Interview with Dr. Youssef Bennani, Site Head, VP R&D, Vertex Pharmaceuticals (Inc.) Canada

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Dr. Youssef Benanni, before becoming Site Head and VP of R&D, worked as a Sr. Group leader with Abbott before moving on to being Sr. Director of Medicinal Chemistry with Athersys. With over 2 decades of experience across 5 companies he brought his considerable expertise to Vertex in 2004.

Today he shares with pharmaboardroom.com the challenges he has faced since becoming Site Head and VP of R&D. He also offers insights on the current state of the pharmaceutical industry in Canada and the various ways in which Vertex is trying to move away from the traditional practices within the industry in Canada.

Your background in research and development (R&D) covers a number of different aspects of research in many therapeutic areas. Having been made Site Head of Vertex

last December, what do you hope to achieve beyond your role in the R&D area for the company?

I would like Vertex Canada to be a strong contributor to the organization's pipeline, as well as to have a strong R&D presence in Canada. While the site in Laval is currently more focused on research than development, we intend to further build out the development component in the coming years. Vertex wants to be part of the long-term Canadian R&D fabric, rather than simply be viewed as a company that is here to tap into the brain-power and then "leave".

How would you compare the Canadian biotech scene with that of the United States?

There are several points of distinction. Firstly, there are far more biotech companies, institutions, universities, researchers and developers in the US. As with the population, it is roughly a factor of 10. The challenge is that Canada is a much larger country, and thus interconnectivity amongst the biotech players is more challenging. Secondly, the audacity of investment in the US is exponentially greater than in Canada in terms of the ability to find and invest money, take risks, or stay the course. Canadian biotechnology companies suffer from a lack of sustainability. Companies in Canada are often built to be sold or partnered, and therefore have a finite timeframe with which to work, mostly driven by venture capitalists and investors. That unsustainable mechanism has to change; otherwise you will see no improvement in output. In my opinion, that model has not paid off as much as it should have.

You said that you wanted Vertex to be part of the fabric of the Canadian R&D scene; to what extent does Vertex Canada play a central role in the R&D sector in Canada?

Vertex is currently one of the larger R&D biotech players in Canada. About 90 percent of Canadian pharmaceutical research is done in the Montreal region, and all the big players like AstraZeneca, Merck and Boehringer Ingelheim have now left. There are a few small companies, the Vertex site in Laval is one of the few left in the region, and thus Vertex is in the fabric. This organization has one of the strongest presences in research and development in Canada, and is quite visible here in terms of size and commitment.

Given Vertex's previous partnerships with other companies such as J&J, Mitsubishi, and several other institutes, what strategic partnerships with local companies here in Canada or in the Quebec region might you be able to create in the future?

So far Vertex has created very interesting partnerships with local CROs in Quebec, as well as partnerships with research foundations, such as The Crohn's and Colitis Foundation of Canada

(CCFC). Vertex and CCFC fund research laboratories working on inflammatory bowel disease (IBD). The company will continue this network-based strategy in the future..

You said in another interview at the Discovery Summit 2013, describing the importance of global networking. Could you highlight a couple of examples of Vertex's efforts in this regard?

Vertex's drug INCIVEK treats hepatitis C. The research for this medicine was done locally in Cambridge, and most subsequent development and commercialization steps were performed internationally, from global clinical trials to manufacturing. All of Vertex's current manufacturing is network-based, whereby various parts of the process are made in a certain geographic locations and shifted to another. Vertex also does a lot of clinical work in a networked environment.

The pharmaceutical industry seems to be the last industry to have really made use of supply chain management to its full potential.

This is due to both IP protection and a highly restrictive regulatory environment. You must have quality control checks every step of the way, making global manufacturing a highly complex process. That is why the pharmaceutical industry was the last to embark on this. Making computer chips is one thing; you cannot take risks with medicines you are giving to people, as the primary focus must be on ensuring the safety of patients.

Vertex was formed after the acquisition of ViroChem Pharma in 2009, as one many different sites around the world where Vertex is located. What was the added value of bringing Vertex's operations here?

The added value fits perfectly into Vertex's research strategy, which is that of multiple smaller, independent yet integrated sites. Vertex has established multiple small research sites that are completely functional. The organization is also fully aware of the local brain trust in the Quebec-Montreal region. There is an amazing talent pool in this area for drug discovery, and many companies came to Quebec because of the unmatched talent pool for execution of drug discovery.

