

## Minutes of the meeting of the Eurasian Community for Access to Treatment with TB Alliance

May 22, 2024

**Company:** TB Alliance

**Name, title:** Sandeep Juneja, Senior Vice President for Market Access

**Name, title:** Maria Beumont, Chief Medical Officer for Research and Development

**Name, title:** Pietro Turilli, Senior Vice President for External Affairs

**Name, title:** Stephanie Seidel, Senior Manager of Community Engagement and External Affairs

**Name, title:** Elizabeth Métraux, Senior Director of Communications and External Affairs

### Start of the meeting. Introduction of participants.

### Presentation of TB Alliance.

We are glad to see everyone at our meeting today. Our whole team recognizes the great role of civil society in advocacy, and we are very pleased that you keep doing your work.

We have prepared several presentations. I hand the floor over to Maria Beaumont, who has worked with patient organizations and communities in the state of Philadelphia, which very much defines her approach. And for her, of course, patients come first.

**Presentation of Maria Beumont:** Before I start answering the questions that you have sent, I would like to tell you briefly about our organization. TB Alliance is a non-profit organization, and I want to emphasize that it is dedicated to developing, researching, and bringing TB drugs to market. Our mission is to improve what exists today, as well as to address those medical problems that have not yet been solved and will be relevant in the future. The result of our work is the development and release of pretomanid on the market, which has changed the situation with TB treatment. If we talk about advantages, pretomanid has all the clinical advantages in terms of TB treatment. But the development of a new treatment regimen that includes pretomanid, which can be used in the future not only to treat drug-resistant tuberculosis (DR-TB) but also to treat drug-sensitive tuberculosis (DS-TB), is also important here. As you know, the World Health Organization (WHO) recommends the BPAL regimen (bedaquiline (B), pretomanid (Pa), linezolid (L) without moxifloxacin) as the first-line treatment for multidrug-resistant tuberculosis (MDR-

TB). As you know, the treatment period has shortened, but the efficacy of treatment has improved. And today we are focusing on improvements.

The concept that everyone is working on right now is shortening the duration of treatment. We are very much engaged in the development of long-acting injectable regimens, which will need to be used once a month or two months, and which will be much more effective than earlier regimens. I would also like to add that the development of prolonged forms not only allows us to say that in the future all patients should receive only such drugs, but also, this form of drug administration allows us to work on molecules that for various reasons had no prospects in the development of oral forms. And we hope that new classes of drugs (second generation drugs) will become the basis of new regimens for TB treatment.

As you know, we are developing drugs similar to bedaquiline that have all the advantages that the bedaquiline molecule has. But importantly, the new drugs have efficacy against the chains that produce resistance to bedaquiline.

I want to talk about a study of the TBAJ-876 molecule that is currently ongoing. It is targeting DS-TB patients with and without HIV infection. We are recruiting 300 patients who will be assigned to one of five groups. And all patients will receive full TB treatment: patients in one group will receive the HRZE regimen (isoniazid (H), rifampicin (R), pyrazinamide (Z), ethambutol (E)), patients in another group will receive the BPaL regimen, and three groups will be treated with the new molecule TBAJ-876 at different doses in combination with BPaL. After 8 weeks of treatment patients in the three groups will be switched to either the isoniazid/rifampicin regimen or will have the option to complete treatment at week 15, if we see laboratory-confirmed seroconversion positivity at week 8.

