

Focused on the development of Novel Solutions for the Treatment and Prevention of Opportunistic Infections, MiniVax currently has Two Programs for Pneumocystis: One is a Therapy Antibody for Fungal Pneumonia Patients in ICUs and the Second is a Vaccine for HIV/Patients and Cancer Patients

**Healthcare
Infectious Disease**

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**Ray Chaudhuri
CEO**

BIO:

Ray Chaudhuri, MBA, PhD is Chief Executive Officer and Chairman-Secretary of the Board of Directors. He has over a decade of experience in the healthcare industry, both domestic and international. His previous experience includes working in US government at the National Institute of Health (NIH) as both a research scientist and grant award manager, in venture capital as a healthcare specialist, and in various operational, management, and fund raising roles at startup companies such as Actis Biologics, Humurine, and Biological Mimetics.

About MiniVax:

MiniVax is focused on the development of novel solutions for the treatment and prevention of opportunistic infections. It is currently developing solutions for the indication Pneumocystis pneumonia (PCP). The fungus Pneumocystis commonly resides in the lungs of healthy individuals, but the infection PCP does not arise until a person's immune system is depressed at which time the Pneumocystis pathogens can replicate and cause an infection. PCP is the most common opportunistic infection in HIV/AIDS patients. It also affects other immunocompromised patients including those less than two years of age and over seventy years of age and those undergoing cancer treatment, immunosuppression for organ transplant surgery, corticosteroid treatment, or other immunosuppressive therapy. After infection occurs, PCP has a high mortality rate.

**Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFO Magazine**

CEOCFO: Mr. Chaudhuri, would you tell us the overall vision at MiniVax?

Mr. Chaudhuri: MiniVax is trying to create a footprint in opportunistic and orphan diseases focusing mainly on respiratory diseases that have not been a focus for large pharma or biotech so far. The areas where we are initially looking are the pneumonias - bacterial and fungal pathogens. The first three that we are going after are Pneumocystic pneumonia, which is one of the biggest problems for HIV/AIDS, transplant and some can-

cers. The second one we are looking at is Aspergillus, which is one of the fungal diseases that is causing this problem with the meningitis that is happening all over the country right now. The third one is called Klebsiella pneumonia, which is another pneumonia, a bacterial pneumonia, which is a big problem and has affected a small group of people at the National Institutional of Health this August and September. It killed about 30% of the patients infected.

CEOCFO: Why have certain areas in pneumonia been neglected; why have you chosen those particular areas to start?

Mr. Chaudhuri: First, most of the areas where we focus deal with fungal diseases and so far are not the focus for most large pharmaceutical companies. Most large pharma and biotech companies have been in the viral and bacterial space because those are much easier pathogens to handle. The fungal diseases are most recently coming into the lime light because of all the problems I mentioned before. The second reason is some of these pathogens are very hard to work with and there are only so many people in the world, which have been able to work with them. For example, the Pneumocystic pneumonia that we are working on cannot grow in a Petri dish; it has to grow in the lungs of mice so we can only study it as it grows in the lungs of mice and rats. It is not easy and not everyone can do that.

CEOCFO: Where are you in the process with the first three areas you men-

tioned and what is happening today in the research?

Mr. Chaudhuri: We are a small company and can only focus on so many things, so we are putting most of our attention on the fungal pneumonia on Pneumocystis. We have two programs for that disease. The first is a therapeutic antibody program where if someone comes with pneumonia and the mortality rate is high of 20% to 30%, and then the patient has to go to ICU and stay there for at least ten days, they have to be on a ventilator. Once we give a therapy antibody, it will alleviate that problem and potentially lower the number of days that someone has to stay in the ICU so that is our first program. The second program is a vaccine, so someone who has an HIV infection for example, but somewhat healthy can take the vaccine. This can also be the case for the transplant patients. Before they have the transplant, they can take the vaccine so they do not have to worry about the fungal pneumonia creating problems right after the transplant. The third area, which is a problem that no one has talked much about so far is cancer. Certain cancers have problems with Pneumocystis such as pediatric cancers. By giving the vaccine, this would alleviate some of the problems the cancer patients have with this bug.

CEOCFO: You have attracted some top talent, how are you able to do that being a small company?

