old woman who needed surgery for near-obstructing tumor in her distal transverse colon, and at the same time, came to surgery with a history of poorly controlled diabetes and a BMI of 53. The challenge here was not the surgical procedure itself, but the risks that emerge in our post-op recovery given her high-risk health history. For example, her surgical wound presented a huge infection risk, so any occurrence of nausea, vomiting or retching could disrupt the integrity of her wound and lead to an infection.

This is just one example of the type of patient who I could potentially benefit from the profile that oliceridine appears to offer.

In his remarks, Mark noted the complete GI responder analysis from the clinical trials. Overall, these data suggest that when the magnitude of analgesic benefit is so constant across treatment groups, patients treated with oliceridine are more likely to achieve a complete GI response compared to patients treated with morphine. This is an important endpoint, and I feel relevant to me when considering the management of patient I just discussed.

Decreasing the risk of vomiting by two or threefold, might make the difference for this patient of having a relatively straightforward postoperative course versus the risk that I would see -- I would be seeing her back in the operating room to repair wound dehiscence. I also see the potential advantage that oliceridine could provide in the outpatient setting. My ambulatory surgery center performs about 1,300 cases per month. One of our limiting factors in this setting is the availability of recovery room beds. If patients are delayed in the recovery, it prevents us from starting more cases, by far the most common reason for prolonged recovery time, or pain, nausea and vomiting.

As a result, the recovery room nurses are hesitant to give too much opioid medications as that makes patients sleepy, and they do not breathe as well. On the other hand, if they give too little, patients will have too much pain, which, itself, may contribute to increased rates of nausea and vomiting.

Oliceridine's pharmacokinetic profile offers several attributes that could provide advantages in this setting of care. For example, its rapid onset of analgesic effect makes it very easy for physicians to use. There also appears to be no need to adjust the dose for renal insufficiency, which, again, makes it easy on physicians. This is especially important in my practice, as all the nephrologists in our town are in our group. Thus, I see a lot of renally patients.

Oliceridine also appears to have no active metabolites, which makes pain management in a short-term setting, like an ambulatory surgery center, more straightforward. All of these factors could contribute to a decreased length of stay in our recovery room and increase patient satisfaction.

To sum up, I'm excited by the oliceridine data that I have seen, and I believe that oliceridine has the potential to help address some of the post operative challenges that physicians and their patients still face. Thank you, again, for the invitation to speak. And now let me pass the call back to Mark.

Mark A. Demitrack
Senior VP & Chief Medical Officer

Thanks, Tim, for your remarks. We greatly appreciate hearing your perspective on the challenges you face in your practice, and what improvements you really hope to see in the current treatment landscape that would benefit both you and your patients.

Tim will be available to answer questions during the Q&A later on this call. I'd now like to turn the call over to Barry for a review of our full year financials.

Barry Shin
Senior VP & CFO

Thanks, Mark. We issued a press release and we filed our Form 10-K with our full financial results. For now, I'll summarize the headline numbers.

For the fourth quarter of 2019, we had a net loss of $6.4 million or $0.07 per share compared to $8.0 million or $0.10 per share for the fourth quarter of 2018. For the full year 2019, we had a net loss of $24.9 million or $0.27 per share compared to $30.8 million or $0.42 per share for 2018.

This decrease in net loss is mainly due to a headcount reduction in 2018, and a decrease in R&D expenses related to TRV250. At year-end 2019, we had cash, cash equivalents and marketable securities of $35.8 million. With additional clarity following completion of our healthy volunteer study, I'm very happy to update our guidance and report that we expect this amount will fund our operations and capital expenditures into the first quarter of 2021.

This includes pre-commercial preparation and post-approval activities to ensure oliceridine will be available for distribution, either by us or with a commercial partner in the fourth quarter of 2020. It also includes completion of the proof-of-concept study for TRV250 in acute migraine and IND-enabling work for TRV045.

We'll now open the call for questions, after which Carrie will provide some closing remarks. Operator?

Question and Answer

Operator

[Operator Instructions] The first question is from Jason Butler of JMP Securities.

Jason Nicholas Butler
JMP Securities LLC, Research Division

I had 2 for Dr. Beard. First of all, you talked about the types of patients that you might use the drug in. Can you talk about how you think about the procedures that you're doing and which procedures maybe warrant using the drug more than others? And then can you just give us any thoughts you have on cost considerations of using a new drug like oliceridine? And how those cost considerations compare and contrast in different institutions. For example, the community hospital you work in versus the outpatient clinic?

Carrie L. Bourdow
President, CEO & Director

Great. Thanks, Jason. I actually think those are 3 questions, but okay, well, that will be all right. So Tim, I don't know if you can hear. The first question is around the types of procedures in addition to the patients that you mentioned, and then secondly, talking a little bit more about cost, contrasting between the hospital and your ambulatory surgery center business.

