Yinglu: Welcome to the 2022 RBC Capital Markets Global Healthcare Conference. I’m Yinglu Zhang, one of the Biotech Equity Research Analysts here at RBC, and we’re pleased to have KemPharm with us today. Joining us from KemPharm will be Travis Mickle, CEO. Just a reminder that if you have questions for Travis, we’ll have a quick Q&A session in the end. And with that, Travis, thank you so much for joining us.

Travis: Thank you for having us.

Yinglu: Maybe before we dive in, could you just provide a brief overview of KemPharm, your lead asset, KP1077, and just discuss a little bit around your latest acquisition of Orphazyme.

Travis: Sure, absolutely. I think every CEO starts off saying how great their organization is and how different we are from everyone else, but I actually believe that’s actually true in this instance. Historically, we’ve been a prodrug discovery and development company, but we’ve made a transition the last 12 months or so after the approval of our last product, AZSTARYS, to a company that’s focused on rare diseases, developing rare diseases, and doing so with a nice balance sheet in a good position, as well as the potential for royalties and revenues in the future from the license of AZSTARYS.

 I mean, that’s the new basis for KemPharm. We’re focused, as you can see, for the purchase of the arimoclomol asset from Orphazyme, as well as the acquisition of much of the talent there for that organization, we started that transition, that transformation from KemPharm prodrug discovery, development, licensing, now thinking about commercialization, rare disease focus, as well as with our lead asset, KP1077 for IH, which happens to be a prodrug.

Yinglu: That’s great, thank you. And now we’re definitely very interested to hear more about the acquisition. Could you tell us a little bit about what factors went into your research process and the decision-making process that drove your acquisition, and how that aligns with your business development strategy?

Travis: Any business development, I think there’s a number of different transitions and you want to be opportunistic, but this was a very unique opportunity. When we looked at Orphazyme last year, pre-PDUFA and CRL, again, it was a very attractive organization. We liked the technology and the company, but it didn’t change, though their situation did. It wasn’t one of our criteria that we basically get this for free with a generation of future revenue from the French \_\_\_\_\_\_ system.

 But it was one of our criteria, again, to look into rare, ultra-rare, CNS, neurological disorder compounds that flows into our pipeline, and then do what we do best, which is drug development. We’ve been through a number of different difficult regulatory situations, approvals, and we believe that this just fits right in with our talent and our \_\_\_\_\_ expertise. We’re excited to see the future for arimoclomol for this patient population for the Niemann-Pick population that really does need a different product.

Yinglu: Can you just touch a little bit on the regulatory challenges last year? Could you remind us of the FDA issues and questions that led you to CRL, and what are the regulatory proceedings following that?

Travis: Orphazyme received a CRL for the arimoclomol treatment, for the treatment of NPC, which Niemann-Pick Type C, and they followed it up with a Type A meeting. Through the communications with the agency on both of those meetings, they really narrowed down the topics at hand, the issues at hand, which was some level of validity, consistency with the primary endpoint. Again, this was something that had to be developed through years of experimentation and clinical trials to actually get something the agency would feel comfortable with.

 The agency still wasn’t comfortable with it at the CRL. Additionally, a big topic item nowadays is missing data and how is that treated with statistical analysis. In that particular instance, you’re really focused on several different issues, whether the FDA is right, whether the company is right, and it appears from our perspective after the Type A meeting that there was progress on both the primary endpoint discussions as well as the other.

 And then third, but certainly not least, is confirmatory evidence, and we’ve seen this many times recently with drugs that only have one efficacy trial. They need to have a plethora of additional information to bolster that to really make it look like it may need a second trial or enough evidence is there to be compelling. The company had very little at the time of the CRL and the submission. But they generated an enormous amount of additional information over that time period.

 We’re greatly fortunate that we have extension arms that have completed out to four years post-study. We have 151 patients in the expanded access program globally. We have all additional in vitro, in vivo mechanistic data available, and we have new validated biomarkers. With all that additional data, it’s like, well we’ve checked all these boxes. Now we just have to go meet with the agency, discuss with them, and get them convinced that we have enough, and then resubmit.

Yinglu: You mentioned your regulatory expertise. Could you expand a little bit on that and then how that gives you confidence in the resubmission plan?