## NC-009 Study Design – PanPh2 study (a-b-c)

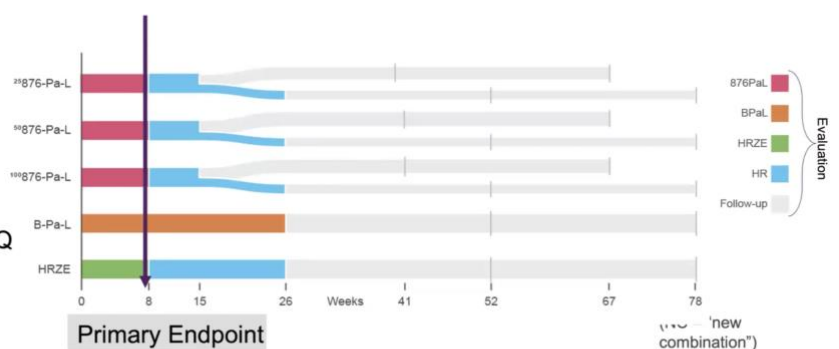


≥ 300 DS-TB participants randomized to 1:1 to 5 treatment arms (N≈60)

- Newly diagnosed DS-TB ± HIV; Stratified by Region and Severity of disease

### Key objectives:

1. TBAJ-876 Dose selection
2. Compare TBAJ-876 vs BDQ
3. Evaluate BPaL in DS-TB
4. Explore shorter treatment
5. Compare safety of TBAJ-876 vs BDQ
6. Compare safety of BPaL vs HRZE



This is a very important clinical trial for us with a number of objectives, which you can see in the left-hand part of the slide. First, to identify the optimal dosage of TBAJ-876, which we will use in further larger studies. We also want to compare the action of this molecule with the action of bedaquiline and confirm various hypotheses about the preference for the TBAJ-876 molecule. In addition, we want to understand how effective BPaL is in patients with DS-TB, explore the possibility of a shorter regimen, compare the safety of the new molecule with bedaquiline, and compare safety of two regimens, HRZE and BPaL. You can see that we have quite a few objectives and the studies contain phase 2a, 2c and 2b characteristics. Our assumption is that this will accelerate the withdrawal and development of this molecule. The study is now being conducted in 5 countries (South Africa, Uganda, Georgia, Tanzania, and the Philippines).

On February 17, 2023, we received authorization from local health authorities, and on October 24, 2023, we enrolled our first patients. More than 160 patients have been enrolled so far, and we are seeing very good tolerability in patients. There has only been one HRZE-related adverse event (control group) and the patient was withdrawn from the study, and no other treatment interruptions have been observed so far. All patients complete quality of life questionnaires, and because we are very interested in ensuring that their quality of life is not compromised for the duration of their participation in the study, they also complete a questionnaire on the occurrence of neuropathic manifestations.

### NC-009 Status update – May 23<sup>th</sup> 2024



- First Health Authority submission – Feb 17<sup>th</sup>, 2023
- FPI – Oct 24<sup>th</sup>, 2023
- 5 participating countries: South Africa, Uganda, Georgia; Tanzania and Philippines
- 21/22 sites activated; 1 additional site being considered.
- To date: 162/300 patients enrolled
- 1 related SAE to HRZE; no AE related treatment discontinuations; patients complete a QoL and peripheral neuropathy questionnaires.
- 2<sup>nd</sup> DSMB took place May 6<sup>th</sup>
- LPFV anticipated beginning of Q4 2024

The second meeting of our data security monitoring board was held on May 6. And we anticipate that the last patients will be enrolled in the fourth quarter of 2024, and then we will be happy to provide an update.

We also have another molecule in the diarylquinolone class, TBAJ-587. It has the same advantages as the previous molecule. And we are also promoting sutezolid and TB-223, which are new potential classes of drugs. Our goal is to develop an alternative to linezolid with similar or better efficacy and with fewer adverse events. Another new drug class is Q203, telacebek, for which we have a license agreement with telacebek developer SEONGNAM-SI (South Korea) and Qurient Co. Ltd (USA). It has therapeutic efficacy not only against TB but also against leprosy and buruli ulcer. We are also investigating already two ways in which we could make sure that the drug or substance is targeting with granulomas, because it has a difficulty in dissolution and absorption of drugs. And for this to have a therapeutic effect, we also need innovative ways to deliver the active ingredient, and we are working on two such innovative ways.

**Question:** You mentioned that one of the priority areas is the development of prolonged forms. At what stage are you currently in this process?

