

Cardiol Therapeutics at the Intersection of Pharmaceutical CBD and Biotech

Source: CFN Media Group

Historically, the biotech sector has offered high returns on investment as drug candidates make their way through the clinical trials process toward a potential approval. Currently, there is plenty of buzz around the emergent legal cannabis sector as a place where high returns can be found. Both industries present pitfalls as well, with poorly-run companies scattered along the way. The trick is finding the most competent companies.

Cardiol Therapeutics Inc. (Cardiol) (TSX: CRDL) (OTC Pink: CRTPF), led by an **executive team** with plenty of relevant experience and success, sits squarely at the intersection of the cannabis and biotech sectors. Cardiol is a serious drug-development company looking for treatments for heart disease and brain cancer. The company's researchers believe that cannabidiol (CBD), a non-psychoactive cannabinoid from the cannabis plant, may help to treat these serious conditions. In the course of sourcing pure CBD for its research, Cardiol recognized a shortage of CBD in the legal medical cannabis market and will soon launch a commercial pharmaceutical CBD product. The company has created supply partnerships for this unique pure CBD product which allow them the capacity to commercialize large volumes of pure pharmaceutical CBD in the supply-constrained market.

Cardiol has the opportunity to expand into two of the highest growth sectors in today's market.

CFN Media recently caught up with Cardiol Therapeutics' President and CEO, David Elsley. Mr. Elsley discusses Cardiol's approach to CBD drug development and its strategy for the CardiolRx pharmaceutical CBD rollout.

Click here this link to watch the interview: <https://www.cannabisfn.com/cfnvideo/?id=xxBK1w3d>

Pharmaceutical CBD

A very compelling aspect of Cardiol's story is actually the most recent to develop. Right now, especially following the nation's recent legalization of adult-use cannabis, Canada's medical cannabis patients are having a **very hard time finding** CBD oil. One consumer in Nova Scotia, Mona Scott, had been repeatedly visiting stores looking for the product when a worker finally told her, "We don't have any and we're not going to have any for six months." Beverly Ware, a spokesperson for the Nova Scotia Liquor Corp., said, "We currently have products containing up to 20 percent CBD but not the pure CBD oil. Every province is in the same situation."

A number of factors, including higher than expected demand leading to a lack of forecasting production, have led to the shortage. Licensed Producers are still trying to figure out how to allocate production and distribution across product types (oils, flower, prerolls) and distribution channels (medical, recreational) – and it may take quite some time to sort it all out.

Cardiol **has a plan** that could go a long way toward alleviating the situation. The company has partnered with Noramco Inc. (Noramco) and Dalton Pharma Services (Dalton), two major global pharmaceutical manufacturers, to produce Cardiol's proprietary pharmaceutical CBD formulation on a multi-metric ton (one million grams) scale. Noramco is one of the largest manufacturers of pharmaceutical ingredients in the world, and Dalton is a cGMP, FDA registered, Health Canada approved manufacturer of over 200 pharmaceuticals including cannabinoids.

Cardiol and its partners make CBD by chemical synthesis rather than by extraction from the hemp or cannabis plant. The result is a substance identical to botanically-derived CBD, with the benefit of purity and consistency that only comes from pharmaceutical production processes. More importantly, they avoid the risk of contaminants, pollutants, and pesticides making their way into the finished formulation following the process used to extract CBD from the hemp or marijuana plant. Furthermore, Cardiol's pure pharmaceutical CBD does not contain any THC, positioning the company to have the first product on the market that does not require Health Canada's **Standardized Cannabis Symbol** THC warning.

The evolution from plant-based extraction to pharmaceutical production is very common in the development of new medicines as it is the simplest way to provide global access to safe, pure, affordable products that consumers, doctors, and pharmacists can

understand and trust. In much the same way aspirin was developed after the active ingredient was originally discovered in the bark of a willow tree, bioidentical CBD can now be manufactured without relying on the vagaries of agricultural production, thereby elevating pure pharmaceutical CBD to the standards demanded by 21st century medicine.