Timothy L. Beard

Sure. Well, the procedures, I kind of split them up in 2 different and then same with the cost. So if you look at our in-patient, the procedures, I think, that were illustrated and will be best are procedures that cause more pain. So any sort of laparotomy where you're making big incisions, any sort of thoracotomy where you're going into the chest with, again, big incisions, we're trying our best to manage those with multimodal analgesia, but opioids play a key role.

So I would say any, again, procedure that causes a lot of pain, so maybe not as much minimally invasive, although, I still see a role in minimally invasive surgery, which is laparoscopic robotically, I guess, that would be for the in-patient.

And outpatient, what I'm excited for is the fact that this drug with -- what appears to be lower side effects, that we'd be able to get people pain free and out of the recovery room faster. So any patient I do in an outpatient surgery center, I think there would be a role for this drug. Because, again, we are limited in space by recovery room. And if we get backed up in the recovery room, everything kind of slows down. So I do the majority of my patient cases in an outpatient surgery center, to be honest with you. And that's just -- that's the trend nationally as more and more stuff is being done as outpatients, and a big part of that is controlling costs.

So all -- I would say, almost all patients we do as outpatients would be good candidates for this drug.

Now costs are interesting. In the hospital, it would get absorbed in what's called the DRG, and the hospital looks at costs somewhat, but not super strict because it seems to me that like, in our hospital, the DRG payments are fairly large and they don't micromanage us very much on -- if we're using a drug that is a little bit more expensive than others. Sometimes a little bit, we'll get pushback, that's mostly on antibiotics, and that's mostly sort of not changing the floor of antibiotics in our area.

The -- in the outpatient surgery center, the margins on the cases are much smaller, and so costs are looked at more. So it'd be -- I don't have any idea of what this drug is going to come out as cost-wise, but that would be looked at a little more as far as do we see a benefit from that.

But again, I think most of us, at the surgery center, look at the bigger picture. So if the drug does cost a little more but people are happier, getting out of the surgery center faster, and we're more efficient, then the overall efficiency, I think, would far outweigh the cost of the drug. An example of that is when IV Tylenol came out, that's a lot more expensive than oral Tylenol, but yet we use it quite a bit because we see a benefit with that drug, even though the cost is more. So I hope that answers your question.

Operator

The next question is from Douglas Tsao of H.C. Wainwright.

Douglas Dylan Tsao
H.C. Wainwright & Co, LLC, Research Division

I guess, my first question is for Dr. Beard, in terms of you think about your overall patient population, both in-patient and outpatient, or if you could address them separately. What percentage of them do you think fall into this high-risk category and would be candidates for use once it is eventually hopefully approved?

Carrie L. Bourdow
President, CEO & Director

Great. Thanks, Doug. Great questions. So Dr. Beard, I don't -- if you hear the questions, the percent of patients, yes...

Timothy L. Beard

Yes. So that percent goes up daily, it seems, I don't know. The -- and that patient -- that was a real patient example that I gave. And I don't -- she was 5’ 1” , 325 pounds. So that was an extremely difficult case and extremely difficult postoperative recovery.

So I would think, in our hospital, if this -- when this drug gets approved in August, we'd probably be able to get it to the P&T pretty fast, would be my guess. And we'll probably start using it on high-risk patients, so people with pulmonary issues, people that are at risk for nausea and vomiting. For example, I do a lot of laparoscopies for GERD surgeries, which are called Nissen fundoplication or paraesophageal hernia repairs, mostly from heartburn and reflux. And if those patients retch or vomit, you can totally disrupt the wrap that you've done.

So I would say, if I had to give a number of in-patients that I would say -- what I would consider higher risk and this drug is just tailor-made for, probably at 50% or 60%. Unfortunately, I don't have a practice where I can operate on all the thin, healthy patients all the time, I wish, but this doesn't exists, the reality. And again, in the outpatient, these are healthier patients by definition. We don't do anyone over an ASA III in an outpatient surgery center. So they're healthier. But I think their benefit, again, is a little different. It's not just so much for the postoperative risk. The drug would be used for what appears to be a lower side effect profile and patient satisfaction and ease of getting them to our system.

Douglas Dylan Tsao
H.C. Wainwright & Co, LLC, Research Division

Okay. And then just one follow-up, or 2 follow-ups. One for Dr. Beard. I know you mentioned you're often treating, sort of taking a polypharmacy approach. Just curious what drugs oliceridine, alone, would be able to replace? And then just a question for Carrie in terms of TRV045, the S1P, which are going into epilepsy, just curious how it was -- epilepsy was the first indication selected for development?

Carrie L. Bourdow
President, CEO & Director

Great. Yes. Tim, I'll let you start on oliceridine.

