NuGen Medical Devices provide easy and painless injections without needles

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Having spent far too much time over the last two years watching Netflix, reading fiction and playing video games, it has become apparent to me that my brain is starting to blur the lines between reality and fantasy. As I started doing my homework for today's company and their needle-free injection technology, I was thinking what's the big deal. I've seen that for decades now, at least on Star Trek. Then I started to think about it a little more. I've never had a needle free injection, nor has it ever been an option for me. I've also never spoken to, or even heard of anyone getting a needle free injection. All of sudden it dawned on me that something I just assumed was already "a thing", was instead leading-edge science and also pretty awesome.

The company with this cool technology is NuGen Medical Devices Inc. (TSXV: NGMD). The Company's principal business is the development and commercialization of innovative needle-free injection devices and systems for the administration of subcutaneous medication. It is developing products using needle-free drug delivery technology in several important fields including, but not limited to, anaphylaxis, diabetes, severe migraine, erectile dysfunction, chronic anemia, neutropenia, autoimmune rheumatoid arthritis, growth and fertility hormone, psoriasis as well as DNA and conventional/pediatric vaccines. Their flagship product – InsuJet™ is a revolutionary needle-free drug delivery device, used to self-administer medication in a safe, fear-free, and virtually pain-free manner and is now

approved for use in over 40 countries globally.

Explaining how it works may seem somewhat obvious, but because we're talking about science fiction becoming reality, I'm going to do it anyway. The liquid drug is inserted into the NuGen device, which uses a simple, but powerful, spring-loaded mechanism. Pressure is built up and releases the drug as a fine jet stream of liquid, traveling fast enough to penetrate the skin via a microscopic entrance. In less than one-tenth of a second, the drug is dispensed more safely and evenly compared to needle syringes. It's also virtually painless and leaves no mark on the skin. The graphic below also depicts how the medication is more evenly distributed. If you want to see a video animation of this, here is a link for readers.

Source: NuGen Medical Devices Corporate Presentation

As you can probably guess from the name (InsuJet™), the original focus was on serving insulin dependent diabetic patients. Diabetics manage blood sugar levels through daily administration of insulin, often three to four times per day. Aside from making life more convenient and cost effective for diabetics, this market becomes obvious when you look at the statistics. Diabetes has become one of the leading causes of deaths worldwide. According to the World Health Organization, around 1.5 million people worldwide died due to diabetes in 2019. It is estimated that 463 million people are living with diabetes all over the world and by 2045, projections show this number rising to some 700 million diabetics globally. Sadly, it doesn't stop there. According to Diabetes Canada, complications related to diabetes are serious and can be life-threatening. Annually, people living with diabetes account for:

- 30% of strokes;

- 40% of heart attacks;
- 50% of kidney failure requiring dialysis; and,
- 70% of non-traumatic amputations.

It becomes readily apparent that it is a ‘no-brainer’ for this device to become a primary tool for improving the lives of diabetics. But to me, that’s just the beginning. Having just seen the world administer billions of COVID vaccines, and thinking about all the single use needles that went along with that, I have to think the InsuJet™ would make for a way better solution on that front as well. And I’m not the only one thinking that way. The Company just signed a landmark partnership deal with Unifire Inc. to market and distribute its needle-free injection device to United States Government agencies.

Mr. Douglas Bryce, Former Joint Program Executive Officer for Chemical, Biological, Radiological, and Nuclear Defense (JPEO-CBRND) for the US Army is quoted in the press release as saying “The disruptive nature of the needle-free injection solution to improve the standard of care for members and the general public cannot be understated. The safe, rapid, and effective delivery of medication through this device are within the mandates of the government to improve care, reduce waste and lower costs. As such, I believe there is significant opportunity within the Department of Defense and Military operated medical facilities as well as inclusion within the casual combat care packages, global vaccination efforts and many others.” There you have it from someone with way more credibility than me.