“History has shown us that the only way to make pure consistent medicines is to manufacture them pharmaceutically at the highest international standards set by the U.S. FDA, Health Canada, the EMA in Europe, and other regulatory bodies that are responsible for ensuring the global safety of medicines,” said David Elsley, President and CEO of Cardiol. “Aspirin is just one of dozens of examples of important drugs that were originally discovered in plants and then made pharmaceutically. At Cardiol, we are dedicated to combining our drug formulation expertise with the mass manufacturing scale offered through our pharmaceutical partners, Dalton Pharma and Noramco, to make the purest, safest, and most consistent pharmaceutical CBD available to consumers around the world.”

Cardiol is now stockpiling supply as it sets the stage for an anticipated commercial launch of its pharmaceutically-pure CBD product, CardiolRx, in the second half of 2019. The company recently **brought on Thomas Moffatt** as Chief Commercial Officer to lead the rollout. Mr. Moffatt is an experienced senior executive, having served 20 years in pharmacy operations at Shoppers Drug Mart, Canada’s leading drug store retailer. Most recently, he was Chief Operating Officer, V.P. Operations at Rx Drug Mart, a pharmacy chain launched by Mr. Moffatt which quickly grew to over 50 stores. His extensive experience in pharmacy operations, merchandising, and supply chain management will prove invaluable as Cardiol enters the billion-dollar Canadian market for medicinal cannabis and prepares for global expansion into attractive markets in Europe and Latin America.

Developing Targeted CBD Medicines as Drug Candidates

Cardiol is also building shareholder value through its pharmaceutical development programs utilizing proprietary targeted CBD-based therapeutics for the **treatment of heart failure** and glioblastoma (GBM), a lethal form of brain cancer.

Over six million adults in Canada and the United States suffer from heart failure and it remains a leading cause of death and hospitalization, with associated healthcare costs exceeding \$30 billion annually in the U.S. alone. Approximately 50% of all heart failure patients have diastolic heart failure where the heart does not relax normally. As a result, the heart cannot fill properly, and pressure begins to increase in the lungs leading to shortness of breath, a marked reduction in quality of life, and an increased risk of death and hospitalization. There have been no significant treatment advances in diastolic heart failure in over 20 years.

Likewise, GBM has no cure and is the most common, and deadliest form of brain cancer. A diagnosis is pretty much a death sentence, and it led to the deaths of Senator John McCain and Tragically Hip lead singer, Gordon Downey. About 4,000 patients are diagnosed in the United States each year. Current standard of care includes a mix of surgery, radiation, and chemotherapy, none of which has been shown to be curative. All of these options, of course, come with significant side effects.

In both diseases, there is plenty of research showing that CBD may be of benefit. For heart failure, **studies indicate** that CBD’s anti-inflammatory and anti-fibrotic properties may be beneficial for inflamed and hardened heart tissue. For GBM, **this review** summarizes 35 studies demonstrating the anti-tumoral activity of cannabinoids, showing effects ranging from slowing the rate of proliferation to killing cancer cells to limiting the metastatic spread of cancer.

Cardiol’s pipeline shows the company is advancing candidates for both conditions. The company also employs a proprietary drug-delivery platform based on nanotechnology that improves the targeted release of the pharmaceutical CBD and other important medicines. With respect to CBD, which is lipophilic (fat soluble) and notoriously difficult to deliver in the watery environment of the blood, the nanotechnology encapsulates the CBD in a hydrophilic (water-like) shell. The resulting nanoformulation of CBD is able to then circulate freely in the bloodstream and deliver the active ingredient to the desired tissues in the heart and other areas of disease.

Looking Ahead

By combining the proven value driver of pharmaceutical drug development with the explosive growth of the cannabis industry in its earliest stages, Cardiol has carved out a unique niche with plenty of potential. Look for news as the company’s commercial CBD launch approaches in the coming months, providing near-term revenue opportunities for Cardiol as it simultaneously advances its most promising targeted CBD candidates down the drug development pathway. With cannabis science coming out of the dark ages of prohibition into the light of advanced research, Cardiol is positioned at the forefront of what amounts to a scientific revolution.

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