**Answer:** At the moment, we are testing the molecules in animals. We are now looking at making sure that when administered, the drug is retained for a long period of time and that it is effective to launch a human study.

**Question:** Who are you leading the development of the prolonged forms with? Do you have any partners?

**Answer:** This is our molecule, and we own it. We are working with different labs that are doing animal studies.

**Question:** You also said that 300 people have been enrolled in the TBAJ-876 study. Is the community included in the monitoring of this study? Is the community part of the ethics committee? Is the community involved in protocol review?

**Answer:** It is our standard practice to give the study protocol to external partners for review and feedback. One of these partners is the Global TB Community Advisory Board (Global TB CAB), facilitated by Treatment Action Group (TAG), that was sent the draft study synopsis for review and feedback. They were one of the first to receive it. We also had confidential discussions with the Global TB CAB in which we shared pre-publication results from the SimpliciTB trial, which was important for explaining the study rationale for NC-009.

And as a result of discussions with the Global TB CAB and other community representatives, we revised the quality-of-life questionnaire that patients fill out, and we took the feedback from the community into account in the final document. We updated language in the study protocol to be fully consistent with the standard practice of the U.S. National Institute of Health and other international organizations for inclusive language. We also added a two-step sex at birth and gender identity

question for participants, wherever possible. Feedback from all synopsis reviewers were considered for a revised version of the protocol.

We revised some ideas about the design of the clinical trial following feedback, and my colleague will be able to talk about that in more detail. I hope that these actions that we have taken show that we are trying to consider the interests of various parties, including communities, when designing research.

Data from the NC-009 trial will be sex and gender disaggregated, at primary and secondary endpoints as well as safety outcomes, and as such this should be included in the clinical trial report and in all scientific publications. In addition to what we have done at the global level with the Global TB CAB, we also have some engagement with community groups at the clinical site level. And we are interested in developing at the site level partnerships with local community groups to ensure that we are recruiting the most relevant patients for research. I would like to add that with the centralization of many aspects of clinical research, going forward, communities will play a critical role in working with clinical trials.

**Question:** We would like to know what exactly changed in the study design after you received the community feedback?

**Answer:** In early 2023, the results of the TRUNCATE-TB study became available. It studied the possibility of treating people with TB for two months and then monitoring the effectiveness and condition. The treatment was restarted if it was found to be ineffective in the patients. And the hypothesis was that there would be few treatment failures, and most patients would be cured in 2 months. In our NC-00 study, we wanted to look at shorter treatment regimens. We took some elements of the clinical design of TRUNCATE-TB, and we approached it in a more conservative way, i.e., patients must have sputum conversion before they can receive a shortened regimen. We had discussions with the Global TB CAB and other partners before we finalized the protocol.

**Question:** Thank you for your presentation. You mentioned that in the clinical trials of the TBAJ-876 molecule (NC-009), for the first 4 weeks, the patient takes either the BPAL regimen or the HRZE regimen. Then, he or she takes bedaquiline in combination with the new molecule for 4 weeks and then takes isoniazid/rifampicin for 8 weeks. How reasonable is it to compare BPAL and HRZE in the same time frame?

**Answer:** Patients will take the HRZE regimen for 6 months and the BPAL regimen also for 6 months. Patients will be followed up for one year after completion of the study. Comparisons will be made throughout the study period, and beyond. The primary endpoint will be done at 8 weeks, and we assume that there should be negative results in sputum at this stage. But the standard treatment regimen will be continued in this group.

**Question:** If I understand correctly, it appears that if the TBAJ-876 molecule proves to be safe and effective, the treatment regimen with it will consist of 3 steps: receiving BPaL or HRZE regimens, then bedaquiline in combination with the new molecule, and then the isoniazid/rifampicin combination?

