

**Horizon Therapeutics plc**  
**Second-Quarter 2020 Conference Call**  
**August 5, 2020**

**Tina Ventura**  
**Senior Vice President, Investor Relations**

Thank you, Sara. Good morning everyone and thank you for joining us.

On the call with me today are:

- **Tim Walbert**, Chairman, President and Chief Executive Officer
- **Liz Thompson, Ph.D.**, Group Vice President, Clinical Development and External Search
- **Paul Hoelscher**, Executive Vice President, Chief Financial Officer
- **Vikram Karnani**, Executive Vice President and President, International
- **Andy Pasternak**, Executive Vice President, Chief Strategy Officer

Tim will provide a high-level review of the business, our second quarter performance, and our full-year guidance that we increased this morning. Liz will then provide a review of our R&D programs, followed by Paul, who will discuss our financial performance and guidance in more detail. After closing remarks from Tim, we will take your questions.

As a reminder, during today's call we will be making certain forward-looking statements, including statements about financial projections, our business strategy and the expected timing and impact of future events. Our actual results could differ materially due to a number of factors, including the extent and duration of the effects of COVID-19; as well as other factors outlined in our latest Forms 10-K, 10-Q and any 8-Ks filed with the Securities and Exchange Commission.

You are cautioned not to place undue reliance on these forward-looking statements, and Horizon disclaims any obligation to update such statements.

In addition, on today's conference call, all non-GAAP financial measures will be used. These non-GAAP financial measures are reconciled with the comparable GAAP financial measures in our earnings press release and other filings from today that are available on our investor website at [www.horizontherapeutics.com](http://www.horizontherapeutics.com).

I will now turn the call over to Tim.

**Tim Walbert**  
**Chairman, President and Chief Executive Officer**

Thank you, Tina, and good morning, everyone.

We delivered fantastic results this quarter, driven by the continued outperformance of TEPEZZA®, our medicine we launched earlier this year for thyroid eye disease, or TED. We continue to hear from our stakeholders that TEPEZZA is meeting a significant and critical need for so many patients who have gone years without any FDA-approved options to treat this painful and vision-threatening rare autoimmune disease.

Based on the significant TEPEZZA demand, we're increasing our full-year 2020 TEPEZZA net sales guidance to more than \$650 million, a substantial increase from the guidance of more than \$200 million we announced last quarter. Additionally, based on the faster uptake we are seeing for the medicine, as well as its broad indication, we are raising our TEPEZZA peak U.S. annual net sales estimate to more than \$3 billion.

Driven by TEPEZZA, we are also increasing our 2020 total company net sales guidance by more than 30 percent to \$1.85 billion to \$1.90 billion. We are also raising our adjusted EBITDA guidance by approximately 60 percent to \$725 million to \$775 million. For perspective, our updated 2020 guidance is now in line with what sell-side analysts expect for net sales and adjusted EBITDA *next* year in 2021. We are now realizing margin expansion a full year ahead of schedule. The midpoint of our adjusted EBITDA guidance represents 40 percent of net sales, a full three-percentage-point increase versus last year. We expect continued margin expansion over the next several years driven by the continued growth of TEPEZZA and KRYSTEXXA®.

Our success is a testament to the value of our unique biopharma model where the cash flow we have generated from our legacy business has allowed us to significantly invest first in the relaunch of KRYSTEXXA, and the success of KRYSTEXXA has allowed us to optimally invest in the launch of TEPEZZA. The continued strong performance of both KRYSTEXXA and TEPEZZA will provide us with the cash to build our clinical development pipeline to generate growth in the years ahead.

Importantly, we recently achieved several key clinical development milestones:

- We announced new topline TEPEZZA data, underscoring its efficacy in longer disease duration, its long-term durability and potential for retreatment;
- We accelerated the start of our TEPEZZA trial in chronic, or inactive, TED, to year-end 2020;
- We reached target enrollment in our MIRROR KRYSTEXXA immunomodulation randomized controlled trial, with topline data expected in the first half of next year;
- And, we presented new KRYSTEXXA immunomodulation data at EULAR, reinforcing the much higher response rate that has been observed when KRYSTEXXA is used with an immunomodulation agent compared to KRYSTEXXA alone.