Mr. Chaudhuri: My philosophy at this stage, the most important aspect for a small company you have is not only intellectual property but mainly the team because if you have the right team, then you can correct any problems or go through issues that might come up in small companies. That is why I went around recruiting some of the best people. I just recently recruited someone that has not been added to the website yet. My COO is Martin Preuveneers, PhD. Dr. Preuveneers was at GlaxoSmithKline, was the head of respiratory diseases and helped introduce two billion-dollar products: Zantac® and Advier to the market. I know I am going to have regulatory issues with FDA and if I

plan to go into Europe or Asia, I will have to deal with those issues. Therefore, we have recruited someone who was at the FDA for a number of years and has been in the industry for twenty-five years. The last person I recruited was Dr. Doug Carnes, who came to the pharmaceutical industry in 1974 and has successfully created and sold two companies. We are also bringing in Bruce Beutler, MD, who is a Noble Prize winner from last year, because he believes in what we are doing and he thinks there is an unmet need. It is a matter of talking to the right people and selling them on the idea and vision of what we are trying to do and the need for seeing these products in the market and getting them interested to join the company.

CEOCFO: Is the medical community paying attention or is it too early?

Mr. Chaudhuri: One thing we are going after is orphan diseases which have been somewhat neglected so

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- Ray Chaudhuri, MBA, PhD

far. To create awareness it makes sense to talk to thought leaders, people who are in the clinics every day and are seeing these problems. We have two or three physicians on our team but at the same time, we are also talking to people who are physicians that do research so they understand the clinical need. They are doing research and get frustrated by not getting any products. What we are trying to do for actually all these programs is try to talk to people that are the top leaders as a physician or as a researcher and try to create awareness this way. If these physicians and scientists say ‘yes’ there is a need, then this will percolate down to the hospitals and then to the wider community.

CEOCFO: How do you garner interest from the investment community?

Mr. Chaudhuri: Just to give you a quick background, the company was created in early 2011 and we applied for a federal grant, which is called an advanced technology grant. We got

the grant within four months because there is need. That helped to seed the company for the initial research. We just started the financing process about two or three weeks ago and we started talking to smaller angels because my plan is to get a little bit of money and then go talk to the bigger VCs. Having played in the venture capital world myself, I know what I need to do to get their interest. We have just talked to a couple venture capitalists so far. It seems like they are definitely intrigued because of the orphan disease model it means I might not need the \$30, \$40, or \$50 million dollars to take the product to market, I will need less than \$20 million, which would be \$15 to \$20 total to take two or three products to the market. The second reason is this fungal disease area which so far has been somewhat neglected but has become of interest to large pharma, mainly because of this meningitis problem that has been going on lately.

CEOCFO: At what point would you consider partnerships?

Mr. Chaudhuri: I think what I would like to do is we are about 2 ½ years away from starting our clinical trials, so once I am about a year or a 1 ½ years away, that is when I will start talking about partners, the vaccine and antibody companies. I think we might be too early for them right now, because we still have to finalize our lead and have the lead go through the initial development and tox studies. Once that is done and we are moving toward the clinic and we have a defined goal to get to the clinic within twelve or eighteen months, that is when pharma companies get interested. We have three or four people on the team who have been in large pharma or have very good connections to large pharma.

CEOCFO: Why should the business and investment community pay attention to MiniVax?

Mr. Chaudhuri: MiniVax is one of the very few companies that have been trying to create the footprint in opportunistic infection. These are infections that have not been much of a focus

so far, and what we would like to do is create this footprint. We do not want to go after the big diabetes, cardiac or heart problems. We are going after diseases where we can become a dominant player. We want to be first-in-class and potentially best-in-class and that could create this novelty that MiniVax brings to the whole area.

CEOCFO: What should people remember most what reading the MiniVax story?

Mr. Chaudhuri: I am very happy with my team. My team brings many strengths to the company, which can help or alleviate some of the risks that investors look at, because many of the people on the team are fifty years and older have done this for many years and there is a great deal of experience behind them. We have a very good group of advisors as well. The technology that we have is very interesting, quite novel, and something that has not been tried before.

With the team and the technology, we can go after this market which we think is the low-hanging fruit that not many people have gone after so far, but we can go after that and become quite successful in the short-term with a lot less money than required by a biotech.



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