**Answer:** In the NC-009 study (phase 2), we are determining the optimal dosage that will allow the new molecule (TBAJ-876) to prove its greater efficacy and safety compared to bedaquiline. And only if we successfully complete the phase 2 clinical trial and determine the dosage, in the phase 3 study we will look at what this molecule can be combined with to create a new treatment regimen.

**Comment from a representative of the patient community:** Thank you for your explanation. I just wanted to say that we would like to see a new treatment regimen available not only in upper-middle-income countries, but also in low-income countries. Often, these complex regimens are quite expensive.

**Question:** Do you have, or are you planning to develop TB vaccines? If yes, what type of vaccines are in the pipeline and at what stage of the development process?

**Answer:** We are not engaged in vaccine research on our own, and we do not have such research. However, we are actively involved in the research being conducted by the Gates Institute for Therapeutic Vaccine Research.

**Question:** At this point of time, can you give a preliminary assessment of the efficacy of the new molecules, i.e., TBAJ-876 and TBAJ-587?

**Answer:** At this point, it is very early to talk about any results. What we can say is that we have seen in studies in mice and primates that the new molecules are 4 times more effective than bedaquiline. And we think they are safer, especially in terms of cardiovascular effects, which may allow us in the future to eliminate the need for continuous cardiovascular monitoring in patients who are currently taking bedaquiline and have to do that monitoring.

**Question:** What key principles do you follow in selecting the countries that will participate in the study? What criteria must a country meet in order to be included in your study?

**Answer:** We always try to maintain a balance between the durability of the trial and the desire to involve as many patients as possible. We should not forget that this is only phase 2 of a clinical trial, and therefore it was important for us to have quality laboratories where the final results will be assessed. And naturally, it is important for us to involve as many countries as possible in the multicenter study that will be conducted in the third phase in order to make it more representative. In terms of the selection principle, from a scientific point of view, it would be important for us to get a breakdown of the data in categories such as: African, Asian and Caucasian

population. This would give us an idea of whether there are any differences from a clinical point of view.

### **Continued presentation.**

Now I would like to present data on the efficacy and safety of pretomanid in children and pregnant women, including pediatric forms development. We are conducting 2 clinical trials in children. These studies include 16 patients, but we want to include at least 36 patients. We should finish enrolling participants in 2025, and after that, we will do a full study looking at all regimens in children. In terms of pregnant women, and as I mentioned, pretomanid is included in BPaL and BPaL(M) treatment regimens, and we are evaluating and consulting with colleagues about doing studies in pregnant women and ruling out problems associated with linezolid. Right now, the SMART4TB project is conducting a PRISM study assessing the use of BPaL and BPaL(M) in pregnant women.

We also want to talk briefly about plans to develop new drugs for patients who already have resistance to linezolid and bedaquiline.

In general, we believe that in order to protect patients from the development of drug resistance, we need to develop and promote shorter treatment regimens, because it is important to overcome not only resistance to existing drugs, but also to prevent possible resistance to new drugs. Regarding linezolid resistance, first, instead of abandoning the drug because of its toxicity, we should work to reduce its toxicity. We are aware of the adverse events associated with this drug. And it is important for us to work on developing new drugs that are better tolerated than linezolid. Although linezolid has a very high resistance barrier, we have not heard of resistance developing to the drug in a short period of time. We would like to hear from you regarding the emergence of resistance to linezolid.

**Question:** Question: Because linezolid and bedaquiline have just recently started to be used in our countries, the level of resistance to these drugs is not high, yet. But studies show that strains resistant to bedaquiline were initially observed in the population. And that's actually a problem because patients with bedaquiline resistance cannot be prescribed a BPaL regimen. And it would be good if you could provide pretomanid for compassionate use so that doctors can combine it with other drugs and prescribe it to these patients. Perhaps you can give advice on what to do for these patients? Because we expect resistance to bedaquiline and linezolid to increase in the future. Can pretomanid be used with other drugs, not just in BPaL regimen? We know that WHO does not recommend pretomanid with any other drugs at the moment.