We also continued to execute on our capital allocation strategy, completing the extinguishment of all \$400 million of our exchangeable senior notes this week. Our efforts since the beginning of 2019 have now reduced our gross debt by approximately \$1 billion. At the same time, we have maintained a strong cash balance to transact on pipeline assets in rare diseases and our therapeutic areas of focus. Our acquisition during the second quarter of HZN-825, a development-stage candidate for a subset of scleroderma, is an example of our business development strategy at work.

## **2Q20 Results**

I will now recap our second-quarter results.

In our Orphan segment, year-over-year net sales growth of 87 percent was driven by TEPEZZA, as well as continued growth of our other rare disease medicines. Our orphan segment net sales now represent more than 80 percent of our total company net sales, underscoring the rapid transformation we have made to a rare disease biopharma company.

### **TEPEZZA**

TEPEZZA is turning out to be one of the most successful rare-disease-medicine launches ever. Second-quarter net sales of \$166 million significantly exceeded expectations. As we noted last quarter, three factors are driving this outperformance:

- First, the severity of TED, and its painful, progressive, vision-threatening symptoms is a highly motivating factor for patients to seek out therapy – particularly when the medicine generated an impressive 83 percent response rate in its clinical program and is generally well tolerated.
- Second, the pre-launch efforts we began in early 2019 have been highly successful in developing the market, educating key stakeholders on TED and TEPEZZA, and establishing and simplifying the TED patient journey. We are seeing strong awareness among treating physicians and strong support from advocacy as well as patient groups.
- And third, our outstanding commercial execution, which has driven faster-than-expected uptake of TEPEZZA in the market.

In fact, market research we conducted in June demonstrates that our pre-launch efforts and commercial execution have led to high awareness and favorable perceptions of TEPEZZA among our target physicians. Awareness of TEPEZZA is now at more than 90 percent, up from about 60 percent in May of last year. In addition, approximately 95 percent of target physicians have a favorable perception of TEPEZZA. At this point, less than 50 percent of our target physicians have prescribed TEPEZZA to date, highlighting the significant growth opportunity we have moving forward. Additionally, about half of the physicians who have not yet prescribed TEPEZZA, but plan to, have delayed prescribing due to COVID-19. This underscores, despite our dramatic success, the impact that COVID-19 has had on the launch.

Despite the fact that ophthalmologists have been among the most impacted physician specialties during COVID-19, TEPEZZA demand continues to grow. Our field team quickly adapted to this new environment and is successfully engaging with key physicians both in person and virtually, and we are pleased that we have seen minimal disruptions to patients who have started therapy. As we discussed last quarter, after very rapid growth in February and March, new patient enrollment forms, or PEFs, slowed in April and May due to COVID-19. PEFs are a leading indicator of demand. Beginning in late May, however, we started to see a rebound in PEF volume, which gives us confidence in the uptake of TEPEZZA this year and moving forward. We saw continued strong patient growth, with more than 1,000 patients on TEPEZZA at June 30.

We continue to see a positive overall access environment, which is underscored by the number of patients already on therapy. Payers understand the value of TEPEZZA, and policies are now in place for 90 percent of covered lives with favorable policies for approximately 75 percent of those covered lives. We have also received our permanent J-code in July, which will go into effect on October 1 and will help to streamline the reimbursement process for many payers. As expected, our payor mix is continuing to shift more to commercial patients, which now represent more than half of the patients on TEPEZZA.

We also continue to see that TED patients are highly motivated to seek treatment. Based on these learnings, we have initiated a direct-to-consumer campaign to drive TED awareness and encourage patients to go to their doctor's office to seek treatment for their TED.