Timothy L. Beard

Sure. So we've developed these massive, what are called, ERAS pathways after surgery for a lot of our surgeries, which is enhanced recovery after surgery. I'm sure you're familiar with them.

And in that pathway, we do everything we can to optimize patients postoperatively. So let's say I do a colectomy on someone, take out a colon for colon cancer. We obviously, do a lot of stuff preop for those patients. But postoperatively, even though they may get TAP blocks or these rectus sheath blocks, they all get IV opioids.

So the drugs we give to counteract IV opioids, we give a drug called alvimopan or Entereg, which is a peripheral acting new opioid receptor antagonist, which blocks the side effects that opioids have on the gut. So opioids cause an ileus, where they cause the gut not to move, you can't pass gas or stool. So we get that drug. We give a whole bevy of antiemetics, probably at least 3 different antiemetics to prevent the nausea and vomiting, including sometimes we give Decadron in surgery or Zofran or Phenergan or Compazine, any of those we can give to stop the postoperative nausea and vomiting. We also, then, are super aggressive with respiratory care on these patients, so we give a respiratory therapy consult, do incentive spirometers, and may or may not give them nebulizers if they need it.

So I think those are the 3 sort of main areas that -- where we're giving drugs to counteract the side effects of opioids.

Carrie L. Bourdow
President, CEO & Director

And it sounds like it's difficult for you right now to say what oliceridine may replace, you got to get it in your hands, I think, and use it, right? But your -- is really Doug's question around what potentially oliceridine could replace..

Timothy L. Beard

Right. We're hoping -- because, yes, and what I tried to mention in my talk is that when you give so many different drugs, the polypharmacy, the compliance to that regimen is fairly low. That's what we're finding out with our ERAS protocol is that we give all these different drugs and then people actually don't really get them scheduled because it's too much. The compliance is fairly low. So yes, we don't know. That's why I'm excited for this drug to get approved to try to see how much we can eliminate because anything we can do to simplify, it would be great.

Carrie L. Bourdow
President, CEO & Director

Great. And then, Doug, to follow-up on your question around S1P, so quick reminder, and I'll turn it over to Mark to talk specifically about epilepsy. But there are other areas that we've studied with TRV045 or in the process of looking at, chemo-induced peripheral neuropathy is another area that we've looked at on the animal data. And then epilepsy was really -- Mark's going out and talking to folks that are involved in looking at epilepsy drugs and epilepsy trials. So Mark, I'll let you talk a little bit about...

Mark A. Demitrack
Senior VP & Chief Medical Officer

Yes, Doug, it's a great question. And as you know, when we've talked in the past, the S1P target is really quite interesting because of its broad representation in the CNS. So really, the challenge for us is more focused, since there's an enormous number of targets that are potential interest. And as Carrie mentioned, most of our early work was focused on chemotherapy-induced peripheral neuropathy and rodent model. That's one of the best studied animal models for the S1P system.

But because of S1P localization on cell types in the brain, particularly glial cell types or astrocytes, it has a demonstrable impact on various measures of membrane stability. And as a result, people became interested in the idea of exploring it in epilepsy models. And although it's not as well studied as the CIPN work, there has been some animal work done with some of the available S1P ligands like fingolimod, for example.

Now you know that fingolimod is a nonselective S1P modulator, and it also is accompanied by peripheral immunosuppression. The S1P receptor target, which is what 045 is directed at, is a bit more selective to the CNS receptors. And it also is absent immunosuppression in our studies to date. So it allows us to build on some of the literature that exists for the epilepsy target in animal models with earlier tool compounds, and that really is kind of the thing that prompted our interest.

The collaboration with ETSP emerged from those discussions. ETSP program is a long-standing, well-regarded preclinical screening program that's sponsored by NINDS through the NIH. It's been in existence for about 30 years and has actually shepherd it along several pretty key antiepileptics to the market in their experience. So we're pretty gratified that -- in our discussions that we've engaged in this program. So further updates in the future.

Operator

This concludes the question-and-answer session. I would now like to turn it back to Carrie Bourdow for closing comments.

Carrie L. Bourdow
President, CEO & Director

Great. Thank you, and thank you for your questions. Thank you to Dr. Beard for addressing the questions, we appreciate that. Let me close with some of the key points that you heard today. First, we've executed on our plan. We did what we said we were going to do. We resubmitted the NDA for oliceridine, got confirmation from FDA that the submission was complete, and we also advanced the pipeline, as we carefully managed our expenses.

I'd like to add my thanks to the team for their hard work and commitment. We expect 2020 to be a transformational year for Trevena. With the oliceridine NDA now under FDA review, we're preparing for expected approval in August. And we're also going to continue to make progress on the pipeline. So I will continue to provide updates as the year progresses. Thank you, again, for joining us this morning on the call.

Operator: This concludes today's teleconference. You may disconnect your lines at this time. Thank you for your participation.