**Answer:** The treatment regimen should be designed in such a way that the very active components are combined so as to avoid the possibility of resistance depending on the patient profile. Clinical trials on the use of pretomanid in

combination with other drugs are now underway, and when we receive the results of these trials, we will be able to understand how promising this direction is.

### **Continued presentation.**

One of our strategies for dealing with resistance is to develop combinations to be used as treatment for resistant forms of TB. But an equally important strategy is the prevention of resistance, which can be achieved by working on adherence and improving tolerability of the drugs, which will prevent new treatment failures and therefore help to achieve a sustained virological response and prevent the emergence of resistance.

### **Pharmacovigilance and quality control.**

I would also like to add that our approach to selecting licensee partners to whom we grant marketing authorization for our drugs includes an assessment of their ability to take on the full burden of pharmacovigilance and promotion of our drugs. Therefore, as country registrants, they will be fully responsible for receiving safety reports and adverse event reports during the post-marketing study phase. In this partnership, we are responsible for all safety data collection during the clinical trial phase. Partners are required to report pharmacovigilance data to us on an ongoing basis so that we can incorporate the latest adverse event data into the development of new regimens. This is a very important part of our work.

**Question:** There is a subheading on your slide: Why WHO prequalification is not enough. Why is it there? Why do you think WHO prequalification is not enough?

**Answer:** The subtitle is inspired by one of the questions you sent us. This question was related to the fact that we are selecting licensee partners on how they will be able to carry out pharmacovigilance and quality control.

**Presentation of Sandeep Juneja:** I would like to talk to you about the price of pretomanid. Given that TB affects people in middle- and low-income countries, the TB Alliance's main goal is to make sure that the drugs we develop are affordable. In our view, low price is not the end point of the route, but a whole journey. And we should aim for it because it doesn't come about by accident. You may wish for a low price, but it won't just happen by itself. Something has to be done to make it happen. And there are now two ways in which you can achieve a low and affordable price. The first thing is to optimize the production process and reduce production costs. The second is to increase demand and increase volumes, which will reduce costs through economies of scale and hence the price. We are using two approaches to reduce production costs. Initially, we licensed pretomanid to companies that have inherently low production costs. The result of this combined strategy was to ensure a very low price for pretomanid from the start. Also, we are constantly working to optimize production processes and share that information with other manufacturing



companies. In addition, once WHO included pretomanid in treatment recommendations and protocols, we started working to increase volume by providing countries with the scientific rationale for pretomanid. And we invested in capacity development and knowledge sharing at the national and sub-regional levels, focusing on the rationale for BPaL and BPaL(M) regimens. We also wanted to make sure that countries had all the necessary conditions and structures in place to implement these regimens.

I would like to remind you that pretomanid was originally recommended for the treatment of pre-XDR-TB. There are only 10–12 thousand people in this very small market segment. And we tried to cover this market with an initial starting price of \$364 per course of treatment. This was the lowest starting price of a new anti-TB drug. And when the scope of pretomanid was expanded to multidrug-resistant TB (MDR-TB), we were able to achieve an even lower price by increasing volumes. As a result, we reduced the price by another 34%.

**Question:** Why can't the price of pretomanid get below \$240? Janssen has already reduced the price of bedaquiline to \$122. Do you plan to reduce the price of pretomanid?

**Answer:** Until 2022, we had only one licensee, Viartis. Now we have 5 licensees, and we expect that this will lead to a price reduction. Macleods has become the second licensee, but they have not yet received WHO prequalification. We expect them to get WHO prequalification soon because they have submitted the dossier to WHO in early 2022. We hope that you will be able to see the result of the competition of these companies, which will be a price reduction. That is, pretomanid has been waiting for WHO prequalification for more than 2 years. The third licensee company is Lupin, and they are also awaiting WHO prequalification. We know that the sooner the companies get WHO prequalification, the sooner they will be on the market.