And as we learn more about the TED experience from patients, advocacy organizations and physicians, we are learning that TEPEZZA is actually changing the way physicians think about the disease. It is disrupting long-held notions of treating TED that have been in place since the 1950s. As we have discussed before, until TEPEZZA, surgery was generally the only option for treating patients in the fibrotic phase, or what we are now calling the *chronic* phase, of TED. Physicians are beginning to use TEPEZZA in these chronic patients rather than opting for surgery, or using TEPEZZA first with the goal to reduce the complexity or number of surgeries for their patients.

The stories we hear from patients continue to make us extremely proud. One patient was suffering from chronic TED for four years, and prior to TEPEZZA had tried steroids, radiation and decompression surgery – without relieving any pressure or eye pain. The ongoing pain would frequently come and go and worsened when she moved her eyes. Shortly after beginning treatment with TEPEZZA, she finally had relief from those years of pain.

In June, we also saw the first of what we hope are many published case reports detailing the success of TEPEZZA in treating chronic TED. Dr. Bobby Korn from University of California in San Diego published a case report describing the ongoing results of one of his chronic TED patients treated with TEPEZZA was published in the *American Journal of Ophthalmology*. After three infusions, his patient achieved a 6-millimeter reduction in proptosis, or eye bulging, in both eyes. Results like these are generating strong interest in TEPEZZA for the treatment of chronic TED, which is one reason we accelerated the initiation of our chronic trial to year-end.

We estimate the addressable chronic TED patient population to be approximately 70,000 patients, based on an estimate of TED patients who are between three and eight years since diagnosis. We anticipate uptake of TEPEZZA in both the chronic and active, or acute, patient populations to drive our more-than \$3-billion peak U.S. annual net sales estimate, an increase from our most recent estimate of greater than \$1 billion.

#### **KRYSTEXXA**

With KRYSTEXXA, we generated net sales of \$75 million, in line with our expectations for the quarter. We are on track for our full-year 2020 expectations of achieving similar net sales of KRYSTEXXA as 2019 and expect a return to growth in 2021.

We continue to see rheumatologists being one of the specialties most impacted by COVID-19 as rheumatology patients tend to be immunocompromised and more at-risk, and many of them have been hesitant to leave their homes to visit their physicians. We are encouraged to see some patients beginning to return to their physician offices. Moving forward, while we continue to monitor the impact of COVID-19, at this point we remain confident in our guidance.

Our current focus with KRYSTEXXA encompasses three areas:

- first, working through the patients in our deferred-demand funnel;
- second, generating new patient demand with both rheumatologists and nephrologists; and
- finally, educating physicians on the potential benefits of KRYSTEXXA plus immunomodulation.

Our KRYSTEXXA immunomodulation strategy continues to be of high interest to treating physicians, particularly following the multiple data presentations at the European League Against Rheumatism congress, or EULAR, in June. Liz will discuss the KRYSTEXXA immunomodulation data in more detail shortly, but to summarize, the response rates using KRYSTEXXA with several different immunomodulators ranged between 70 and 100 percent. As we noted last quarter, our market research showed that 75 percent of physicians using KRYSTEXXA remain interested in immunomodulation despite COVID-19.

We are also conducting our randomized controlled trial called MIRROR, studying KRYSTEXXA with methotrexate, and we reached target enrollment in July. We look forward to sharing topline data in the first half of next year.

There continues to be a significant unmet need for the more than 100,000 patients who are not being treated for their chronic and painful uncontrolled gout. We remain highly confident in our peak U.S. annual net sales estimate for KRYSTEXXA of more than \$1 billion.

### **Rare Disease Medicines**

With our rare disease medicines, we generated durable growth again this quarter. Combined active shipping patients increased mid-single digits year-over-year, and we continued to see high rates of compliance and adherence.

In April, we launched PROCYSBI delayed-release oral granules in packets after receiving FDA approval in February. We developed this new dosage form based on feedback from the cystinosis community. The granules help improve the PROCYSBI experience for patients by overcoming pill burden or swallowing challenges, two factors that have been known to impact patient adherence to the medicine. We have seen patients who were off therapy from six months to as long as six years restart treatment with PROCYSBI.

I will now turn the call over to Liz for an update on our R&D programs. Liz?