Travis: It all ties in. It’s a great point. When we went through the evolution of KemPharm, at one of the points in our lifetimes, we were an acute \_\_\_\_\_ prodrug company. We used to turn opioids. If you always cringe when you hear the word opioid in drug development, so many companies have failed around that space and it’s just fraught with risk, legal risk, and numerous other issues.

 We were able to, after a negative \_\_\_\_\_ and a CRL, actually fought back through an appeal process and get that product ultimately approved with a differentiated label and market it. That’s like number one. That’s our gold plaque as far as regulatory issues we’ve been able to overcome. I think second to that is our prodrug AZSTARYS and regulatory issues there. Very much in the statistical area that we’re talking about right now with the agency for arimoclomol, where there’s a disagreement on who’s right on the statistical analysis.

 What we found is you may never reach a resolution, but if you provide enough scientific evidence, they will find a middle ground with you. I think that’s very positive. We’ve been able to work with our partner as well, Corium, on one of their products and we announced a success fee related to that recently achieved. That had two CRLs in the past. Able to work with them and finally get that product approved.

This is right in our wheelhouse, right where we feel comfortable. It’s not so negative. There’s plenty of positive data. There’s a positive efficacy trial. It’s just a little disagreement on the science that we feel very comfortable that this is an addressable issue that we’re ultimately going to get approved.

Yinglu: I think your success stories ultimately say a lot about your experience and your expertise on the regulatory front. Great. And then maybe, just on the data side of arimoclomol, could you discuss a little bit about the history and previous dataset of the molecule and what gives you confidence in the clinical potential in NPC.

Travis: That’s a long history. This molecule dates back for quite a while. I think originally discovered in Hungary back in the 2000s. But ultimately, what we’ve seen with Orphazyme and all the hard work and effort that they’ve put into developing that product, primarily for Niemann-Pick, is that they were able to show systematic improvement over, say, standard of care. Right now, in Europe, standard of care, it’s this case, it’s the only approved product in Europe for Niemann-Pick is Miglustat.

 It’s not approved in the United States, but it is fairly well accepted as the standard of care used off label. In their particular trial, they actually had 80% of the patients in both the placebo arm as well as in the active treatment arms that were on Miglustat. This is an active drug, known to work, known to improve the symptoms. When they actually did the trial, you actually see a lot of work that they had done. You see a statistically significant difference with a prespecified statistical analysis plan and the treatment of missing data.

 The second that the agency shifted gears, you can see that things got a little wonky and where the CRL came. But fundamentally, the data is very robust and very sound. The primary endpoint in this particular instance is known as the MPC CSS. It’s a five-domain scale. You’re looking at swallowing, speech, ambulation to walking, crawling, whatever it may be, as well as fine motor skills and cognition.

 The agency agreed to remove cognition from that calculus. When they did that it helped out tremendously with statistical significance, but fundamentally, in the dataset itself, when we went in and dug into this to see what the opportunity is, and I just use this as an example, there was one patient in the study, after 12 months, who went from a five on the speech score, which is basically incommunicative in any form – non-verbal, no eye contact, no ability to show any sort of expression and of course no verbal communication at all.

 After 12 months of treatment, that individual was able to speak again, in a broken fashion, but actually communicate. We see that repeatedly in the speech and swallow domains. A little less so in the other domains that we looked at. When we analyzed everything, we said, there’s an effect here and it clearly is working and this needs to get to patients. It’s not a placebo effect. It’s not a modest effect. It's a true reversal of deterioration of the point of uncommunication.

 You can imagine what that would do for a parent, for the child who’s still conscious, who’s still alive, the ability to communicate again with your parents back and forth when that wasn’t present, even at the start of the study. It’s just remarkably sound and robust data.

Yinglu: That’s certainly valuable. I think with the acquisition, a question that many people will have is how would that impact your balance sheet? Could you give us an update on that and what’s your updated cash \_\_\_\_\_ guidance?

Travis: The guidance that our CFO likes to use is 2025 and beyond. Internally we joke, it’s forever and plus some. We don’t burn a lot of capital. We’re a highly capital efficient organization. Our development programs weren’t overly expensive because, again, we work internally with prodrugs, and this is a Phase 3 resubmission. There’s no additional clinical work. We are bringing on the Orphazyme team because of their expertise, but they’re very capital efficient as well. They’re very synergistic with our balance sheet and our go-forward cash.