**Question:** In our opinion, the situation now looks strange. Your organization issues licenses to generics companies that take a very long time to get WHO prequalification. Can you somehow speed up the process of obtaining WHO prequalification so that companies can enter the market as soon as possible?

**Answer:** I think this question should be addressed to WHO. From my point of view, it is not such a long process. In fact, Macleods got the license in 2019 and it took them some time to start producing the drug.

**Question:** According to our information, Viartis received the license in 2019 and all other companies received their licenses in 2022. Is our information correct?

**Answer:** This is incorrect information. Viartis, as the originator company, got the license in 2019 and then Macleods got the license in the same year. And then it took

some time for Macleods to develop the drug and send the dossier for prequalification to WHO, which was in 2022. At this point, they are awaiting approval. I would like to add that the \$364 price for pretomanid was assessed by us as effective not only for pre-XDR-TB but also for MDR-TB. Based on economic studies done by different organizations in different countries, BPaL and BPaL(M) regimens are cost-effective compared to other pre-XDR-TB regimens because the cost per patient is less.

There is even an analysis that shows that if all patients who are indicated for BPaL and BPaL(M) were switched to these regimens, we would have an annual savings of \$740 million compared to the current regimens. This analysis was done before the price was reduced to \$240, i.e., when the price was \$364. Accordingly, if the assessments had been done now, we would have had much bigger savings. But even though we are seeing widespread adoption of BPaL and BPaL(M) regimens around the world, I nevertheless have a concern that there are large countries that have not yet fully adopted this regimen. We are convinced that volumes will be much higher if countries transition patients to these regimens. We hope that you and others in civil society will call for increased use of BPaL and BPaL(M) so that countries will request higher volumes of these regimens. In terms of advocacy in countries that have not yet switched to WHO-recommended regimens, we need to keep working so that countries do switch to these regimens. And switching to these regimens will reduce the price not only of pretomanid, but also of other drugs in the BPaL and BPaL(M) regimens.

**Question:** According to our information, manufacturers from China and Pakistan (Hongqi Pharma (China), Remington (Pakistan)) have also obtained a license from TB Alliance. In addition, we also have information that there are 6 licensees. Could you please tell us who are the 6 licensees?

**Answer:** I don't have information on 6 licensees at this time. We only have 5 licensees. At the same time, we are ready to have a dialog with any company that would be willing to produce pretomanid, taking into account that it will be necessary to get WHO prequalification and meet all the requirements.

**Question:** What is your strategy now, given that you have 5 licensees? What impact will this have on the market for the drug? What are your expectations?

**Answer:** If we talk about manufacturers in China and Pakistan, it is important to note that both countries have high levels of MDR-TB, and therefore it would be important for each of these countries to have their own national manufacturer that can supply the drug to the local market without interruption. This is particularly relevant for Pakistan, given the difficulty of getting Indian manufacturers' drugs into Pakistan without interruption. But at the same time, these companies in China and Pakistan can supply drugs globally, and they have no restrictions in this regard.

**Question:** Your point about price decreasing when volume increases is the same as that of a big pharma company. But still, how much does the volume of procurement have to increase for the price to go down? And what are the projected volumes for each licensee?

**Answer:** This is a very complex question. Each person who makes an analysis on price and volume can justify different points of view. It is impossible to give a certain number for a volume that will result in a certain degree of cost reduction. So, we believe that the best strategy to lower the price apart from efforts to build demand and volumes will be fair competition among generic manufacturers, and that's what we're trying to achieve now by increasing demand as well as the number of licensees. We hope that the price will be reduced through competition. Post meeting comment: the point about cost decreasing when volume increases is not a "big pharma point": economics of scale is a well established, recognized and understood topic and one of the key factors behind low pricing achieved by generic pharmaceutical industry of India as opposed to other countries. There is plenty of published literature about this.