**Elizabeth Thompson., Ph.D.**  
**Group Vice President, Clinical Development and External Search**

Thank you, Tim, and good morning, everyone.

We made continued progress in the second quarter with our R&D programs.

- Last week, we announced topline results from the TEPEZZA OPTIC-X extension trial and the OPTIC 48-week off-treatment follow-up period.
- Regarding KRYSTEXXA, we reached target enrollment in our MIRROR immunomodulation trial and are now at greater than 50 percent enrollment in our PROTECT trial in kidney transplant patients.
- We also progressed our other TEPEZZA and KRYSTEXXA trials, including our TEPEZZA trial in chronic TED, our TEPEZZA subcutaneous administration program, our TEPEZZA exploratory trial in a subset of scleroderma and our KRYSTEXXA shorter-infusion duration trial. Each trial is evaluating ways to further maximize the value of these medicines for patients.
- And we remain on track to initiate a Phase 2b study with HZN-825 in a subset of scleroderma early in 2021.

### **TEPEZZA**

Let me begin with the new topline TEPEZZA data we shared last week. Our Phase 3 clinical program had three components: OPTIC's initial 24-week placebo-controlled period; a 48-week off-treatment follow-up period; and an open-label extension trial called OPTIC-X. We announced last week topline results of OPTIC-X as well as results of the 48-week off-treatment follow-up period from OPTIC. The results provide further data regarding the dramatic efficacy of TEPEZZA in patients with longer disease duration, its long-term durability and the potential for retreatment. We discussed this in detail on an investor call last Friday with Dr. Ray Douglas, the primary investigator of the OPTIC and OPTIC-X trials.

To summarize the data:

- Of the OPTIC placebo patients who participated in OPTIC-X and were treated with their first course of TEPEZZA, 89 percent achieved a clinically significant proptosis reduction of 2 millimeters or greater by Week 24 - this compares to the 83 percent response rate demonstrated in the Phase 3 OPTIC trial. Importantly, patients in OPTIC-X had longer disease duration – an average of 12 months compared to 6 months for patients in the OPTIC trial.
- Only five patients did not achieve a proptosis response after a full course of TEPEZZA in OPTIC, reflecting the strong initial treatment results. Of these, we were impressed that two patients achieved a reduction in proptosis of 2 millimeters or greater after a second course of TEPEZZA in OPTIC-X.
- Moving to durability, the 48-week follow-up period showed that the majority of OPTIC TEPEZZA responders maintained their response at Week 72, nearly a year off treatment.
- And notably, of the small number of OPTIC TEPEZZA patients who relapsed during the 48-week follow-up period, more than 60 percent experienced at least a 2-millimeter reduction in proptosis with an additional course of TEPEZZA in OPTIC-X.
- Importantly, there were no new safety concerns – in either the 48-week follow-up period, or in OPTIC-X, during which patients received additional TEPEZZA treatment.

We look forward to presenting additional detailed data for both studies at future medical meetings.

### **TEPEZZA in Chronic (Inactive) TED**

Continuing with TEPEZZA, we have previously talked about our planned study in patients who are beyond the active or “acute” phase of TED.

Before I discuss further, however, it is worth taking a moment to reflect on what Tim mentioned earlier – specifically, the ways that the introduction of TEPEZZA is changing the understanding of TED and also the terminology used to describe it. The terminology used to date to describe the phases of TED – active and inactive – evolved largely based on the ineffective treatments that had been available historically. The focus in the active phase was on alleviating signs and symptoms of inflammation, because there were no medications to treat proptosis and diplopia. The focus in the inactive phase was using surgical intervention to reduce proptosis, which was only done in the inactive phase when the chance of inducing an inflammatory flare-up was low.

However, even after the active stage, many patients continue to present with many of the same symptoms, still well above normal levels, that can have a debilitating impact on the patient’s quality of life. After discussions with TED key opinion leaders, there is growing consensus that it is more appropriate to describe the phase characterized by *changing* signs and symptoms as the “acute” stage of the disease, and the period after which the symptoms are no longer noticeably changing but still persist as the “chronic” stage of the disease. We will therefore be using these descriptors going forward.