I believe this is the logical evolution of injecting anything into your body, and not just because I saw it on Star Trek (well maybe a little). The addressable market is enormous. However, we’ll have to wait and see how things progress for NuGen Medical Devices as they’ve only been trading publicly since November,

2021 and thus far have no representative quarterly results. What I do know is they have a market cap of roughly C$22 million which means there could be some significant upside if the world demands their next vaccination or injection be needleless.

NuGen Medical Devices advances its needle-free, pain-free, drug delivery system worldwide

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No more needles needed for vaccines, diabetes and everyday medicine delivery

Do you know anyone who likes injections? Well today there is a new innovative and better way to administer medicines.

Injections are a common healthcare procedure, administered to billions every day, but now the technique is increasingly going needle-free. Needle-free delivery has many advantages over needles, including: Faster absorption of medicine, safer (eliminates cross-contamination), less expensive, sustainable (less waste), and reduced patient anxiety and fear.

The global needle-free injection market is forecast to grow at a CAGR of 16.3% from US$11.8 billion in 2020 to US$25 billion in 2025

Source: NuGen Medical Devices company presentation

Today's company is focused on 'revolutionizing needle-free delivery'.

NuGen Medical Devices Inc. (TSXV: NGMD) ("NuGen") is an emerging specialty medical device company focused on developing and commercializing novel drug delivery technologies. The company commercializes a Health Canada and CE approved 'needle-free injection' system (known as "InsuJet™ ") catering to a wide range of applications.

NuGen state: "NuGen's needle-free injection system is the first ever self-administered needle-free injection system approved by Health Canada and gives access to safe, cost-effective drug delivery for the millions of patients who suffer from diabetes or other chronic illnesses."

NuGen's needle-free injection systems have almost unlimited uses in modern medicine. One of the most common is for diabetes management where children often need to inject themselves with insulin several times a day. Another common use is at the medical clinic where a doctor delivers a vaccine or medicine, or perhaps a COVID-19 booster. Other examples are IVF (Intravenous Feeding) treatments, human growth hormone treatments and so on.

NuGen's needle-free product "InsuJet™ " and how it works

NuGen's Nanojex device works by painlessly delivering medicines through the skin, using a gas jet to accelerate powdered nanoparticles of drug or protein to supersonic speed with a single-use, disposable, handheld device.

Examples of uses for NuGen's needle-free 'Nanojex'

Source: NuGen Medical Devices company presentation

Global approval and rollout of NuGen's products

NuGen Medical Devices have achieved multiple regulatory approvals, and the company is cleared to sell its devices in over 40 countries, including Health Canada approval.

NuGen has already signed multiple sales and distribution agreements. Some recent examples include:

- Feb. 1, 2022 – "InsuJet™ Needleless Injection Devices to administer "Insulin Without Fear" for Children with Diabetes in Taiwan."
- Jan 18, 2022 – "NuGen M.D. announces a $333,000 5-year distribution agreement with Intermediq for its InsuJet™ Needle-Free Injection Device."
- Nov. 30, 2021 – "NuGen Announces a $5.8 million, 5-Year Distribution Agreement with Khotwa Medical Co. for its InsuJet Needle Free Injection Device and accessories."

Management, board and advisors

NuGen spent 2021 getting product approvals and growing their management team and advisers. It is now an experienced and extensive team as you can view here on pages 12 & 13. Inside ownership stands at an impressive 20.8%.

Next steps

2022 looks set to be a big year for NuGen. NuGen states their 2022 objectives as follows:

- "Secure additional global distribution and sales agreements with minimum yearly commitments for its needle-

free injection device and consumables.