**Presentation of Sandeep Juneja:** Next, I want to talk about developing community capacity and what we are doing through programs to improve diagnosis and accessibility in vulnerable communities, including prison systems. We operate at the country level, we work with national TB programs in countries, and we have many projects in many countries around the world. Our programs have mainly focused on explaining to specialists why it is important to prescribe BPaL and BPaL(M) regimens to patients. We have helped countries to update national clinical guidelines, educated health care professionals, decision makers and community representatives. From our point of view, we have had a big enough impact that the demand for BPaL and BPaL(M) regimens has grown very rapidly. What we still don't see is requests from countries for support in the prison system. We believe that in many countries around the world, and particularly in your region, there is a fairly advanced group of people, including activists, who have an understanding of how and why to use BPaL and BPaL(M) regimens. I think they are capable of transferring that knowledge to prison systems in countries. At the same time, if we receive a request to work in the prison systems of countries in the region, we would be interested in discussing the details, and helping with our expertise to speed up the process of transitioning to BPaL and BPaL(M) regimens. Besides, all the useful information materials that we have in any sector and in any country can also be used to promote the regimens in the penitentiary system.

Now let me tell you about our programs to increase demand for BPaL regimen: LIFT-TB and PeerLINC. LIFT-TB is a project of the TB Alliance and the Korean Development Agency that will be running until mid-2025. The project includes 7 countries. We have completed operational research there and are now doing programmatic implementation of BPaL/M. We are also sharing the experiences of these 7 countries with other countries to help them promote the BPaL regimen, for

example to countries like Bangladesh. There are requests and demands from health systems to make this happen in a more systematic way.

In March 2024, we launched the PeerLINC project, which is a peer-to-peer platform where countries can share information and experiences on how to implement the BPAL/M regimens. It aims to address the challenges of treating resistant TB and to rapidly introduce short treatment regimens for drug resistant TB. So far, two countries have received training through this system, i.e., Peru and Rwanda. Several countries are in the pipeline. Post meeting update: D.R. Congo and Nigeria have also been provided technical assistance and support by PeerLINC (late July/early August) and multiple other countries are in the pipeline.

**Question:** Are there any countries from the EECA region that are on the waiting list?

**Answer:** No, at the moment there are no countries from the EECA region in this program. But any country can apply. Many countries from the EECA region have participated in the LIFT-TB program. Post meeting comment if we didn't say it during the meeting – please spread the word about PeerLINC to countries that need help to implement new treatments. PeerLinc doesn't charge anything to countries for its services. Travel cost if any is covered for the initial 7-8 countries. Read more about it on [www.peerlinc.org](http://www.peerlinc.org) or write to [sandeep.juneja@tballiance.org](mailto:sandeep.juneja@tballiance.org).

**Question:** At what stage are the negotiations between you, Viartis and Pharmstandard on pretomanid to ensure access to the drug in Russia?

**Answer:** Viartis filed a dossier to register the drug in Russia early last year, and we expect approval in late 2024. Negotiations with the local partner are going well, and Viartis expects to sign an agreement with them before the marketing authorization is received.

**Question:** We see that you have quite a few complex molecules in the pipeline right now. Do you plan to apply for patents in the EECA region? Perhaps you have already filed applications? Maybe you are planning to consider other strategies to maximize access to new molecules?

**Answer:** We see no reason why we should abandon our strategy because it suits us perfectly. Another expert can answer on patenting new molecules. If we finish phase 2 clinical trials of the TBAJ-876 molecule and move to phase 3, we will implement the strategy that we used with pretomanid.

**Question:** Earlier you talked about using the patenting mechanism to control the quality of drugs. But why are you using a mechanism that is not designed for quality assurance? Other mechanisms are used for quality assurance: WHO prequalification and pharmacovigilance.