TEPEZZA works by specifically targeting and blocking the IGF-1 receptor (IGF-1R) to reduce muscle and fat tissue behind the eye to improve proptosis and diplopia. IGF-1R is still present at heightened levels in orbital fibroblasts attained from surgical samples in patients in the chronic phase of the disease. And in fact, IGF-1R inhibition appears to impact multiple aspects that drive disease in the acute phase and continue to be relevant in the chronic phase.

Evidence is building that supports the use of TEPEZZA in chronic TED. While the TEPEZZA prescribing information is broad and intended for all patients with TED, the objective of our TEPEZZA trial in chronic TED is to generate data in this specific population to better inform physicians who may wish to use the medicine with their patients. We are planning to begin a study in this population by year-end. We expect to focus on the types of symptoms persistent in the chronic TED population such as proptosis, diplopia and pain, and on patients who have had at least a year without obvious signs and progression of inflammation.

#### **Other TEPEZZA Trials**

Work is well underway on our two other TEPEZZA trials. We continue to expect to start both the exploratory trial in diffuse cutaneous systemic sclerosis and the pharmacokinetic trial to explore the potential for subcutaneous dosing of TEPEZZA later this year.

#### **KRYSTEXXA**

Moving to KRYSTEXXA, we continue to make great progress in our efforts to maximize the benefit that KRYSTEXXA can offer to patients with uncontrolled gout.

#### **EULAR**

First, we presented multiple studies and datasets on the use of KRYSTEXXA with immunomodulators at the EULAR meeting in June.

The KRYSTEXXA Phase 3 clinical program, which evaluated KRYSTEXXA alone, demonstrated a 42 percent response rate. While impressive in this patient population, significant opportunity exists to improve the number of complete responders and duration of response. So the goal with immunomodulation is to help dampen the immune response to KRYSTEXXA and thereby increase the patient response rate, allowing more patients to complete a full course of therapy. And the data sets presented at EULAR are promising, with reported response rates of 70 percent and above.

Most data were with methotrexate. One was our MIRROR open-label trial, the precursor to our ongoing MIRROR randomized controlled trial, where 11 of 14, or 79 percent of patients, demonstrated a complete response, nearly double the 42 percent response rate in the KRYSTEXXA Phase 3 trials.

While methotrexate is the gold-standard immunomodulator, particularly for rheumatologists, it is important that physicians have the flexibility to select from a range of options, as individual patient circumstances could make different immunomodulators more appropriate. And so, in addition to the expanding data on methotrexate, we were very pleased to see presentations of data at EULAR on other immunomodulators used with KRYSTEXXA, all with positive results that appear consistent with the results reported to date using methotrexate. One was a case series in 10 patients using leflunomide, which demonstrated a 70 percent response rate when used concomitantly with KRYSTEXXA. And last quarter we mentioned the RECIPE trial, assessing mycophenolate mofetil, or MMF, which showed positive results consistent with previously reported open-label studies of KRYSTEXXA with methotrexate.

These data add to the increasing body of clinical and real-world evidence supporting the immunomodulation approach with KRYSTEXXA, and it's notable that the total number of patients in published studies of immunomodulation now approximates the number of KRYSTEXXA patients in the Phase 3 trials.

#### **MIRROR Randomized Controlled Trial**

We will be further adding to the clinical data for immunomodulation with our randomized placebo-controlled MIRROR trial evaluating the efficacy and safety of the concomitant use of KRYSTEXXA with methotrexate to increase the response rate of KRYSTEXXA. In July, we reached target enrollment of 135 patients for this trial, with the final number who will randomize in the trial likely to slightly exceed the initial target. We expect top-line results in the first half of 2021.

#### **Other KRYSTEXXA Trials**

Regarding our other KRYSTEXXA trials, we are now at greater than 50 percent enrollment in PROTECT, our trial evaluating the use of KRYSTEXXA in kidney transplant patients with uncontrolled gout. We also remain on track to initiate our KRYSTEXXA shorter infusion duration trial in the second half of this year.