 The nice thing about this program and what completely sold us immediately is within the French Expanded Access Program, you’re actually able to reimburse for the cost of the product and reimbursed at commercial rates. This is basically paid for as an ultra-rare disease product. There’s currently 33 patients on this product in France. Every month, you’re generating a fair amount of revenue.

 Now, that revenue over 12, 18 months is going to pay for the acquisition costs of arimoclomol and the organization. After that, it’s revenue-generating. It’s cashflow positive for KemPharm. We see this definitely as an opportunity. All the upside and the approval for arimoclomol, the rare pediatric disease designation, has already been provided. You have, of course, an ultra-rare disease, 300 patients in the United States. Another 1500 identified in Europe, so certainly a great opportunity there.

 But then, worst case is you’ve got to do something else, or you’ve got to do more work to ultimately get to approval, but you’re generating revenue for years. This French system isn’t going to go away anytime soon. We feel very confident that we were able to really get a very good deal for KemPharm shareholders while still providing the opportunity to benefit patients, benefit the organization, and drive value here.

Yinglu: That makes a lot of sense. Maybe now is a good time to shift over to your other asset, 1077, which is currently in development for IH, narcolepsy. Could you just tell us a little bit about that and where you see that fit in the treatment paradigm?

Travis: IH and narcolepsy, which you guys know very readily, you cover Jazz, completely debilitating diseases, sleep disorders. IH has been characterized as more so. This is very problematic sleep disorder for individuals afflicted with it. The treatment options available, of course, Xywav, approved recently, got approved for Jazz. They’ve been marketing it, but there’s not a good treatment here at all. Patients really feel like there’s nothing really addressing their symptoms.

 The primary two symptoms that we believe we’re going to actually be able to help most with 1077 are sleep inertia or waking. Again, individuals might be taking something in the morning right when they try to wake up, a stimulant of some sort, as well as setting multiple alarm clocks, making sure husband or wife comes in and tries to wake them up out of bed. It may take them several hours to actually wake up.

 Once they do, they’re in this constant state of what they refer to constantly as a brain fog. You can imagine just this inability to have a higher order thinking, lack of executive function. Many of them we’ve heard are afraid to drive, and with narcolepsy, that’s not so. They’re like I’m perfectly awake until I’m not. With IH, they just feel like they’re never awake, just never can move out of that.

 With 1077, this is methylphenidate being released in a completely different fashion. When methylphenidate is released, you’re going to get that stimulant effect, but we believe we’re going to be able to increase that dose, increase that dose at a nightly dose that will hit them exactly in the morning, vary through a little bit. They’ll take a morning dose, which will carry them through the rest of the day. And they’ll come back down at the end of the day, basically addressing those two issues.

 You can do that with current stimulants. You can address part of that. You can’t address all of it because the dose is just going to be too low, and we believe that through the safety and tolerability of this slow release of methylphenidate, we’ve already seen it in some of our studies that we did for ADHD as well as in drug abuse trials, so we’ve already seen that there could be this benefit. You maintain that effect at a very high level throughout the day. That’s going to be a big difference in this space.

Yinglu: It’s great to hear about the differentiation there. With that differentiation, what is your latest thinking around the market opportunity?

Travis: We bank all of it. I think in this case, Jazz is going to be developing this market for IH. It’s a subset of narcolepsy. It’s not as big as narcolepsy. Of course, we’re all aware of what Xyrem and Xywav and all the new entrants are coming into that space in narcolepsy. We believe our opportunity exceeds a Xywav. Xywav has a potential area where it’s going to do very well, but stimulants are used in both disease states and used fairly heavily because there literally the only thing that works to help keep folks awake.

 Again, it will end up being about pricing and messaging and how well we can distinguish ourselves, but ultimately, we believe there’s a significant portion of this market for IH that could be available to us.

Yinglu: Wanted to hear a little bit about the regulatory pathway for 1077 and the latest updates on clinical development.

Travis: I already alluded to it slightly. The prodrug that’s used in 1077 is already approved in AZSTARYS, the same prodrug in this particular instance. When we move this forward, the agency already has a ton of information on this prodrug, so we don’t have to do any CMC manufacturing, we don’t have to do any additional work around non-clinical or some of the more checkbox clinical studies. We have a ton of work done. Really, it’s just focused on the differentiation in a Phase 2 trial to show that the dosing regimen works well and then in a Phase 3 trial to really prove it out and seek approval from there.