**Answer:** First, although WHO prequalification is important, it is not something that all countries around the world are guided by. It is important for us to realize that in addition to WHO prequalification, there are rules of strict regulatory agencies that manufacturers are guided by. It is also important to us that countries and manufacturers do not use the drug in regimens that are not as per WHO guidelines or as per regulatory approval. Our strategy is to ensure that in any country, whether it follows WHO recommendations or not, that the quality of the drugs is ensured and that manufacturers use the product only as recommended by WHO. Pharmaceutical manufacturers do sometimes use patents to prevent competition and keep the price of the drug high. In our case, however, we, as a non-profit organization, we have not used patents to avoid competition or generate profits. We believe that there should be consistency in how drugs and regimens are used in different countries that do not follow the WHO recommendations to prevent misuse of the drug because that can lead to resistance. There are not very many new molecules, so this is a very important issue.

And if you know of any manufacturer who is interested in producing pretomanid but cannot do so because of patent restrictions, please ask them to contact us, and we will discuss the possibility of granting them a license. And I want to remind you that we have already talked about the importance of pharmacovigilance. For example, Viatrix is fully responsible for obtaining safety reports and collecting all the data during the post-marketing study phase of a product, and this is a formal legal responsibility because they are the marketing authorization holder. We collect and process all efficacy and safety data from all licensee companies with the understanding that we are responsible for continued product development.

**Comment from a representative of the patient community:** I do not see any fundamental differences between pretomanid and other drugs that are also going through the registration process in the countries. Pharmaceutical companies have the same responsibility for the quality of the product and are closely monitored by the local regulatory authorities in the countries. WHO prequalification is the responsibility of WHO, as they prequalify the sites and give a verdict on the quality of the product. And the medical systems in countries are responsible for implementing WHO recommendations into national treatment protocols. We have seen situations with HIV drugs where, as a result of unfair competition, the licensee companies were charging higher prices than the originator company. And if we are talking about expanding access and lowering the price, it should be achieved not as a result of conditional competition between 4 or 5 companies that enter the market, but as a result of abandoning the patent on pretomanid. I urge you, as a non-profit organization, to consider doing away with the pretomanid patent. We all, as representatives of non-profit organizations, file an annual progress report. As a non-profit organization you should also make your license agreements publicly available to make your work more transparent.

**Answer:** I would be interested in continuing a more detailed dialog and hearing your views, and we would be happy to talk about that in another setting. I would like to suggest that we take some of the issues to a further discussion, such as a call where we could discuss pricing and patent issues. We very much appreciate your support and advocacy, and we can see that you take everything to heart. We will be interested in continuing the dialog.

**Comment from a representative of the patient community:** Initially we had a lot of time set aside for our meeting with you, but your answers have been quite vague. We would like to ask you to be more concise and clear at the next meeting. And we would also like that in the next meeting we discuss only access to treatment, pricing and patents.

**Answer:** We are ready to come to the region of Eastern Europe and Central Asia.

**Question:** I would like to have more details about the negotiations with Pharmstandard. As you know, they are a local company, and therefore you issue them a license. Do we understand correctly that we can send local manufacturers from all countries in the EECA region to you so that they can obtain a license and produce the drug? In this way we can stimulate national competition as well.

**Answer:** Yes, you can send manufacturers to us, we are ready to negotiate.

**Comment from a representative of TB Alliance:** I know you had a question about fixed dose combinations. I think we have some misunderstanding on this issue. We are ready to organize a separate zoom call, for those who are interested, where we can explain our position on the development of fixed dose combinations, because we think you have incorrect information.

We would really like to attend the meeting in person, but we were unable to do so due to logistical difficulties. But the fact that we have two Vice Presidents and senior managers from different departments present online today shows that we are serious about our intentions. We had a discussion with some of you in Paris at the UNION Conference about increasing funding for TB research, and the role you can actively play in advocacy. My colleagues discouraged me from adding another 5–10 slides on the financial reality that we now find ourselves in. The reality is that funding for TB research and development is stagnant to say the least, and I'm not just talking about TB Alliance and our developments, but TB research developments in general. We are asking for your support in advocating for increased funding. If you would like to get involved, we would be happy to do so.

**End of the meeting.**