#### **HZN-825**

Finally, I will discuss HZN-825, our newest pipeline candidate. HZN-825 is an oral selective LPAR1 antagonist with early clinical signals of benefit in diffuse cutaneous systemic sclerosis, a rare, chronic autoimmune disease with no FDA-approved therapies and a high unmet need. This is a rare disease with an approximately 30,000 patient population. The disease is marked by fibrosis, or skin thickening, and has high morbidity and mortality rates. The current treatment approaches are focused on providing organ-specific relief of symptoms while also attempting to slow disease progression.

Positive signals were observed with HZN-825 in an 8-week placebo-controlled Phase 2a study, as well as continued improvement noted in the 16-week open-label extension period. However, the time frame was too short to show statistically significant clinical benefit and suggests that longer duration of treatment may demonstrate meaningful benefit in this patient population. We are working with the FDA to finalize the Phase 2b pivotal trial protocol. We would expect the trial design to be one year in duration with ACR-CRISS as an important endpoint, and we will also focus on individual components of ACR-CRISS as relevant endpoints. We plan to begin the trial in the first half of 2021.

**Conclusion**

In summary, we have made substantial strides during the second quarter to maximize the value of our medicines and bring our pipeline forward.

With that, I will now turn the call over to Paul.

**Paul Hoelscher**  
**Executive Vice President, Chief Financial Officer**

Thanks, Liz.

My comments this morning will primarily focus on our non-GAAP results, unless otherwise noted.

**Second-Quarter 2020 Financial Results**

Second-quarter net sales were \$463 million, and adjusted EBITDA was \$191 million, or 41 percent of net sales, significantly exceeding expectations and driven by our strong net sales performance.

Our orphan segment generated net sales of \$379 million, a year-over-year increase of 87 percent, driven by the strong performance of TEPEZZA and RAVICTI®. Orphan segment operating income was \$152 million, representing a margin of 40 percent.

Net sales for the inflammation segment were \$84 million, with segment operating income of \$38 million. We continue to reinvest the cash flow generated from this segment into our key growth drivers, TEPEZZA and KRYSTEXXA, and our pipeline.

Our non-GAAP second-quarter gross profit ratio was 88 percent of net sales.

Non-GAAP operating expenses were \$220 million. This included non-GAAP R&D expense of \$28 million and non-GAAP SG&A expense of \$192 million.

Non-GAAP income tax expense for the second quarter was \$94 million. We were impacted by an unusually high non-GAAP tax rate in the quarter. As we have seen in prior years, there can be variability in the tax rate across quarters, and we expect the third and fourth quarter tax rate to offset the second-quarter rate to bring the full year in line with our expectations of low double digits.

Non-GAAP net income was \$84 million and non-GAAP diluted earnings per share were \$0.40. Weighted average shares outstanding used to calculate second-quarter 2020 non-GAAP diluted EPS was 215 million shares.

**Cash Flow and Balance Sheet**

As of June 30, cash and cash equivalents were \$718 million, which is impressive, as it reflects the investments of \$157 million we made in the second quarter to acquire Curzion and certain future TEPEZZA milestones and royalties.

Our non-GAAP operating cash flow for the second quarter was \$100 million, which reflects less than \$20 million in cash receipts to date from TEPEZZA sales. As an infused medicine, and because we expected delays in reimbursement during the quarter, we provided TEPEZZA customers with extended terms for the launch that will begin to decline following the expected implementation of our permanent J-code on October 1. We anticipate an increase in operating cash flow generation in the second half of 2020, and in particular in the fourth quarter, as collections of TEPEZZA receivables increase significantly.

At June 30, our net-debt-to-last-12-month adjusted EBITDA leverage ratio was 0.9 times.

As of August 3, all \$400 million of our 2.5 percent exchangeable notes due 2022 were fully extinguished through exchanges for ordinary shares or cash redemption, marking further improvements to our balance sheet and capital structure.