- **Supply a minimum 8,000 needle-free injection systems into the global market**, generating one-time revenue for the device in addition to the recurring revenue of the consumables over the expected lifetime of a device (~3 to 5 years), both important revenue streams to the Company.
- Submit for regulatory approvals in other key markets with high demand for our product line.
- Continue to monitor the market for potential M&A opportunities in an effort to rapidly grow its sales and position itself as the global leader in needle-free injection technology.
- Continue R&D on our next generation Needle-Free injection technologies.
- Capitalize on the opportunity in the animal market to give pet owners access to safe, fear-free and virtually painless injections for their pets."

Note: Bold highlight by the author.

Closing remarks

NuGen is now entering the stage of development of ramping up global sales and revenues. This means 2022 will be the most important year to date for NuGen. The product looks to be a winner, approvals and some distributions are in place. We will check back after some months to see how sales and revenues are performing.

NuGen Medical Devices trades on a market cap of only C$20 million. One to watch.

David Regan on Sona Nanotech's rapid-result saliva based COVID-19 test

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In a recent InvestorIntel interview, Chris Thompson spoke with David Regan, CEO of Sona Nanotech Inc. (CSE: SONA | OTCQB: SNANF) about Sona's partnership with FDA registered Arlington Scientific to bring its rapid saliva-based COVID-19 test to market.

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), David Regan said that Sona Nanotech is a nanotechnology life sciences company with a unique biocompatible gold nanorod platform technology that is free from any toxin. He went on to provide an update on Sona's rapid test development portfolio comprising of a saliva based COVID-19 test and a concussion screening test, the types of which currently don't exist in the market. In the interview, David also provided an update on Sona's research around its gold nanorods for its use in targeted drug delivery and photothermal therapy.

To watch the full interview, click here.

About Sona Nanotech Inc.

Sona Nanotech is a nanotechnology life sciences firm that has developed multiple proprietary methods for the manufacture of various types of gold nanoparticles. The principal business carried out and intended to be continued by Sona is the development and application of its proprietary technologies for use in multiplex diagnostic testing platforms that will improve

performance over existing tests in the market. Sona Nanotech's gold nanorod particles are CTAB (cetyltrimethylammonium) free, eliminating the toxicity risks associated with the use of other gold nanorod technologies in medical applications. It is expected that Sona's gold nanotechnologies may be adapted for use in applications, as a safe and effective delivery system for multiple medical treatments, subject to the approval of various regulatory boards, including Health Canada and the FDA.

To learn more about Sona Nanotech Inc., click here.

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If you have any questions surrounding the content of this interview, please contact us at +1 416 792 8228 and/or email us direct at info@investorintel.com.

Sona Nanotech is seeking U.S. FDA approval for its rapid COVID-19 saliva test

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Much to my chagrin, it appears this damn COVID virus is refusing to let us be. I guess one positive take-away is that we are learning about the Greek alphabet. I can't say I was familiar with omicron prior to last Thursday, but all of a sudden it's the most talked about Greek letter in the world. Along those lines it would appear we aren't going to shed this virus anytime soon (pun intended), so we are going to have to adapt to it so we can get back to as normal a lifestyle as possible. In my opinion, an easy to administer, reliable rapid test could go a long way towards returning us to our normal day-to-day activities while still giving confidence to all those around us that they are in a safe environment. Obviously, it would have to

be more convenient than the one where it seems like they are trying to swab brain tissue behind your eyes, because I know I certainly won't be signing up to do that every day or two. But a simple saliva swab in the mouth, and 15 minutes later you've got the green light to do whatever, seems like a reasonable solution.

There are a lot of companies out there that are pursuing this holy grail of a reliable rapid test, but the one I want to talk about today is developing a saliva-based rapid screening test, for Coronavirus, derived from a bunch of other interesting applications for their technology. The company is Sona Nanotech Inc. (CSE: SONA | OTCQB: SNANF), and they have developed multiple proprietary methods for the manufacture of various types of gold nanoparticles and are experienced in the development of rapid, lateral flow assay, in-vitro, diagnostic tests. The Company is also involved in research and development into other potential applications for its proprietary technologies.