 That will be followed shortly with narcolepsy at that point. Trial is supposed to start at the end of the year. We’re right on track for that. Nothing’s changed. We’re excited to get that started. Narcolepsy will start because there’s more narcolepsy patients. We’ll actually probably be able to do both studies, complete both studies about roughly the same time. We’re excited about that. It’s a good opportunity.

Yinglu: That’s great and very exciting. After you initiate the Phase 2 trials, I think it will be important to ensure enrollment for the trials, and as you mentioned, Xywav was only approved these indications. Just wondering what are some of the initiatives or strategies to make sure the enrollment rate tracks as expected?

Travis: We’re fortunate because somebody just paved the path. We know others out there that are also currently doing some work in IH, especially with Harmony initiating their Phase 3. A lot of the CROs, clinical sites, lead investigators are the same ones. The endpoints have been already proven out in an approved product. We’re not seeing any sort of hesitation or difficulty in enrolling sites. All of them have proven that they have patients ready to take these.

 We feel fairly confident that we’ll be efficient. It’s still a rare disease. It’s still difficult to get folks in if they’re not already diagnosed. I think we’d follow a traditional timeline here for a disease like this, but we expect to have interim data, open label data, as soon as the first quarter, if we start by the end of the year, second half. We should have some interim data as soon as the first quarter.

Yinglu: That’s really efficient. Maybe on the IP front, could you expand a little bit on your IP portfolio for 1077 and your confidence level around protection against generic entrants and how should we think about potential impact from the entrants of generic Xyrem, especially in the narcolepsy space.

Travis: As far as our IP goes, very strong composition of \_\_\_\_\_. It’s a prodrug that’s never been described or made before, so that runs until 2037. There’ll be additional patents around use, formulation, so forth for the use in IH, which would extend out, but again, we have a solid platform to 2037. When you talk about Xyrem, Xywav, I mean, I think IH space is fairly well-protected. That’s why we went there first. At the time, there was nobody. We knew Jazz was developing essentially Xyrem, Xywav for IH. That was an attractive space to be within.

 It depends on pricing, depends on which market share goes in narcolepsy. We’re a different mechanism of action. We’re working on the stimulant side, whether sleep consolidating, working on the various mechanisms that can really improve brain function and sleep quality. Two different mechanisms that don’t really seem to me have much competition.

Yinglu: Last question on 1077, beyond these two indications, were there thoughts on potential additional opportunities and is there any long-term plans to explore those?

Travis: Yes, we’ve been looking at other sleep disorders primarily, but methylphenidate, methylphenidate-related compounds that could use higher dosing, say, in other disease states where there’s a lot of cognitive impairment might be something we’d want to look at in the future. And we have looked into stimulant use disorder or stimulant addiction. We feel like there’s an opportunity there. A little bit outside our comfort zone, so we’re working to find some government or academic support for those to help us move that indication forward.

Yinglu: I think we’re almost out of time here, so I wanted to open up the floor for any questions from the audience. If there is no question, maybe I can squeeze in one more. Can you just remind us which catalysts are most significant over the next 12 years you believe investors should pay attention to?

Travis: I’ve mentioned a little bit about the differentiation of KP1077. We have a cardiovascular study underway right now head-to-head with Ritalin, long acting as well as immediate release. That will actually read out in the third quarter of this year. With a Phase 2 study start and the interim data next year for that KP1077 program, that’s very exciting. We’ll have final data for that in the third quarter of next year, so within the next 12ish months.

 I think that’s certainly going to be one part of our focus. The other part is arimoclomol and the resubmission. We’re planning right now for that to occur in the first quarter of next year as well. So, big next 12 months for us with some FDA meetings, study starts, study data. All reading out and all of our read programs literally went from no lead programs and an approved product within 12 months to get to this place with two late-stage programs and a lot of data, resubmission, commercial opportunity right in front of us.

Yinglu: Certainly, exciting times.

Travis: It is.

Yinglu: I think that’s the end of our time. With that, Travis, thank you so much for joining us today and we look forward to tracking the story.

Travis: Thank you so much.

END