Researchers at Vertex's Laval site did the research and began the development for the Hepatitis C polymerase VX-222. What are the latest developments of the Canadian affiliate in terms of looking at new diseases?

Vertex Canada has been working towards building a new portfolio of assets in IBD through in-house growth. To put this in perspective, IBD is twice as prevalent in Canada as it is in the US, and is generally found more often in Northern countries, due to genetic predispositions and

environmental reasons. Vertex has partnered with the Crohn's and Colitis Foundation of Canada (CCFC) for research, which has allowed Vertex to progress its portfolio rapidly. The affiliate is also looking to bring therapeutics into the clinical setting in the coming years. In terms of dedicated IBD research, Vertex is leading the pack.

What is the strategic importance of the affiliate globally?

It is very important. Vertex's Canadian site is focused on research into entirely new diseases for the company. This is an important investment, and the expectations are to put potentially transformative medicines into the pipeline. The Canadian site may be only part of our overall research investment, but it is an important part.

You have said that innovation occurs at its best when everyone comes together collaboratively to reach one goal. How is that mantra implemented here at Vertex Canada?

It is implemented in various ways. Everyone is invited to contribute ideas on almost every front, and if the ideas are good they can be developed. What is most important is to execute on good ideas. 80 percent of it is execution. Vertex pays attention to that in the sense that I put the right people together to create good ideas. Ideas can become other ideas when you ask the right questions. Paying attention to the quality of ideas is paramount, and we try to be clever about funding them too.

Vertex has been recognized as a great place to work by a number of publications. Why is Vertex such a great place to work, and what does Laval specifically have to offer?

Vertex has simplified its mission and perspective to four realistic values through a rigorous process: Uncompromising commitment to patients, innovation is our life blood, fearless pursuit of excellence, and "we wins". Those are the four elements of the fabric that really make this a great place to work. They are simple and rewarding. Furthermore, Vertex also hires really great people. In my opinion, a good company will "hire well" 60 percent of the time, and Vertex does even better than that. Vertex is known for its pioneering and high-quality science. That reputation attracts only the very best talent to work here. Combined with the perks and values of the company, it makes for a great working environment.

Given your experience working for both big and small companies, what advice might you give to a young researcher looking to make his name in the Canadian R&D world?

Do not do “me too” research. Unfortunately people find themselves in that situation and they do not have an outlet because they need their jobs. In order to advance science, one needs to work on new things!

How do you plan to measure your success in the short to medium term?

Vertex Canada’s success will be great if the site puts multiple compounds into proof-of-concept trials in the coming years. In the next ten years, I hope to contribute to the discovery of compounds that may become medicines that change people’s lives.

What is the biggest motivation for you in this job?

In terms of the company, I am motivated because of the people I work with, the science Vertex does, the respect everyone has for each other at work and the vision for the company. My career goal has always been to put 20-25 compounds into clinical trials in the hope that one or two of them work. While this is in progress, I am motivated to use all the power I have to contribute to a medicine that can help others, even if it is one person. Vertex’s medicines for cystic fibrosis have allowed children and adults breath better and improve their life quality. It is truly miraculous. Being able to contribute directly or indirectly to this progress drives me every day. In that sense, I am always excited about coming to work.

What is your final message to the readers of *Pharmaceutical Executive* on behalf of Vertex Canada?

The Canadian pharmaceutical community needs to strategically revamp their investments, commitment and goals to create a sustainable pharmaceutical business the way Bombardier has done in the aeronautic space. The industry and the country need to have a pharmaceutical pillar. Everyone involved in this business needs to think about how to completely revamp its strategies to achieve that goal of a sustainable pharmaceutical economic driver. Attracting international companies to come and invest here only to leave, when they feel like it, does not work. Government, laws, investments, and even the patients all have to change their perspectives in order to foster a healthier business environment. Canada cannot afford not to be a leader in pharmaceutical R&D. This is the case now, since very few drugs are actually owned in Canada. The whole Canadian pharmaceutical ecosystem has to change so that the next generation can actually operate in a stable business setting. I also believe that experience is not always the best source of innovation. Younger people can also provide more innovative perspectives.

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