What makes Sona (the Hindi word for gold) unique is that it has patented, **non-toxic**, metallic gold nanorods (GNRs) which are small particles whose surface plasmon resonance (SPR) frequencies can be altered by modifying their length and width, giving them properties useful in a host of applications, including diagnostics, optical biomedical imaging, and photothermal therapies, to name a few. I recognize that's a lot of science stuff but the key term in the last sentence to focus on is non-toxic. One of the major barriers in the application of GNR based materials is the presence of cetrimonium bromide (CTAB), a cytotoxin. After years of hard work, Sona was able to perfect the process and develop the ability to synthesize large volumes of high-quality gold nanorods free of CTAB. This opened the door to using GNRs as a drug delivery vehicle and for photothermal therapy.

If you check out the Sona Nanotech website there is some pretty fascinating stuff, even if I don't understand a bunch of it. However, we'll focus on the investment thesis for today. It should be somewhat obvious that a rapid COVID test is what is of greatest importance right now. On November 8th the Company announced a U.S. partnership and preliminary evaluation results for its COVID-19 saliva test. Sona entered into a binding licensing agreement with U.S. FDA registered Arlington Scientific Inc. of Springville, Utah, to bring Sona's rapid saliva COVID-19 test to market. The market was pretty excited about this news as the stock popped 87% the day after the press release, and that was before anyone was aware of the COVID omicron variant. If an FDA Emergency Use Authorization is granted, Arlington will coordinate manufacturing and distribution of the test in the U.S. exclusively on a profit-sharing basis. In other words, Arlington will make it and market it, meaning almost zero cost for Sona to move the product forward (Sona is on the hook for providing key biological materials for testing). This is a very important deal for a company that currently has no revenue and is pretty much focused on R&D.

There are plenty of other developments going on at Sona like a concussion test for mild traumatic brain injury that aims to detect a series of biomarkers enabling the screening for mild concussions, and a bovine tuberculosis test, which is being developed with a consortium of companies as part of a Canada/UK industrial research and development program. Both of which could be future sources of income for the Company but not likely on the scale of a rapid COVID test. Another interesting application of their technology is a possible advancement of radiation therapy in cancer cells by focusing on the treatment. Evidence suggests that GNRs could be more effective at killing tumors with less or no adverse reactions to healthy cells given that

traditional methods of this type of treatment involve non-selective irradiation, damaging the normal tissue surrounding a tumor. Although maybe we'll save the discussion of these applications for another day.

For now, Sona could be in the right place at the right time. After some initial missteps, they have fine-tuned their rapid, saliva, COVID-19 test just in time for the next variant of concern to come along. With just over 65 million shares outstanding they have a market cap of roughly C$28 million based on yesterday's close. A near-term catalyst could prove to be a better shot in the arm for Sona Nanotech than any vaccine.

Patient Heal Thyself.

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Many, many years ago I worked in the crude oil marketing business with a gentleman (and I use that term loosely) who had a drawer full of "marketing mints". The so called "mints" ranged from antacids to Tylenol to Advil and various assorted other over the counter remedies for just about anything that ails you. He had a quote that I still use today, "better living through modern chemistry". Medical science has come a long way over whatever time frame you want to compare and continues to marvel and astound with every new innovation and improvement. Society as a whole is very fortunate for all the really smart people who work hard every day to make our lives better and more comfortable.

Along those lines, today we are going to discuss a bioscience accelerator focused on next-generation drug delivery,

diagnostic, and new active pharmaceutical ingredient investment opportunities. XPhyto Therapeutics Corp. (CSE: XPHY | OTCQB: XPHYF) is a next generation bioscience company whose business activities include: precision transdermal and oral dissolvable drug formulations; rapid, low-cost infectious disease and oral health screening tests; and standardization of emerging active pharmaceutical ingredients for neurological applications, including psychedelic compounds and cannabinoids. It's like a health and wellness ETF all in one stock.