The total principal amount of our debt today is \$1.018 billion, with the earliest maturity in 2026. We have lowered our interest expense as a result of several capital structure improvement efforts made since the beginning of 2019, and there are no maintenance covenants on our debt.

Our balance sheet is strong. We are confident in our ability to generate considerable operating cash flow, allowing us to pursue further pipeline assets as a top priority.

### **2020 Guidance**

This morning we announced that we are increasing the full-year 2020 net sales guidance range to \$1.85 billion to \$1.90 billion, from \$1.40 billion to \$1.45 billion, reflecting an increase in the full-year 2020 TEPEZZA net sales guidance to more than \$650 million, following its exceptional performance.

We are also increasing our adjusted EBITDA guidance range to \$725 million to \$775 million from \$450 million to \$500 million. At the midpoints, adjusted EBITDA would be 40 percent of net sales, and would reflect an acceleration of our margin expansion a full year ahead of plans. Our updated guidance represents year-over-year growth in net sales and adjusted EBITDA of 44 percent and 55 percent, respectively, at the midpoints.

Our 2020 guidance reflects our best estimates of the impact of COVID-19 and assumes we will continue to see some level of rolling shut downs across the United States.

We continue to expect KRYSTEXXA full-year 2020 net sales to be in the range of 2019 net sales. For our rare disease business unit, we continue to expect limited disruption from COVID-19 and full-year net sales growth in the low-to-mid single digits. For our inflammation segment, we expect both third- and fourth-quarter net sales to be in a similar range as the second quarter.

Moving on to our full-year expectations for the rest of the income statement, our non-GAAP gross profit ratio is now expected to be between 87 and 88 percent. This is primarily due to the impact of royalties associated with significantly higher net sales expectations for TEPEZZA this year.

We expect full-year 2020 non-GAAP operating expenses to increase compared to our prior expectations. This is driven by additional SG&A expense to support our increased net sales expectations and continued investment in our R&D programs. While we expect R&D spending to be higher in dollars than previous estimates, given our significant increase in net sales guidance, we now expect our non-GAAP R&D expense as a percentage of net sales to be in the mid-to-high single digits for 2020.

Following the extinguishment of our 2.5 percent exchangeable notes, we now expect full-year non-GAAP net interest expense to be approximately \$45 million.

For our tax rate, we now expect a full-year non-GAAP tax rate in the low double digits. As I mentioned earlier and as we have seen before, we are seeing some variability in our non-GAAP tax rate on a quarterly basis. We anticipate a tax benefit resulting in a negative non-GAAP tax rate in the second half of the year, to bring the full-year rate in line with our expectations.

Our 2020 cash tax rate is now projected to be in the low-to-mid single digits.

Given our recent share price appreciation and its effect on the calculation of the weighted average diluted share count under the Treasury Stock method, we now expect our third- and fourth-quarter weighted average diluted share count to be approximately 220 million shares.

With that, I will turn it over to Tim for his concluding remarks.

**Tim Walbert**  
**Chairman, President and Chief Executive Officer**

Thank you, Paul.

The second quarter was one of significant growth, demonstrating our strong ability to execute.

- We substantially increased our full-year 2020 net sales and adjusted EBITDA guidance, which represents an acceleration of our margin expansion plans a full year ahead of schedule.
- TEPEZZA continues to generate outstanding results, on track to be one of the most successful rare-disease-medicine launches ever. Given its strong outperformance, we increased our peak U.S. annual net sales estimate to more than \$3 billion.
- Finally, we continued to improve our capital structure, further reducing our gross debt following the extinguishment of our exchangeable senior notes, while also maintaining a strong cash balance despite investments made during the quarter.

Today, Horizon is emerging as one of the fastest growing biopharma companies among our peers, with an industry-leading growth profile on both the top and bottom line. We believe this is deserving of a higher multiple, and we are well-positioned to continue to deliver increasing value to our shareholders now and over the years ahead.

We will open it up for questions.

**Tina Ventura**  
**Senior Vice President, Investor Relations**

Thank you, Sara. That concludes our call this morning. A replay of this call and webcast will be available in approximately two hours. Thank you for joining us.