Similar to many of its peers in this new age of a global pandemic, XPhyto was able to adapt some of its existing IP and pivot towards the development of a rapid point of care COVID-19 RT-PCR diagnostic test. However, the key differentiator for XPhyto is that this 25-minute test is a PCR test, not your typical rapid test. The PCR test is accurate and reliable, and has become the gold standard test for diagnosing COVID-19. In March of this year, the Company's test was approved and registered within the European Union as a commercial in vitro diagnostic test. This in turn led to an agreement with an established German pharmaceutical wholesaler and service provider for the distribution, storage and logistics of XPhyto's diagnostic products in Germany. By the end of May, they had begun the sale of its 25-minute SARS-CoV-2 RT-PCR test system in Germany. And in late June XPhyto announced that ten COVID-19 test centers in Berlin, Germany had taken delivery of approximately 1,000 tests for the summer and high travel season.

For many countries, only polymerase chain reaction (PCR) tests are accepted to travel making XPhyto's decentralized testing model critical to yield faster results and more versatile test center options. Processing will occur directly at the sample collection site representing a significant shift from conventional PCR testing models whereby samples are collected and then shipped to large centralized and automated labs for

processing. So now instead of trying to track down a test facility before your flight home and hoping you get the result before you head out to the airport, all you have to do with XPhyto's test is get to the airport half an hour early and you're good to go.

This is the meat and potatoes stuff going on at XPhyto which could help achieve near term revenue and hopefully help finance the more interesting and exciting developments they have on the go. Those exciting things include the latest announcement by the Company regarding the launch of their first biosensor test. This test for oral inflammation is an easy at home self-check that can be performed without the need for specific medical knowledge or training, analytical equipment or even a power supply. When placed on the tongue, the thin film dissolves and, after 5 minutes, the biosensor releases a bitter taste if oral inflammation exists. The biosensor functions as a quick test for heightened levels of certain bacteria and viruses to check whether a doctor's visit and further tests are necessary.

In fact, this is the second biosensor announcement in a month. At the end of July, XPhyto and its soon to be acquired partner 3a-diagnostics reported the breakthrough identification of COVID-19 biosensor candidates. It's the first saliva activated biosensor molecules identified to diagnose COVID-19 infection using XPhyto's oral dissolvable delivery platform. These enzyme-activated biosensors are developed for real-time, low cost and easy to use oral screening applications for the rapid detection of infectious diseases at home or at the point of care. XPhyto, via 3a, has developed a pipeline of molecular biosensor screening tests for bacterial and viral infectious diseases which include stomatitis, periimplantitis, periodontitis, group A streptococcus, and influenza A. Pretty fascinating stuff, even if I don't know what half of the things they can readily identify even are.

These are just some of the activities going on at XPhyto, other pursuits include work in the psychedelic space with an exclusive development deal with a Canadian University for industrial scale synthesis of pharmaceutical grade Mescaline and an exclusive development deal with German University for industrial scale biotech production of pharmaceutical grade Psilocybin. The Company has a letter of intent for cooperation in the field of development, production, and distribution of new cannabis infused beverages and products with renowned German brewery Oettinger Brauerei GmbH. Through its wholly owned subsidiary, Vektor Pharma TF GmbH, it's planning to build a new commercial drug manufacturing facility in Germany. Hence the ETF comment earlier.

The Company should be well funded for the time being as there were 3.1 million in the money warrants exercised for $2.5 million prior to the July 31st expiry date. Combined with the $1.6 million in cash available at the end of Q2 should provide enough liquidity to get to the next quarterly results which will hopefully show some revenue from the rapid COVID-19 PCR tests. The warrant exercise takes the shares outstanding to approximately 72.9 million making for a market cap of roughly $120 million based on yesterday's close of $1.65. Let's see if XPhyto Therapeutics provides us with a better living via their modern chemistry.